

Rare section

PUNJAB REPORT

IN REPLY TO

THE INQUIRIES ISSUED

BY

THE FAMINE COMMISSION.

VOLUME II



Lahore.

PRINTED AT THE CENTRAL JAIL PRESS,

1875 79



Y: 4353:67.23: M786

A879.2

70268

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QUESTION 9, CHAPTER I.

Report of MUHAMMAD HYAT KHAN, C. S. I., Judicial Assistant Commissioner Gurdáspur

The facts stated below relate to the Gurdáspur District, in which I have been employed since January 1877

The following remarks are based partly on my own experience and partly on the Tahsildárs' reports

Owing to the successive bad harvests which have lately occurred in this District, the Zamindárs of this District are not now well off. The owners who cultivate their own land are more in debt than the tenant class, and of the tenants, owing to the poor harvests of the last 2 years, those who pay cash rents are in better circumstances than those whose rents are fixed at a share of the produce. Consequent on last year's drought, some hereditary tenants have deserted their lands without attempting to sell their occupancy right, in other instances they have sold their right, and more of them would have deserted their lands, but that they feared that they would nevertheless remain responsible for the revenue.

The total number of agriculturists in the District, is —		
Tenants-at-will		57,223
Occupancy tenants		23,875
	Total tenants	81,098
Land-owners		3,85,996
	Total	4,67,094

And it is estimated that their aggregate debts average —

Per owner	Rs 2 9 0
Per tenant	„ 1 14 0

These debts are in every instance owed to the Hindu bankers and village traders.

Of the total number of agriculturists, $\frac{2}{3}$ are in debt; and $\frac{1}{3}$ free of debt, able to pay their revenue from their own funds and selling their grain produce themselves. Prior to the 2 last bad years more of the people were free of debt.

The usual rate of interest is a very heavy one, 2 or 3 per cent per mensem. And the frequent balancing of accounts, necessitated by the present law, causes debts to increase very rapidly by compound interest and drives people to sell their lands. Both lenders and borrowers agree that in former days there was not so much compound interest charged and that no matter how old the account, it was usually to restrict the gross interest charged to 50 per cent of the principal.

The typical instances appended were prepared by the Tahsildárs. I am not very certain of their trustworthiness. But there is no time to make a better selection.

Typical instances of the economic condition of the agricultural population of the Punjab, being a
of the majority of each main class (owners

I—FAMILY AND THEIR HOLDING										
No of case	Status.	Name of head of family, caste and residence	No of persons comprising the family				Area of holding in acres			
			Adults		Children	Total	Home cultivated.	Cultivated	Uncultivated.	Total
			Male	Female						
1	Owner	Bhagat Singh of Patri Chan minal.	4	4	4	12	Home cultivation	71	12	83
							Total	71	12	83
2	Owner	Sultan Baksh of Chana	4	6	2	11	Home cultivation	18	17 Chamb	35
							Total	18	17	35
3	Occupancy Tenant	Badha of Sidhwan	2	1		3	Home cultivation	14		14
							Total	14		14
4	Owner	Dui Singh of Dhak	2	4	4	10	Home cultivation	40	280	320
							Held by tenants	680		680
							Total	720	280	1,000
5	Owner	Mandi Khan of Sunil Bauli	9	6	14	29	Home cultivation, Held by tenant	844 61		844 61
							Total	1364		1364
6	Occupancy Tenant	Dala Singh of Sunil Bauli	2	2		4	Home cultivation	16		16
							Total	16		16

description of the actual circumstances of several families in each District selected as fair representatives
occupancy tenants and tenants-at-will)—GURDASPUR DISTRICT

II—INCOME							III—EXPENDITURE											
One year's produce of the land				Other miscellaneous sources of income			Total in rupee from all sources	Revenue cesses and esignorage charges and in the case of tenants rent		By grain consumed as food and used as seed or otherwise expended								
Kind of produce	Amount in maunds		Value.	Pachitra.	Amount.	Value	Amount in Rupees.	Detail.	Amount.	Detail.	Maunds	Value						
	Mds.	Ss.											Rs.	A.	P.	R.	A.	P.
Jowar	80	0	40	0	0	64	0	Revenue	150	0	0	Grain	200	0	0			
Rice (Jhona)	150	0	80	0	0			Canal abiana	40	0	0							
Cotton	6	0	8	0	0			Cesses	20	0	0							
Gur	100	0	150	0	0													
Mash	30	0	30	0	0													
Wheat	500	0	300	0	0													
Barley	70	0	85	0	0													
Garden			30	0	0													
	936	0	673	0	0		64	0	737	0	0		210	0	0			
														200	0	0		
Cotton	4	0	6	0	0		22	0		Revenue	64	0	0	Food &c.	100	0	0	
Maun Rice	35	0	20	0	0					Cesses	22	0	0					
Wheat Berra (Gram and Barley)	64	0	40	0	0													
	103	0	71	0	0		22	0	93	0	0		86	0	0	100	0	0
Rice (Jhona)	80	0	40	0	0					Revenue	50	0	0	Food	100	0	0	
Gur	16	0	20	0	0					Cesses	12	0	0					
Wheat	60	0	40	0	0					Abiana (canal rate)	40	0	0					
	139	0	100	0	0		100	0	0	102	0	0				100	0	0
Grain &c, Garden			1060	0	0					Revenue and cesses	550	0	0	Food for men.	837	0	0	
			105	0	0													
			1,165	0	0													
Grain &c	950	0	475	0	0													
	950	0	1,640	0	0		1,640	0	0	550	0	0				837	0	0
Hala			70	0	0					Revenue and cesses	369	12	0	Food	400	0	0	
Wheat & Gram			650	0	0													
barshaf			25	0	0													
Ala			20	0	0													
Sugar-cane			80	0	0													
Garden			25	0	0													
			880	0	0		880	0	0	369	12	0				400	0	0
Kharif crop			83	0	0					Revenue and cesses.	20	0	0	Food	60	0	0	
Rabbi crop			48	0	0													
			130	0	0		130	0	0	20	0	0				60	0	0

No of cases	Status	Name of head of family, caste and residence	III.—EXPENDITURE—concluded.					IV—SURPLUS	
			Detail	Amount.	By purchase of necessaries which the family cannot produce on their own land and by their own labor		Total expenditure	Surplus of income over expenditure	Surplus income usually how disposed of
					Detail	Amount			
			R. A. P.			R. A. P.	R. A. P.		
1	Owner	Bhagat Singh of Patli Utanminia	Village menials	120	Food for cattle	50	690 0 0	70 660 0 0	77 0 0
			Farms and other servants.	60	Cloth	20			
		Total	180						
2	Owner	Sultan Baksh of Chuna.	Village menials	3	Clothing	10	231 0 0		
			Servants	12	Miscellaneous	20			
		Total	15						
3	Occupancy tenant	Roda of Sidhwan	Village menials	10			212 0 0		
			Total	10					
4	Owner	Bij Singh of Dhadi	Village menials	100	Clothing	100	2 143		
			Servants	256	Food for cattle	300			
		Total	356						
5	Owner	Mendi Khan of Sanli Banli.			Miscellaneous expenses	138 0	907 12		
			Total			188 0				907 12
6	Occupancy tenants	Dula Singh of Sanli Banli.	Village menials	10 0 0	Miscellaneous	18 0	108 0		
			Total	10 0 0		18 0				108 0

The agricultural population of the Gurdaspur District—continued

V—DESCRIPTION OF RESIDENCE CATTLE AND ORATTLELS				VI—DEBTS			REMARKS		
No. of rooms in house		Cattle		Chattels, stock of grain and cash		How measured		Amount	Percentage of debt on total income
Used as dwelling rooms	Used for sheltering cattle	Detail	Number	Detail	Value ropes				
7	3	Oxen Cows Milch buffalo Calves Mares	10 3 4 5 2						
7	3		24						
8		Oxen Goat, Sheep	5 3				1,100 0 0	11 82	
8			8				1,100 0 0	11 82	
2		Cows	4				500 0 0	500 0 0	
2			4				500 0 0	500 0 0	
10		Oxen Buffaloe Milch Buffalo Cows Sheep Horse Mares Colt	10 5 1 5 15 1 2 1				2,800 0 0	170 0 0	
10			40				2,800 0 0	170 0 0	
7		Oxen Buffaloes Milch Buffaloes Cows sheep Calves	15 9 8 6 8 6				490 0	55	
7			53				490 0	55	
1		Oxen	2				200	200	
1		1	2				200	200	

I. FAMILY AND THEIR HOLDING										
No. of cases	Status	Name of head of family, caste and residence.	No. of persons comprising the family				Area of holding in acres			
			Adults		Children	Total	How cultivated	Cultivated	Uncultivated	Total
			Male	Female						
7	Owner	Sawan of Bhakargarh	8	4	4	11	Home cultivation	35		35
							Total	35		35
8	Owner	Shree Singh of Sojwal	12	12	2	26	Home cultivation	88	12	100
							Total	88	12	100
9	Occupancy Tenant	Duja of Bhakargarh	8	2	8	8	Home cultivation	20		20
							Total	20		20
10	Owner	Amar Shah of Chandriwala	7	5		12	Home cultivation	20½		20½
							Total	20½		20½
11	Owner	Shah of Batala	8	1		4	Home cultivation	40		40
							Total	40		40
12	Occupancy tenant	Jawar Singh of Baswal	3	2		4	Home cultivation	8½		8½
							Total	8½		8½

agricultural population of the Gurdaspur District—continued.

II. INCOME							III — EXPENDITURE									
One year's produce of the land.			Other miscellaneous sources of income			Total in rupees from all sources	Revenue cesses and other charges and in the case of tenants rent	By grain consumed as food and used as seed or otherwise expen- ded.								
Kind of produce.	Amount in maunds		Value.		Detail	Amount.	Value	Amount in Rupees.	Detail	Amount	Detail.	Maunds.	Value			
	Rs	A	P	Rs										A		
Cotton	3	0	0	8	0				Revenue and cesses	162	0	0	200	0	0	
Gur	200	0	0	260	0		26	0								
Jowhr	180	0	0	100	0											
Barley	140	0	0	70	0											
Wheat	180	0	0	120	0											
	708	0	0	548	0		26	0		162	0	0		200	0	0
Kharif crops				252	0				Revenue and cesses.	162	0	0		500	0	0
Rabbi crops				549	0											
				786	0			786	0	162	0	0		500	0	0
Grain				40	0				Revenue &c.,	10	15	0		100	0	0
Cotton				10	0											
Tobacco				15	0											
				65	0			65	0	10	15	0		100	0	0
Kharif crops				190	8				Revenue	28	8			100	0	
Rabbi crops				125	0											
				315	8			315	8	28	8			100	0	
Kharif crops				215	0				Revenue	68	0			200	0	
Rabbi crops				474	0											
				689	0			689	0	68	0			200	0	
Kharif crops				29	8				Revenue	10	0			80	0	
Rabbi crops				71	0											
				100	8			100	8	10	0			80	0	

No of case.	Status.	Name of head of family caste and residence	III — EXPENDITURES — concluded						IV — SURPLUS	
			Customary charges of village menials and hired labour of all sorts		By purchase of necessaries which the family cannot produce on their own land and by their own labour		Total expenditure.	Surplus of income over expenditure	Surplus income usually how disposed of	
			Detail	Amount	Detail	Amount				
7	Owner	Sawun of Sirkargarh	Village menials servants.	Rs A		Rs A	Rs A			
				116 0		Clothing	20 0			
				48 0		Food for cattle	60 0			
						Other expenses	50 0			
				163 0			190 0	636 0		
8	Owner	Shere Singh of Sojwal	Village menials Servants	140 0		Clothing	40 0			
				40 0		Food for cattle	20 0			
						Other expenses	50 0			
				180 0			140 0	982 0		
9	Occupancy Tenant.	Deja of Shakargarh	Farm servants	45 0		Food for cattle	10 0			
				45 0			10 0	166 16 0		
10	Owner	Amar Shah of Chahdrwala				Other expenses	100 0		Payment of debt &c	
							100 0	228 8 0	87 0	
11	Owner	Shadi of Batala				Purchase of cattle	40 0			
						Other expenses	168 0			
							196 0	463 0	226 0	
12	Occupancy Tenant.	Jawar Singh of Raswal				Purchase of oxen	18 0			
						Food for cattle	6 0			
						Other expenses	6 0			
							27 0	117 0		

agricultural population of the Gurdaspur District—continued

V — DESCRIPTION OF RESIDENCE, CATTLE AND CHATTLE						VI — DEBTS			REMARKS.
No of rooms in houses		Cattle		Chattle, stock of gram and cash.		How incurred.	Amount.	Percentage of debt on total income.	
Used as dwelling rooms	Used for sheltering cattle	Detail	Number	Detail	Value rupees				
8		Oxen Cows Milch buffaloes Calf Mare	10 3 3 1 1				Rs A. P 100	17	
8			16				100 0	17	
8		Oxen Milch Buffaloes Cows Calves Mares	14 4 16 12 3				500 0	63	
8			49				500 0	63	
4		Oxen Buffaloes Milch Buffaloes Sheep Cow	2 2 1 2 1				200 0	807	
4			8				200 0	807	
5		Oxen Cows	4 3			On account of dry season	300 0	96	
5			7				300 0	96	
9		Oxen Milch buffalo Cows	6 1 2						
9			9						
4		Oxen Milch buffalo	2 1						
4			3						

CHAPTER I, QUESTION 9

Reply by MR T W H TOLBORT, Deputy Commissioner of Guyránwála

The information on which I draft this reply has been obtained chiefly from Ráf Gopál Dás, who has served at intervals for nine years within the District, first as Tahsildár, then as Assistant Settlement Officer, and latterly as Judicial Assistant

I do not propose to refer to other Districts in which I or Ráf Gopál Dás may have served, as such reference would I think only tend to confuse you

The bulk of the land of this district is cultivated by the owners themselves It is estimated that not more than 13 per cent of the land is cultivated by tenants, whether occupancy or tenants-at will, and of the two classes of tenants those at will are more numerous than those having a right of occupancy

It is estimated that 80 per cent of the owners, 20 per cent of the occupancy tenants, and 10 per cent of the tenants-at-will are indebted

It is further estimated that the average indebtedness of the owners is about 30 per cent on their average yearly income, while the average indebtedness of the occupancy tenants, similarly calculated, is estimated at 12 per cent, and that of the tenants-at-will at 5 per cent.

Ráf Gopál Dás enumerates ten causes to which he attributes the greater indebtedness of the owners of land during recent years The first six of these may be comprised under the general expression "personal extravagance" The seventh is "frequent attendance at Court" The eighth "rapid growth of interest and compound interest through the working of the Limitation laws" The ninth "rise in price of agricultural cattle" The tenth appears to be a general observation to the effect that owners of land now regard themselves as able to dispose of the fee simple of their estates which formerly was not the case, and on the other hand the money-lending classes have now become eager to obtain possession of land

The land-owners of this District are not, I think, so indebted as those of many others In enumerating the causes of agricultural indebtedness I would certainly add "the inequality and want of elasticity of our revenue system," to those above detailed, and I am inclined to think that the eighth cause in the above list (which reflects on the law of Limitation) might be modified so as to designate "inadequate and indiscriminating judicial investigation, caused partly by over refinement in legislation, undue size of districts, and over-work of the District staff"

The statement received with your letter has been duly filled in, and is herewith returned The typical instances selected are those of land-owners who, as I have above observed, form the great majority of the agricultural population of the District They have been taken from different parts of the District, belonging to different revenue circles

I would, in conclusion, observe that it is extremely difficult to reply to inquiries of so intricate a nature as those indicated in your circular in so short a space of time I have done my best to comply with your directions, but I could only treat the subject satisfactorily, and in my own way, by devoting weeks and even months to a careful inquiry over a limited local area *without any interruption by other work*

CH. I. Typical instances of the economic condition of the Agricultural population of the Punjab, being a
of the majority of each main class (owners, occupancy

		1—FAMILY AND THEIR HOLDING									
Number of case.	Status.	Name of head of family, caste and residence.	No of persons comprising the family				Area of holding in acres				
			Adults		Children	Total	How cultivated	Cultivated.	Uncultivated.	Total.	
			Male	Female							
1	Good circumstances.	Choudri Doulamal, Zamindár Hindu of Arup, Tahsil Gujranwála, Wála. Chak Charikhar,	6	5	9	20	Bárán Wells	Wells Háránj	Acres 276 44	Wells Acres 7	Acres 327
2	Do	Ira, Zamindár Muhammadan of Nokhar, Tahsil Gujranwála. Chak Bángar	4	8	12	20	Wells		82		82
3	Poor circum- stances.	Karee Dád, Ját Visk of Mangok; Tahsil Gujranwála Chak Mashmúla Bér	6	4	8	10	Wells.		80		80
4	Poor circumstances.	Nizam ud din, Chhina of Kot Jáfar, Tahsil Wasirabad Chak Khadir	2	2	2	10	Scilla wells		81		81
5	Poor circumstances	Sodibhaya, Ját Bhakbaks of Sakheke, Tahsil Háúsabad. Chak Bér	2	2	2	7	Bárán and Wells		218	89	237

description of the actual circumstances of several families in each District selected as fair representatives tenants and tenants-at-will) of the agricultural population—GUJRANWALA DISTRICT

II—INCOME										III—EXPENDITURE											
One year's produce of the land.					Other miscellaneous sources of income					Total income from all sources		Revenue, cesses and assignorage charges and (in the case of tenants,) rent					By grain consumed as food and such as seed or otherwise expended.				
Kind of produce.	Amount in mounds		Value		Detail	Value.		Amount in rupees.	Detail	Amount		Detail	Mounds.		Value.						
	M	S	Rs.	A.		P.	Rs.			A.	P.		Rs.	A.	P.	M	S.	Rs.	A.	P.	
Wheat	312	0	721	8	0	Fees to Zamindar	193	0	0	Land revenue.	383	12	0	Wheat	160	0	370	0	0		
Barley	85	0	86	0	0	Fees to Zamindar	96	0	0	Cesses on account of Khāla.	87	7	0	Barley	30	0	48	0	0		
Tobacco	3	0	8	0	0	Fees to Zamindar	96	0	0					Tobacco	3	0	8	0	0		
Vegetables	8	0	6	0	0	ambardār's								Vegetables	8	0	8	0	0		
Sugar-cane	4	0	17	0	0	and sarpanch.								Sugar	4	0	17	0	0		
Cotton	5	0	26	0	0	Pay drawn by Govt. service.	204	0	0	Cesses on account of Mañfi	18	10	0	Cotton	5	0	26	0	0		
Maki	20	0	26	0	0	By other labor	84	0	0					Maki	20	0	26	0	0		
Cash			647	0	0	Muñfi estate	50	0	0					Wheat	40	0	98	0	0		
														Barley	5	0	8	0	0		
								2,141	8	0											
Wheat	160	0	320	0	0	Fees for Lambardār	45	0	0	Land revenue	41	3	6	Wheat	120	0	240	0	0		
Barley	30	0	48	0	0					Cesses	9	9	0	Barley	30	0	48	0	0		
Goj	21	0	86	0	0								Goj	21	0	36	0	0			
Tobacco	0	80	8	0	0								Tobacco	0	80	8	0	0			
Vegetables	7	0	6	0	0								Vegetables	7	0	8	0	0			
Sugar-cane			140	0	0								Sugar-cane			140	0	0			
Cotton	5	0	26	0	0								Do			100	0	0			
Maki	8	0	12	0	0								Cotton	5	0	26	0	0			
Cash			10	10	0								Maki	8	0	12	0	0			
													Wheat	15	0	32	0	0			
													Barley	8	0	8	0	0			
													Goj	4	0	7	0	0			
													Maki	1	0	1	8	0			
								644	10	0											
Wheat	64	0	128	0	0	Fees to ambardār	25	0	0	Land revenue	17	18	0	Wheat	87		112	0	0		
Barley	6	0	8	0	0	Mañfi	48	0	0	Cesses	4	11	0	Goj	21		36	0	0		
Vegetables			16	0	0	Fees to sarpanch	18	14	0					Vegetables			16	0	0		
Cash			1	0	0									Wheat	8		16	0	0		
								239	14	0											
Wheat	86	0	112	0	0					Land revenue	67	10	11	Wheat	96	0	192	0	0		
Barley	12	0	16	0	0					Cesses	17	0	0	Barley	12	0	16	0	0		
Melons			80	0	0									Sugar-cane			80	0	0		
Sugar-cane			80	0	0									Cotton	3	0	16	0	0		
Cotton	3	0	16	0	0									Jowār	6	0	20	0	0		
Jowār			20	0	0									Chilodra	6	0	8	0	0		
Chilodra	6	0	8	0	0									Wheat	12	0	24	0	0		
								248	0	0											
Wheat	60	0	180	0	0	Fees to ambardār	38	0	0	Land Revenue.	228	10	7	Wheat	72	0	156	0	0		
Barley	16	0	20	0	0	sale of gun	60	0	0	Cesses	66	7	6	Barley	11	0	16	0	0		
Tobacco	3	0	8	0	0									Tobacco	3	0	8	0	0		
Vegetables	20	0	10	0	0									Vegetables	20	0	10	0	0		
Jowār	12	0	20	0	0									Jowār	6	0	10	0	0		
Cotton	24	0	12	8	0									Cotton	24	0	12	8	0		
Cash			241	16	0									Wheat	12	0	24	0	0		
														Barley	4	0	8	0	0		
								640	7	0											

No. of cases.	States	Name of head of family, caste and residence	III—EXPENDITURE—Concluded.				IV—SURPLUS		
			Customary charges of village menials and hired labour of all sorts		By purchase of necessaries which the family cannot produce on their own land or by their own labour		Total expenditure	Surplus of income over expenditure.	Surplus income usually how disposed of
			Detail	Amount.	Detail.	Amount			
1	Good circumstances.	Choudri Doulmal Zamindar Hinda of Arup, Tahsil Gujranwala. — Chak Charkhan	7 laborers for cultivation	Rs 357 0 0	Mash 10 0 0 Meat 28 0 0 Oats 10 0 0 Gram 80 0 0 Cloth 100 0 0	Rs 10 0 0 A 28 0 0 P 10 0 0	1,816 13 0	325 11 0	Marriages and deaths
			5 laborers or servants.	160 0 0					
2	Do	Ira. Zamindar Muhammadan of Nokhar, Tahsil Gujranwala. — Chak Bangar	4 laborers	48 0 0	Condiments 12 0 0 Clothes 16 0 0 Pulses and meat 18 0 0	8 0 0	700 4 0		
			Clothes	8 0 0					
3	Fair circum- stances	Karm Dád, Ját of Virk of Mangokí, Tahsil Gujranwala. — Chak Mashmáta Bár	8 laborers	86 0 0	Sugar-cane 15 0 0 Jhans 4 0 0 Pulses 12 0 0 Meat 5 0 0 Condiments 19 0 0 Clothes 20 0 0	10 8 0	316 10 10		
			Clothes	10 8 0					
4	Poor circumstances	Nizam-ud din Chima of Kot Jafar, Tahsil Wazirabad — Chak Khadir			Condiments 15 0 0 Blankets 5 0 0		429 11 8		
5	Fair circumstances	Soalhya, Ját Bhakhahe, Tahsil Háúsabad — Chak Bár	Laborers	24 0 0	Condiments 12 0 0 Pulses 5 0 0 Meat 6 0 0 Clothes 20 0 0 Purchase of cattle 40 0 0	5 0 0	647 10 0		
			Clothes	5 0 0					

agricultural population of the GUJRANWALA DISTRICT --Concluded

V—DESCRIPTION OF RESIDENCE, CATTLE AND CHATTELS.						VI—Debts.			REMARKS.
No. of rooms to house.		Cattle.		Chattels, stock of grain and cash		How insured.	Amount.	Per centage of debt of total income	
Used as dwelling rooms.	Used for boarding cattle.	Details.	Numbers.	Details.	Value rupees.				
19	12	Mares Buffaloes Cows Bullocks. Goats Calves	5 8 3 16 4 7	Ornaments Utensils Clothes Couches Grain Cash	1,000 0 0 160 0 0 800 0 0 22 0 0 800 0 0 100 0 0	On account of scarcity of grain	R. A. P		
							65 0 0	3 0 0	
6	8	Mares Buffaloes. Cows Bullocks Calves	3 4 3 14 4	Ornaments. Utensils Clothes Couches Grain	100 0 0 30 0 0 30 0 0 10 0 0 64 0 0	Do and had pur- chased 1 buffalo and 2 bullocks.			
							175 0 0	27 2 0	
6	6	Mares Bullocks	2 6	Ornaments Utensils Clothes Grain Couches	150 0 0 30 0 0 25 0 0 23 0 0 10 0 0	Do and had pur- chased 1 bullock			
							80 0 0	23 5 0	
4	2	Bullocks	2	Clothes Couches Grain	10 0 0 4 0 0 2 0 0	On account of scarcity of pro- duce & purchase of a bullock.			
							200 0 0	23 5 0	
4	2	Mares Buffaloes Cows Ass Goats Sheep He buffaloes Calves	2 12 23 1 13 14 10 12	Ornaments Utensils Clothes Couches Grain	400 0 0 40 0 0 50 0 0 13 0 0 15 0 0	On account of scarcity of grain &c. and purchase of 2 he-buffaloes			
							250 0 0	45 5 0	

The land holder is under debt of Rs 800 incurred in the previous years, exclusive of the present debt.

CHAPTER I, QUESTION 9.

*Abstract of Report of MIRZA AZIM BEG, Extra Assistant Settlement Officer, and
Honorary Assistant Commissioner, Jhelum District*

CH I On the economic condition of the agriculturists of the Jhelum District

I have been employed in the following Districts —

1853-55, 3 years in the 1st settlement of the Gujrat District, and again in the year 1865-67 (3 years) in the 2nd settlement of the same District

1856-1864, in the settlement of the Hazára District, and again from 1868-1874 in settlement work in the same District.

And subsequently to the present date in the settlement of the Jhelum District.

In short, 5 years in the Gujrat District, 17 years in Hazára, and 4 years in Jhelum

As regards the economic condition of the agriculturists of these Districts, there is no very broad distinction between the condition of owners, occupancy tenants, and tenants-at-will. For the first ten years after annexation the condition of all classes improved greatly, the harvests were nearly always good, cultivation was increasing, they brought much cattle and jewels, and fed and clothed themselves much better than they had previously done. By and by the crops began to become poorer on the new lands, and some bad seasons occurred. The leases of the first settlements ran out and the agriculturists were called on to pay revenue on the lands newly cultivated. It also became difficult for them to keep cattle, for they had cultivated their own waste lands, and the larger wastes had been formed into Government preserves. So the owners gradually got into debt, and the occupancy tenants. The tenants-at-will, who pay a share of the produce, pilfer a good deal from the crop before it is divided, and they are commonly village craftsmen, adding by their trade earnings to the receipts from their land. The average condition of agriculturists in the 3 Districts of which I am writing may be taken to be as follows —

Details		Hazára.	Jhelum.	Gujrat.
Area of holdings in acres	Cultivated	7	11	5
	Grazing land	24	16	6
	Total	31	27	10
Souls per house		5	4	3
Income per annum Rs.	By articles of food	50	53	40
	Other sources	14	12	20
	Total	64	65	60
Expenditure per annum Rs.	Revenue and cesses	7 14 6	10 42 3	8 11 9
	Wages		1 8 0	2 0 0
	Purchase of necessaries, not produced on his land.	3 0 0	3 0 0	3 0 0
	Total	9 14 6	15 4 3	13 11 9
Nature of house and value		Kacha, Rs 10 to 50	Kacha, Rs 20 to 70	Kacha, Rs 20 to 60
Rooms	For dwelling	1	1	1
	For cattle	1	2	1
Cattle	•••••Kine	4	4	3
	•••••Sheep and goat	3	3	1
Jewels value Rs		20	35	40
Chattels value Rs		10	16	20
Cash, Rs		20		

The agriculturists do not usually store grain in their houses. They give it all at harvest time to the village traders. In the northern part of the Hazára District there is a custom by which at every harvest the village banker takes from the agriculturist as interest, an *odi* (4 *sers*) of grain for every rupee owed to him. If an agriculturist cannot pay this interest, the cash value of the grain due is reckoned and added to the account. Cases sometimes occur in which by this custom all a man's harvest is swallowed up in interest.

In the same way most of the agriculturists of all three Districts are in debt, perhaps 25 per cent are free, not more, of those in debt about one-third owe as much as one year's income, and this proportion is steadily increasing.

To test the matter I examined the accounts of 23 families in 14 different villages, and found that whereas they only held land assessed at Rs 368 per annum, they owed Rs 3,182, of which Rs 1,283 was admittedly interest, and of the balance Rs 1,899 it is difficult to say how much is really principal and how much old interest, but so far as I can ascertain, only $\frac{1}{3}$ of this, Rs 1,899 is principal, and the rest is all accumulated interest. The men who owe this, possess jewels value Rs 972, and goods and chattels value Rs 334, and their land beside.

Examining 9 other villages, I found that of 347 agricultural holdings, 164 were free of debt, 97 owe sums not exceeding ten times their annual assessment, 65 owe more than that, but less than 30 times the annual assessment, and 21 more than 30 times the annual assessment. The total annual assessment of these 9 villages is Rs 4,226, and their total debts are Rs 32,454. The real reason of these debts is originally the extravagance of the Zamindars, and subsequently heavy charges of interest. The accounts are opened with items of all descriptions, from payments of revenue to common expenses, but the real reason of the debts is as above stated.

In Jhelum it is the custom to charge 2 annas in the rupee for lending money, thus where a bond is given for Rs 100, the debtor has only received Rs 87-8. And then he is charged on the said Rs 100 interest at 2 annas per rupee ($12\frac{1}{2}$ per cent.) per harvest; the unpaid interest being added at each harvest to the principal. At this rate in 3 years the debtor's account shows Rs 227-13-0 due, though the sum actually borrowed was only Rs 87-8-0. Thus he has been charged Rs. 140-5-0 interest. If the debt runs on in the same way for 3 years more, its total will then stand at Rs 460-11-0.

The old custom was, not to balance the account every harvest, but only when the Zamindár wished to settle it, or other special occasion arose, and for the oldest account not more than 50 per cent was charged as interest if cash was paid, or 100 per cent if settled by paying in grain or cattle.

Moreover, both debtors and creditors are equally careless, the debtor in borrowing, and the creditor in lending. A cultivator with a small holding used not to be able to borrow more than Rs 20, now he can borrow Rs 100 or Rs 200, or rather the sum he originally borrowed was small, and the debt has increased by interest. The creditor bides his time, and when he sees the debtor can pay will press him in our courts. Another reason is this, the land will sell for a large sum. For instance, in the case of the 23 families owing Rs 3,182 above mentioned, they own 327 acres of land, which if sold would, at the rates now obtainable for land, Rs 84 per acre, fetch Rs 27,599. In former days land could not be sold at all. But it should be remembered that if much land were offered for sale, such high prices would soon fall.

I cannot give accounts of individual agriculturists*. A great deal of their income and expenditure never forms the subject of any written account, so that the materials for the accounts derived are not forthcoming.

I append a statement of the debts and assets of the 23 families above referred to

* [Subsequently this officer furnished a statement of 6 typical instances, which is annexed]

CH I Typical instances of the economic condition of agricultural population of the Punjab, being a description majority of each main class (owners, occupancy tenants)

1.—FAMILY AND THEIR HOLDING.										
Number of case.	Status	Name of head of family, caste and residence.	No of persons comprising the family				How cultivated	Area of holding in acres		
			Adults			Total		Cultivated.	Uncultivated.	Total.
			Male	Female,	Children					
							A. K. M.		A. K. M.	
1	Proprietor	Imfudin and Nārāsons of Jivan, caste Jāt Chumāt of Fira Ghaib	2	1	1	4	Personally	17 0 0		17 0 0
2	Proprietor	Ditta son of Yāru, caste Jāt Chumāt of Fira Ghaib.	1	1	1	3	Personally	6 0 14		6 0 14
3	Occupancy tenant	Gāmān son of Ghaib, caste Tālī of Fira Ghaib.	1	2	1	4	Personally and by a sub-tenant	7 2 16		7 2 16
4	Occupancy tenant.	Gāmān Carpenter of Fira Ghaib.	2	1	1	4	Personally	7 2 10		7 2 10
5	Tenant-at-will.	Bahādur son of Nur, caste Tālī of Shāhpur Tālsāwāla.	1	2	1	4	Personally	8 7 12		8 7 12
6	Tenant-at-will	Hāmān and Ghaib son of Duvāna, caste Arora (Hārd) of Tālsāwāla.	2	1	2	5	Personally	6 0 8	0 1 8	6 1 16

of the actual circumstances of several families in the Jhelum District, selected as fair representatives of the CH I and tenants-at-will) of the agricultural population.

II—INCOME.						III—EXPENDITURE					
One year's produce of the land			Other miscellaneous sources of income		Total income from all sources	Revenue, cesses and surcharges charges and (in the case of tenants) rent		By grain consumed as food and used as seed or otherwise expended			
Kind of produce	Amount in mounds		Detail	Value	Amount in rupees.	Detail.	Amount.	Detail	Mounds		Value.
	M	S							M	S	
Grain	M	Rs A P	Milk Fodder (Khawid)	Rs	Rs A P	Land reve. Grazing tax	Rs A P	Food Seed Miscellaneous	M	Rs A P	
	38 0	38 0 0		26 20	28 0 0 4 0 0		19 17 5 21 8 2		22 14 0 6 3 0 8 15 0		
			Total	48	78 0 0	Total	32 0 0	Total	28 0	38 0 0	
Grain	17 85	20 8 0	Fodder (Khawid)	10		Revenue	12 10 0	Food Seed Miscellaneous	13 20 5 21 8 17	15 1 0 2 8 0 3 4 0	
					80 8 0		Total		17 85	20 8 0	
Grain	15 0	16 9 0	Labour Fodder (Khawid)	40 10		Rent	12 0 0	Food Seed, Miscellaneous	18 0 1 88	20 4 0 2 8 0 7 0 0	
				Total	50		66 9 0		Total	19 88	23 7 0
Grain	80 0	83 13 0	Makes boats, &c.	50		Rent	14 0 0	Food Seed Miscellaneous	25 16 2 11 2 13	28 9 0 2 9 0 2 10 0	
				Total	88 13 0		Total		30 0	33 12 0	
Grain	8 0	9 0 0	Oil man	50		Rent Income tax	9 4 0 0 8 0	Food Seed Miscellaneous	18 0 2 24 3 16	20 4 0 2 14 0 3 13 0	
				Total	59 0 0		Total		9 12 0	Total	24 0	26 15 0
Grain	15 0	16 14 0	Hire of mules. Profits by selling salt &c	46 16		Rent	9 10 0	Food Seed Miscellaneous	33 0 2 0 8 0	37 2 0 2 4 0 3 6 0	
				Total	60		76 14 0		Total	38 0	42 13 0

Number of case	Status.	Name of head of family, caste and residence	III — EXPENDITURE — Concluded					IV — SURPLUS		
			Customary charges of village menials and household labour of all sorts		By purchase of manes various which the family cannot produce on their own land or by their own labour		Total expenditure.	Surplus of income over expenditure		Surplus income usually how disposed of.
			Detail	Amount	Detail	Amount				
1	Proprietor	Imānda and Nasa sons of Jivan, caste Jāt Chāmat of Pira Ghāib			Ploughing implements Bullock Salt, &c	Rs. A. P. 1 0 0 1 8 0 0 8 0	Rs. A. P. " " "	Rs. A. P. " " "	Debt	
				Total		8 0 0	68 0 0	10 0 0		
2	Proprietor	Ditta son of Yaru caste Jāt Chāmat of Pira Ghāib			Ploughing implements Bullock Miscellaneous, salt.	1 0 0 1 8 0 0 8 0				
				Total		8 0 0	36 2 0			
3	Company tenant	Gāmān son of Ghasata, caste Teli of Pira Ghāib			Detail as above.	8 0 0			Debt	
							44 7 0	23 2 0		
4	Company tenant	Gāmān Carpenter of Pira Ghāib			Ploughing implements & carpentry instruments Bullock Salt &c	2 0 0 1 8 0 0 12 0			Debt, ornaments, marriage and funeral ceremonies	
				Total		4 4 0	52 0 0	81 12 0		
5	Tenant-at will	Bahādur son of Nur caste Teli Shahpur Talikwāla			Ploughing implements, Bullock Miscellaneous, salt.	1 0 0 1 8 0 0 8 0			Debt marriage and funeral ceremonies	
				Total		8 0 0	39 11 0	19 5 0		
6	Tenant-at will	Rāmān and Ghasata son of Dweina caste Arora (Hindp) of Talikwāla			Ploughing implements, Bullock Cloth &c	1 0 0 1 0 0 2 8 0			Religious ceremonies, ornaments, debt.	
				Total		4 8 0	56 14 0	20 0 0		

agricultural population of the JHELUM DISTRICT—Concluded

CH. I

V.—DESCRIPTION OF RESIDENCE, CATTLE AND CHATELLE.					VI.—DEBTS.			REMARKS	
No. of rooms in house		Cattle		Chattels, stock of grown and cash		How incurred.	Amount.		Per-centage of debt on total income.
Used as dwelling rooms	Used for sheltering cattle.	Details.	Numbers.	Detail.	Value rupees				
	1	Bullocks Buffalo Calf	2 1 1	Ornaments Grain, furniture, &c	35 15 1	Land revenue etc Principal 94 13 0 Interest 11 13 0	108 9 0	125	
		Total	4	Total	50				
	1	Bullocks	2	Ornaments Furniture	20 10	Land revenue etc Principal 154 Interest 188	292 0 0	1000	
		Total		Total	30				
	1	Bullocks Calf	2 1	Ornaments Furniture	40 10	Purchase of bullocks etc Principal 19 0 0 Interest 4 12 0	23 12 0	34	Half of his land is cultivated by a sub-tenant who pays half of its produce in kind
		Total	3	Total	50				
	1	Bullocks Donkey	2 1	Ornaments Other property	70 20	Purchase of bullocks etc Principal 0 12 0 Interest 9 14 0	10 10 0	19	
		Total	3	Total	90				
	1	Bullocks Mare	2 1	Ornaments Other property	40 25	Purchase of ploughing etc., Bullocks Principal 64 13 0 Interest 26 3 0	90 0 0	150	
		Total	3	Total	65				
	3	Bullocks Cow Calf Mule	2 1 1 1	Ornaments Cash Other property	70 16 26 18	Purchase of mule, etc Principal 62 Interest 18	80	100	
		Total	5	Total	130				

Statement showing the debts and property of 23 agriculturists of the Jhelum District

(Submitted by Mirza Asam Beg, Honorary Assistant Commissioner)

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Number	Name of village.	Name of proprietor, hereditary tenant or tenant-at-will.	Area of land under cultivation.			Amount of Jama or Government demand with cesses.	Period from which the debt is outstanding	DEBT			PROPERTY														
			A	R	P			Rs	A	P	Rs	A	P	Houses.	Cattle.	Ornaments and jewels.	Chattels.	Total	Value of land.	Grand total					
1	Piraghaab ...	Ditta son of Yáru, proprietor	6	14	0	12	10	0	2½ years	138	0	0	164	0	0	292	0	0	80	30	20	10	140	620	760
2	Do .	Imám Dín and Nur	16	7	10	28	0	0	6 months	11	12	0	94	0	0	106	9	0	90	105	60	30	285	2,040	2,325
3	Do ..	Imám Bakhsh and Mehra, proprietors	8	6	0	13	0	0	1 year	31	0	0	78	10	0	109	10	0	60	40	36	10	145	1,050	1,195
4	Do ..	Fakir, proprietor	5	2	3	15	0	0	1½ year	27	14	0	82	2	0	110	0	0	120		36		156	630	786
5	Do.	Mahta Khan and Aju Khan, proprietors	12	5	0	27	0	0	1 year	16	4	0	38	2	0	54	6	0	120	210	110	40	480	1,550	2,030
6	Do	Gáma, blacksmith, hereditary tenant.	7	2	10	14	0	0	2 years	9	14	6	0	12	0	10	10	6	110	100	70	20	300	460	760
7	Do ..	Gáma, oil-maker, hereditary tenant.	7	2	6	12	0	0	1 year	4	12	0	19	0	0	23	12	0	120	20	40	10	190	460	650
Total Piraghaab			64	2	13	121	10	0		239	8	6	467	7	0	706	15	6	700	505	371	120	1,696	6,810	8,506
8	Maharájpur ...	Mámu son of Sardáf, proprietor	6	7	16	10	11	0	3 years	131	12	0	32	12	0	164	8	0	60	40	10	10	120	560	630
9	Rámpur .	Ismáil, proprietor	6	2	1	14	0	0	Do	85	14	0	62	2	0	148	0	0	100	150	50	20	320	400	720

10	Chak Jamál	Nízám, gardener, hereditary tenant	7 0 0	9 5 0	4 years	12 10 0		12 10 0	60	60	10	8	138	600	738
11	Chak Latifullah	Nawáb, Lambardár, proprietor	24 0 0	33 10 0	2 years	15 12 0	25 2 0	40 14 0	300	80	30	25	435	2,400	2,835
12	Barsá	Hayátu, oil-maker, proprietor	5 0 0	7 9 0	2 years	28 0 0	48 3 6	76 4 0	50	50	16	9	125	250	375
13	Pindori	Kutab Khan, proprietor	73 2 0	20 13 0	3 years	284 2 3	665 13 9	950 0 0	40	100	20	12	182	3,500	3,682
14	Do	Fattu and Dattu, proprietors	27 4 0	8 0 6	2 years	52 15 9	17 12 3	70 12 0	42	100	70	13	225	1,600	1,825
15	Do	Bahádar Khan son of Amir Khan.	19 7 0	5 6 0	4 years	41 11 6	48 5 6	90 1 0	50	150	70	14	284	1,070	1,354
		Total Pindori	120 5 0	34 3 6		378 13 6	631 15 6	1,010 13 0	132	350	170	39	691	6,170	6,861
16	Kaggar Kalán	Háfiz Kamán, proprietor	25 0 0	33 2 0	3 years	41 0 9	10 15 3	52 0 0	200	300	40	25	565	1,600	2,165
17	Kalauntpur	Umar, proprietor	5 0 0	7 0 0	2 years	17 3 3	31 13 9	40 1 0	100	50	20	5	175	450	625
18	Bodla	Niyábat Ali, proprietor	0 4 5	0 10 5	3 years	11 1 0	1 3 0	12 4 6	30	30	10	4	74	20	94
19	Joyán	Ballú, Rájput, proprietor	13 6 11	20 3 6	Do.	92 5 9	103 10 3	198 0 0	30	80	15	13	143	650	793
20	Do	Samman Do.	2 5 13	4 1 9	Do	47 12 9	29 1 3	76 14 0	20	16		6	42	130	172
21	Do.	Mowarya Do	13 5 2	20 3 0	2 years	24 1 6	52 5 6	76 7 0	50	175	10	15	250	650	900
22	Ruhána	Golám Rasúl, &c., Guyars	28 2 4	45 12 0	3 years	125 4 9	200 11 3	326 0 0	60	30		20	110	2,390	2,500
23	Mira	Dattu son of Jána, proprietor	4 2 0	6 10 0	2 years	30 13 3	102 2 9	133 0 0	80	90	40	10	220	425	645
		Grand Total	327 3 6	368 2 2	..	1,282 1 6	1,899 9 6	3,181 11 0	972	2,006	772	334	4,084	23,505	27,589

CHAPTER I, QUESTION 9

*Translation of Report of Extra Assistant Settlement Officer Hukam Chand,
Mooltan Settlement*

CH I I forward 3 statements showing the economic condition of selected individuals among the —

- (A) Owners
- (B) Occupancy tenants.
- (C) Tenants-at-will of this District.

I have been employed in the settlement of this District for 5½ years. Though previously employed in several other districts, I cannot give from memory such exact replies concerning agriculturists in those districts as are desired by the Famine Commission.

(A) *As to owners*—The owners of land are, as a rule, well off, some very exceptionally so. Few are in bad circumstances. Most of the owners are Muhammadans, a few are Hindus (Karars). As regards the former, about 50 per cent. are in debt. The fact of their being in debt does not indicate that they are in bad circumstances. They borrow to meet sudden calls, and pay off at their leisure. It may be said that of this 50 per cent. of owners in debt, 15 could pay their debts on demand, 25 could pay with ease, fair time being allowed, but could not pay on demand, 10 are in really bad circumstances, and could not clear their debts except by selling part of their lands.

The causes of these debts are as follows —

1st: *Extravagance, e. g.*, (a) —Living in good style, fine clothes, unnecessary expense in entertaining, ostentatious alms-giving, unnecessarily large expenditure at births, deaths, and marriages, all which heads of expenditure have much increased under British rule,—(b) —*Debauchery*. The tenants do not much indulge in extravagancies of this nature. But the habit is on the increase among the owners, and those who are given to debauchery are very deeply involved. For example, Wazir Khan, one of the land-owners, owes Rs 50,000, and another Chaudri Sher Baksh, owes Rs 60,000 or 70,000, these debts in both instances having been incurred by follies and debaucheries of kinds. They are large land-owners, but they cannot pay such large sums except by selling their lands.

2ndly *Spiteful litigation in the Civil Courts against each other*. These cases cost large sums.

Again, if a land-owner is fined heavily in the Criminal Courts, he can only pay by borrowing, and such debts are rapidly swollen by interest and compound interest. Moreover, when an owner reaps a very successful harvest and finds himself to the good, he usually is never contented until he has spent the surplus. Of course the next step is necessarily to borrow for current expenses.

Once in debt, interest usually prevents the account being cleared.

Details of debts are given in the statement A appended.

Debt is much more rare among Hindus who own land, only about 15 per cent. of them are in debt.

(B) *As to occupancy tenants*—These are usually poor. Some of them have enough to feed and clothe their families fairly, and some are in more pinched circumstances. There are few occupancy tenants in this District. About 20 per cent. are in debt, but their debts are small, generally something between Rs 100 and 200. The causes of their debts are generally —

(24)

Either the death of their cattle and consequent purchase of others to replace them, Ch I or their own sickness involving the neglect of their fields and consequent loss of their crops, or some criminal case in which they have been fined 4 instances from separate tracts are given in statement B

In this District the rents are usually a customary share of the produce. Cash rents are very rare. There are a few cases in which, by order of court at last settlement, tenants' rents were fixed at the amount of the land revenue and local rates due on their lands plus a small seignorage charge. Such tenants are in a *quasi*-proprietary position, and are of course much better off than those who pay a share of the produce. On an even quantity of land, their profits will exceed by fifty per cent those of a tenant who pays a share of the produce.

(C) *As to tenants-at-will*—These are poor. In this District there is much culturable land lying waste, and the population is scanty. So it is not easy to get tenants. It is not uncommon for an owner to advance money to a tenant and otherwise treat him liberally, in order to induce him to settle on his land and work his well.

These tenants-at-will are not usually in debt, perhaps 10 per cent may be in debt for small sums under Rs 100. The occasion for these debts is the same as in the case of occupancy tenants above described. 4 such tenants are described in statement C

CH I Typical instances of the economic condition of the Agricultural Population of the Punjab, being a description of the class (owners, occupancy tenants, and tenants at will)

No of case.	I—FAMILY AND THEIR HOLDING									
	STATUS.	Name of head of family caste and residence	No of persons comprising the family				Area of holding in acres			
			Adults		Children	Total	How cultivated	Cultivated	Uncultivated.	Total
			Male	Female						
1	Malik	Dor Muhammad, Aram of Balliwal	1	5	1	7	Home cultivation	87½	11½	99
							Held by tenants	160½	65	225½
							Total	188	76½	264½
2	Malik	Ali caste Lohár of Thatti Lal	1	3	1	4	Home cultivation	68½	61	129½
							Total	68½	61	129½
3	Malik	Muhammad Anwar Lohár of Labor	1	2	1	4	Home cultivation	172½	80	252½
							Held by tenants	64	89	153
							Total	236½	169	405½
4	Malik	Karn Bakhsh, Hummar of Soctánpur	1	5	5	11	Home cultivation	68½	109½	178
							Held by tenants	122½	86	208½
							Total	188½	246½	435

actual circumstances of several families in each District selected as fair representatives of the majority of each mass of the agricultural population.—MOOLZAN DISTRICT

II—INCOME						III—EXPENDITURE		
One years produce of the land			Other miscellaneous sources of Income.			Total income from all sources	Revenue cesses and expropriation charges and (in the case of tenants) rent	
Kind of produce.	Amount in maunds.	Value.	Detail.	Amount	Value	Amount in rupees	Detail	Amount.
Wheat	56 82½	75 11 8	Fruit				Revenue	66 8 0
Indigo	2 10	135 0 0	Panchotra			80 0 0	Cesses	6 8 6
Cotton	19 20	78 0 0	Wheat	15 0	20 0 0	20 0 0		
Jowár	55 0	66 0 0	Jowár Bájra	2 0	2 0 0	2 0 0		
Bájra	4 14	4 4 4	Shali Asu		0 13 2	0 13 2		
Rice (shali)	20 0	20 0 0	Cotton	4 0	16 0 0	16 0 0		
Sawák china	5 0	5 0 0	Segnorago		1 8 0	1 8 0		
	173 86½	384 1 0						
Rent at † produce								
Wheat	101 5½	194 13 4						
Asu	1 5	1 2 0						
Cotton	21 36	87 9 8						
Jowár	9 24	9 9 7						
Chari Shali Sawák	3 0	3 0 0						
	156 30½	336 3 7						
	309 37	619 7 7			126 1 2	742 4 9		53 0 6
Wheat	200 20	276 0 0	Segnorago		7 0 0		Revenue	54 12 0
Gram	15 0	15 0 0	Fachotra		13 0 0		Cesses	7 8 0
Matter Peas.	9 30	19 8 0						
Cotton	4 5	16 8 0						
Chari	17 86	17 14 3						
Shali	108 80	108 12 0						
Sawák	16 10	16 4 0						
China								
	374 11	469 14 3			20 0 0	489 14 3		62 4 3
Wheat	466 35	622 8 0	Segnorago		20 0 0		Revenue	94 0 0
Indigo	7 85	472 8 0	Fachotra		66 0 0		Cesses	16 11 9
Cotton	99 39	399 8 5						
Jowár	46 18							
Chari	44 16							
Shali	36 39	127 11 9						
Sawák	6 16							
Rent at † produce								
Wheat	108 21	144 11 2						
Tobacco		3 0 0						
Indigo	0 31	46 8 0						
Cotton	11 0	44 0 0						
Jowár	18 9	29 12 9						
Chari	16 25							
	160 6	367 15 11						
	868 37	1,390 4 1			85 0 0	1,975 4 1		110 11 9
Wheat	135 0	180 0 0	Fachotra		17 8 0		Revenue	11 1 9
Barley	10 0	10 0 0					Cesses	1 7 0
Indigo	0 18	27 0 0						
Cotton	18 0	52 0 0						
Jowár	13 20	13 8 0						
Shali	35 9	38 0 0						
	212 88	318 8 0						
Rent at † of produce								
Wheat	184 0	245 0 0						
Barley	24 0	24 0 0						
Indigo	1 13	78 0 0						
Cotton	26 16	105 8 0						
Jowár	12 0	12 0 0						
Shali	78 0	78 0 0						
	326 28	542 8 0						
	212 88	318 8 0			17 8 0	856 0 0		12 8 9

Typical instances of the economic condition of the Agricultural

No. of case	STATUS.	Name of head of family, caste and residence	III.—EXPENDI						
			By grain consumed as food or used as seed or otherwise expended			Customary charges of tillage, manure and hired labor of all sorts		By purchase of necessaries which the family cannot produce in their own land or by their own labor	
			Detail.	Maunds.	Value.	Detail.	Amount	Detail	Amount
				Mds. Srs	Rs. A. P.		Rs. A. P.		Rs. A. P.
1	Malik	Dur Muhammad, Aran of Balli wala.	Wheat Jowar Bajra Cotton	75 0 17 0 5 0	100 0 0 17 0 0 20 0 0	2 farm servants at 4 per mensem Clearing of canals Cutting harvest and preparing Indigo Village menials paid in kind Repairs to well	90 0 0 20 0 0 30 0 0 1 10 8 30 0 0	Dal, Oil, Sugar, Salt, Spices, Cloth,	40 0 0 25 0 0
		Total			137 0 0		177 10 8		65 0 0
2	Malik	Ah, caste Lohar of Thakri Lal	Wheat Cotton Gram Peas Bajra Shali China	40 0 9 35 4 0 5 0 5 0 2 0 5 0	53 5 4 15 6 0 4 0 0 12 0 0 6 0 0 2 0 0 5 0 0	2 farm servants at 4 per mensem. Repairs to well Clearing of canal Village menials	72 0 0 22 0 0 25 0 0 5 0 0	Dal, Oil, Gur, Salt, Spice, &c Cloth,	25 0 0 25 0 0
		Total		64 55	94 13 4		127 0 0		50 0 0
3	Malik	Muhammad Anwar, Lohar of Labor	Wheat Cotton Jowar Bajra Shali	200 0 5 0 84 0	265 5 4 20 0 0 32 4 9	12 farm and other servants at 4 per mensem Repairs to wells Clearing of canal Sowing and making of Indigo 1 Mukhtar Village menials paid in kind,	575 0 0 100 0 0 200 0 0 100 0 0 40 0 0 2 0 0	Dal, Oil, Sugar, Salt, Spices, &c, Cloth	75 0 0 73 0 0
		Total		289 0	318 10 1		2,018 0 0		147 0 0
4	Malik	Karn Baksh of Hunnua of Sothampur,	Wheat Barley Cotton Jowar Shali	58 0 10 0 4 35 13 20 35 0	77 5 4 10 0 0 19 8 0 13 8 0 35 0 0	2 farm servants paid in kind at 1 maund 10 sers wheat each per mensem Repairs to wells Clearing of canals Preparing Indigo	40 0 0 10 0 0 10 0 0 6 0 0	Dal, Sugar, Fruit Spice Wine &c, Cloth	150 0 0 100 0 0
		Total		121 15	165 5 4		66 0 0		250 0 0

Population of the Punjab, MOOLTAN DISTRICT—continued

Total expenditures.		IV—SURPLUS.		V—DESCRIPTION OF RESIDENCE, OF CATTLE AND CHATTELS.						VI—DEBTS.	
Rs. A. P.	Rs. A. P.	Surplus income usually how disposed of	No. of rooms in house.		Cattle.		Cattle stock of grain and cash.		How incurred	Amount.	Percentage of debt on total income.
			Used as dwelling rooms.	Used for sheltering cattle.	Detail.	Number.	Detail.	Value rupees.			
		Purchase of cattle, of Jewels and on marriage expenses	8	2 sheds	Oxen Horse Milch Buffalo Cows Goats, sheep Asses	6 1 1 3 4 3	Not stated		Nil		
481 11 2	1 813 9 7		8	2		17					
		Purchase of cattle, of Jewels and on marriage expenses.	8	3 sheds	Oxen Horses Milch Buffalo Cows Sheep Asses	6 2 6 6 6 3	Not stated		Nil		
574 1 7	105 12 8		8	3		28					
		Pays Rs 100 as interest—Purchase of cattle and marriage expenses.	8	3 sheds	Oxen Horses Milch Buffalo Cow Sheep Asses	36 2 2 2 1 56 2	Not stated			1,900	00
9 0 0											
1,594 5 10	880 14 5		8	3		78				1,900	00
			6		Oxen Horse Milch Buffalo Cows Sheep	4 1 2 2 9				750	228
488 14 1			6			18				750	228

Number of cases.	Status.	Name of head of family, caste and residence.	No of persons comprising the family.				Area of holding in acres			
			Adults		Children	Total	How cultivated.	Cultivated.	Uncultivated	Total.
			Male	Female						
5	Malik	Rāmrao, Mal kharat of Mukhdumpur	3	3	7	13	Home cultivation	22	41	63
							Held by tenants	37½	2	39½
							Total	59½	43	102½
6	Occupancy tenants.	Alla Bukhah Khajon of Khajon	2	2	3	7	Home cultivation.	19½		19½
							Total	19½		19½
7	Do.	Hafisulla Shumsein and Alla Bukhah, caste Lohār of Labor	1	2	3	6	Home cultivation	73	43	116
							Total	73	43	116
8	Do	Ali Muhammad Lohār of Kotia Khoman	1	2	4	7	Home cultivation.	46½	3½	50½
							Total	46½	3½	50½
9	Do.	Azizulla Arain, of Bahwāla.	2	2	1	5	Home	31½	21½	53
							Total	31½	21½	53

Population of the Punjab—MOOLTAN DISTRICT—continued

II.—INCOME.						III.—EXPENDITURE		
One year's produce of the land.			Other miscellaneous sources of income			Total income from all sources	Revenue, cesses and seigniorage charges and (in case of zamindars) rent	
Kind of produce.	Amount in maunds.	Value	Detail	Amount.	Value.	Amount in rupees	Detail	Amount
	Mds. Srs.	Rs. A P.			Rs. A. P.	Rs. A. P.		Rs. A. P.
Wheat	125 28	176 0 0	Fachotra		2 8 0		Revenue	39 0 0
Cotton	5 34	23 6 4	Interest		225 0 0		Cesses	4 2 4
Chari	6 24	6 9 7	Profits in shop		76 0 0			
Rent at $\frac{1}{2}$ produce.								
Wheat	49 3	65 6 11						
Cotton	2 10	9 0 0						
Chari	4 26	4 10 0						
	55 38	79 11 0						
	194 4	285 10 11			502 8 0	688 2 11		33 2 4
Wheat	60 1	66 10 8	Sale of Gha		24 0 0		Rent at $\frac{1}{2}$ produce	
Gram	7 20	11 4 0					Wheat	22 3 8
Surahaf	4 0	12 0 0					Gram	3 12 0
Peas	18 0	22 8 0					Surahaf	3 15 8
Til	18 0	54 0 0					Peas	7 8 0
							Til	18 0 0
	97 20	166 6 8			24 0 0	190 6 8		65 7 4
Wheat	222 99	296 11 8					Rent at $\frac{1}{2}$ produce	
Gram	32 124	48 7 2					Wheat	98 6 11
Indigo	2 63	130 2 0					Gram	12 4 8
Cotton	79 24	292 4 0					Indigo	30 3 0
Chari	41 13	41 5 2					Cotton	84 9 11
Jowar	90 0	118 8 0					Shali	12 6 4
							Jowar	28 12 0
	461 164	921 6 0				921 6 0		275 10 10
Wheat	221 12	298 10 8	Ghi Sarkana		80 0 0		Revenue and cesses	95 0 0
Gram	22 0	38 0 0			10 0 0		Seigniorage charges (samindari)	7 0 11
Cotton	69 9	208 14 4						
Jowar	25 9	61 4 0						
Fruit Garden		10 0 0						
	320 21	681 18 0			40 0 0	621 18 0		102 0 11
Wheat	124 35	166 6 0	Gha		24 0 0		Rent at $\frac{1}{2}$ produce	
Assu	6 0	10 0 0					Wheat	23 8
Cotton	30 0	120 0 0					Assu	1 8
Jowar	30 0	37 8 0					Cotton	17 11
Mushkurion		48 7 0					Jowar	5 9
							Mushkurion	7 7 8
	189 35	282 7 0			24 0 0	406 7 0		55 10 8

Typical instances of the economic condition of the Agricultural

Number of case.	Status.	Name of head of family, caste and residence	III.—EXPENDI							
			By grain consumed as food or used as seed or otherwise expended			Customary charges of village menials and hired labour of all sorts		By purchase of necessaries which the family cannot produce in their own land or by their own labour		
			Detail	Maund	Value.	Detail	Amount	Detail	Amount	
				Mds Srs	Rs. A P		Rs A P		Rs A P	
5	Malik	Rámman Mal Kansar, of Mukh- dampur	Wheat Cotton Bajra	100 0 8 4 11 9	133 5 4 32 5 4 4 9 7	Repairs to wells &c Village menials	25 0 0 1 0 0	Dal, Oil, Sugar, Salt, Spice &c. Cloth	80 0 0 40 0 0	
		Total		119 13	176 15 8		26 0 0		90 0 0	
6	Occupancy tenant.	Alla Bukhsh Khajort of Khajort	Wheat Peas	81 20 5 0	43 0 0 5 4 0			Cotton Dal, oil, salt &c. Wheat for seed Miscellaneous	20 0 0 20 0 0 10 0 0 10 0 0	
		Total		86 20	48 4 0				70 0 0	
7	Do.	Hafizulla Shum- dan and Alla Bukhsh caste Lohár of Labor	Wheat Shall Jowár Cotton	80 0 10 0 4 0 5 0	66 5 4 10 0 0 5 0 0 20 0 0	4 farm servants paid in kind Clearing of canal Preparing Indigo Village menials paid in kind and the grain taken by pro- prietor from the heap.	80 0 0 55 0 0 15 0 0 73 8 0	Dal oil, spice &c. Cloth Miscellaneous Benols &c. for oxen Indigo and cotton seed.	35 0 0 20 0 0 16 0 0 12 0 0 20 0 0	
		Total		99 0	101 5 4		228 8 0		104 0 0	
8	Do	Ali Muhammad Lohár of Kotla Khozma	Wheat Jowár Cotton Gram	80 0 4 27 6 23 1 29	105 10 8 5 18 6 29 4 9 2 9 4	2 farm servants paid in kind Village menials Clearing of canal Village menial	60 0 0 40 0 0 1 0 0	Dal &c. Preparing country cloth Purchase of cloth Seed Benols for oxen	18 0 0 24 0 0 10 0 0 10 0 0 20 0 0	
		Total		92 29	141 5 8		101 0 0		82 0 0	
9	Do	Annulla, Aráin of Bahiwála	Wheat Jowár Cotton	49 0 4 29 4 17	65 5 4 5 11 8 17 11 2	Clearing canal and Abiana Village menials and the share taken by pro- prietor from the heap 3 farm servants paid in kind.	8 12 0 21 7 11 60 0 0	Dal, spice &c. Preparing country cloth Purchase of cloth Benols for oxen Miscellaneous Purchase of seed	18 0 0 15 0 0 10 0 0 25 0 0 10 0 0 7 0 0	
		Total		58 0	88 12 0		85 3 11		85 0 0	

Population of the Punjab—MOOLTAN DISTRICT—continued

TOWN—Subd	IV—SURPLUS		V—DESCRIPTION OF RESIDENCE, CATTLE AND CHATTLES						VI—DEBTS			
	Total expenditure.	Surplus of income over expenditure.	Surplus income usually how disposed of	No of rooms in house		Cattle		Chattels, stock of grain and cash.		How incurred.	Amount.	Percentage of debt on total income.
				Used as dwelling rooms	Used for sheltering cattle	Details	Number	Detail	Value approx.			
Ra. A. P	Ra. A. P											
325 1 7 1 0 0 1 0 0	--	Purchase of cattle and marriage expenses and deposits about 200 a year	4		Oxen Cows Goats, Sheep Asses	10 2 12 3						
326 1 7	262 1 4		4				27					
		In payment of debts	8 sheds		Oxen Milch Buffalo Cows	4 3 2			On account of a criminal in which a fine was imposed		180	78
173 11 4	16 11 4		8				9				160	78
	211 13 10	Purchase of cattle and jewels and marriage expenses.	3		Oxen Cows Goats, Sheep Ass	10 5 10 1						
709 8 2	211 18 10		3				26					
426 7 2	195 5 10	Purchase of cattle, jewels and marriage ex pences &c.	5		Oxen Horse Milch Buffalo Cows Ass	10 1 3 6 1						
426 7 2	195 5 10		5				21					
314 10 7	91 12 5	Purchase of cattle, jewels and marriage expenses &c	4		Oxen Horse Milch Buffalo Cows Sheep Ass	12 1 1 3 6 1						
314 10 7	91 12 5		4				24					

Typical instances of the economic condition of the Agricultural

I.—FAMILY AND THEIR HOLDING										
No. of case	Status.	Name of head of family case and residence	No. of persons comprising the family				Area of holding in acres			
			Adults		Children.	Total	How cultivated.	Cultivated.	Uncultivated.	Total
			Male	Female.						
10	Tenants at will	Sahib and Abdulla Arain of Taraf Daira	8	4	5	12	Home	4½	8½	8½
							Total	4½	8½	8½
11	Tenants at will	Sooltan of Hoopur	2	4	4	10	Home cultivation	89½	23½	68
							Total			
12	Tenants at will	Nusrat Daro of Akbarpur	2	2	2	6	Home cultivation	34½		34½
							Total	34½		34½
13	Tenants at will	Gamman of Thathie	8	2	1	6	Home cultivation	21½	60½	82
							Total	21½	60½	82

Population of the Punjab—MOOLTAN DISTRICT—continued

II—INCOME						III—EXPENDITURE			
One year's produce of the land.			Other miscellaneous sources of income			Total income from all sources	Revenue, cesses, and arignorage charges and (in the case of tenants) rent		
Kind of product.	Amount in maunds	Value	Detail	Amount	Value.	Amount in rupees.	Detail	Amount.	
	Mds. Strs.	Rs A. P.			Rs. & P.	Rs. & P.			
Wheat	16 0	20 0 0	Income of a share in Maritwala well		3 0 0	468 0 0	Rent at 1/2 produce		
Jowár	10 0	12 8 0					Musk melon	108 8 0	
Musk melon		170 0 0					vegetables &c.		
Sugar-cane and vegetable		240 0 0					Wheat	5 0 0	
Flowers		23 8 0					Jowár	8 2 0	
	26 0	465 0 0			3 0 0	468 0 0		110 10 0	
Wheat	91 18	121 14 11				360 8 5	Rent at 1/2 produce		
Barley	6 90	6 12 0					Wheat	88 12 8	
Assu	22 20	22 8 0					Barley	2 0 8	
Jowár	122 0	132 0 6					Assu	6 9 7	
Cotton	18 5	77 0 0					Jowár	40 4 9	
	270 38	360 3 6				360 8 5	Cotton	21 5 7	
								109 0 11	
Wheat	114 0	149 5 4	Gha		80 0 0	375 5 4	Rent at 1/2 produce		
Gram		49 0 0						Wheat	73 12 9
Mash	4 10	9 0 0						Gram	24 5 6
Pesa		80 0 0						Mash	4 0 0
Assu		8 0 0						Pesa	40 0 0
	116 10	295 5 4			80 0 0	375 5 4	Assu	4 0 0	
								145 4 9	
Wheat	92 0	122 10 8	Gha		22 0 0		Rent at 1/2 produce		
Assu	10 0	10 0 0						Wheat	22 11 8
Bájra	27 0	27 0 0						Assu	2 12 0
Cotton	5 30	15 15 0						Bájra	5 5 4
	132 30	176 8 8				22 0 0	198 8 8		80 13 0

No of cases	Status	Name of head of family caste and residence	III.—EXPEND						
			By grain consumed as food or used as seed or otherwise expended			Customary charges of village menials and hired labour of all sorts		By purchase of necessaries which the family cannot produce in their own land or by their own labour	
			Detail	Maunds.	Value.	Detail	Amount.	Detail	Amount
10	Tenants at will	Sâdik and Abdulla Afân of Tarnâ Dâin.	Wheat	8 30	11 10 8	1 farm servant at Rs 2 8 per mensem Labor for vegetable and collecting manure Village menials	30 0 0	Cotton	5 0 0
			Jowâr	7 20	9 6 0			Grain shoes	160 0 0
								Khall for oxen	2 8 0
									10 0 0
		Total		16 10	21 0 8		48 5 4		167 8 0
11	Tenants at will	Soolân of Bopur	Wheat	36 34	49 3 1	Village menials	36 5 8	Cloth	4 0 0
			Borley	8 18	8 7 2			Khall &c a for oxen	15 0 0
			Jowâr	70 28	70 11 2			Salt, oil, sugar and spice.	14 0 0
			Cotton	4 0	17 0 0			Preparing country cloth.	10 0 0
				115 0	140 4 5		36 5 9		48 0 0
12	Tenants at will	Nusrat Daro of Akhârpur	Wheat	54 24	72 12 9	Village menials 1 farm servant	4 9 10 38 0 0	Cotton and preparing country cloth	28 0 0
			Mash	2 1	4 1 8			Kamal	3 0 0
								Khall for oxen and buffalo	30 0 0
								Salt, sugar &c	10 0 0
				56 25	76 11 0		42 9 10		70 0 0
13	Tenants at will	Gamman of Thuzâ.	Wheat	57 28	75 4 11	Village menials and servants.	18 5 4	Sugar salt, cloth, spice &c	9 0 0
			Bâjra	20 12	20 4 9			Khall	5 0 0
			Cotton	8 50	15 15 0			Preparing country cloth	8 0 0
				81 20	112 8 8		18 5 4		22 0 0

Population of the Punjab, MOOLTAN DISTRICT—concluded.

Total expenditure		IV—SURPLUS		V—DESCRIPTION OF RESIDENCE, CATTLE AND CHATTELS.				VI—DEBTS.			
Surplus of income over expenditure		Surplus income usually how disposed of	No of rooms in house		Cattle		Chattels, stock of grain and cash.		How incurred.	Amount.	Percentage of debt on total income.
Rs. A. P.	Rs. A. P.		Used as dwelling rooms.	Used for sheltering cattle	Detail	Number	Detail	Value, rupees			
347 7 0		Deposits the surplus and purchases cattle and spends on marriage when necessary	2	2	Oxen	9					
347 7 0	120 9 0		2	2		9					
328 11 1		Purchase of cattle and marriage expenses	2		Oxen Cows Goat 3, Sheep	8 2 7					
328 11 1			2			17					
326 12 7		Purchase of cattle and marriage expenses.	1	1	Oxen Milk buffaloes Cows	8 2 2					
326 12 7			1	1		19					
		Marriage expenses.	2	2	Oxen Cows Sheep Ass	8 8 5 1					
163 11 0	14 8 8		2	2		23					

CHAPTER I, QUESTION 9

Answer by Mr E B STEDMAN, Settlement Officer, Jhang

As I am just now engaged in assessing this District, it was hardly to be expected CH * I. that truthful answers could be obtained from Zamíndárs to direct questions as to their income

2 At first I tried this plan —I called in the most intelligent Zamíndárs and asked them to assist me and to give me their opinions. Their opinions I got, but they were utterly useless I was asked to believe that 50 per cent of the proprietary body were heavily involved in debt, and that two thirds of the cultivation was mortgaged I knew this to be untrue from my personal knowledge of the people, and also from statistics collected in this settlement I think a Settlement Officer, after conducting a settlement from commencement to close, and after giving special attention to the question of the economic condition of the people, might be able to give a trustworthy answer to this question, but after only one and a half year's experience, I submit the answer I do with the greatest diffidence

3 My answer concerns the Jhang District. I have been connected with this District as Settlement Officer for 20 months

4 I believe that from 40 to 50 per cent. of owners and 60 to 70 per cent. of tenants-at-will are in debt. There are very few occupancy tenants in this District I am of opinion that in the case of owners their average indebtedness is about 25 per cent. of their income, and in the case of tenants 50 per cent.

5 Owners' debts are usually due to improvident expenditure on marriages and funerals, or to failures of harvests. What keeps the debt from being paid off is the ruinous rate of interest charged. An ordinary Zamíndár always, or almost always, lives up to his income. A harvest fails, and he has to borrow money to support himself and pay the revenue. The important harvest in this District is the rabi. If the rabi is a failure, the proprietor will not be able to pay off any or only very little of the debt until the following rabi. Meanwhile the debt has increased by one quarter at 25 per cent. per annum interest. This is how the Zamíndár gets into debt, and hardly ever gets out of it. Another fruitful cause of debt is the expenditure attendant on a civil case. Another, the payment of fines imposed in criminal cases. The people of this District are notorious cattle thieves. Hospitality and charity ruin a few.

6 It is instructive to consider the indebtedness of the different tribes. There is only one Saiyad in the whole District who is out of debt. The Syáls in the Shorkot tahsil are generally in debt, in Jhang many Syáls are well-to-do prosperous agriculturists, and the proportion of the tribe that is involved in debt is comparatively small. Hindu cultivators are seldom in debt. Jats are as a class not very much in debt. Most will be slightly in debt, but the amount will be small. It is a common practice here for a Zamíndár to mortgage his well and build another with the money.

7 Tenants-at-will are, as a rule, only indebted to the amount of takávi or advance which they receive from the landlord. In fact no baniáh would lend them anything, for they can give no security for it. The only property worth attachment is their share of the produce, and this is an uncertain and fluctuating quantity. At times persons of this class are put to great straits for their livelihood, for if the harvest is a failure, they have nothing to fall back upon. Takávi advances which they obtain from the landlord vary in amount from Rs 10 to 75, and the tenant is supposed not to leave until he has repaid the advance; but he often does leave without repaying.

8 The instances of agriculturists, which I submit in tabular form, are few, but I had great difficulty in obtaining these few. The first is a good instance of a small proprietor cultivating his own land. The second is an instance of a prosperous Zamíndár cultivating a first class well. The third is an instance of a well-to-do tenant, and the fourth of an impoverished tenant-at-will. It is hardly possible to show in the statement to what extent a poor cultivator supports himself on turnips, carrots and various herbs called "ság." During the hot weather the fruit of the "bér" tree and the pilu bush largely supplement his daily food. In some portions of the District he lives chiefly on milk. As a rule, tenants-at-will live a hand-to-mouth existence, the produce of one harvest barely enabling them to subsist until the next.

Typical instances of the economic condition of the agricultural population of the Punjab, being a
of the majority of each main class (owners, occupancy tenants and tenants-at-will)

Number of cases.	I—FAMILY AND THEIR HOLDING										II—INCOME									
	Status.	Name of head of family, caste and residence	No. of persons com- prising the family				Area of holding in acres				One year's produce of the land									
			Adults		Children	Total	How cultivated	Cultivated.		Uncultivated	Total.	Kind of produce.	Amount in mounds.	Value						
			Male	Female.				Ar	R						P	Ar	R	P		
1	2	3	4	5	6	7	8	9	10	11	12	13	14							
1	Cultivating Proprietor	Nārath, caste Kharal, Jhang	4	3	2		Well irrigated	42	32	0	0	4	4	1	37	Wheat Jowār China Melons Cotton, uncleaned Vegetables	M 8 0 40 0 0 4 20 0 2 10 0 5 0 0 0 0 0	R 65 0 0 7 8 0 3 12 0 20 0 0 20 0 0	P 0 0 0 0 0 0 7 0 0	
												Total		123	4	0				
2	Cultivating Proprietor	Barkhōrdār, Maghāna Khās	2	8	4	9	Do	30	0	24	1	2	20	31	8	4	Wheat Jowār Cotton uncleaned. Sugar-cane Garden produce	128 0 0 6 0 0 0 0 0 0 0 0 0 0 0	908 0 0 10 0 0 120 0 0	0 0 0 220 0 0 100 0 0
												Total		668	0	0				
3	Tenants with or without rights of occupancy	Fald Arīan with rights of occupancy Ahmedā Arīan, Ghūlānā without rights of occupancy	4	8	5	12	Do	16	2	8	2	2	26	19	0	39	Wheat Jowār China Cotton Tobacco green Vegetables Anisid Watering Local Fruit trees & sale flowers.	40 0 0 12 0 0 4 20 0 6 0 0 17 0 0	65 0 0 20 0 0 7 8 0 24 0 0 29 12 0 16 0 0 4 0 0 10 0 0	0 0 0 0 0 0 0 0 0
												Total		178	4	0				
4	Tenants without rights of occupancy	Bakhu, caste Arīan Bhagotwāla, well situated in Jhang	2		2	4	Do	5	0	6	2	0	13	2	0	Wheat Cotton cleaned Anisid Goyl China Cotton cleaned	5 4 0 0 3 12 0 6 0	7 4 6 1 4 0 0 7 0	8 15 6 1 0 0 0 8 0 0 4 0	
												Total		10	11	6				

description of the actual circumstances of several families in each District selected as fair representatives of the agricultural population.—JIANG DISTRICT CH. I

INCOME—concluded.			III—EXPENDITURE					
Other miscellaneous sources of income		Total income from all sources	Revenue, cesses and seigniorage charges and (in the case of tenants) rent		By grains consumed as food and used as seed or otherwise expended			
Detail.	Value	Amount in Rupees.	Detail	Amount.	Detail	Manufa.	Value	
15	16	17	18	19	20	21	22	
Milk	Rs. A. P. 5 0 0	Rs. A. P. 157 4 0	Revenue	Rs. A. P. 7 13 1	Food	M S C	Rs. A. P.	
Wool	5 0 0		Cesses	1 11 2	Wheat	32 0 0	52 0 0	
Sale of sheep and goats	10 0 0 24 0 0				Jowar	4 8 0	7 0 0	
					China	3 7 0	8 10 0	
						35 15 0	63 10 0	
	94 0 0			9 8 8	Seed.			
					Wheat	6 0 0	6 8 0	
					Jowar	0 12 0	0 8 0	
					China	0 8 0	0 2 0	
							7 2 0	
						4 15 0	69 12 0	
Ghi	144 0 0	802 0 0	Revenue	66 11 5	Food.			
			Cesses	12 18 6	Wheat	68 0 0	145 0 0	
					Seed			
					Wheat	16 0 0	26 0 0	
					Sugar-cane		19 0 0	
					Jowar		4 0 0	
					Cotton		1 0 0	
					Carrriage of manure		20 0 0	
				79 8 11				
							70 0 0	
Manufacturing thread.	18 0 0	*196 4 0	Half produce		Food			
					Wheat	24 0 0	89 0 0	
					Jowar	12 0 0	20 0 0	
					China	4 20 0	7 8 0	
							66 8 0	
					Seed.			
					Wheat	10 0 0	16 4 0	
					Jowar	0 24 0	1 0 0	
					Cotton	0 0 0	1 0 0	
							18 4 0	
							94 12 0	
Green Wheat	11 2 9	†31 14 8	Half produce		Food.			
Sale of lal	8 12 0				Grain	15 30 0	22 8 0	
Picking of cotton	0 4 0				Turnip seed masur	0 2 0	22 8 0	
Miscellaneous	8 0 0				Wheat	4 0 0	0 8 0	
							5 11 8	
	21 2 9						6 8 8	

*This amount is after paying half produce rent and Kamāna, †After paying half produce rent, ‡Inclusive of servant's food

Number of case.	Status.	Name of head of family, caste and residence	EXPENDITURE—Concluded					IV SURPLUS.		
			Customary charges of village menials and hired labor of all sorts		By purchase of necessaries which the family consumed on their own land or by their own labour			Total expenditure	Surplus of income over expenditure.	Surplus income usually how disposed.
			Detail.	Amount.	Detail.	Amount.	Rs. A P			
23	24	25	26	27	28	29				
1	Cultivating Proprietor	Nārath, caste Khari, Jhang	<i>Village Menials</i> Carpenter 0 15 4 Potter 0 15 4 Blacksmith 0 7 8 Barber 0 7 8 Servants pay* 2 14 0 Cloth for do 8 0 0 8 0 0		Munj grass for well ropes. 2 0 0 Cloth 18 0 0 Salt and turmeric 2 0 0 Cost of bullocks per annum 16 0 0 Well wood work 4 0 0 Turan 5 8 0 † Medicine, Sugar, &c. 3 0 0			143 10 3	14 9 9	The surplus is generally used in making ornaments expenses of marriages and burials, purchasing cattle.
			Total		18 14 0	49 8 0				
2	Cultivating Proprietor	Barkhūrdār Maghiāna Khari	Carpenter 2 14 0 Potter 2 14 0 Blacksmith 1 7 0 Barber 1 7 0 4 servants inclusive of food and clothing 104 0 0		Munj 2 0 0 Trinni 10 8 0 Salt and oil 20 0 0 Cloth 26 0 0 Shoes 9 0 0 Sugar unrefined 4 0 0 Rice 4 0 0 Festival days 12 0 0 Cost of bullocks 40 0 0 Wood work for the well, 10 0 0			582 10 11	249 5 1	The surplus is generally expended on ornaments expenses of marriages & burials any saving after the above expenses are laid out in making new wells or in the improvement of land and the extension of cultivation.
			Total		112 10 0	147 8 0				
3	Tenants with no inherent rights of occupancy	Pañā Ariēn with rights of occupancy, Ahmōda Ariēn Ghōlāma without rights of occupancy				Cloth and shoes 38 0 0 Sugar unrefined, &c., &c. 6 0 0 Salt and oil 4 0 0 Cost of bullocks, &c. 80 0 0	160 12 0	95 8 0	The surplus is expended on marriages and burials, buying cattle and purchasing ornaments.	
						76 0 0				
4	Tenants without rights of occupancy	Bakhu caste Ariēn Bhagatwāla well situated in Jhang	Wionowar and labor 1 8 0 Kamāna 1 12 0	Munj 1 8 0 Shoes 1 0 0 Cloth 4 12 0 Miscellaneous 1 8 0		40 11 0	NIL.			
			Total		3 4 0	8 12 0				

Agricultural population of the Punjab—JHANG DISTRICT—concluded.

V DESCRIPTION OF RESIDENCE, CATTLE AND CHAFFELS.						VI. DEBTS.			REMARKS.
Number of rooms in house		Cattle.		Chaffels stock of grain and cash		How incurred	Amount.	Percentage of debt on total income.	
Used as dwelling rooms	Used for sheltering cattle.	Detail	No	Detail	Value rupees.				
80	81	82	83	84	85	86	87	88	89
One room and 2 huts.	One large thatched shed	Bullocks, Sheep and goats	4	Thál or brass dish Katori or frying pan Do small Cubi or iron triangle on triangular stand 3 Tháls or small brass dishes. Tawa or a round iron plate for baking bread. Mill Spinning wheel Charpás or Bed-tent Bedding	Ra. A. P. 3 0 0 4 0 0 1 0 0 0 8 0 0 4 0 8 0 0 1 0 0 8 0 9 4 9 6 4 0 0 10 0 0	For purchasing one-azib share of the well.	Rs A P 100 0 0 Paid in part 60 balance due 60.	88%	* Servant is a cobbler by caste and makes his master's shoes besides doing his own work. † This amount includes expenses incurred on festivals and meals.
7 rooms	6 large sheds for cattle near the well	Bullocks	16 14	2 Tháls 5 Cups 2 Frying pans 2 do small 2 Chol 6 Tháls 2 Tawas 3 Charpás 7 Charpás Bedding	8 0 0 5 0 0 3 0 0 1 0 0 0 8 0 6 0 0 2 0 0 6 0 0 7 0 0 15 0 0	Not indebted.			
4 thatched huts, 3 rooms	3 thatched huts for bullocks	Bullocks	10	1 Thál 4 Cups 1 Frying pan 1 do small 1 Chál 4 Tháls 2 Tawas 4 Charpás 6 Charpás Bedding	2 0 0 3 0 0 1 0 0 0 8 0 0 3 0 3 0 0 0 12 0 4 0 0 4 8 0 9 0 0	Advance from landlord	60 0 0	25%	
					27 13 0				
	3	1 Bullock Cow Hoefer Donkey	4 1 1 1	Not ascertained		Ditto	48 13 8	163%	Advance from land lord.

CHAPTER I, QUESTION 9

Reply by Mr. EDWARD O'BRIEN, Settlement Officer, Muzaffargarh.

No difference between occupancy and non occupancy tenants. No material difference in welfare exists between tenants with occupancy rights and tenants-at-will in this District. Ca I

The average area owned by proprietors is five acres. The average area cultivated by tenants is thirteen acres. Both proprietors and tenants have an area for grazing, which is practically unlimited.

Both proprietors and tenants live in what is literally a hand-to-mouth way. Each harvest barely suffices for the wants of the half year, and is almost always forestalled by borrowing.

In regard to their economic state and habits, the agricultural classes naturally group themselves into Muhammadans and Hindus, the Muhammadans being five times the number of the Hindus. Of the Muhammadan proprietors 70 per cent are in debt. Of the Hindu proprietors 30 per cent are in debt.

It is very difficult to estimate what proportion the average indebtedness of the proprietors bears to the average yearly income. The lowest estimate in the materials before me says, that the amount borrowed yearly is equal to 30 per cent of the yearly income of the indebted proprietors. The highest estimate gives the debts as 80 per cent of the yearly income.

What proportion of the tenants are in debt? Ratio of debts to yearly income. . Of Muhammadan tenants, 40 per cent and of Hindu tenants 20 per cent are in debt.

The yearly debts of the tenants are equal to 20 per cent of their yearly income.

The cause of the difference between the numbers of the indebted among Muhammadans and Hindus respectively is to be found in the difference of the habits of each class.

Muhammadans are mostly spendthrift and improvident. The Hindus are the reverse. Muhammadans are nearly always uneducated, Hindus are always more or less educated. Hindus usually avoid acts that would bring them within the reach of the Criminal law, while Muhammadans supply almost the whole Criminal population, and so incur the expenses which follow from being suspected by the police and being prosecuted. Muhammadans have only one source of income, *viz.*, agriculture. Hindus who own and cultivate land, almost always combine money-lending and trade with agriculture. Hindus acquire land as payment for debts, Muhammadans generally borrow money to buy land.

Causes of indebtedness. The causes of indebtedness are common to owners and tenants, and may be divided into two classes —

Physical causes arising from the special natural features of the District

The action of the agriculturists

Physical causes, The rain-fall is so small that no crop will ripen from rain alone. Agriculture depends on the rising of the rivers and the inundation canals assisted by wells, excessive floods as well as failure in the regular rising of the river are ruinous to the agriculturist. Insufficient or irregular supply of water in the canals is a fruitful source of debt. The canals of this District have been very much neglected since British rule. In one tahsil the indebtedness is distinctly to be traced to this cause. Most of the debts date from 1869 and the subsequent years. From 1869 to 1875 the canals were not properly cleared, and consequently did not fill in the proper season, ran irregularly, and stopped flowing early.

Habits of the people. Bad farming. But the chief cause of the indebtedness lies in the habits of the people.

They are very careless and lazy farmers, I do not suppose that the farming is very good anywhere in the Punjab, but the bad farming in this District at once attracts the notice of the native officials who come from the eastern and northern parts of the Punjab, and is a constant subject of remarks.

CH I. The agriculturists are wasteful in harvesting the crops and in preparing their indigo and sugar, and are careless in disposing of their produce, especially in not looking out for the best prices and in not retaining a stock for food and seed

It is an almost universal institution that shop-keepers should take the whole of the Government share of the crop and pay the cash revenue for the agriculturist. The Government share fixed by custom is one-third or one-fourth of the crop, and often is as high as one-half. The cash revenue is equal to about one-eighth. The large profits made by the shop-keeper on a transaction of this kind are evident

They neglect their bullocks, do not clothe them in winter and under-feed them, when a bullock comes from work, an armfull of uncut and unwashed turnips are thrown before him. The bullock's teeth and lips grasp the round turnips with difficulty. It takes a long time for him to get a meal, and when it is eaten, he has taken in a quantity of earth which was clinging to the turnips. The consequence is that the bullocks are very soon worn out, and as the District does not breed its own bullocks they have to be imported at a great cost.

The agriculturists are very extravagant. They spend sums beyond their means at marriages, betrothals, circumcisions and funerals. They pay constant visits to shrines and places of pilgrimages, and make offerings there which they can not afford. This part of the Punjab is overrun by religious impostors of different kinds, and the agriculturists make them presents out of all proportion to their incomes, and vie with one another in the largeness of their gifts.

Persons who can not afford to do so, keep saddle horses. Large sums are spent in womanising, lawful and unlawful

One great cause of debt is debt. The crops have generally been forestalled. When they are harvested, the creditors carry off the whole, and the agriculturist has to begin again borrowing for his daily wants, and he borrows under very disadvantageous circumstances. In the Alpur tahsil, when cash is borrowed, 2½ annas is deducted as interest and chilkāna, and after a year a balance is struck, and one-half is added to the balance. Thus if a person borrows Rs 20, the loan is entered as Rs 23-2-0, and if nothing is paid during the year, Rs 11-9-0 is added to it, and the debt is brought forward into next year accounts as Rs 34-11-0

There is a ruinous practice called bhanauti in practice, which can best be described by an instance which came to my knowledge this year. A borrowed money in December—January to pay the kharif instalment of land revenue, promising to repay the loan in June—July in grain at the rate of a path* of wheat for every Rs 32 borrowed.

The usual price of a "path" of wheat in June—July is Rs 55. In the year in question the market price was Rs 85. I have known instances of rich agriculturists who had money in their houses forestalling the wheat crop by bhanauti in order to pay the kharif instalment of land revenue, rather than pay money out of their houses because they thought it unlucky.

It is not bad farming or extravagance alone so much as improvidence that makes the agriculturists indebted. It is contrary to their habits to keep ready money by them. If a man makes a few hundred rupees more than his expenses, he will not keep any part of it for a bad year. He at once buys more land or more bullocks, or ornaments or a wife. He will do any thing rather than keep the cash. If then there is a bad harvest next year, he must go to the money-lender. No agriculturist ever has a balance to the good with his banker. Every one works with a balance to the bad and trusts to the harvest to put him right. The money-lending class is well able to take advantage of the extravagance and improvidence of the cultivating class. There is a local proverb in use among the former on the wisdom of keeping the latter in debt,

i. e. *Jat tē phat badha chagē*, "An agriculturist, like a wound, is better when bound"

There can be no doubt that the continued bad farming, extravagance and improvidence of the agricultural classes has produced the present state of indebtedness. But if we go further and ask what caused the

Cause of the bad farming, extravagance and improvidence.

* A measure of grain equal in weight to about 32 maunds.

bad farming, extravagance and improvidence, the answer is that the people were never trained for the position in which they were placed by our Government, and were never fit for such a position. Under former Governments they were kept as regards agriculture in a state of tutelage. They were quite unaccustomed to manage for themselves. The Government *kardárs* did every thing for them, made them cultivate the land, made the Hindus lend them money and seed, and made the borrowers repay. The agriculturists were pitted against one another to cultivate. If one man did not cultivate his land, it was taken from him and given to another who would cultivate. After annexation this minute superintendence was withdrawn. The agriculturists were introduced for the first time to the name and responsibilities of proprietorship, and a system was introduced which enjoined the exact contrary. "Don't interfere with the distribution of the assessment or the internal management of the villages, the people do this much better themselves," was the order. The agriculturists who had for generations been accustomed to have every part of their economic details done for them by Government officials were as helpless as a child, which can hardly walk when deprived of the chair on which it leaned, and the money-lender stepped into the place which the former Governments occupied. This I believe to be the true origin of the indebtedness in this District, and the neglect of the canals did the rest.

The indebtedness in this District is greater than in any District with which I am acquainted. I beg to append some very true remarks of Mr Lyall's on the subject, which he made when reviewing the assessment report of the Alipur tahsil.

I have the honor to forward a statement in the prescribed form showing the actual economic facts regarding fifteen individuals of the agricultural class selected from different villages in each of the three tahsils. The items of expenditure are I think very correct, for they were first ascertained from the individual himself, and then checked by the shop-keeper who received his crop when grown, supplied him with necessaries, and lent him money.

The income is I am afraid understated

Copy of a Paragraph 7 of Mr J B Lyall, Settlement Commissioner's No 66C, dated 15th December 1877, to Secretary to Financial Commissioner, Punjab

There is nothing alarming, in my opinion, in the return of land sold and mortgaged since 1861 (see para. 48). The price per acre looks very low in Bot Indus and Cháhi Saaláb, but the proportion of waste sold in these circles is large, which may account for part of the difference. There is however no doubt that the value of land in these circles is exceptionally low, and the table of average price per rupee of Government demand for land sold in 1873-76 proves the fact. It will be observed notwithstanding that the tahsil as a whole compares favourably with Sánnáwán in respect to selling price of land. I quite agree with Mr O'Brien's remarks as to the indebtedness of the agriculturists and the faults in their character which are its main cause. The same faults are attributed generally to the Mulámmadan land-holders of all this southern corner of the Punjab but they are found in this tahsil in a very exaggerated form. The heavy flood, and the fever which follows have something to do with it. The almost universal prosperity of the Kirár land holders is proof that there is nothing crushing in the general pitch of the assessment. But as the Biloches, Syáds and Ját say, it would be folly to expect them to alter their characters and habits and rival the thrift and frugality of the Kirárs.

These Kirárs are the Jews of the country, and have a special natural aptitude for earning and saving money. The general character of the agriculturists must be considered in assessing, but from what I have seen here and in Multan and Dera Gházi Khan I do not believe that a very light assessment would tend to get them out of debt.

1—FAMILY AND THEIR HOLDINGS.										
No. of cases.	Status.	Name of Head of family, caste, and residence.	No. of persons comprising the family.				Area of holding in acres.			
			Adults		Children	Total.	Fam. cultivated.	Cultivated.	Uncultivated.	Total.
			Male	Female						
1	Proprietor	Subhan Ali son of Baid, caste Kasbi, resident of Taleri, owns the whole Kasbi wala well	4	4	6	14	Indigo 3 Cotton 6 Wheat 17 Turnips 4 Peas 3 Jowar 1	34	1	35
2	Tenant without rights of occupancy	Nazrang Khan son of Sharif caste Bidoch Ghanda, resident of Murshidgarh, tenant of half the Ahmad Khan wala well in village Lutakma	1	1		2	Cotton 8 Wheat 2 Jowar 4 Bajra 1 Turnips 1	11 0 0	--	11

Punjab, being a description of the actual circumstances of several families in each District, selected as fair CH I.
 occupancy tenants, and tenants at will) of the agricultural population.

II—INCOME						III—EXPENDITURE					
One year's produce of the land.			Other miscellaneous sources of income.		Total income from all sources.	Revenue cesses and augmentation charges and (in the case of tenants) rent.		By grain consumed as food and used as seed or otherwise expended			
Kind of produce	Amount in mands	Value.	Detail.	Value	Amount in rupees.	Detail.	Amount.	Detail.	Mands	Value	
Reeve Indigo 14 Mds. Cotton 5 Wheat 10 Turnips 8 Peas 5 Jowar 6	M. S. C 1 2 0 30 0 0 170 0 0 14 0 0 5 18 0 0 6 5 0 0	Ru. A P. 61 1 5 108 7 7 146 2 0 88 15 0 15 11 5 8 7 4	..	..	Ru. A P. 875 18 8	Land Reve- nue. Date trees Road School Dak cess Local rate Fatwari Lambardari Malha Hak samin- dari per Md. 4 anna	Ru. A P. 88 0 0 0 2 0 0 5 2 0 5 2 0 2 7 2 0 2 1 14 10 1 9 8 0 15 6 0 14 7	Food Wheat Barley Peas Total Cultivation Wheat Jowar Barley Turnips seed Peas Cotton Indigo Total Clothing Cotton Food, Peas, Spices, Onion, Garlic, Red pepper Dhanias	Md. S. C 68 17 8 16 8 4 7 24 3 91 10 0 20 0 0 0 20 0 2 0 0 0 20 0 0 3 0 0 10 0 28 33 0 2 0 0 0 7 0 0 6 0 4 6 9	Ru. A P. 99 1 6 17 6 1 7 15 5 124 7 0 38 15 4 0 11 8 3 4 7 1 8 5 0 8 5 0 8 0 1 4 0 86 2 0 80 0 0 0 6 0 4 6 9
Total	878 13 8					Total	40 5 7	Total	194 5 9		
Cotton 5 Wheat 10 Jowar 6 Bajra 7 Turnips 8	5 15 0 8 20 0 0 24 0 0 7 7 0 0 8 0 0 0	54 8 9 28 15 4 88 13 4 9 5 0 8 7 9			184 13 2	Abhana per well Cotton Wheat Jowar Bajra Turnips	1 0 0 38 18 2 6 9 8 2 7 10 2 11 10 2 7 11	Food for 10 months Wheat Bajra for 2 months Total Cultiva- tion. Wheat Jowar Bajra Turnip seed Cotton seed	18 13 5 2 26 0 28 15 0 5 0 0 0 20 0 0 4 0 0 1 8 0 32 0	19 4 4 8 8 8 28 15 0 7 8 10 0 11 8 0 2 4 0 1 5 2 0 0	
Total	184 13 2					Total	29 2 5	Grand total		27 7 0	

No of case	Status	Name of head of family, caste, and residence.	III—EXPENDITURE—continued				Total expenditure
			Customary charges of village monials and hired labour of all sorts		By purchase of necessaries which the family cannot produce on their own land or by their own labour		
			Detail	Amount	Detail	Amount	
1	Proprietor	Subhan Ali son of Bala, caste Kasai resident of Talari, owns the whole Kasai wala well.	1 Farm labourer	Rs 8 4 P	Salt	Rs 2 4 P	Ra. A P 417 4 0
			Carpenter	4 4 1	Turmeric	1 0 0	
			Potter	4 4 1	Gur	1 11 8	
			Barber	2 14 4	Oil	6 0 0	
			Washer-man	3 2 9	Gram Dal	0 7 0	
			Black smith	1 13 0	Mohri Dal	0 6 0	
			Mooch	21 11 6	Mung Dal	0 7 6	
			Sweeper	1 7 2	Rice	3 0 0	
			Alms to Moola		Meat	1 0 0	
			Brahman and Ptr	2 14 4	Soap	0 4 0	
			Winnower	6 2 6	Fuller's earth	0 6 0	
			Leaping wheat	6 2 6	Ginning cotton	5 0 0	
			Reaping and churning Indigo	12 0 0	Weaving cotton	23 5 3	
			Picking cotton	9 0 8	Women's sheets	4 0 0	
					Giris do	4 0 0	
		Do do	1 0 0				
		2 Boddies	1 0 0				
		Dyeing cloths	11 4 0				
		Ropes for bed	1 0 0				
		Repairs to dwelling house	2 0 0				
		Repairs to sickle, hal plough	4 0 0				
		Repairs to wood work of well	4 0 0				
		Total	108 0 8	Total	76 8 5		
2	Tenant without rights of occupancy	Nourang Khan, son of Sharif, caste Biloch Chauda resident of Musaffargarh Tenant of half the Amad Khan wala well in village Lutakran	1 Farm labourer	48 0 0	Manure	27 0 0	177 7 10
			Carpenter	3 8 5	Repairs to wood work of well	1 8 0	
			Potter	8 8 5	Thatched roof	0 10 0	
			Barber	0 11 7	Red pepper	0 12 0	
			Winnower	0 11 7	Salt	1 2 8	
			Reaping of wheat	0 11 7	Turmeric	0 12 0	
			Alms to Moola	0 11 7	Gur	2 0 0	
			Brahman and Ptr	4 8 4	Oil	8 0 0	
			Picking of cotton		Meat	3 0 0	
					Mung Dal	1 8 0	
					Soap	0 4 0	
					Fuller's earth	0 4 0	
					Dyeing clothes	2 12 0	
					Ropes for bed	0 8 0	
					Repairs to dwelling house	2 0 0	
		Women's sheets	1 14 0				
		Men's turbans and coats	3 8 0				
		Ginning cotton	0 12 0				
		Weaving clothes	4 0 0				
		Shoes	2 4 0				
		Total	62 7 6	Total	48 6 8		

economic condition—continued

IV—SURPLUS		V—DESCRIPTION OF RESIDENCE CATTLE AND CHATELLE.						VI—DEBT		
Surplus of income over ex- penditure.	Surplus income usually how disposed of.	No of rooms in houses		Cattle		Chattle, stock of grain and cash.		How incurred.	Amount.	Percentage of debt on total income
		Used as dwelling rooms	Used for sheltering cattle	Detail.	Number	Detail.	Value rupees			
		8	8	Buffalo Calves Cows Calves Bullocks	2 2 2 10 10	<i>Ornaments</i> 3 Kangan Hassu Chukan Rungo Total <i>Vessels</i> 1 Thal 3 Katoras Total <i>Clothes</i> 6 Remos 2 Kbes 2 Blankets Total <i>Grain.</i> Wheat 22 Mds Barley 2 Mds. Total	Rs. A. P 48 0 0 20 0 0 8 0 0 5 0 0 81 0 0 1 4 0 3 0 0 4 4 0 24 0 0 5 0 0 5 0 0 34 0 0 46 5 0 2 6 7 48 11 7	Not in debt	..	
				Total	80	Grand Total	167 18 7			
..		1	1	Bullocks Buffalo Goats Lamb Pony	3 2 1 1 1	<i>Ornaments</i> Hassu Tara Kangan Total <i>Vessels</i> 1 Pot 1 Thal 2 Katoras Total <i>Clothes</i> 2 Bassis 1 Dober Total <i>Grain.</i> Wheat 11 Mds. Bajri 3 Mds. Uncleaned cotton 27 seers Total Debts to recover	22 0 0 25 0 0 12 0 0 59 0 0 8 0 0 1 8 0 1 12 0 6 4 0 6 0 0 2 8 0 8 8 0 15 14 10 3 15 10 2 7 1 22 5 9 18 0 0	Price of wheat Arrears due for carrying manure	17 0 0 17 0 0	18 per cent.
				Total	8	Grand Total	114 1 9	Total	24 0 0	

No of cases	I—FAMILY AND THEIR HOLDING.										
	Status	Name of head of family, caste and residence.	No of persons comprising the family				Area of holding in acres				
			Adults		Children	Total	How cultivated.	Cultivated	Uncultivated	Total.	
			Male.	Female.							
3	Tenant with rights of occupancy	Allah Dād, son of Sardār caste Thām of Rām Tenant of Mālikwāl well and its Fāzil.	1		1	2	Indigo Tobacco Wheat Til Jowar Rajra Turnips Mothra	Acres 8 1 11 2 2 4 3 1	Acres 26	Acres 5	Acres 33
4	Proprietor	Do	Do.		Do.	Do.				Culturable. 2	2
5	Do	Do	Do.		Do	Do.	Cultivated by tenants.			.	
6	Do	Do	Do.		Do.	Do.	Wheat	3	3	Acres 1	4
7	Tenant without rights of occupancy	Do	Do		Do.	Do.	Wheat Turnips Cotton	1 1 1	2		2
		Grand total	1		1	2		38	33	2	41

economic condition—continued.

II.—INCOME						III.—EXPENDITURE								
One year's produce of the land.			Other miscellaneous sources of income.		Total in come from all sources.	Revenue asses and <i>etc.</i> (in the case of tenants) rent		By grain consumed as food and used as seed or otherwise expended.						
Kind of produce.	Amount in mandals.		Detail	Value.	Amount in rupees	Detail.	Amount	Detail.	Miscellaneous	Value.				
	Rs.	A.									P.	Rs.	A.	P.	M.	S.	C.	Rs.	A.	P.
Indigo	14	1 2 0		61 1 6	Proprietary			Land revenue	86 0 0					
Tobacco				82 0 0	Right of Patni	0 6 1	870 10 5	Due tree	0 8 0		Wheat	31 27 6	19 18 1	
Mds					Kedwah			Road cess	0 6 1		Cultivation			
Wheat	10	130 0 0		169 4 8	Zamindari			School	0 8 2		Wheat	35 0 0	36 3 3	
TL	4	8 0 0		35 3 8	Right of			Post Office	0 8 2		Toonac	0 3 0	0 3 0	
Jowar	6	18 0 0		25 6 0	Banades			M a h s u l	2 6 8		Jowar	0 6 0	0 3 10	
Bajra	7	28 0 0		37 4 1	wala well	0 14 8		makani	2 6 8		Turnips	0 6 0	0 5 10	
Turnips	3	10 30 0		26 7 3				Fatwari	2 4 8		Cotton seed	0 6 0	0 6 0	
Mostra	5	3 0 0		5 13 8				Lambardari	1 14 6		Vegitable	0 6 0	0 6 0	
								Malba	1 14 6		seed pro-			
								Kasur 2seer	17 4 6		duced			
								per maund			from his			
								Total	64 14 9		own well			
								Canal other	12 0 0					
								&c						
								Grand total	76 14 9		Total			57 0 11
								Land revenue	0 8 0					
								Road cess	0 0 1					
								School	0 0 1					
								Malkana	0 0 6					
								Fatwari	0 0 6					
								Lambardari	0 0 8					
								Malba	0 0 8					
								Total	0 9 10					
								Land revenue	8 2 0					
								Other cesses	1 18 7					
								Canal & other	2 0 0					
								Total	11 15 7					
								Land revenue	9 0 0					
								other cesses	2 0 9					
								Canal other	1 4 0					
								Total	12 4 9					
								Land revenue	9 0 0					
								other cesses	2 0 9					
								Canal other	1 4 0					
								Total	12 4 9					
								Rent to be						
								paid to pro-						
								prietor after						
								deducting						
								Bhawli and						
								Lichh ty						
								Wheat	1 14 8					
								Cotton	3 9 8					
								Turnips	8 11 1					
								Total	9 3 6					
								Total	110 15 11					68 1 6

No of case	Status	Name of head of family, caste, and residence	III.—EXPENDITURE—continued.				Total expenditure
			Customary charges of village menials and hired labour of all sorts		By purchase of necessaries which the family cannot produce on their own land or by their own labour		
			Detail.	Amount.	Detail.	Amount.	
8	Tenant with rights of occupancy	Allah Dád, son of Sarda caste Thám of Ban Tenant of Málík wala well and its Páti	2 farm labourers	Rs. A. P. 42 2 4	Salt	Rs. A. P. 2 0 0	247 10 7
			Carpenter	3 8 7	Turmeric	0 4 0	
			Potter	3 8 7	Red pepper	0 8 0	
			Barber	1 13 0	Gur	1 0 0	
			Mochi	6 12 8	Oil	1 0 0	
			Swespeer	2 14 4	Gram dal	1 0 0	
			Alms	1 7 2	Dal Mung	0 8 0	
			Winnower	3 14 2	„ Mohri	0 8 0	
			Reaping of crops	27 9 8	Cloths	6 13 10	
					Turban	1 0 0	
					Repairs to wood work of wall	6 8 0	
			Total	92 10 1	Total	21 0 10	
4	Proprietor	Do					0 9 10
5	Do	Do					11 15 7
6	Do	Do	Reaping	Rs. A. P. 1 1 7			23 11 1
			Carpenter	0 18 6			
			Potter	0 13 0			
			Winnower	1 1 8			
			Alms	0 7 9			
			Total	4 5 0			
7	Tenant without rights of occupancy	Do	Reaping	0 15 0			11 6 4
			Carpenter	0 8 9			
			Potter	0 6 9			
			Winnower	0 2 11			
			Alms	0 8 12			
			Total	2 8 4			
		Grand total		99 3 2		21 0 10	294 6 5

economic condition—continued

IV—SURPLUS.		V—DESCRIPTION OF RESIDENCES, CATTLE AND CHATTYLS.						VI—DEBT.		
Surplus of income over ex- penditure.	Surplus income usually how disposed of	No. of rooms in houses.		Cattle		Cattle, stock of grain and cash.		How incurred.	Amount.	Percentage of debt or total income
		Used as dwelling rooms.	Used for sheltering cattle.	Details.	Number	Details.	Value rupees.			
		1		Bullocks	6	2 Kangan Fossils	Rs. A. P. 10 0 0	Purchasing a share of the		..
				Cows	2	1 Thali	1 8 0	Kudanwala		
				Calf	1	1 Kokra	1 0 0	wall	150 0 0	
				Calf, female	1	1 Olothe		For land rev	80 0 0	
				Goat	1	2 Rasas	4 0 0			
						1 Sheet	0 8 0			
						Green.				
						Wheat 16 Mds.	21 11 6			
				Total	11	Total	88 11 6	Total	180 0 0	
	Wheat 21 11 6 Paid on account of debt 25 0 0 unknown 105 4 6									
162 0 0	162 0 0	1		..	11	..	88 11 6		160 0 0	40 0 0

I.—FAMILY AND THEIR HOLDING																			
No of case.	Status	Name of Head of family, caste, and residence.	No of persons comprising the family				Area of holding in acres												
			Adults		Children	Total	Area of holding in acres												
			Male	Female			How cultivated.	Cultivated.			Uncultivated			Total.					
								B	K	M	B	K	M	B	K	M	B	K	M
8	Proprietor	Mahmūd, son of Fakira, caste Gujar of Hujra.	2	2	1	5	Wheat	17	0	7	25	1	11	17	0	10	40	1	15
							Barley	6	0	17									
9	Do	Sāduq son of Gulām Mohamamad, caste Garahā of Daya Chokha	2	1	1	4	Wheat	2	1	19	10	2	11	2	1	15	18	0	6
							Barley	2	0	8									
							Indigo	0	1	16									
							Mulh	0	2	12									
							Jowar	2	2	7									
							Cotton	2	2	1									
							Turnips	1	0	5									
							Mulhra	0	0	2									
10	Do	Kūdarād Khān son of Shāhmad Khān caste Pathān of Lodha Lungar	1	1		2	Wheat	14	2	17	34	0	2	4	0	12	40	0	12
							Turnips	2	0	6	4	0	1						
							Tobacco	0	1	2									
							Cotton	2	1	10									
							Jowar	4	1	4									
11	Do	Sarfrās Khān, son of Mirbā Khān caste Būch Garmān of Shodā Khān	1	2	2	5	Wheat	2	1	12	14	2	10	2	1	0	18	0	10
							Turnips	0	2	12									
							Cotton	0	1	12									
							Jowar	2	2	17									
							Barley	1	1	12									
							Tobacco	0	0	12									
							Vegetable	0	0	2									
12	Do	Saleh Muhammad son of Kadir Bakhsh caste Purhar of Kot Adu	2	4	6	12	Wheat	54	0	5	56	1	12	44	0	12	140	2	11
							Masur	4	1	10									
							Barley	0	1	14									
							Turnips	2	0	2									
							Grass	1	2	10									
							Peas	1	1	14									
							Vegetable	0	1	12									
							Tobacco	0	1	12									
							Cotton	14	1	6									
							Jowar	10	2	9									
							Bajra	2	2	7									

economic condition—MURRAYGAREH DISTRICT—continued.

II—INCOME					III—EXPENDITURE									
One year's produce of the land.			Other miscellaneous sources of income		Total income from all sources	Revenue cesses and expenses charges and (in the case of tenants) rent								
Kind of produce.	Amount in maunds.		Detail.	Value.	Amount in rupees.	Detail.	Amount.			By grain consumed as food and used as seed or otherwise expended				
	M	S					Rs	A	P	Detail.	Maunds.	Value.		
Wheat	63	14	0	80	5	0	Land revenue	18	2	6	Food			
Barley	31	2	8	84	2	3	School	0	2	6	Wheat &			
							Road	0	2	0	Barley	86	0	43
							Patwari	0	15	0	Cultivation			
							Lambardari	0	12	2	Wheat &			
							Dak	0	1	8	Barley	12	0	14
							Malba	0	5	1	Entertain			
							Trusi	6	12	0	ing guests			
							Local rate	1	4	3				
							Total	25	10	8	Total	48	0	64
Total	99	16	8	124	7	9								
Wheat	14	37	0	19	18	0	Land revenue	8	0	0	Food			
Barley	8	24	0	4	15	4	Other cesses	0	16	1	Wheat &			
Indigo	0	4	8	6	9	0	Lambardari	0	5	8	Barley	29	0	34
Moth	1	0	0	1	6	10	Local rate	0	10	8	Cultivation			
Jowar	6	37	0	6	6	8	Trusi	1	2	0	Wheat	0	10	0
Cotton	6	12	8	21	11	6	Zarnaga	1	4	0	Barley	0	10	0
											Jowar	0	20	0
											Indigo	0	3	0
											Cotton	0	10	0
											Turnips	0	5	8
Total				80	13	2	Total	12	6	2	Total	57	13	8
Wheat	89	84	0	119	5	0	Land revenue	21	0	0	Food	15	30	0
Turnips	2	20	0	5	7	8	Road	0	3	6	Cultivation			
Cotton	20	37	8	72	0	0	School	0	3	0	Wheat	10	0	0
Jowar	8	24	0	9	11	3	Patwari	1	4	0	Turnips	0	10	0
							Lambardari	1	0	12	Cotton	1	0	0
							Local rate	1	12	0	Jowar	1	0	0
							Dak	1	9	0	Guests			
							Malba	0	10	0	Horse			
							Trusi	1	2	0	Miscellaneous			
							Zarnaga	3	0	0				
Total				206	7	9	Total	39	6	1	Total			61
Wheat	50	84	0	67	8	0	Land revenue	15	12	0	Food			
Turnips	2	32	8	9	10	0	Road	0	2	8	Wheat 30			
Cotton	2	32	0	3	2	0	School	0	2	8	Mds	31	20	0
Jowar	8	16	0	9	3	6	Patwari	0	15	0	Jowar 1 md			
Barley	8	16	0	9	3	6	Lambardari	0	12	4	& 20 acres			
Tobacco	1	24	0	8	7	6	Local rate	1	8	0	Cultivation			
							Dak	0	1	4	Wheat	4	0	0
							Malba	0	8	0	Turnips	0	4	0
							Zarnaga	1	0	0	Cotton seed	0	10	0
											Jowar	0	20	0
											Barley	0	20	0
											Guests			
											Wheat	2	0	0
Total				92	16	0	Total	20	11	0	Total			51
Wheat	324	18	0	430	12	0	Land revenue	69	12	0	Food			
Masur	7	26	0	11	6	6	Road	0	9	8	Wheat	54	0	0
Barley	2	22	0	2	18	0	School	0	9	8	Jowar	9	0	0
Turnips	7	20	0	9	0	0	Patwari	3	5	3	Barley	9	0	0
Beans	2	24	0	2	7	10	Lambardari	2	15	10	Barley	9	0	0
Peas	4	32	0	4	8	0	Local rate	4	15	8	Cultivation			
Vegetable	3	32	0	8	4	0	Dak	0	5	0	Wheat	39	0	0
Tobacco	36	33	8	125	4	0	Malba	1	14	0	Masur	0	20	0
Cotton	21	19	0	23	14	0	Trusi	1	15	0	Barley	0	20	0
Jowar	7	7	0	4	13	6	Zarnaga	3	0	0	Turnips	0	20	0
Bayri											Grum	0	20	0
											Peas	0	20	0
											Cotton	1	20	0
											Moth	2	0	0
											Bayri	0	30	0
											Guests			
											Wheat	15	0	0
Total				623	6	2	Total	78	6	1	Total			186

No of case	Status	Name of head of family, caste, and residence.	III.—EXPENDITURE—continued				Total expenditure.
			Customary charges of village menials and hired labour of all sorts		By purchase of necessaries which the family cannot produce on their own land or by their own labour		
			Detail.	Amount.	Detail.	Amount.	
8	Proprietor	Mahmūd, son of Fakira, caste Gujar of Hunjra.	Menials 1 labourer Reaping	Rs. A. P. 7 8 0 23 6 0 5 0 0	Clothes Salt Turmeric Oil Tobacco Dals Miscellaneous articles	Rs. A. P. 13 0 0 1 0 0 0 4 0 1 0 0 1 8 0 3 0 0 2 0 0	151 10 8
Total			40 15 0	Total	20 12 0		
9	Do	Sadiq, son of Gulam Muhammad, caste Garaha of Daya Obokha.	Menials Reaping Interest of debt	8 0 0 2 4 0 8 4 0	Clothes Salt Turmeric Oil Tobacco Dals Medicine	9 0 0 0 12 0 0 4 0 0 12 0 1 0 0 1 0 0 1 8 0	77 15 10
Total			18 8 0	Total	14 4 0		
10	Do	Kaderdād Khan son of Shah Niwas Khan caste Pathan of Ladho Lungar	Menials Reaping Interest of debt Labourers	15 0 0 6 0 0 61 10 0 66 10 0	Clothes Salt Turmeric Red pepper Oil Tobacco Dals Ghee Medicine Bullocks	18 0 0 7 0 0 0 8 0 0 8 0 2 0 0 1 8 0 4 8 0 12 0 0 4 0 0 20 0 0	284 8 7
Total			129 4 0	Total	64 0 0		
11	Do	Sarifraz Khan son of Mir Raf Khan, caste Bulooh Gurmani of Shadi Khan.	Menials Reaping Labourer Interest on debt	7 8 0 3 0 0 28 5 0 85 0 0	Clothes Salt Turmeric Red pepper Oil Tobacco Dals Ghee Miscellaneous	20 0 0 1 8 0 0 8 0 0 12 0 1 8 0 3 0 0 3 0 0 6 0 0 0 8 0	183 8 6
Total			78 18 0	Total	87 12 0		
12	Do	Saleh Muhammad, son of Kadir Bukhsh caste Ferhat of Kot Adn.	Menials Reaping Labourer Masdar Interest on debt	15 8 0 14 1 0 46 0 0 12 0 0 29 0 0	Clothes Salt Red pepper Turmeric Oil Ghee Dals Miscellaneous	24 0 0 2 0 0 1 0 0 0 8 0 6 0 0 3 0 0 12 0 0 5 0 0	74 10 7
Total			166 7 0	Total	63 8 0		

Economic condition—MURRAYFARGAH DISTRICT—continued

IV—SURPLUS		V—DESCRIPTION OF RESIDENCE, CATTLE AND CHATELLE						VI—DEBT		
Surplus of income over ex- penditure.	Surplus income usually how disposed of.	No of rooms in house		Cattle.		Cattle, stock of grain and cash		How incurred.	Amount.	Percentage of debt on total income.
		Used as dwelling rooms	Used for other purpose	Details.	Number	Details.	Value rupees.			
2 12 5	-	2	1	Cows Bullocks Sheep & goats	15 6 6	Vessels of copper Mill Spinning wheel Razai Miscellaneous furniture	20 0 0 2 0 0 2 0 0 2 0 0 5 0 0			
				Total	27	Total	18 0 0			
		1	1	Cows Bullocks	2 4	Vessels of copper Mill Spinning wheel Iron furniture Razais & blanket Ropes for bed	2 8 0 1 8 0 0 8 0 2 0 0 2 0 0 3 0 0	Failure of canal water, death of bul- locks	88 0 0	
				Total	6	Total	11 8 0			
		2	2	Bullocks Cow Mare	4 1 1	Vessels of copper Razai Iron furniture Ornaments Spinning wheel Miscellaneous articles	5 0 0 10 0 0 2 0 0 10 0 0 1 0 0 5 0 0	Do	1,400 0 0	
				Total	6	Total	38 0 0			
		2	1	Bullocks Cows Female ass	2 1 1	Vessels Mill Spinning wheel Razai Iron furniture Ornaments Chargans	2 8 0 2 0 0 2 0 0 10 0 0 2 0 0 5 0 0 4 0 0	Do.	600 0 0	
				Total	4	Total	27 8 0			
199 10 7	Purchase of Bullocks 40 0 0 Expenditure on marriage 80 0 0 For debt 60 0 0 Ornaments 20 0 0 Repairs to wells 30 0 0 Miscellaneous change of wells 20 10 7 Total 199 10 7	3	2	Bullocks Cows Buffalo Donkey Goat	8 3 1 1 1	Vessels Razai 2 Mills Spinning wheel Chargans Ornaments Miscellaneous	5 0 0 12 0 0 10 8 0 8 0 0 4 8 0 80 0 0 5 0 0	Do	240 0 0	59 0 0
				Total	14	Total	120 0 0			

Ch. I

I—FAMILY AND THEIR HOLDING.																			
No of cases	Status.	Name of Head of family, caste, and residence.	No of persons comprising the family				Area of holding in acres												
			Adults		Children	Total.	How cultivated			Cultivated.			Uncultivated.		Total.				
			Male.	Female			B	K	M	B	K	M	B	K		M			
13	Tenant	Yunf son of Ahmad, caste Chharya of Nawab Bera, Thulsi Alipur	1	1	1	3	Wheat	14	0	0	17	0	0				17	0	0
							Barley	1	0	0									
							Peas	2	0	0									
14	Proprietor	Fateh son of Hot, caste Gopole of Ghulwan	3	4	3	10	Wheat	4	0	0	13	0	0	4	0	0	17	0	0
							Jowar	1	0	0									
							Sugar-cane	8	0	0									
15	Proprietor	Mir son of Hassan, caste Bloch, Gopal of Ghulwan,	2	3	7	12					28	0	0	13	0	0	41	0	0

Economic condition—MUMBAI DISTRICT—concluded.

CH I.

II—INCOME						III—EXPENDITURE																		
One year's produce of the land.			Other miscellaneous sources of income		Total income from all sources	Revenue cesses and tenancy charges and (in the case of tenants) rent		By grain consumed as food and used as seed or otherwise expended.																
Kind of produce.	Amount in mounds			Detail.	Value.	Amount in rupees.	Detail.	Amount.	Detail.	Mounds		Value.												
	M	S	C							Re.	A.		P.	M	S	C	Re.	A.	P.					
Wheat	15	35	8	46	4	8	Ba. A. P.	30	0	0	73	3	6											
Barley	7	0	0	7	15	0	Ba. A. P.	73	3	6														
Pena grass																								
Total				53	3	6							33	0	1									
Wheat	16	0	0	26	8	0	On account of bricks, earth	59	0	0	469	14	0	Land revenue	28	3	0	Food	69	0	0	102	0	0
Jowar	1	12	0	1	9	0	Ghi	50	0	0				Other cesses	5	5	3	Wheat				13	1	9
Sugar-cane	64	20	0	272	8	6												Sugar cane seed				0	8	3
Indigo	1	30	0	70	4	6												Jowar	4	0	0	0	8	0
Total				870	14	0	Total	89	0	0	Total	33	13	3	Total			Wheat				121	8	9
Wheat	58	0	0	98	4	0												Food	12	0	0	23	15	9
Indigo	1	36	0	79	5	0												Jowar	36	0	0	60	5	3
Grx	6	15	0	31	12	8												Wheat						
Cotton	0	22	0	2	6	3												Cultivation	1	35	0	3	8	0
Tobacco	23	0	0	43	12	0												Jowar	16	19	2	27	8	0
																		Wheat				8	13	7
																		Indigo seed						
																		Sugar cane seed				15	5	6
Total				255	7	11					285	7	11	Total	84	2	3	Total				159	1	3

CH. I.

No of case.	Status.	Name of head of family, caste, and residence.	III.—EXPENDITURE—concluded					
			Customary charges of village menials and hired labour of all sorts		By purchase of necessaries which the family cannot produce on their own, land or by their own labour		Total expenditure.	
			Detail.	Amount.	Detail.	Amount.		
13	Tenant	Yusuf, son of Ahmad, caste Chhajra of Nawaa Dura, Tehsil Alipur	Labourer	Rs A P 7 8 0	Gur Sweetmeats Clothes Salt Turmeric Weaver Indigo Blankets Medicine Oil Ghi Iron Cash Cotton seed Tirm Debt	1 12 0 0 9 6 5 13 6 0 3 0 0 2 6 1 6 0 1 6 0 12 10 0 1 1 0 0 3 0 1 10 0 0 6 6 6 2 6 11 1 0 2 6 0 6 8 0	110 3 6	
					Total	70 0 6		
14	Proprietor	Fateh son of Hote, caste Gupolo of Ghalwan	Labourer Reaping Indigo Hoing of Sugar-cane Clearing of Indigo Manure Canal Chher Wages for grazing cattle Expenses of fair and preparing of Sugar-cane	66 8 6 1 6 9 11 1 9 5 3 0 27 10 3 11 1 6 0 10 3 89 3 3	Khal Oil Lime Gur Iron Sugar-candy Ghi Clothes Repairs to clothes Salt Red pepper Bullocks Interest Chhapar Bhusa Alms Indigo vat Ornaments Marriage expenses	22 12 6 0 16 0 2 0 0 2 7 0 3 6 3 1 2 2 0 1 0 24 12 0 1 8 0 1 11 3 0 2 9 40 7 0 6 0 0 2 2 8 18 13 3 0 6 3 1 6 6 5 0 6 6 6 9	535 5 6	
				Total	232 12 3	Total	147 3 2	
15	Proprietor	Mir son of Haasan, caste Biloeh, Gopal of Ghalwan.	Labourers Chherua Manure Churning Indigo Cleaning sugar-cane Tobacco carrying	114 6 9 26 8 6 7 7 0 2 2 8 8 5 9 0 10 9	Gur Khal Salt Oil Ghee Iron Sugar-candy Clothes Cotton seed Ming Bullocks Fire Cash Interest Bhusa	3 9 2 10 11 4 0 6 9 0 8 3 0 1 2 2 3 6 0 8 10 2 3 10 0 3 6 0 4 6 126 8 0 16 0 0 28 5 3 20 11 3 11 3 2	606 1 1	
				Total	161 9 4	Total	220 18 0	

IV—SURPLUS		V—DESCRIPTION OF RESIDENCE CATTLE AND CHATTLE					VI—DEBT			
Surplus of income over ex- penditure	Surplus income usually how disposed of	No. of rooms in house		Cattle		Cattle stock of grain and cash.		How incurred.	Amount.	Percentage of debt on total income
		Used as dwelling rooms	Used for sheltering cattle.	Detail	Number	Detail.	Value.			
		1	1	Buffalo Bullocks Cows	3 4 3	Ornaments Clothes Vessels Mills Charpai	Re A P 4 0 0 15 0 0 4 0 0 3 0 0 2 0 0	For food &c.	Re A P 90 0 0	Re A P 170 0 0
				Total	10	Total	27 0 0			
		2	1	Bullocks Buffalo Cows Mare	8 4 6 1	Ornaments Vessels Mil Clothes Charpals	20 0 0 10 0 0 4 0 0 40 0 0 8 0 0	Purchasing the land 600 0 0 Old debt 620 0 0 New debt 70 0 0	1,100 0 0	269 0 0
				Total	19	Total	83 0 0			
		2	1	Bullocks Mare Cow	8 1 1	Ornaments Vessels Mill	5 0 0 5 0 0 2 0 0	Failure of crops	1,750 0 0	704 0 0
				Total	10	Total	12 0 0			

CHAPTER I, QUESTION 9.

Reply by MR. H ST G TUCKER, Settlement Officer, Dera Ismail Khan

1 This reply relates to the Dera Ismail Khan District, with which, as Assistant Commissioner and Settlement Officer, I have been acquainted for nearly eleven years, during nine of which I have resided in it.

Looking to the amount of accumulated wealth, the quality of the dwelling houses and of the clothing of the agricultural population, the District on the whole is decidedly a poor one. At the same time land is abundant, and food generally cheap. Famines are unknown, and any occasional scarcity that occurs is owing to the excessive exportation of food-grains to other parts of India. The common people, as a rule, get plenty to eat, and cultivators being scarce, while land is plentiful, the labouring classes can readily get employment on *fau* terms.

Of the proprietors, about two-thirds themselves cultivate, one-third do not cultivate with their own hands. The non-cultivating proprietors include large numbers of Hindús, and men of the Pawindah tribes settled along the border, also a certain portion of persons who would cultivate but are unfit for work. Cultivating proprietors constitute $\frac{1}{3}$ of the whole number of cultivators. The remainder consist of the following classes—

Occupancy tenants	..	..	7 per cent.
Tenants-at-will	..	..	13 " "
Associated cultivators who get a share of the crop, (bháwáls, &c)	..	..	7 " "
Hired labourers	..	..	9 " "

The cultivating proprietors may be divided into three classes (1) superior proprietors who get *málikána*, and also cultivate themselves either as tenants or as inferior proprietors. These are known as *dá máliks*, (2) men who are full proprietors of their holdings, (3) inferior proprietors or *adna máliks*, who hold their lands subject to the payment of *málikána**. There is practically no difference hardly in the economic condition of the 2nd and 3rd classes, the rate of *málikána* paid by the *adna máliks* being generally too light to make any material difference in their circumstances.

Large numbers of the *adna máliks* also hold lands as occupancy tenants. Cis-Indus, the occupancy tenants are often on a very similar footing to the *adna máliks*. They get a cash settlement, and the rent paid in addition is not much heavier than the ordinary *málikána*. Where they pay in kind, the rates are generally low. Trans-Indus, occupancy tenants and *adna máliks* have also been similarly situated hitherto, but the *adna máliks* have now got a cash settlement, while the occupancy tenants will pay a share of the produce (*battáú*) as before, and these *battáú* rates are generally heavy—often amounting to $\frac{1}{2}$ and generally to not less than a third or two fifths of the crop.

Tenants at-will and *bháwáls* or associated cultivators are not much worse off in their general circumstances than the common run of occupancy tenants and *adna máliks*. These *bháwáls* take the place, Trans-Indus, of hired labourers.

Hired labourers are common in the well irrigated parts of Bhakkar and Lesh, but no where else. The common rate of payment for them is $1\frac{1}{4}$ maunds of grain, and Re 1 cash a month, besides a pair of shoes and blanket. Of the grain, theoretically $\frac{1}{2}$ is wheat, $\frac{1}{4}$ barley and $\frac{1}{4}$ bajrá, but, in the Kachi especially, they very often get nearly all wheat, bajrá being but little grown. The Thal people eat a certain amount both of bajrá and barley. The Kachi people eat very little of any thing but wheat. Even the poorer folk eat wheat. Chapátú with a little ghl in the morning and again with butter-milk at night, are the usual diet. In the Trans Indus Dáman bajrá is eaten during the cold weather months, not by way of economy, but because the people like it. The common dress all over the District consists of a cotton turban, shirt and loin-cloth, with a sheet thrown over the shoulder. When cotton is cultivated, the women spin it into thread and the village

* *dá máliks* means superior owner; *adna máliks* the owner who holds under him, and *málikána* the dues which the latter pays to the former.

CH I weavers make this thread into cloth for some small payment, so that clothes do not cost much. The agriculturists here dress badly, and even Lambardárs are generally dirty and sometimes ragged. As regards food and dress, the smaller proprietors are not much removed above tenants-at will and labourers. They generally possess, however, more in the way of ornaments and chattels, and are more their own masters. They have to spend more on marriages and entertainment of guests, and are frequently in debt, in which case the interest runs away with their surplus income. Proprietors and tenants with a fixed residence have generally larger families than hired labourers. A great portion of the latter have no families at all, and it would be impossible for them to feed families of any size on their ordinary wages. In the Dáman the bhátwáls generally possess one or two oxen, and possibly other cattle of their own, and supplement their income by selling ghi, cutting and selling fuel and doing odd jobs.

When proprietary rights are of long standing, there is nearly always a great deal of mortgage. In those parts of the Cis-Indus Kachi, where the country has been long settled, and wells are numerous, there is an immense deal of mortgage, much of it coming down from pre annexation days. Thal wells are not as a rule so much mortgaged, though where they are mortgaged the amount is generally large. Thal property is of no value to a mortgagee unless he can get the proprietor to stop on and cultivate. There is very little mortgage of adna mákiyat in the river villages on the Indus. The proprietors of these are generally well-to-do and free from debt. In places, however, the ála mákiyat is heavily mortgaged. This is the case with the Sayad villages of the Bet Circle. These Sayads generally hold a share of the revenue of these villages, sometimes as much as three-fourths, in maáfi. Their indebtedness is owing to extravagant expenditure. Extravagant expenditure is generally the cause of indebtedness among the ála máliks. Among the adna máliks of wells indebtedness often comes about in this way. The men are Sayads and Biloches, and consider it beneath them to make money by labouring for others or doing odd jobs. They have a certain style of living not unduly extravagant that they have been accustomed to. Owing to one or two bad seasons, to the loss of oxen, or some such cause, their usual resources fail them, and they get into debt, and once in debt they generally get involved deeper and deeper. The amount of mortgage in the different tahsils is as follows —

Dera About 100 per cent. on the revenue. There is least mortgage in the river villages and in the Marwat villages to the north.

Kulachi In the Kulachi tahsil the mortgages of proprietary right in the Gandapur country amount to 125 per cent. on the revenue*. Besides this the cultivation is mortgaged to the extent of about Rs 2,00,000 or about 500 per cent., but nearly all this mortgage is to co proprietors. In the rest of the tahsil mortgages amount to 200 per cent., in the Mián Khel country, 75 per cent. in the Babar country, and 350 per cent. in the Vahoa iláka. In part of the Vahoa iláka, the cultivating population is very indebted. In the Gandapur country the people are generally indebted. In the rest of the tahsil the cultivating population is generally free from debt. In the Babar and Ushterána country especially, though nearly all tenants-at-will, the agriculturists possess plenty of cattle, and are well-to-do.

Tank In this tahsil the Nawáb allowed neither sales nor mortgages of land in all the central portion of the tract. In this portion existing mortgages are less than 25 per cent. on the revenue. In the Kundi tract they are 350 per cent., and in Gumal 230 per cent., neither in Kundi or Gumal are the proprietors as a body badly off.

Bhakkar and Leiah In Bhakkar mortgages amount to 210 per cent., and in Leiah to 260 per cent. on the revenue. The proportion varies from 20 per cent. in some of the river circles to three hundred per cent. in the inland parts of the tract.

I have no statistics as to the indebtedness of the population on bonds and running accounts as distinguished from mortgages. In Táank and other portions of the Dáman, it is the habit for proprietors to attract cultivators by making them advances to the extent

* This is a tract in which owing to uncertainty of seasons and extreme stringency of rights we have always been obliged to levy our revenue by a share of the produce taken in kind.

of Rs 50 or 60 per head This is called *sar vahn* (mortgage of the head); such a cultivator cannot leave the mortgagee till he has paid off the mortgage Such a state of things proves the demand for cultivators, whose condition differs materially from that of ordinary debtors In the same way the sums received by way of advances from cultivating mortgagees can hardly be treated as ordinary debts I have allowed as far as possible for exceptional cases, such as those instanced in replying to Clause 2 of the question under reply In estimating income, I have deducted all expenses coming under the head of cost of cultivation, with the exception of the actual labour expended by the cultivator and his family In saying that the average income of a man is Rs 10 a month, I mean that he can live as well as a man who has no profession, and does not cultivate, but possesses an independent income of that amount In valuing produce I have generally taken wheat at 25 sers for the rupee, and gram, bájra and joar at a maund for the rupee

Ala máhks (superior proprietors) —The average income of this class is from Rs 15 to Rs. 20 a month. Probably 60 per cent are in debt Average indebtedness would be about Rs. 250, or rather more than a year's income Great numbers of this class are well-to-do, but the junior branches of superior proprietary families are very apt to live beyond their means in trying to vie with their well to do brethren The head of the family is Lambardár, he breaks up more waste land, and enjoys various advantages which give him a start in the race The superior proprietors as a whole are well off, but there are a large number of indigent members who are gradually sinking down into a lower grade, their property being absorbed by their well-to-do relations

2 *Full proprietors of their holdings and inferior proprietors* —These two classes are similar in their circumstances, and make up together more than half of the cultivating population Their average income may be put at from Rs 10 to Rs 12 a month The proportion in debt is less than that of superior proprietors The chief indebtedness is among well owners Probably 30 per cent are out of debt, and 30 per cent. more in debt for not more than fifty rupees The remainder are probably on an average in debt up to Rs 200 In the Cis-Indus tahsils it is common for men of this class to be as much as Rs 400 or 500 in debt

Occupancy tenants —Of these about a fifth pay cash revenue, and a per-centage as rent They are in much the same condition as the adna máhks of well villages Their income is probably Rs 10 per mensem, and 60 per cent are probably in debt on an average up to Rs. 100 (i.e., 83 per cent on their income)

Batá paying tenants make up four-fifths of the class Fewer of them are in debt, and generally to a less extent Probably not more than half are in debt to the average amount of Rs 50 Their income is about Rs 8 a month, and their indebtedness less than 50 per cent on their income

Tenants-at-will The average income of these is about Rs 5 or Rs 6 per mensem About a third may be in debt Average indebtedness Rs 30 or equal to 50 per cent of annual income,

Bháwáls or associated cultivators —These are similar in their circumstances to tenants-at-will, though perhaps their average income may be a trifle less, Rs 4 to 5 instead of Rs 5 to 6

Labourers (Belis) —Their average income is about Rs. 4 a month or a little less

With all classes except *belis*, who generally have no families, the income from cultivation is increased by the labour of the wife and children, the whole family assists in the reaping season, and make something in this way The women spin and grind corn, and the children assist according to their ability This sort of miscellaneous income has been included by me in the figures that I have given.

Ch. I.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
I. FAMILY AND THEIR HOLDING											II. INCOME		
Status	Name of head of family, estate and residence	No of persons comprising the family				Area of holding in acres				One year's produce of the land			
		Adults		Children	Total	How cultivated.	Cultivated	Uncultivated	Total	Kind of produce.	Amount in mounds.	Value.	
		Male	Female									M	S C	Rs	A P
1	Proprietor and Lathiyar	Karn Khan Morai Biloch	4	3	2	8	Rotken (tor- rent irrigated)	All cultivable and more or less cultiva- ted from time to time.		179	Wheat Cotton Melons Bajra	47 0 0 14 0 0 30 0 0 40 0 0	94 0 0 48 0 0 5 0 0 40 0 0
2	Proprietor	Asim Khan, Chanda Biloch	3	3	1	7	Do	Do		34	Wheat Jowar Cotton Bajra Melons	56 0 0 4 20 0 10 0 0 20 0 0 4 0 0	72 0 0 5 0 0 30 0 0 37 0 0 4 0 0
3	Occupancy tenant.	Haidar Biloch	1	1	4	6	Do.	Do.		62	Wheat Cotton Jowar Bajra Melons	42 0 0 10 0 0 9 0 0 20 0 0 5 0 0	84 0 0 30 0 0 12 0 0 27 0 0 5 0 0
4	Cultivator supplying his own oxen.	Ndr Ahmed, Kasab	3			3					Wheat Cotton Melons Bajra	20 0 0 3 0 0 2 0 0 12 0 0	40 0 0 9 0 0 2 0 0 15 0 0
5	Weaver	Haidar Faoh	1	1	4	6							57 0 0
6	Occupancy tenant	Muhammadn Arain.	2	1	4	7	Well	16		16	Garden produce and melons. Wheat Cotton Vegetables sold retail by wife.	34 0 0 4 0 0 12 0 0 180 0 0	220 0 0 65 0 0 12 0 0 180 0 0
7	Tenant-at- will	Khar Muham- mad, Arain	2	3	1	6	Well	10		10	Sugar-cane &c. Vegetable sold retail Wheat	20 0 0	140 0 0 100 0 0 40 0 0
8	Hired la- borers	Bansa, Arain	1			1							280 0 0
											Total		

Agricultural population of the—DERA ISMAIL KHAN DISTRICT

15			16			17			18			19			20			21			22			23			24					
INCOMES—concluded.									III EXPENDITURE																							
Other miscellaneous sources of income.			Total income from all sources			Revenue, cesses and surcharge charges and (in the case of tenants) rent						By grain consumed as food and used as seed or otherwise expended						Customary charges of village rentals and hired labor of all sorts														
Detail			Value.			Amount in Rupees			Detail.			Amount.			Detail			Mounds			Value.			Detail			Amount.					
Ra. A P			Rs. A P			Ra. A P			Ra. A P			M S O			Ra. A P			Ra. A P														
Koral.																																
Lambardari			85 0 0			247 0 0			Revenue			27 0 0			Wheat seed			8 0 0			16 0 0			Village Servants			4 0 0					
Dua.			5 0 0						Cesses			5 0 0			Cotton seed			4 0 0														
Ghee			60 0 0			247 0 0						32 0 0			Food			16 0 0			90 0 0											
Ghee			5 0 0			144 0 0			Revenue			11 0 0			Wheat seed			6 0 0			12 0 0			Kamiana			3 0 0					
									Cesses			2 0 0			Cotton seed			38 0 0			5 0 0											
												18 0 0			Food			76 0 0														
Ghee			10 0 0			144 0 0						18 0 0									91 0 0									3 0 0		
			10 0 0			168 0 0			Revenue			16 0 0			Wheat seed			7 0 0			14 0 0			Kamiana			4 0 0					
									Cesses			8 0 0			Cotton seed			28 0 0			8 0 0											
									Rents			2 0 0			Food			56 0 0			56 0 0											
Wages for labor on miscellaneous jobs.			20 0 0			87 0 0						21 0 0									78 0 0									4 0 0		
			20 0 0			87 0 0									Food			18 0 0			36 0 0			Kamiana			1 0 0					
			20 0 0			87 0 0															36 0 0									1 0 0		
Weaving 4 sut. a day deducting wet days & holidays on which work is stopped			75 0 0			75 0 0									Food			30 0 0			60 0 0											
			75 0 0			75 0 0															60 0 0											
Ismail Khan																																
			480 0 0			Rent in kind			74 0 0			Wheat seed			7 0 0			14 0 0			Laborer (Rs. 2 a month and food)			60 0 0								
									Wheat			56 0 0			112 0 0			Kamiana			7 0 0											
																		Well gear, &c			5 0 0											
			480 0 0			74 0 0												126 0 0						78 0 0								
			280 0 0			Rent in kind			43 0 0			Wheat seed			6 0 0			12 0 0			Kamiana			9 0 0								
									Food, wheat.			45 0 0			90 0 0																	
			280 0 0			43 0 0												102 0 0						9 0 0								
Cash at Rs. 2 1/2 per mensem			33 0 0									Food, &c						27 0 0														
Value of food and tobacco			27 0 0																													
			60 0 0			60 0 0												27 0 0														

1	2	3	25	26	27	28	29	30	31	
1	Status	Name of head of family caste and residence	EXPENDITURE—concluded			IV SURPLUS.		V DESCRIPTION		
			<i>By purchase of necessaries which the family cannot produce on their own land or by their own labor.</i>			Total expenditure	Surplus of income over expenditure	Surplus income usually how disposed of	Number of rooms in houses	
			Detail	Amount.					Used as dwelling rooms	Used for stabling cattle
			Bs. A P	Bs. A P	Bs. A P		Mouzah	Baud		
1	Proprietor and Lam bardar	Karm Kharu Korai Biloeh	Clothes Miscellaneous	29 0 0 20 0 0	195 0 0	52 0 0	Entertaining guests, &c.	5	2	
			Total	49 0 0	195 0 0	52 0 0				
2	Proprietor	Asim Khan Chanda Biloeh	Clothes Miscellaneous	20 0 0 8 0 0	135 0 0	9 0 0	Purchase of oxen &c	1	1	
			Total	28 0 0	135 0 0	9 0 0				
3	Occupancy tenants	Haider Biloeh	Clothes Miscellaneous	20 0 0 10 0 0	128 0 0	40 0 0	Purchase of oxen	1	1	
			Total	30 0 0	128 0 0	40 0 0				
4	Cultivator supplying his own oxen	Nur Ahmed, Kaab	Clothes Miscellaneous	17 0 0 14 0 0	68 0 0	19 0 0	Purchase of oxen	1	1	
			Total	31 0 0	68 0 0	19 0 0				
5	Weaver	Haider Paoh	Clothes Miscellaneous	10 0 0 10 0 0						
			Total	20 0 0	80 0 0					
6	Occupancy tenants	Muhammadu Arain	Clothes Ghee Condiments Dhosa Manure	14 0 0 24 0 0 24 0 0 40 0 0 12 0 0	385 0 0	94 0 0	Purchase of oxen Interest on debts, &c	3	3	
			Total	114 0 0	385 0 0	94 0 0				
7	Tenants at will	Khair Muham mad, Arain	Clothes Miscellaneous Dhosa Manure	20 0 0 20 0 0 20 0 0 2 0 0	216 0 0	64 0 0	Purchase of oxen Interest on debts, &c.	1	1	
			Total	62 0 0	216 0 0	64 0 0				
8	Herd laborers	Rang, Arain	Clothes	9 0 0	85 0 0	24 0 0	Gives surplus in come to married brothers.			
			Total	9 0 0	85 0 0	24 0 0				

Agricultural population of the DERA ISMAIL KHAN DISTRICT—continued

32		33		34		35		36		37		38		39	
OF RESIDENCE, CATTLE AND CHATTELS.								VI. DEBTS				REMARKS			
Cattle				Chattels stock of grain and cash.				How incurred	Amount.	Percentage of debt on total income					
Detail	No.	Detail	Value rupees												
Korai—concluded.															
Buffaloes	5	Ornaments	400 0 0	Rs 200 Balance of debt incurred on son's marriage.	200 0 0	1 00									
Calves	2	Miscellaneous.	150 0 0												
Plough oxen	4														
Mare and foal	2														
Cows	2	Ornaments	40 0 0	Loans in years of deficient harvest	200 0 0	1 70									
Calves	2	Miscellaneous.	20 0 0												
Plough oxen	2														
Buffaloes	2	Ornaments	50 0 0	Rs 50 incurred on death of wife and in buying a buffalo remainder is interest.	100 0 0	0 35									
Calves	2	Miscellaneous.	20 0 0												
Cow	1														
Plough oxen	2														
Cow	1			Debts	6 0 0	0 8									
Oxen	2	Miscellaneous.	5 0 0												
		Miscellaneous	7 0 0	Debts. Family large and expenditure in excess of income, hence debts	75 0 0	1 00									
Ismail Khan	continued			Debts Interest on debt Rs. 98 per annum	500 0 0	1 00									
Oxen	8	Ornaments	50 0 0												
Cow	1	Miscellaneous	20 0 0												
Calves	2			Debts Incurred Rs 100 on son's marriage Remainder replacing well oxen &c and interest	325 0 0	1 16									
Oxen	6	Ornaments	20 0 0												
Calves	4	Miscellaneous.	10 0 0												

This sort of cultivator is associated in the cultivation with the proprietors of the land with whom he divides the produce

Is gradually getting more and more indebted, no special reason for debts

These laborers are well off and are seldom married

1	2	3	4	5	6	7	8	9	10	11	12	13	14
I. FAMILY AND THEIR HOLDING.											II. INCOME.		
Status	Name of head of family caste and residence	No of persons comprising the family				Area of holding in acres				One year's produce of the land			
		Adults		Children	Total	How cultivated.	Cultivated.	Uncultivated.	Total	Kind of produce	Amount in ruanda.		Value
		Male.	Female								M S C	Rs. & P	
9	Weaver	Bádha Paoli	2	2	2	6							
10	Inferior proprietor	Tahur Khokar	8	8	8	9	Sailába	24	19	48	Dajal Wheat Pasa Gram Total	Tahel 75 0 0 5 0 0 4 0 0 84 0 0	Bhakkar 120 0 0 7 0 0 4 0 0 131 0 0
11	Inferior proprietor	Jhandé Khokar	8	8	8	9	Sailába	12	9	21	Wheat Barley Gram Total	70 0 0 1 0 0 4 0 0 75 0 0	112 0 0 1 0 0 4 0 0 117 0 0
12	Inferior proprietor	Mohomed Gadola	2	1	1	4	Mosah Sailába chálu	22	Gadola in	24	pakka portion of Melons Cotton Wheat Total	2 0 0 8 0 0 120 0 0 130 0 0	Bhakkar 40 0 0 6 0 0 122 0 0 238 0 0
13	Inferior proprietor	Ahmed Gadola	4	2	4	10	Sailába Chahi	5 17	1 7	6 24	Melons Cotton Wheat Gram Pott Total	4 0 0 100 0 0 8 0 0 112 0 0 124 0 0	60 0 0 12 0 0 160 0 0 8 0 0 10 0 0 260 0 0
14	Inferior proprietor	Mahomed Yar Kendañ Biloch	1	1	4	6	Mosah Cháhi	13	See Khan	14	pakka portion of Wheat Barley Gram Til Bajra Jowár Total	60 0 0 14 0 0 2 0 0 1 0 0 2 0 0 6 0 0 85 0 0	Bhakkar 98 0 0 14 0 0 3 0 0 3 0 0 3 0 0 6 0 0 124 0 0
15	Inferior proprietor of some and occupany tenant of other lands	Nóran Shah Bayad	8	8	2	8	Sailába as adna malik as occupany tenant of 16 acres By tenants 38 acres	61 3	28	74 3	Wheat Barley Bajra Til Rent from tenants Total	100 0 0 10 0 0 4 0 0 1 0 0 80 0 0 195 0 0	160 0 0 10 0 0 6 0 0 3 0 0 48 0 0 227 0 0
16	Proprietor	Pítra Gorpha	2	1	2	5	Chahi	14		14	Mosah Wheat Barley Bajra Jowár Cotton Total	70 0 0 9 0 0 1 0 0 3 0 0 20 0 0 103 0 0	Tham- 112 0 0 9 0 0 1 0 0 3 0 0 20 0 0 155 0 0

Agricultural population of the—DERA ISMAIL KHAN DISTRICT

CII I

16			17			18		19		20		21		22		23		24	
INCOME.—concluded.						III EXPENDITURE													
Other miscellaneous sources of income			Total income from all sources			Revenue cesses and surcharges charged and (in the case of tenants) rent				By grain consumed as food and used as seed or otherwise expended						Outstanding charges of village mensals and hired labor of all sorts			
Detail		Value.	Rs. A P		Amount in Rupees.	Detail		Amount.		Detail		Manda.		Value.		Detail.		Amount.	
		Rs. A P	Rs. A P	Rs. A P				Rs. A P				M S C		Rs. A P				Rs. A P	
Khan—continued																			
Wearing		50 0 0		94 0 0															
Mudren		4 0 0																	
		94 0 0		94 0 0															
Sailaba village																			
Ghara		45 0 0		179 0 0	Revenue Cesses and malikana	19 0 0	5 0 0	Wheat seed Food	15 0 0	54 0 0	22 0 0	33 0 0	Kamiana					9 0 0	
		48 0 0		179 0 0		24 0 0					106 0 0							9 0 0	
Ghee		24 0 0		141 0 0	Revenue Cesses and malikana, &c.	10 0 0	2 0 0	1 0 0	Wheat seed Food	8 0 0	45 0 0	12 0 0	72 0 0	Kamiana				7 0 0	
		24 0 0		141 0 0		13 0 0					84 0 0							7 0 0	
Kachi a fat village																			
		238 0 0		238 0 0	Revenue Cess and malikana.	30 0 0	7 0 0	Wheat seed Food	25 0 0	30 0 0	40 0 0	48 0 0	Kamiana	14 0 0				32 0 0	
		238 0 0		238 0 0		37 0 0					88 0 0							56 0 0	
		250 0 0		250 0 0	Revenue Cesses and malikana.	26 0 0	6 0 0	Wheat seed Food	16 0 0	72 0 0	36 0 0	115 0 0	Kamiana	14 0 0					
		250 0 0		250 0 0		32 0 0					141 0 0							14 0 0	
Kachi an indebted village																			
		124 0 0		124 0 0	Revenue Cesse. and malikana.	17 0 0	4 0 0	Wheat seed Food	9 0 0	30 0 0	13 0 0	48 0 0	Kamiana	9 0 0				30 0 0	
		124 0 0		124 0 0		21 0 0					61 0 0							29 0 0	
Cash rent from tenants.		7 0 0		234 0 0	Revenue Cesses and malikana, &c.	47 0 0	12 0 0	Wheat seed Food	13 0 0	50 0 0	21 0 0	80 0 0	Kamiana	18 0 0					
		7 0 0		234 0 0		59 0 0					81 0 0							18 0 0	
in Bhakkar Thal.																			
		134 0 0		134 0 0	Revenue Cesses	12 0 0	3 0 0	Wheat seed Cotton seed Food	9 0 0	33 0 0	14 0 0	58 0 0	Kamiana	13 0 0					
		134 0 0		134 0 0		16 0 0					72 0 0							13 0 0	

1	2	3	26			27	28	29	30	31
Status.	Name of head of family caste and residence	EXPENDITURE—Concluded			Total expenditure	IV SURPLUS.		V DESCRIPTION		
		<i>By purchase of necessaries which the family cannot produce on their own land or by their own labor</i>				Surplus of income over expenditure.	Surplus income usually how disposed of.	Number of rooms in house—		
		Detail.	Amount.						Used as dwelling rooms.	Used for sheltering cattle.
9	Weaver	Bādha Paoli	Food Clothes &c.	Rs. A. P. 75 0 0 20 0 0	95 0 0	Rs. A. P. 95 0 0	None	Dera 1	Small	
10	Inferior proprietor	Tahir Khokar	Clothes Miscellaneous	13 0 0 12 0 0	163 0 0	16 0 0	Dajal Tahal Purchase of oxen &c.	Bh a k k a r 3	2	
11	Inferior proprietor	Jhanda Khokar	Clothes Miscellaneous	10 0 0 8 0 0	123 0 0	18 0 0	Ditto	1	1	
12	Inferior proprietor	M a h o m e d Gadola.	Clothes Miscellaneous Manure	8 0 0 12 0 0 4 0 0	205 0 0	Mozah Gadola in pakka 33 0 0 Ditto	portion of 1			
13	Inferior proprietor	Ahmed Gadola	Clothes Miscellaneous	8 0 0 12 0 0	207 0 0	43 0 0	Buying well oxen paying interest, &c.	1	1	
14	Inferior proprietor	Mahomed Yar K a n d a n Biloch	Clothes Miscellaneous	8 0 0 12 0 0	131 0 0	Mozah Bheikhani—pakka	portion of 1		2	
15	Inferior proprietor of some and occupancy tenant of other lands	Nuran Shah bayad	Clothes Miscellaneous	10 0 0 10 0 0	173 0 0	61 0 0	Paying interest on debts and buying oxen, &c.	1	1	
16	Proprietor	Piara Goraha	Miscellaneous Well gear	10 0 0 8 0 0	113 0 0	21 0 0	Mozah Karnal Buying oxen, &c.	1	Thum- 1	

Agricultural population of the Punjab—DERA ISMAIL KHAN DISTRICT—continued.

CH. I.

32		33		34		35		36		37		38		39			
OF RESIDENCE, CATTLE AND CHATTELS.								VI DEBTS.								REMARKS.	
Cattle.		Chattels stock of grain and cash.															
Detail	No	Detail.	Value rupees			How incurred.		Amount.		Percentage of debt on total income.							
Khan—concluded			Rs A. P.			Income owing to dearth of corn is insufficient for support, hence debts		Rs A P		21							
Sialaba village						None						The people of these river-side villages are generally well to-do and the lands are nearly all held by inferior proprietors who own cattle and are seldom in debt.					
Buffalows	11	Ornaments	100 0 0														
Cows	3	Miscellaneous	40 0 0														
Oxen	7																
Buffalows	8	Ornaments	40 0 0			None											
Cows	1	Miscellaneous	20 0 0														
Oxen	6																
Bhakkar Kachi fat village						None											
Oxen	6	Ornaments	10 0 0														
Cows	3	Miscellaneous	4 0 0														
Oxen	6	Ornaments	40 0 0			Old debts increased on account of purchase of oxen and accumulated interest.		258 0 0		1.03							
Cows	2	Miscellaneous	40 0 0														
Bhakkar Kachi an indebted village			15 0 0			Cash Grain		260 0 0 80 0 0		374		This man's property is heavily mortgaged, owing to the want of means he is unable to cultivate his land in an efficient way. The produce therefore is falling off while his debts are increasing. Debts said to have been incurred originally owing to failure of crops.					
Oxen	3	Miscellaneous															
Cows	4																
Oxen	4	Ornaments	10 0 0			Cash		426 0 0		2.22		Ditto ditto ditto ditto					
Cows	3	Miscellaneous	20 0 0			Grain		96 0 0									
Sheep	3																
In Bhakkar						No debts to speak of		16 0 0		12							
Oxen	4	Miscellaneous	20 0 0														
Sheep	1																

CH. I.

2	3	4	5	6	7	8	9	10	11	12		13		14										
										I FAMILY AND THEIR HOLDING						II INCOME								
										Status.	Name of head of family caste and residence	No. of persons comprising the family				Area of holding in acres				One year's produce of the land				
												Adults			Children	Total	How cultivated.	Cultivated.	Uncultivated.	Total	Kind of produce.	Amount in munsab.	Rs. A P	Rs A P Mouzah
Male	Females																							
17	Proprietor and tenant-at-will.	Mohd'n Durkhan	4	3	4	11	Chah'n		10		10	Wheat Barley Jowar Cotton	80 0 0 12 0 0 10 0 0 9 0 0	128 0 0 12 0 0 10 0 0 24 0 0										
Total													174 0 0											
18	Grasier	Dilla Budh wana.	4	6	1	10																		
Total																								
19	Proprietor & Grasier	Mohammad Dattu of Mouzah Hydrabad in Bhakkar Thal.	1	1	3	5	Chah'n		8	2	5	Wheat Barley Jowar Cotton	20 0 0 5 0 0 3 0 0 2 20 0	32 0 0 8 0 0 2 0 0 8 0 0										
Total													48 0 0											
20	Superior and inferior proprietor.	Bakhtawar, Machi.	2	4	2	8	Rodkoi		80	45	125	Wheat Bajra Sarsoon Cotton Mistana	60 0 0 80 0 0 9 0 0 8 0 0	96 0 0 30 0 0 18 0 0 24 0 0 10 0 0										
Total													178 0 0											
21	Inferior proprietor	Jans'n Chinn	1	1	4	6	Rodkoi		106	189	284	Wheat Bajra Cotton Sarsoon Rent from tenant.	12 0 0 8 0 0 4 0 0 8 0 0	19 0 0 8 0 0 12 0 0 6 0 0 45 0 0										
Total													90 0 0											
22	Bhaiwal (associated laborers)	Gboldina Khuzra.	1	1	2	4	Rodkoi					Wheat Bajra Cotton Sarsoon	24 0 0 12 0 0 3 0 0 2 0 0	38 0 0 12 0 0 9 0 0 4 0 0										
Total													63 0 0											
23	Mochi	Zewan, Mochi	2	1	2	5																		
Total																								

Agricultural population of the—DERA ISMAIL KHAN DISTRICT

15			16			17			18			19			20			21			22			23			24		
INCOME—concluded.									III EXPENDITURE																				
Other miscellaneous sources of income						Total in case from all sources			Revenue cesses and any storage charges and (in the case of tenants) rent						By grain consumed as food and used as seed or otherwise expended						Customary charges of village committees and hired labor of all sorts								
Detail			Value.			Amount in Rupees.			Detail			Amount.			Detail.			Maunds.			Value.			Detail.			Amount.		
Kamal			Thim—continued.			Rs. A. P.			Rs. A. P.			Rs. A. P.			Rs. A. P.			Ma S O			Ma S O			Ma S O			Ma S O		
						174 0 0			Revenue Cesses			8 0 0			Wheat seed			9 0 0			14 0 0			Kamiana			14 0 0		
						174 0 0			Rent			2 0 0			Cotton seed			10 0 0											
						174 0 0						1 0 0			Food			80 0 0			80 0 0								
						174 0 0						11 0 0						104 0 0									14 0 0		
Camel hire			90 0 0			178 0 0			Trammi Revenue			5 0 0			Food—Wheat, &c			54 0 0			86 0 0			Laborer (gross food and hire 1 cash)			24 0 0		
For herding			60 0 0																										
Camels			16 0 0																										
Reaping			12 0 0																										
Grinding corn			12 0 0																										
			178 0 0			178 0 0						5 0 0						86 0 0									24 0 0		
Ghee			10 0 0			80 0 0			Trammi Revenue			5 0 0			Wheat seed			3 0 0			5 0 0			Kamiana			4 0 0		
Wool			12 0 0												Cotton seed			8 0 0											
Sheep sold			10 0 0												Food			22 0 0			37 0 0								
			32 0 0			80 0 0						3 0 0						60 0 0									4 0 0		
In Daman. Circumstances indifferent																													
Lambardari			6 0 0			184 0 0			Revenue and cesses			20 0 0			Wheat seed			9 0 0			14 0 0			Kamiana			13 0 0		
															Cotton seed			12 0 0											
															Food—Wheat 80 Baira 20			80 0 0			68 0 0								
			6 0 0			184 0 0						20 0 0						94 0 0									18 0 0		
Ghee			6 0 0			96 0 0			Revenue and cesses.			25 0 0			Wheat seed			3 0 0			3 0 0			Kamiana			6 0 0		
															Cotton seed			6 0 0											
															Food—Wheat 80 Baira			16 0 0			25 0 0								
															8 0 0			8 0 0											
			6 0 0			96 0 0						25 0 0						42 0 0									6 0 0		
Mazdari			10 0 0			81 0 0			Rent in kind			21 0 0			Wheat seed			4 0 0			6 0 0			Kamiana			4 0 0		
Selling fuel			8 0 0												Cotton seed			8 0 0											
															Food			18 0 0			24 0 0								
			18 0 0			81 0 0						21 0 0						36 0 0									4 0 0		
Selling shoes			180 0 0			200 0 0									Food			80 0 0			42 0 0								
Sifting grain			20 0 0																										
			200 0 0			200 0 0												42 0 0											

1	2	3	25	26	27	28	29	30	31								
1	State.	Name of head of family caste and residence.	EXPENDITURE—concluded			IV.—SURPLUS.		V DESCRIPTION									
			<i>By purchase of necessaries which the family cannot produce on their own land or by their own labor</i>			Total expenditure	Surplus of income over ordinary share.	Surplus income usually how disposed	Number of rooms in house								
			Detail.	Amount.					Used as dwelling rooms	Used as subletting cash.							
			Rs.	A	P	Rs.	A	P									
17	Proprietor and tenant-at-will.	Mihān Durkhan	Money for rope Manure Miscellaneous	8	0	0	169	0	0	12	0	0	Buying Oxen, &c.	Mouzah	Kamal	2	1
				38	0	0	169	0	0	12	0	0					
18	Graser	Dilla Budh wāna.	Clothes Miscellaneous	12	0	0	161	0	0	27	0	0	Interest on debts Shādi, Ghammu, &c.			5	
				36	0	0	161	0	0	27	0	0					
19	Proprietor & Graser	Mahomed Dullu of Mouzah Hyderabad in Bhakkar Thal.	Money Miscellaneous	2	0	0	66	0	0	15	0	0	Buying Oxen, &c.			1	1
				8	0	0	66	0	0	15	0	0					
20	Superior and inferior proprietor	Bakhtāwar Machi.	Miscellaneous	12	0	0	189	0	0	35	0	0	Interest on debts, &c.			2	
				28	0	0	189	0	0	35	0	0					
21	Inferior proprietor,	Jānān China.	Miscellaneous	6	0	0	79	0	0	17	0	0	Buying Oxen, &c.			1	1
				6	0	0	79	0	0	17	0	0					
22	Bhatwal (associated laborers)	Gholāma Khaira.	Miscellaneous	10	0	0	71	0	0	10	0	0	Do.			1	..
				10	0	0	71	0	0	10	0	0					
23	Moohi	Zamān, Moohi.	Clothes Miscellaneous Materials employed in shoemaking	10	0	0	160	0	0	40	0	0	Spend surplus on marriage, &c.			1	1
				18	0	0	160	0	0	40	0	0					
				90	0	0	160	0	0	40	0	0					
				118	0	0	160	0	0	40	0	0					

Agricultural population of the DEBA ISMAIL KHAN DISTRICT—concluded

CH I

82		83		84		85		86		87		88		89			
OR RESIDENCE, CATTLE AND CHATTELS.								VI DEBT				REMARKS					
Cattle				Cattle, stock of grass and cash.				How incurred		Amount.						Percentage of debt on total income.	
Detail		No		Detail		Value rupees											
						Rs. A P		Rs A, P									
Thim—conclid																	
Oxen		6		Ornaments		50 0 0		No debts									
Cows		2		Miscellaneous.		30 0 0											
Sheep and goats.		14															
She-ass		1															
He-camels		2		Ornaments		20 0 0		Old running account which is sometimes more sometimes less.		50 0 0		0.28					
She-camels		2		Miscellaneous. Camel gear		20 0 0 20 0 0											
Oxen		3		Ornaments		30 0 0		Balance of running account.		20 0 0		25.00					
Cow		1		Miscellaneous.		20 0 0											
Sheep and goats.		60															
Chahikan—concloded																	
Mare & share		1		Ornaments		50 0 0		Losses on lease of village and accumulated interest.		700 0 0		3.80		Miscellaneous property in this village is inclusive of <i>sutls</i> of house.			
Oxen		2		Miscellaneous.		150 0 0											
Colt		1															
Buffaloe		1															
Oxen		1		Ornaments		50 0 0		No debts						This man and his brother cultivate jointly with two Bhaiwals Each of the four furnishes one ox.			
Cows		3		Miscellaneous.		100 0 0											
Buffaloe		1															
Oxen		1		Ornaments		3 0 0		No debts									
Cows		2		Miscellaneous		50 0 0											
Calf		1															
Ox		1		Ornaments		30 0 0		Debts on running account.		20 0 0		0.10					
Sheep		1		Miscellaneous.		100 0 0											
				Foola		15 0 0											

CHAPTER I, QUESTION 9

Replies by CHITMAN LAL, Extra Assistant Commissioner, Dera Gházi Khan

CH I I have a thorough knowledge of the Dera Gházi Khan District, as I am a native of it I have served in this District for a long period, 1st in the three tahsils of this District as Tahsildár, and when the settlement came into force, first as Superintendent and later on as Extra Assistant Commissioner of the Settlement Department. After completion of settlement I was appointed Extra Assistant Commissioner of the District, which post I still hold. I also acquired some knowledge of Parganah Kasúr in the Lahore District, during a period of 2 years, when I was Superintendent of Settlement there, but my connection with Kasúr ceased some 10 or 11 years back, and I do not now feel confident in dealing with that tahsil of the Lahore District, I will consequently only take up Dera Gházi Khan

There are two classes of Zamindárs in this District —

1 — Landowners

2 — Tenants

The landowner class may be thus sub-divided —

1 — Those who cultivate their own lands.

2 — Those who do not cultivate themselves, or if they do, only cultivate a very small portion of their lands, letting out the rest to tenants called “mozerás,” and receiving a share of the produce called here lich and mahsúl. The lich and mahsúl of this District is equivalent to the ward “lagán”* of other parts of the Punjab

In this District Hindús are also agriculturists, and their per-centage of the landowner class is about 20, but the proportion of such men who get their lands cultivated by tenants is much greater than of those who cultivate themselves.

These Zamindárs employ “mozerás” (tenants) to cultivate their lands while they themselves do other work, such as trading, shop-keeping &c. Some of them are wealthy, and men of position. Others are in the middle class of life. The following is a list of some of the people just referred to —

WEALTHY MEN

Hatí Rám, Sahuja, of Mánauri

Dasu Mal, Tarneja, of Dera

OF THE MIDDLE CLASS.

Jamni Dás, Bhutáni, of Dera.

Walí Rám, Chaudri, of Jámpur

Nand Rám, of Kot Tahir

The Hindu landowners who cultivate their own lands are, as a rule, in debt. For instance, Bhopat Rám, resident of Núrpur, Lála Mal, Saita of Rekra, Dasu Mal, Mandán of Dera, and Teka Mal of Fazilpur, and the per-centage of impecunious Hindu landowners to the whole landowner class is about 40. The reason for their indebtedness is, that they do not work themselves, but employ labourers on monthly wages, which leaves them very little profit.

The Muhammadan landowners or the greater part of them are in debt. For instance, in Dera, Núr Muhammad, Lambardár of Mahtam, in Jámpur, Barkhurdár Khan, Lambardár of Haro, in Basti Malána, Mitha Khan Malána, in Mandoswála, Núr Muhammad Lambardár, and in Dhingana, Amír Bakhsh

Their lands are invariably encumbered. The average of the impecunious to the pecunious Muhammadan landowners is about $\frac{2}{3}$ to $\frac{1}{3}$. The state of indebtedness may be accounted for as follows —

1st — They live entirely on the produce from their lands.

* Rent.—

2nd.—They are not as industrious as men of other Districts

3rd.—When they have money in hand from sale of their crops, they spend a portion in the purchase of necessaries, and the rest they squander. For the payment of Government revenue and cesses, they have consequently to borrow on heavy interest, or to take advances on their next harvest, for which purpose the creditor invariably fixes very low rates on the different descriptions of produce that may be expected. Such sales (i.e. of a coming harvest) in this District are called "Bhanota". In the event of the produce of the next harvest not paying the entire debt, the balance unpaid forms a fresh account on which compound interest is charged until liquidation.

4th.—If in any harvest the income exceeds the expenditure, such saving is spent on marriage ceremonies or in the purchase of land, or of a mare, or according to custom in hospitality, i.e., the entertainment of guests. Profuse hospitality is a great source of respect in this District.

5th.—Sometimes crops are ruined on account of the inundation canals ceasing to flow before the crops have attained maturity. This was the case last year, as also the destruction of the kharif crop from failure of hill streams caused by the want of rain. This was also the case last year. In some seasons the crops fail altogether through calamity, such as locusts, hail, westerly winds, floods, caterpillars &c.

Some zamindárs are, however, well off, for instance, Ali Muhammad, Petafi, of Lúndi, and Fattah Muhammad Khan of Kotla Sher Muhammad. This is due to the superior quality of their lands, which are annually improved by alluvial deposit.

Now I will describe the condition and other particulars of tenants. There are two classes of tenants—

- 1 Hereditary called "Maurúsi"
- 2 Tenants-at-will called "Charait". There are very few hereditary tenants in the tahsils of Dera, Jámpur and Sanghar. In Rájapur they are somewhat numerous, but are only found on sailába lands. Hereditary tenants are about $\frac{1}{3}$ of the whole number of tenants in the District.

Tenants of both classes pay rent in grain to the landowner, and not in cash. In a few villages within the vicinity of the Dera city cash rents are paid. But tenants on cash rents are not permanently employed. As the number of tenants on cash rents in this District is infinitesimally small, no comparison in condition between such tenants and those paying rents in grain can be drawn.

Both classes of tenants are in debt. The per-centage of indebted tenants to the entire number of tenants in the District is about 50.

Their indebtedness might be thus accounted for

- 1st.—They have to pay rent in grain to the landowner, and do not benefit, as the landowner does, from malgúzari profits.
- 2nd.—The tenants, whether hereditary or at will, are not very industrious, and in consequence get barely sufficient from their lands to pay their house hold and cultivating expenses.
- 3rd.—The crops are often injured through calamity of season.

In this District agriculture is generally carried on by separate holdings of wells and not on the Punjab system. No actual area of tillage can be given. Some agriculturists possess one well, some two and others more or less. Whatever land a Zamindár inherits or himself purchases, is his own separate property.

Tenants, however, cultivate by "joks" or pairs of bullocks. A well is divided into 4 joks, each jok might be said to consist of 10 acres. As a rule, a tenant cultivates one jok, some however cultivate two and more.

Every cultivator possesses joks in proportion to the number of men in his family, as also to his condition of life. If an agriculturist has two men in his family, i.e., himself and a son or brother, he will, as a rule, cultivate two joks. If the family consists of 4 men, 4 joks will be cultivated.

I The agriculturist has no separate land for grazing. He grazes his cattle on the same land he tills, or on the surrounding lands of a neighbour lying waste.

The family of some agriculturists consists of two men, of others 4, or more or less. The agriculturist cultivates land in proportion to the number of men of his family as already stated. The produce of grains and other articles on land he cultivates depends on the quality of the land, and also on the labour bestowed upon it. However, on an average, a cultivator produces 24 maunds of grain per jok in the rabi and in some villages 10 maunds per jok in kharif. In the rabi, besides grain, tobacco is also produced, say 3 or 4 maunds per jok, value Rs 15, and in kharif, cotton (uncleaned) 6 maunds per jok, value Rs 30.

In kharif some lands produce indigo one maund per jok, value Rs 50 or 60 per maund.

In rabi season in many villages of the Dera tahsil (Chakla Chahu nahr) in addition to grain, tobacco is also cultivated. In some villages of the Jampur and Rajanpur tahsils poppy, of which opium is made, is sown, and in kharif in addition to the cultivation of jowar and bajra, cotton is chiefly cultivated, as also indigo.

In Chakla Pachad grain only is produced, and sometimes cotton. In Chakla sailaba only grain.*

In this District land revenue and other cesses are paid by landowners and not by tenants, who pay landowner rent in grain. The rates of rents are various, and in proportion to the quality of the soil: e. g. $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$ of the produce. The universal rate, however, is $\frac{1}{4}$, i. e. milkana is separately paid.

The agriculturists generally work themselves assisted by men of their family, but respectable men (safad posh) employ labourers or rahaks on monthly wages, the pay of a "rahak" is Rs 4 per mensem.

In addition to the food which the Zamindar produces on his land for his bullocks, he has still to spend Rs 3 per jok for "khal" (oil cake for feed of bullocks), and Rs 10 or Rs 12 per annum per jok on miscellaneous expenditure on feed of cattle.

The Zamindar in this District generally resides at his well in one or two "sahals," (kacha houses roofed with reeds), and in addition to the dwelling houses he has cattle sheds called "bhanas" for plough cattle. If a Zamindar has cows, he has a second bhana for them.

In addition to the plough bullocks, the landowner keeps cows which are useful in many ways. From them he gets up his stock of plough cattle, and their milk supplies the family with butter and butter-milk, the latter being in great demand. The cowdung from his cattle is used as manure in the cultivation of lands. The Zamindar also possesses goats and sheep, but not many. A mare is kept as a rule by every landowner, and not however by tenants who cannot, as a rule, afford to keep horses.

In this District a well-to-do landowner, or those who are in addition traders, usually keep a stock of grain for sale in addition to that for house consumption, and for their cultivating servants, but other landowners or tenants keep only as much as they require for 3 or 4 months' consumption, not being able to keep more, as the greater part of their crops carried away by their creditors.

Save some landowners all the rest of the agriculturists have no ornaments or cash besides a stock of cattle or necessary cooking utensils, and one or two silver ornaments.

Surplus profits, if any, are taken by creditors. If, however, the land be very good, and there remain profits after all expenses, he spends it on marriage or other ceremonies or purchase of land &c. He does not hoard.

No fair estimate can be given of the debts of the agriculturist, but that of the owners may be estimated from Rs 100 to Rs 5,000, and of the cultivators Rs 50 to Rs 500.

The cause of indebtedness has already been detailed.

* Pachad are the western lands of the district under the hills, and the alluvial lands near the Indus.

CHAPTER I, QUESTION 9

CII I

Answer by MR S S THORBURN, Settlement Officer, Bannu.

I write about the Bannu District, in which I have served 10 or 11 years

I answer question about economic condition of the peasant by enclosing office copy of the paragraph on the subject written some time ago for the final report I may add that some of my Superintendents think I have represented the condition of the ordinary peasant proprietor too favourably They think there is greater real indebtedness

I send the statement filled in as required.

Extract from Final Report on the Bannu Settlement

The large majority of the land-owning classes are self-cultivating peasants of small means and frugal habits With two important exceptions they are all fairly prosperous, and in infinitely easier circumstances than they were thirty years ago General condition of the cultivating and landlord classes Taking a family to consist of a man, his wife and two young children, the annual cost of living to an ordinary peasant proprietor ranges from Rs 70 in Marwat to Rs 110 in Bannu proper It is lower amongst the Marwats than elsewhere, because their extreme poverty, and the frugeness of home-produced consumable articles enforce great simplicity in diet, and a close economy in every other branch of domestic expenditure, especially clothing It is highest amongst the Bannuchis, because every man's holding produces a large variety of consumable articles, and the exhausting nature of the climate requires them to live well The Bannuchi frequently indulges in meat and *ghi*, the Marwat seldom sees either, except at great festivals or rejecting on the two Eid days and at a marriage Every peasant has a running account with his Bannuah and borrows money as a matter of course to defray marriage or burial expenses and at times to pay his revenue When he has sold or eaten the last of his own reserved store of grain—a frequent occurrence, about a month before the next crop is ripe, or when that crop fails, he borrows food grain from the Bannuah, and returns up to double after harvest Still in canal-irrigated parts, or *saitaba* lands and elsewhere in fair average years, there is no general real indebtedness, and from 20 to 50 Rs will represent the average amount to a man's debit two or three months after the harvest has been gathered and the revenue paid Most peasants live up to their means and except in the shape of bangles never have any capital in hand When a man has a good balance, he either redeems a mortgage or invests it in land, or buries it Money saved in this latter way is generally referred to as treasure (*khasāna*), savings are hardly ever invested in cattle So far I have spoken of the ordinary peasant, but with two exceptions They are the Marwats of the poor sandy tracts, the larger half of Marwat, and those of the Bannuchis, whose holdings are so minute as to give the owners a bare subsistence With both the struggle for existence is terrible, when anything occurs to increase expenditure or reduce income, and numbers drop down every unfavourable year into the position of tenants or of labourers With the former, once a debt of the class known as *gharah* (neck) is incurred, it is pretty certain that in a few years the debtor must sell his land This pernicious *gharah* system of securing a loan dates from some twenty years back Under it the debtor either engages to pay as interest a certain portion of his earnings, and thus makes himself the *quasi-bondsman* of his creditor, or a certain measure of grain each harvest, crop or no crop The usual rate is a *topak* of grain, i. e. about 5 sers per rupee lent hence this species of debt is known as *topak* in *pd* The sum of *gharah* debts in Marwat was in 1875 considerably over half a lakh of rupees, but now I believe it is less The indebtedness of a large proportion of the Marwats is due I think chiefly to over-assessment and the rigidity of our revenue system, but there is also no doubt that without any assessment at all in bad years or cycles debts would be incurred, and some old peasant proprietors would have to sell or mortgage their holdings In this settlement the over-assessed villages have received substantial reduction, but Government still owes them reparation for the great injury of having for the twenty-two preceding years rack-rented them, so to say, and as the rigid revenue system remains, the District Officer is under an obligation to work the rules sanctioned for suspensions and remissions with a wise liberality In the other exceptional cases, that of the owners of the minutest of the minute Bannuchi holdings Government neither can nor ought to do anything The assessment is fair, and a crop being a certainty, our system is elastic enough The cause of the smallness of the holding is over-population, and for that the state is not called upon to find a remedy Besides the Bannuchis are such a poor hybrid race as to be of little political account With them there is no fear of a stalwart hereditary peasantry being expropriated, as there is in Marwat

As to the tenant and labouring classes throughout the District, they are probably as well off as their fellows in any part of the Punjab Able-bodied men can always get employment at a fair remuneration, and cultivators are still in demand for the Hār tracts, but the supply is deficient except in drought cycles

Now to pass on to the landlord class, the *sufaid poshes* who do not cultivate with their own hands As a rule they are neither so frugal nor prosperous as the peasant proprietary class, good twenty per cent of them are deeply involved in debt, and a large minority habitually live beyond their income A few of course, say ten per cent, are shrewd careful men and their holdings and incomes are growing, not diminishing, in amount Families sink into poverty from two causes, both due to a foolish pride

The head of the house thinks he must maintain a reputation for hospitality, the highest of virtues amongst Pathans, and to maintain it he mortgages and borrows freely Then his sons they are brought up in idleness and married early, and no matter how the *vas augusta domi* in my press, they disdain to work with their own hands

Typical instances of the economic condition of the Agricultural population of the Punjab, being representatives of the majority of each main class (owners,

Number of case	I—FAMILY AND TRUST HOLDING									
	Status.	Name of head of family caste and residence.	No of persons comprising the family				Area of holding in acres			
			Adults		Children	Total	How cultivated.	Cultivated.	Uncultivated.	Total
			Male.	Female						
1	Owner	Fatah Khan son of Ahmad Khan of Nawar Khesl, Marwat.	1	1	2	4	Self	11	?	11
2	Do	Jandar Khan son of Pahl wan Khan in Sekandar Khesl, in Bannu proper	2	4	1	7	Self	2½		2½
3	Occupancy tenant	Gams son of Gulo, of Dhalia, in Isa Khesl	5	7	.	12	Self	24	2	26

a description of the actual circumstances of several families in Bannu District selected as fair occupancy tenants and tenants-at-will) of the agricultural population

CH I

II—INCOME					III—EXPENDITURE—		
One year's produce of the land			Other miscellaneous sources of income		Total in come from all sources	Revenue cesses and seignior age charges and (in the case of tenants) rent	
Kind of produce	Amount in maunds.	Value	Detail	Value	Amount in Rupees.	Detail	Amount.
	Ma. S C	Rs A P		Rs A P	Rs A P		Rs. A P
Wheat	25 0 0	87 4 0 @ 17½ aers per Ma 1 0-0	Selling grass and wood in cold weather bale of wool	12 0 0 2 0 0 14 0 0	71 4 0	Revenue and cesses.	8 4 0
Wheat Maize Gur Cotton	10 20 0 45 0 0 10 0 0	14 0 0 60 0 0 60 0 0 8 0 0 139 0 0	Labour and selling milk	8 0 0	137 0 0	Do	26 2 0
Wheat and barley	200 0 0	266 11 0	Selling ghl	20 0 0	286 11 0	Revenue and cesses and cash rent	42 14 0

Typical instances of the economic condition of the Agricultural

Number of case	Status	Name of head of family, caste and residence	III—EXPENDITURE						
			By grain consumed as food and used as seed or otherwise expended			Customary charges of village menials and hired labor of all sorts		By purchase of necessities which the family cannot produce on their own land or by their own labor	
			Detail	Maunds.	Value	Detail	Amount	Detail	Amount.
1	Owner	Fatah Khan son of Ahmad Khan of Nawarkhel, Marwat	Wheat and gram &c, for food	M S C 36 0 0	Rs A. P. 82 0 0	Usual	Rs. A P. 8 8 0	Clothes 14 12 0	Rs. A P. 14 12 0
			Seed grain	?	16 6 0			Miscellaneous 2 12 0	17 8 0
					98 6 0				
2	Do	Jandar Khan son of Fahlwan Khan in Sekandhar Khel, in Bannu proper	Food grain and seed	?	73 0 0	Do	3 0 0	Clothes &c. A death and burial	11 0 0 10 0 0
									21 0
3	Occupancy tenant	Gama son of Gulu of Dhalia in Jan Ahal	Wheat and barley	93 0 0	122 0 0	Rasam and labour	21 0 0	Necessaries Miscellaneous Fonets	40 0 0 11 0 0 10 0 0
									61 0 0

Population of the Punjab.—BANNU DISTRICT—concluded.

FORM-clas.		IV.—SURPLUS.		V.—DESCRIPTION OF RESIDENCE, CATTLE AND CHATTELS.						VI.—DEBTS.			REMARKS.
Total expenditure.	Surplus of income over expenditure.	Surplus income usually how disposed of.	No. of rooms in houses.		Cattle.		Chattels, stock of grain and cash.		How incurred.	Amount.	Percentage of debt on total income.		
			Used as dwelling rooms.	Used for sheltering cattle.	Details.	Number.	Detail.	Value rupees.					
Rs. A. P.								Rs. A. P.		Rs. A. P.			
127 10 0		None in 1869 70, a bad year	Two thatches for all.	Oxen Cow Ass Goats	2 1 1 4	Handmill Quilts Beds Grain safes Misc.	3 0 0 7 8 0 3 0 0 4 0 0 19 0 0	To live.	81 0 0		Year 1869-70 taken, which was a year of small returns to the cultivator and high grain prices.		
						Add the cattle.	68 0 0						
							104 8 0						
128 3 0	18 14 0	Kept or replaces stock.	One room for all	Cows Oxen	2 2	Jewels Clothes and quilts Grain Misc.	10 0 0 29 0 0 3 0 0 5 0 0 40 0 0	To pay revenue. Has to pay interest at half an anna per Rs. 100 per mensem = on 43 0 0 Rs. 12-6 in this year	42 0 0		An ordinary year taken Land good and canal irrigated.		
246 14 0	89 18 0	Do. or pays off part of debt.	One thatched room for all.	Oxen Cows. Buffaloes	6 8 2	Jewels Misc.	80 0 0 80 0 0 110 0 0	Debt balance in running account.	140 0 0		The man would be rich were it not for the number of females who live on him I suppose he will get money by the best, when he marries them off NOTE.—All three are real cases Facts obtained from the parties themselves their banish and their partwāris. Other cases were obtained, but I doubted the facts, so don't enter them One can easily see how a criminal fine or a bad year would half ruin Nos. 2 and 3 and how No. 1 must be pretty well ruined already		

CHAPTER I, QUESTION

Answer by MAJOR E. G. HASTINGS, Settlement Officer, Kohat

I have the honor to reply as regards the Kohat District, in which I have served CH. I.
The District Kohat, as Settlement Officer for the last 3 years

2 From the 8 typical cases which are herewith forwarded, and which were prepared in the villages by settlement officials sent for that purpose, it appears as regards the three proprietors (1) Mawáz, an Afghán of Nusrat Khel, (3) Said, an Awán Málik of Togh, and (6) Faqir Hasan of Chikurkote, that Mawáz and Faqir Hasan's incomes are in excess of their expenditure and they are not in debt, but in the case of Said No 3 a Mallik, his expenditure is in excess of his income and he is in debt. This is just what I should have expected, but the general proprietary body are not much indebted, and as a rule, live economically and within their income. The savings are usually converted into ornaments for their wives or increased by being laid out in land mortgage investments. In the case of Mallik Said his expenses are increased and due to his position and to the enforced hospitality incumbent on a man in that position, according to the custom of the country. As regards the two specimen cases of occupancy tenants, Sarfaráz No. 4 and Shahnewáz No. 7, it appears that Sarfaráz's expenditure is in excess of his income and he is also in debt. Shahnewáz No 7 apparently spends no more than his income, and is only temporarily in debt for the price of a cow lately purchased. As regards the specimen cases of non hereditary tenants, Laba Khan (2), Umar (5), and Abbas (8), it appears that Laba Khan is in debt, but only owing to the calamities of season and other reasons which are not permanent. Umar's debts No. 5, are also in consequence of his having purchased a bullock. Abbas No 8 shows Ra. 80 odd as his surplus of income over expenditure.

3 My own opinion also is that there is no appreciable difference, as a rule, between an hereditary and non hereditary tenant's income and expenses. Most hereditary tenants pay a share of the produce as their rent, and so do non-hereditary. The right of occupancy is not generally understood or looked upon as a valuable one in this District. Both classes are, as a rule, economical, and except when affected by calamities of seasons or other reasons, such as marriage expenses or fines, are well able to live within their incomes.

4 In a general way, I may say (excluding Malliks and certain leading Pathán families who have names to keep up) that proprietors and tenants are able to and do live within their incomes, as a general rule. Debts are generally due to calamities of seasons or incurred by expenses at marriage ceremonies.

5 I need hardly point out that the illustrative cases are very imperfect, and only show approximately the income and the expenditure. It is very difficult to ascertain really what the income is, because the people are so suspicious, and immediately any inquiry of this kind is commenced, in their own minds picture it as a mode of finding out some reason for raising their revenue.

Number of case	I—FAMILY AND THEIR HOLDING										II.—IN-		
	Status.	Name of head of family caste and residence	No of persons comprising the family				Area of holding in acres				One year's produce of the land.		
			Adults		Children	Total	How cultivated	Cultivated	Uncultivated.	Total	Kind of pro- duce.	Amount in maunds.	Value
			Male	Female									
1	Proprietor	Mawla son of Ayar caste Afghani B Nusratkhal	4	4	15	By proprietor	16 A 6 K 16 M	14 M	16 A 7 K 4 M	<i>In kharif</i> Indian corn Rice Cotton Bajra <i>Total</i> <i>In rabi.</i> Wheat Barley Turamira <i>Total</i>	Mds. Srs 24 20 40 0 8 0 16 0 88 20 22 0 13 0 5 0 40 0	Rs. A. P 27 3 5 44 11 0 29 1 6 18 2 3 110 2 3 32 9 6 11 5 6 6 10 8 50 9 8	
2	Tenant-at-will.	Laka Khan son of Mir caste Afghani R Nusratkhal.	1	1	5	5	6 A 2 K 14 M.	10 M	6 A 8 K 4 M	<i>Kharif</i> Indian corn Rice Cotton <i>Total</i> <i>Rabi.</i> Wheat Barley <i>Total</i>	9 0 23 0 3 0 34 0 7 0 6 0 18 0	10 0 0 25 15 0 11 1 6 46 16 6 10 6 3 6 3 0 16 9 3	
3	Proprietor	Sard, son of Hamid, caste Awani, R. Togh <i>Mirah.</i>	5	4	8	17	By proprietor By tenant-at-will.	20 S	15	65 S	<i>In kharif</i> Indian corn <i>In rabi.</i> Wheat Barley Onions Shahtalu (fruit) <i>Total</i>	19 0 227 0 35 0 1 10 0 6 0 268 10	21 1 9 888 5 1 30 7 0 2 0 0 0 5 0 868 2 1
						Total	88	15	68	Grand Total	282 10	900 8 10	

actual circumstances of several families in Kohli District selected as fair representatives of the majority of each man-
of the agricultural population—KORAT DISTRICT

COME.					III.—EXPENDITURE.				
Other miscellaneous sources of income.		Total income from all sources	Revenue, cesses and arrearage charges and (in the case of tenants) rent		By grain consumed as food or used as seed or otherwise expended.			Customary charges of village menials and hired labour of all sorts	
Detail	Value.	Amount in rupees.	Detail	Amount.	Detail	Maunder.	Value.	Detail	Amount.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Food			Mds. Srs. Rs. A. P.	
Ghi	30 0 0		Revenue	40 9 10	Indian corn	25 20	28 5 4	Rice	Mds Srs
Sale of sheep	5 0 0	216 2 10	Cesses	8 7 0	Rice	20 30	24 9 0		1 24
Sale of goats	6 0 0				Wheat	17 0	21 7 3		Rs. A. P.
Phusa	3 0 0				Mung	1 0	1 14 0		1 14 8
Wool	2 8 0				Total	64 16	76 4 1	Indian corn	Mds Srs
					Seed				1 22
					Indian corn	1 0	1 1 9		Rs. A. P.
					Rice	1 16	1 11 8		1 19 6
					Cotton	0 10	0 4 0		Mds. Srs.
					Taramra	0 2	0 1 0		0 6
					Wheat	1 8	1 8 3		Rs. A. P.
					Barley	0 8	0 3 0		0 9 0
					Total	3 86	4 12 6		Mds. Srs.
					Hospitality				1 24
					Indian corn	6 0	7 19 6		Rs. A. P.
					and wheat				2 5 0
					Rice	3 0	3 8 6		Mds. Srs.
					Total	9 0	11 5 0		4 36
Total ..	46 8 0		Total	149 0 10	Grand Total	90	92 5 7	Value	Rs. A. P.
								The above is for village menials.	6 9 4
									Mds Srs.
									0 36
									Rs A P
									1 2 0
									Mds. Srs.
									0 32
									Rs. A. P.
									14 0 3
									Mds Srs
									0 8
									Rs A P
									0 4 4
									Mds Srs
									0 26
									Rs A P
									1 5 4
									Mds Srs
									2 27
									Rs P P
									3 0 11
									Value
									Mds. Srs.
									1 0
									Rs A P
									0 14 0
									Mds. Srs.
									1 0
									Rs. A. P.
									1 7 8
									Mds. Srs.
									2 0
									Rs A P
									2 8 6
									Mds Srs
									4 0
									Rs P P
									4 9 2
									3 servants at
									Rs 26 per annum
									Mds. Srs.
									1 0
									Rs A P
									0 14 0
									Mds. Srs.
									1 0
									Rs. A. P.
									1 7 8
									Mds. Srs.
									2 0
									Rs A P
									2 8 6
									Mds Srs
									4 0
									Rs P P
									4 9 2
									3 servants at
									Rs 26 per annum
									Mds. Srs.
									1 0
									Rs A P
									0 14 0
									Mds. Srs.
									1 0
									Rs. A. P.
									1 7 8
									Mds. Srs.
									2 0
									Rs A P
									2 8 6
									Mds Srs
									4 0
									Rs P P
									4 9 2
									3 servants at
									Rs 26 per annum
									Mds. Srs.
									1 0
									Rs A P
									0 14 0
									Mds. Srs.
									1 0
									Rs. A. P.
									1 7 8
									Mds. Srs.
									2 0
									Rs A P
									2 8 6
									Mds Srs
									4 0
									Rs P P
									4 9 2
									3 servants at
									Rs 26 per annum
Total	56 0 0	418 2 10	Total	64 5 0	Grand Total	268	0 228 8 10	Grand Total	30 9 2

No of case.	Status.	Name of head of family caste and residence	III—EXPENDITURE—concluded				IV—SURPLUS.		V—DESCRIPTION OF RESIDENCE	
			By purchase of necessaries which the family cannot produce on their own land or by their own labour		Total expenditure	Surplus of income over expenditure	Surplus income usually how disposed of.	No of rooms in house		
			Detail	Amount.				Used as dwelling rooms	Used for sheltering cattle.	
1	Proprietor	Mawar son of Ayar, caste Afghani, R Naamukhal.	Oil	1 0 0	199 0 10	17 8 0	In Marriage expenses of their children	8	Not separate in the hot weather cattle are tied up in the yard.	
			Dyes for clothes.	5 0 0						
			Iron	2 0 0						
			Salt	1 0 0						
			Gur	1 0 0						
			Haldi	0 4 0						
			The cotton cleaner	1 0 0						
			Weaver ..	3 12 0						
			Soap	0 8 0						
			Foin & plates	1 0 0						
			Clothes	29 1 0						
			Silk	5 0 0						
			Total	54 1 0	199 0 10	17 8 0				
2	Tenant-at-will.	Laka Khan, son of Mir, caste Afghani R Naamukhal	Oil	0 4 0	70 6 9	---	One	---		
			Indigo	1 0 0						
			Iron	0 8 0						
			Salt	0 5 0						
			Gur	0 8 0						
			Haldi	0 4 0						
			Weaver's wages	1 0 0						
			Cotton cleaner's wages.	0 6 0						
			Total	4 3 0	70 6 9					
3	Proprietor	Said, son of Hamid, caste Awani, R. Togh. Afghani.	Sugar	2 0 0	467 2 0	---	5 (dwelling) hujra 1.	2		
			Gur	2 0 0						
			Oil	2 0 0						
			Ghi	4 0 0						
			Iron	2 0 0						
			Soap	2 0 0						
			Clothes	10 0 0						
			Dyes for clothes	0 0 0						
			Weaver	5 0 0						
			Cotton	10 0 0						
			Total	44 0 0	467 2 0					

Population of the Punjab —KOHAT DISTRICT—continued

DENCE CATTLE AND CHATTLE.				VI—DEBTS.			REMARKS.
Cattle		Chattle, stock of grain and cash.		How in currd.	Amount.	Percentage of debt on total income.	
Detail	No	Detail.	Value rupees				
			Mds. Str.		Ra.		
Bullocks	4		52 10	Not in debt			<p>The price current on which the value has been calculated is the average price current for the last 20 years as ascertained at settlement —</p> <p style="text-align: right;">Mds Str.</p> Wheat 0 37 per rupee Barley 1 5 Indian corn 0 88 Rice 0 34 Bajra 0 35 Cotton 0 11 Turazira 0 30 Mung 0 22 The maunds are English maunds, i. e., 40 sers to the maund, 80 Ra. = 1 ser The country ser = 102 Ra. about. Male and female adults have been considered as consuming 15 chittaks per diem Old people and children 10 chittaks per diem This would be but a small allowance if it were not for the large consumption of wild herbs without which no meals are complete and which are to be obtained simply by the trouble of gathering The grass produce of the land is that given by the proprietor himself but converted from the country weight into English weight. In the example it must be remembered three children are at the breast, so the number of persons is really 12.
Bullock cows	2	Rice	Ra. A P 61 10 0				
Cow	1		1 8 0				
Rams	4	Cotton, (kupa)	0 10 0				
Sheep, dumba	88	Ru	0 8 0				
Goats	6	Ohl	45 0 0				
		Ornaments	31 12 0				
		Cloth of kinds	20 0 0				
		Lihafs (quilt)	34 0 0				
		Weapons, 1					
		pistol 1 knife					
		3 guns					
		Tows and other cooking utensils.	4 8 0				
		Shears	0 12 0				
		4 spinning wheels.	2 7 0				
		Cash	4 3 0				
		7 charpays	8 12 0				
		Big plates ..	0 2 0				
		Mats	0 12 0				
		Swing cradles	0 2 0				
		Pots and plates	1 4 0				
		Copper drinking vessel	3 0 0				
		Hatchet	1 0 0				
		Palan etc. for bullock	1 8 0				
		Agricultural implements.	2 0 0				
		Chattels of kinds	2 15 0				
Total	55	Total	224 8 0				
Bullocks	2	Chattels	5 15 0	One of his Bullocks died The last harvest was a bad one, crop destroyed by hail and inundations of the Tol.	42	37 per cent.	
Cows	2	Grain	21 13 0				
Calves	2						
Total	7	Total	30 12 0				
Bullocks	7	Cash	150 0 0	The last harvest was a bad one, crop destroyed by hail	160	86 1 4	
Cows	4	Grain	59 4 2				
Mare	1	Chattels	59 4 2				
Calves	2						
Total	14	Total ..	548 8 2				

Number of case	I—FAMILY AND THEIR HOLDING										II—LW								
	Status	Name of head of family, caste and residence	No. of persons comprising the family				Area of holding in acres				One year's produce of the land								
			Adults		Children	Total	How cultivated	Cultivated	Uncultivated	Total	Kind of produce.	Amount in maunds.	Value.						
			Male	Female															
4	Hereditary	Sarfaraz, son of Hans caste Niazi, R Togh	3	1	3	7		31	8	39									
											<i>In kharif</i>	Mds. Srs	Rs A P						
											Rice	4 0	4 11 3						
											<i>In rabi.</i>								
											Barley	47 0	49 9 0						
											Wheat	10 0	14 12 10						
											Total	57 0	64 5 10						
											Grand Total	61 0	69 1 1						
5	Tenant-at will,	Umar son of Misa Khan, caste Malyar R Togh	2	2	2	6		1		1		Vegetables and fruits.	5 7	9 10 0					
6	Proprietor	Fakar Han son of Nadaf Afghan, R Chikkarbot.	1	1	3	5	By proprietary	11		11		<i>In kharif</i>							
												Makki	7 0	7 12 0					
												Rice	60 0	70 10 0					
												Cotton	1 25	5 14 6					
												Total	68 25	84 5 0					
												<i>In rabi.</i>							
												Wheat	7 0	10 6 0					
												Tobacco	0 56	4 8 0					
												Total	7 56	14 14 0					
												Grand Total	76 21	99 3 0					
7	Hereditary tenant.	Shahdewas Khan son of Mirbas, caste Pathan R Shahpur	3	4	3	10		20	10	30		<i>In kharif</i>							
												Makki	5 0	5 9 9					
												Rice	8 0	9 6 0					
												Cotton	1 0	3 10 4					
												Total	14 0	15 10 7					
												<i>In rabi.</i>							
												Wheat	18 0	26 10 8					
												Barley	21 0	18 4 2					
												Total	39 0	44 14 10					
												Grand Total	52 0	65 9 2					
8	Tenant-at will	Abbas son of Basal caste Arain R Shahpur	2	4	4	10		26	1	27		<i>In kharif</i>							
												Makki	11 0	12 3 0					
												Rice	15 0	17 10 4					
												Total	26 0	29 13 10					
												<i>In rabi.</i>							
												Wheat	6 0	8 12 8					
												Grand Total	32 0	38 10 1					

Agricultural population of the Punjab—KORAT DISTRICT—continued

Other miscellaneous sources of income		Total income from all sources	Revenue cesses and signorage charges and (in the case of tenants) rent	III—EXPENDITURE—continued.								
Detail	Value.	Amount in rupees.	Detail	Amount.	By grain consumed as food and used as seed or otherwise expended			Customary charges village menials and hired labor of all sorts				
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Detail	Mauds.	Value	Detail.	Amount			
Hisson receives for dancing from people	20 0 0	89 1 1	His income entered is after deduction of proprietor's share	Rs. A. P.	<i>Food</i>					<i>Menials</i>		
					Barley	41 0	40 2 6	Rice	Mds. Srs.	Rs. A. P.	Mds. Srs.	Rs. A. P.
					Wheat	3 0	4 7 2	Barley	1 0	1 0	Rs. A. P.	2 0
					Makki	10 0	11 1 9	Wheat	1 14 0	1 0	Rs. A. P.	3 5 8
					Total	54 0	55 11 5	Barley	1 0	1 0	Md Srs	1 0
					<i>Seed</i>			Wheat	1 14 0	1 0	Rs. A. P.	3 5 8
					Barley	1 30	1 8 4	Barley	1 0	1 0	Md Srs	1 0
					Wheat	1 30	2 9 6	Wheat	1 0	1 0	Rs. A. P.	1 8 0
					Rice	0 16	0 7 6	Rice	1 0	1 0	Md Srs	1 0
					Total	3 36	4 9 4	Total	Mds. Srs.	Rs. A. P.	5 11 5	
Grand Total	67 36	60 4 9	Value									
Receives as presents of flowers and fruits 2½ maunds of grain.	31 5 7	40 15 7	Vide No 4	Rs. A. P.	<i>Food</i>					<i>Menials</i>		
					Barley	12 20	11 14 0	Rice	Mds. Srs.	Rs. A. P.	Mds. Srs.	Rs. A. P.
					Wheat	9 0	18 5 4	Barley	0 24	0 24	Rs. A. P.	0 11 5
					Makki	8 0	8 14 3	Wheat	0 24	0 24	Md Srs	0 24
Total	29 20	34 1 7	Total	0 10 8	0 10 8	Rs. A. P.	0 24					
Revenue Cesses	99 8 0	11 5 5	2 13 4	Rs. A. P.	<i>Food</i>					<i>Menials</i>		
					Makki	18 0	20 0 0	Rice	Mds. Srs.	Rs. A. P.	Mds. Srs.	Rs. A. P.
					Wheat	18 0	21 2 9	Barley	0 24	0 24	Rs. A. P.	0 10 8
					Rice	9 0	18 5 8	Wheat	0 24	0 24	Md Srs	0 24
					Total	45 0	54 8 5	Barley	0 10 8	0 10 8	Rs. A. P.	0 14 3
					<i>Seed</i>			Wheat	0 24	0 24	Md Srs	0 24
					Rice	0 32	0 15 0	Barley	0 14 3	0 14 3	Rs. A. P.	0 3 0
					Makki	0 20	0 9 0	Wheat	0 24	0 24	Md Srs	0 24
					Cotton	0 8	0 4 0	Rice	0 24	0 24	Rs. A. P.	0 3 0
					Wheat	0 52	1 3 0	Total	Mds. Srs.	Rs. A. P.	2 7 7	
Total	2 12	2 10 0	Total									
Grand Total	47 12	57 7 5	Value									
Price of Ghu and milk	17 0 0	80 9 6	Vide No 4	Rs. A. P.	<i>Food</i>					<i>Menials</i>		
					Makki	5 0	6 9 9	Rice	Mds. Srs.	Rs. A. P.	Mds. Srs.	Rs. A. P.
					Rice	2 0	5 5 4	Barley	0 24	0 24	Rs. A. P.	0 10 8
					Wheat	24 0	34 1 0	Wheat	0 24	0 24	Md Srs	0 24
					Barley	83 0	28 11 5	Barley	0 10 8	0 10 8	Rs. A. P.	0 14 3
					Total	63 0	68 5 11	Wheat	0 24	0 24	Md Srs	0 24
					<i>Seed</i>			Rice	0 24	0 24	Rs. A. P.	0 3 0
					Makki	1 0	1 1 9	Barley	0 10 8	0 10 8	Md Srs	0 10 8
					Rice	1 0	1 2 9	Wheat	0 24	0 24	Rs. A. P.	0 3 0
					Cotton	0 10	0 8 0	Total	7 10	7 14 3	Grand Total	70 10	76 4 2
Wheat	3 0	2 15 5										
Barley	3 0	2 10 5										
Total	7 10	7 14 3										
Grand Total	70 10	76 4 2										
Price of milk and sheep	183 0 0	191 10 1	Vide No 4	Rs. A. P.	<i>Food</i>					<i>Menials</i>		
					Wheat	25 0	37 1 2	Rice	Mds. Srs.	Rs. A. P.	Mds. Srs.	Rs. A. P.
					Barley	25 0	30 7 0	Barley	0 24	0 24	Rs. A. P.	0 10 8
					Makki	13 0	14 7 1	Wheat	0 24	0 24	Md Srs	0 24
					Total	73 0	81 15 5	Barley	0 10 8	0 10 8	Rs. A. P.	0 14 3
					<i>Seed</i>			Wheat	0 24	0 24	Md Srs	0 24
					Wheat	4 0	5 14 10	Rice	0 24	0 24	Rs. A. P.	0 3 0
					Barley	4 0	3 7 8	Barley	0 10 8	0 10 8	Md Srs	0 10 8
					Makki	2 0	2 3 8	Wheat	0 24	0 24	Rs. A. P.	0 3 0
					Rice	3 0	3 5 8	Total	12 0	12 15 8	Grand Total	85 0	96 14 11
Total	12 0	12 15 8										
Grand Total	85 0	96 14 11										

Number of case	Status	Name of head of family, caste and residence	EXPENDITURE—concluded.			IV.—SURPLUS.		V.—DESCRIPTION OF RES.	
			<i>By purchases of necessaries which the family cannot produce on their own land or by their own labor.</i>		Total expenditure.	Surplus of income over expenditure	Surplus income usually how disposed of	Number of rooms in houses	
			Detail.	Amount				Used as dwelling rooms	Used for sheltering cattle.
			Rs. A. P.	Rs. A. P.	Rs. A. P.				
4	Hereditary	Barfāns son of Hān, caste Nāsī, B. Togh	Iron Soap Oil Clothes Dyes for clothes Weaver Ghi Cotton	1 0 0 1 4 0 2 8 0 10 0 0 6 0 0 5 0 0 2 0 0 7 0 0	100 13 6			2 not separate in the hot weather; cattle are tied up in the yard.	
			Total	34 12 0	100 13 6				
5	Tenant-at-will.	Umar son of Mīnā Khan caste Mājār, B. Togh.	Soap Oil Weaver Dyes for clothes Ghi Ghee Cotton	2 4 0 1 6 0 2 0 0 1 0 0 1 0 0 3 0 0 2 0 0	45 11 7		..	One, vide No. 1.	
			Total	11 10 0	45 11 7				
6	Proprietor	Fakīr Hasan son of Nādīra, Afghān, B. Chakkārkot.	Oil Gur Salt Iron Haldi Dyes for clothes Weaver Naddaf Clothes	0 8 0 1 0 0 0 6 0 1 0 0 0 8 0 8 0 0 2 0 0 0 9 0 6 14 6	89 15 8	9 8 0	Takes lands on mortgage.	1	2
			Total	15 18 6	89 15 8	9 8 0			
7	Hereditary Tenant	Shahnāwas Khan, son of Mīrbās, caste Pathān, B. Shābpur	Clothes Oil Iron Soap Dyes for clothes Weaver	5 10 4 0 8 0 0 2 0 0 2 0 0 12 0 1 0 0	83 15 6			1	2
			Total	7 11 4	83 15 6				
8	Tenant-at-will	Abbās son of Bārgul, caste Awān, B. Shābpur	Oil Soap Salt Cotton Dyes for clothes Weaver	2 0 0 0 12 0 0 6 0 4 0 0 4 0 0 4 0 0	111 0 11	80 2 0	Spent on marriage	2	2
			Total	15 2 0	111 0 11	80 2 0			

Agricultural population of the Punjab—KOHAT DISTRICT—continued

PENSCE, CATTLE AND CHATTLE.				VI—DEBTA			REMARKS
Cattle.		Chattels, stock of grain and cash		How incurred	Amount.	Percentage of debt on total income.	
Detail	No	Detail	Value reposed,				
Bullocks	-		Rs. A P		Rs	Rs A P	
Calf	1	Chattels	17 2 0	The last harvest was a bad one, crop destroyed by hail	60	67 6 8	
	3				-	-	
Bullocks	2	Cash	27 0 0				
Cows	2	Chattels	13 12 0	Bought a bullock.	7	17 1 2	
Calves	2						
Total	6	Total	40 12 0				
Bullocks	2	Grain	68 0 0				
Cows	5	Cash	50 0 0				
Calves	2	Chattels	47 8 6				
Total	7	Total	168 8 6				
Cows	2	Chattels	88 9 0	Bought a cow	15	19 12 0	
Calves	7						
Bullocks	2						
Total	12						
Bullocks	4	Cash	40 0 0				
Cows	1	Chattels	65 12 0				
Buffaloes	1						
sheep	100						
Total	166	Total	105 12 0				

QUESTION 10, CHAPTER I

Describe the tenures of land, proprietary and occupancy, which are most common, and as nearly as you can the area of cultivated land held by each kind of tenure.

I append the latest statistics of land tenures in the Punjab. They are the returns on the subject furnished with the annual Revenue Report for 1875-76, and consist of 2 statements. The first shows the tenures held direct from Government, that is to say, the proprietary tenures, and also leases of Government lands, the second shows the tenures not held direct from Government, that is to say, tenancies of all descriptions held under proprietors. CH I

PROPRIETARY TENURES

Of the proprietary tenures, I extract the following description from the Punjab Administration Report for 1872-73, a description, of which Mr D G Barkley, one of the senior members of the Punjab civil service, is the author —

Taking the Province as a whole, it may be estimated that between one-fifth and one-sixth of the area is the property of Government, while upwards of four-fifths belongs to private owners*. The greater part of the area belonging to Government is however, little better than a desert, and could not profitably be brought under cultivation without the aid of extensive works of irrigation. Some of the more favorably situated portions are preserved as forest or grazing lands, and others are held under lease from Government for purposes of cultivation, but almost the entire cultivated area of the Province is included in the lands of private owners.

These lands are held subject to the payment of land revenue to the State, or to grantees holding from the State, and this revenue at present exceeds Rs. 2,20,00,000 per annum, of which more than Rs. 32,00,000 are received by assignees who had, on various grounds, claims to consideration from Government. In some cases these assignments are of the nature of the release of the revenue of lands belonging to the assignees, but they have no necessary connection with proprietary right, and in the majority of instances the grantees are merely entitled to receive the revenue payable to Government, the amount of which is limited in the same way as if it were paid direct to Government.

The great mass of the landed property in the Punjab is held by small proprietors, who cultivate their own land in whole or in part. The chief characteristic of the tenure generally is that these proprietors are associated together in village communities, having to a greater or less extent joint interests, and under our system of cash payments, limited so as to secure a certain profit to the proprietors, jointly responsible for the payment of the revenue assessed upon the village lands. It is almost an invariable incident of the tenure, that if any of the proprietors wishes to sell his rights, or is obliged to part with them in order to satisfy demands upon him, the other members of the same community have a preferential right to purchase them at the same price as could be obtained from outsiders.

In some cases (technically known as Zamindari tenures) all the proprietors have an undivided interest in all the land belonging to the proprietary community—in other words, all the land is in common, and what the proprietors themselves cultivate is held by them as tenants of the community. Their rights are regulated by their shares in the estate both as regards the extent of the holdings they are entitled to cultivate and as regards the distribution of profits, and if the profits from land held by non-proprietary cultivators are not sufficient to pay the revenue and other charges, the balance would ordinarily be collected from the proprietors according to the same shares.

It is, however, much more common for the proprietors to have their own separate holdings in the estate, and this separation may extend so far that there is no land susceptible of separate appropriation which is not the separate property of an individual or family. In an extreme case like this, the right of pre-emption and the joint responsibility for the revenue, in case any of the individual proprietors should fail to meet the demand upon him, are almost the only ties which bind the community together. The separation, however, generally does not go so far. Often all the cultivated land is held in separate ownership while the pasture, ponds or tanks, &c., remain in common, in other cases the land cultivated by tenants is the common property of the community and it frequently happens that the village contains several well-known sub-divisions, each with its own separate land, the whole of which may be held in common by the proprietors of the sub-division, or the whole may be held in severalty, or part in separate ownership and part in common.

In those communities (technically known as *bhyschāra* and *patidāri*) with partial or entire separation of proprietary title the measure of the rights and liabilities of the proprietors varies very much. It sometimes depends solely upon original acquisition and the operation of the laws of inheritance, in other cases definite shares in the land of a village or sub-division different from those which would result from the law of inheritance have been established by custom, in other cases reference is made not to shares in the land, but to shares in a well or other source of irrigation, and there are many

* It is necessary to observe that the number of holders or share-holders shown in the returns is rather the number of separate holdings and shares in such holdings than of proprietors—a person who has two distinct holdings or shares in such holdings is not counted twice over. Thus in Kangra, with a total population of 748,862, of whom 627,686 are agriculturists, 276,248 proprietors and 34,898 tenants are returned.

cases in which no specified shares are acknowledged, but the area in the separate possession of each proprietor is the sole measure of his interest. It is sometimes the case, however, that while the separate holdings do not correspond with any recognized shares, such shares will be regarded in dividing the profits of common land, or in the partition of such land, and wells are generally held according to shares, even where the title to the land depends exclusively on undisturbed possession.

In some cases the separate holdings are not permanent in their character, a custom existing by which the lands separately held can be redistributed in order to redress inequalities which have grown up since the original division. Between the Indus and the Jumna this custom is rare, and is probably almost entirely confined to river villages, which are liable to suffer greatly from diluvion, and have little common land available for proprietors whose separate holdings are swept away. Even in river villages, it is often the rule that the proprietor whose lands are swept away can claim nothing, but to be relieved of his share of the liabilities of the village for revenue and other charges.

Trans-Indus, however, in the tracts of country inhabited chiefly by a Pathán population, periodical redistribution of holdings was by no means uncommon and the same is stated to have been formerly the case in some of the villages of the Pathán *iláka* of Chach, Cis-Indus, in the Rawalpindi District. The remarkable feature in the redistributions Trans-Indus was that they were no mere adjustments of possession according to shares but complete exchanges of property between one group of proprietors and another, followed by division among the proprietors of each group. Nor were they always confined to the proprietors of a single village. The tribe, and not the village, was in many cases the true proprietary unit, and the exchange was effected at intervals of 3, 5, 7, 10, 15 or 30 years between the proprietors residing in one village and those of a neighbouring village. In some cases the land only was exchanged, in others the exchange extended to the *houssa* as well as the land. Since the country came under British rule, every opportunity has been taken to get rid of these periodical exchanges on a large scale by substituting final partitions or adjusting the revenue demand according to the value of the lands actually held by each village, but the custom is in a few cases still acted upon amongst the proprietors of the same village, though probably no cases remain in which it would be enforced between the proprietors of distinct villages.

Throughout the greater part of the Province the organization of the proprietors of land into village communities has existed from time immemorial, and is the work of the people themselves, and not the result of measures adopted either by our own or by previous Governments. Indeed these communities have sometimes been strong enough to resist the payment of revenue to the Government of the day, and before our rule nothing was more common than for them to decide their disputes by petty wars against each other, instead of having recourse to any superior authority to settle them. But in some localities the present communities have been constituted from motives of convenience in the application of our system of settlement. Thus in the Simla hills and in the more mountainous portions of the Kangra District the present village communities consist of numerous small hamlets, each with its own group of fields and separate lands, and which had no bond of union until they were united for administrative purposes at the time of the Land Revenue Settlement. In the Mooltan Division, again, while regular village communities were frequently found in the fertile lands fringing the rivers, all trace of these disappeared where the cultivation was dependent on scattered wells beyond the influence of the river. Here the well was the true unit of property, but where the proprietors of several wells lived together for mutual protection, or their wells were sufficiently near to be conveniently included within one village boundary, the opportunity was taken to group them into village communities. The same course has been followed in some parts of the Derajat Division, where small separate properties readily admitting of union were found. These arrangements were made possible by the circumstance that the village community system admits of any amount of separation of the property of the individual proprietors and by care being taken that in the internal distribution of the revenue demand it should be duly adjusted with reference to the resources of the separate holdings. They also in general involved the making over in joint ownership to the proprietors of the separate holdings of waste land situate within the new boundary, in which no private property had previously existed.

In some cases the village communities while holding and managing the land as proprietors, are bound to pay a quit-rent to superior proprietors under whom they hold. The settlement is made according to circumstances, either with the superior proprietor, who collects the Government revenue as well as his quit-rent from the communities, or with the communities in actual possession of the land, who pay the land revenue to Government and the quit-rent to the superior proprietor. In either case, the amount which the superior proprietor is entitled to collect is determined at settlement as well as the amount of the land revenue demand.

There are sometimes also proprietors holding lands within the estates of village communities, but who are not members of the communities, and are not entitled to share in the common profit, nor liable for anything more than the revenue of their own lands, the village charges ordinarily paid by proprietors, and the quit-rent, if any, payable to the proprietary body of the village. The most common examples of this class are the holders of plots at present or formerly revenue-free, in which the assignees were allowed to get proprietary possession in consequence of having planted gardens or made other improvements or because they had other claims to consideration on the part of the village community. In the Rawalpindi Division also it was thought proper to record old-established tenants, who had never paid anything for the land they held but their proportion of the land revenue and village expenses, and had long paid direct to the collectors of the revenue, but were not descended from the original proprietary body, as owners of their own holdings, while not participating in the common rights and liabilities

of the proprietary community Except in the Jhelum and Rawalpindi Districts, where a small quit-rent was imposed these inferior proprietors were not required to pay anything in excess of their proportion of the Government revenue and other village charges In Gujrát, at the time of the first regular settlement this class held no less than 10 per cent of the total cultivated area and in Rawalpindi it paid 9 per cent of the revenue. In Rawalpindi the persons recorded as proprietors of their own holdings only were in some cases the representatives of the original proprietary body, *jágridárs* having established proprietary rights over what were formerly the common lands of the village

In Mooltan and Muzaffargarh, and perhaps in some other Districts in the south of the Punjab a class of proprietors distinct from the owners of the land is found under the name of *Chakdárs*, *Silán-dárs* or *Kasírkhwars* These are the owners of wells or occasionally of irrigation channels constructed at their expense in land belonging to others They possess hereditary and transferable rights, both in the well or irrigation channel and in the cultivation of the land irrigated from it but may be bought out by the proprietor repaying the capital they have expended They are generally entitled to arrange for the cultivation, paying a small fixed proportion of the produce to the proprietor and being responsible for the the Government revenue Sometimes however the management of the property has been made over to the proprietor who pays the Government revenue, and the *Chakdár* receives from him a fixed proportion of the produce called *hak kasur* Or a third party may manage the property, paying the Government revenue and the *hak kasur*, out of which the *Chakdár* pays the proprietor's allowance.

In Rawalpindi also there is a small class of well-proprietors in the position of middle men, paying cash rent to the owner of the land and receiving a grain rent from the cultivator

Thus far Mr Barkley's description of the tenures In proceeding to summarize the statistics of the extent of each tenure, contained in the returns appended, I shall endeavour to avoid repeating the remarks with which they are prefaced

Unassigned Government Waste The area thus returned is 15,964 square miles, but there are 2 large errors The portion of the hill waste of the Rawalpindi District belonging to Government is over-estimated by about 1,500 square miles, and that which belongs to Government in the Jhelum District some 555 square miles is wrongly returned as held by lessees, instead of being shown under this head Allowing for these corrections, the result still is, that the right to the soil in nearly one sixth of the Province, or about 14,900 square miles, vests solely in Government Of this, the Hazára hill forests contribute 240 square miles, the hill wastes of the Rawalpindi District 800 (I fear this is still an over-estimate), those of the Jhelum and Shahpur hill wastes 700 The rest, some 13,000 square miles, consists of the waste *Bár* lands between the Sutlej and the Indus, and are situate almost entirely in the Mooltan and Derajat Divisions, and in the Districts of Shahpur and Gujránwála This area in its present state is sparsely covered with stunted trees and bushes, and in ordinary years large tracts in it bear a good deal of nutritious grass during the autumn rains Large numbers of camels and kine are consequently grazed on these waste lands But it is in truth little better than a desert, and must remain so till irrigated by canals For such extension these wastes offer great facilities, the soil is fertile, there are no engineering difficulties to contend with, and the Indus, Jhelum and Chenab rivers contain an exhaustless supply of water fed from the snows of the Himalayas In short these extensive wastes are of limited present value, but probably of great prospective value

Grantees and lessees of the British Government These tenures are over-stated in the returns. For instance, in the Jhelum District, as above noticed, all the hill preserves (*rakhs*) seem to have been so returned, because the grazing was leased out annually, and it is probable that similar errors have occurred in other districts But at the outside these tenures, enjoyed by 24,000 persons, cover only 1,400,000 acres, or less than 3 per cent of the total agricultural holdings Of these, the area held by lessees (i. e. persons to whom the right of ownership has not yet been alienated) is at least three-fourths of the whole For in making grants of waste land, it is usual to give in the first instance only a lease for a term of years (usually 20), and at the expiration of the lease, if the lessee has used the land well, it is granted to him in proprietary right or sold to him at a fair valuation This course is followed to prevent speculative purchases of waste land by persons who lack the capital or enterprise to put them to a profitable use Lands so leased and sold are subject to the same revenue and Police responsibilities as apply to the older settled lands

Land holders who have redeemed the revenue These number 595 with 51,001 acres No such redemption is now permitted

Zamindár Estates. These, it will be observed, cover but a small portion of the area of the Province The return draws a distinction between the larger estates in which the owners are mainly rent receivers, tenants cultivating under them, and those in which the owners are also for the most part the cultivators Omitting the latter, and also the great estate

Ca I (776,960 acres) of the Khattak chief in the Kohat District, there remain of the total agricultural tenures only 1,914,034 acres, or $3\frac{1}{2}$ per cent, in which the coparcenary owners of the villages are not also the principal cultivators

Proprietary cultivating communities These in one or other of the several forms noted in the return (i. e., holding and paying revenue on an undivided tenure, or having their holdings divided) make up the great majority of the tenures. The various methods, by which the relations of the members of these communities to each other are regulated, are of little importance for the purposes of the present inquiry. Thus, where a cultivating community is said to hold its lands in common, this only means that the right of ownership is joint, and as a matter of fact the extent of land cultivated by each member is not usually very disproportionate to his proprietary share in the estate. Or, to take the much more numerous instances, in which the majority of the holdings which make up the community are separate, the economic condition of the holders depends principally on the size of the holding. Whether its relations to the rest of the community can be described in a stated share, or merely by the proportion which its area happens to bear to the whole, is an accident of the tenure which possesses an important bearing on the revenue assessment of the holding, and on its share in the village common and village management, but what really makes the holder well off, or the contrary, is the size of the holding and the relation which its profits bear to his expenses. So neglecting all details of tenure, we can confine our attention to the total area owned by these cultivating communities. The total area is about 92 per cent of the entire agricultural tenures.

The area per holder or shareholder is according to these returns 20 acres, but this requires explanation and modification. It includes both cultivated and waste land. Also, as stated above in a foot note, where a man holds 2 distinct holdings or shares in 2 holdings, he has been counted twice over. It is consequently not possible to give from these returns the average area held by each agriculturist, nor to state how much thereof is cultivated. This point belongs rather to question 9, and I trust that it has been sufficiently answered therein.

TENANCIES

When I spoke above of 92 per cent of the agricultural tenures being owned by cultivating communities, I did not mean that none of their lands are tilled by tenants, but only that the greater part were cultivated by the proprietors themselves. I now proceed to show the proportion cultivated by owners and by tenants respectively in the whole Province.

The 2nd of the statements appended gives the area of the tenancies. This area may include a small amount of waste, but tenants usually have the use of the common waste, and their holdings consequently include little except cultivated land. The total area held by tenants is returned as 10,108,745 acres, which is 44 per cent. of the total cultivated area of the year in which the returns were prepared. But before arriving at the true area cultivated by the tenant class, some deduction has to be made from this figure. A proprietor who cultivates a portion of his neighbour's holding in the capacity of the tenant is necessarily so returned, and similarly, if he cultivates part of the common lands, he does so as a tenant. Consequently the true area of the cultivation of the tenant class, strictly so defined, is less than 44 per cent. On the whole I think it may be asserted with safety that proprietors cultivate 60 per cent, and tenants 40 per cent of the total area under the plough.

The proportions in each Division reckoned without any such rectification strictly on the figures of the return appended, compared with the cultivation returns of the same year, are —

Division.	Per cent of cultivated area cultivated by	
	Owners	Tenants.
Delhi	66	34
Hissar	45	55
Unbetta	77	23
Jullundur	69	31
Amritsar	59	41
Lahore	61	39
Rawalpindi	60	40
Mooltan*	34	66
Derehāt	54	46
Peshawar	53	47

* Excluding the Jhang District of which the figures seem to be wrong

It remains to indicate the character of the tenancies. A third of the whole tenant cultivation is held by 512,970 holdings with right of occupancy. On two-thirds of this area the rents are paid in cash, on the rest the rents are fixed at a share of the produce, which varies, according to locality, from a fifth to a half. The average size of these tenancies with right of occupancy is $6\frac{1}{2}$ acres, the holdings paying cash rents average nearly six acres, those paying rent by a share in the produce average 8 acres.

Only 1 per cent of the whole tenancies are held on written leases.

Tenants-at-will whose holdings number 1,096,595, cultivate of the whole tenancies a fraction less than two-thirds, viz, 6,488,313 acres. Of this area 43 per cent pay cash rents, the holdings averaging 5 acres, 27 per cent pay rents of $\frac{1}{2}$ produce, the holdings averaging 6 acres, and 30 per cent pay produce rents pitched at a smaller share than half, the holdings averaging $8\frac{1}{2}$ acres.

The figures of the return give 6 acres as the average size of tenancies of all descriptions. This is not of itself equivalent to saying that a tenant on the average cultivates 6 acres. For in the return one man who holds tenancies under 2 separate owners would necessarily be counted twice for he has 2 distinct tenancies, and on the other hand, 2 brothers jointly holding one tenancy are shown as only one holding. Setting off these 2 elements of error against each other, we may, I think, accept the result shown in the return, and say that on the average of all classes of tenants the holding is usually 6 acres.

The tenant with right of occupancy cannot be ousted, except by decree of the Civil Court passed consequent on the failure of the tenant to satisfy promptly a decree for arrears of rent. But if he himself voluntarily deserts his holding, his right of occupancy at once fails.

The tenant-at-will cannot be ousted except at the close of the agricultural year. He is in fact a tenant from year to year, and if he is not served with notice of ouster in due time before the commencement of the agricultural year, he is entitled to hold on for another year.

No useful purpose would be served by my detailing the grounds on which the occupancy rights of tenants have been awarded in the Settlement and Civil Courts. They have not been created by us on abstract grounds of policy, but are the Judicial and Legislative interpretation of the privileges, which the older tenants possessed in the times immediately antecedent to our rule, an interpretation no doubt open to argument, but none the less the one arrived at by the majority of our Revenue Officers and Judges whose duty it was to decide the matter, who had the best opportunities for doing so, and whose decision has been finally accepted by the Legislature.

The possession of such a right of occupancy has two principal results (1) it protects the tenant from ouster, and (2) it protects him from excessive enhancement of rent. A tenant cannot claim a reduction of rent on the ground of his occupancy, but if the owner sues to enhance his rent, the tenant's occupancy right prevents its enhancement to the level paid by tenants-at-will, according to a scale laid down in the Punjab Tenancy Act. The protection thus afforded varies from 50 to 15 per cent of the full rent, but is only 15 per cent in the great majority of cases.

How far does the character of the tenure appear to affect the economic condition of the person holding it?

This amounts to an inquiry how far the occupancy tenants are worse off than the owners, and the tenants-at-will than the occupancy tenants. It has to a considerable extent been answered in the replies to question 9. It is obvious and easy to reply that the size of the holdings being equal, in the long run the tenant-at-will must be worse off than the tenant with an occupancy right, and the owner better off than either. But as a matter of fact the differences are frequently not so great as we should *prima facie* expect.

For instance, the appended tenure returns show that of 3,382,598 acres cultivated by occupancy tenants, 1,364,674 acres pay no higher rent than the revenue demand, or that demand plus a small cash *seignorage* (Malkána—generally 2 or 3 annas per rupee of revenue).

Again, among these tenants are some of the best and most industrious of the agriculturists.

The truth is, that the character of the tenure though clearly the most important influence, is not the only effective influence in determining the condition of the tenure holder. Besides the influences of industry and character, a very strong influence is attributable to the past history of the country under previous native governments. Revenue and rent were identical terms, the Government usually, and so far as was practicable, levied the whole rent, and dealt directly with every cultivator, ignoring proprietary privileges. These governments have passed away, but the conceptions, which they created in the minds of the agriculturists, are of very old standing, and change more slowly. We thus constantly find that where the tenants are a settled body of some standing, whether possessing an occupancy right or not, there is not that sharply defined difference between their welfare and that of the village proprietary, which the difference of tenure would lead us to expect. No doubt the owners are rapidly realizing the power which our law gives them over their tenants, especially that of enhancing rents. Besides this, our rule has greatly enhanced the power of the owner to borrow money on the security of his holding (a power which existed only to a much more limited extent under native rule), and though the tenant also can now get a larger credit than in former days, still, as compared with the owner, he stands at a great disadvantage in this respect.

Perhaps the incident which of all others gives the strongest effect to the difference between the owner's and tenant's status is the payment of rent by a share of the produce. Such produce rents are usually confined to the division of the grain, but extend occasionally even to the division of the straw. And they almost invariably reduce the tenants who pay them to an economic condition very much below that of adjacent owners with holdings of a similar size, and also distinctly below that of similar tenants paying cash rents. On fertile lands the liability to such rents is often contested by the tenants with periodically recurring bitterness. On dry lands, with uncertain crops, produce rents are not unfrequently preferred. The relative prevalence of cash and kind rents in each Division is —

Division	Land cultivated by tenants who pay rents		Land held by tenants on lease or on other special verbal terms	Total land cultivated by tenants
	In kind by a share of the produce	In cash		
Belthi	79,764	8 19 941	88,218	7 37,828
Bissar	1,97 888	15,49 086	41,488	17,88,507
Umballa	1 99 527	1 88,695	5,668	3,93,896
Jullundur	2,56,881	3,37 666	34,266	6,97,748
Amritsar	4,23 749	5,77,980	19 247	10,20 985
Lahore	3,87 430	7,04,850	39 662	11 31 349
Rawalpindi	6,92 462	4,78 676	4,735	11 75,879
Mooltan *	8 26,201	92,034	88,569	9,51,854
Derajat	8,47 267	169,508	9 208	9,34 983
Peshawar	2 59,397	3,26,121	1 12,618	6,98,336
Total	41,69,611	49,43,866	3,37,828	94,51,198

Are there any conditions of tenure (such for instance as unrestricted freedom of transfer), which might be changed with advantage to the holder and without injury to other parties?

In the Punjab, there are not. The freedom of transfer, which the landowner possesses, is materially restricted both (1) by law, and (2) by social feeling.

(1) Testamentary dispositions of property are almost unknown, and property devolves almost universally by equal division among sons. In respect of transfers *inter vivos*, the law of pre-emption is a powerful obstacle to careless alienations. In the vast majority of transfers this right is not asserted, and a man selling under sufficient necessity and for just

* The figures of the Jhang District have been omitted as they seem to be wrong.

purposes is practically little troubled with the claims of pre-emptors. But a spendthrift, or **Ch I.** a man acting in opposition to the feeling of the proprietary community of which he is a member, is nearly certain to find an ill-considered sale met by assertions of the right of pre-emption on the part of his village coparceners, the result being that he may succeed in parting with his land, but he will part with it not to strangers, but to other members of the same community. Occupancy tenants of the most privileged classes are permitted by the Tenancy Act (Sec. 34) to sell their right of occupancy, provided local custom (Sec 2 of the Act) does not distinctly deny them this power, but they must in every case first offer their right at a fair price to the landowner. The landowner's feelings are usually strongly opposed to such sales which are consequently few in number.

(3) The influence of social feeling in restricting transfers is even stronger than the laws above described. It is universally esteemed utter disgrace to a man to part with his ancestral land, and, constituted as their society is, such a man has little or no chance of substituting any respectable calling for his ancestral livelihood. So that landholders throughout the Province will endure all possible straits before finally parting with their heritage.

Some further remarks on this subject will be found in the reply to Question 14 of this Chapter

Question 10, Chapter I—Statistics of Land Tenures in the Punjab, being an extract from the Annual Revenue Report for 1875-76, with Statements appended

140 Tenures—The statements showing the varieties of tenure held direct and not direct from Government are among Statement No XXXII and XXXIV those which are ordinarily submitted quinquennially. They were prepared and appended to the report for 1873-74, and will be due again with that for 1878-79. But the Financial Commissioner was not satisfied with the results obtained in the two occasions on which they have been submitted previously, viz, 1868-69 and 1873-74, and he considered that a simplification of the forms in which the information is collected would be the best means of obtaining better results. Accordingly the forms were revised, and the sanction of the Government of India procured to the revision, as the returns of tenures were among the imperial statements prescribed in the reports of the Calcutta Statistical Committee held in 1862. The forms used in 1868-69 and 1873-74 contained a large number of additional minor headings which were introduced under sanction of Government in 1868-69. The forms now adopted aim principally at two objects, simplicity and comprehensiveness. Several of the old headings were not understood, and at the same time they were such as to cause a repetition in the same statement of several of the tenures. The divergence of the present forms from those prescribed in the Statistical Committee's report is less than in those hitherto in use, the headings are better understood, and repetition is avoided.

141 The heading for taluqdari tenures in statement No XXXIII has been omitted, because, under section 20 of the Punjab Land Revenue Act, settlements must be made with the proprietors, and no taluqdars pay revenue as such to Government. This heading did not exist in the Calcutta Committee's form. The heading for holders of revenue free tenures has also been omitted from this statement, as a separate return of these holdings is furnished in Statement No XII of this report, and where assignees are proprietors of their holdings, the proprietary tenure is shown in the statement (No XXXIII) elsewhere, and the addition of the heading for assignees results in double entries. A heading for "Government waste, reserved or unassigned," has been added to make up the total area of the province, excluding municipalities,

142 In statement No XXXIV the heading for taluqdari tenure has been excluded, in as much as the taluqdars in the Punjab have no connection with the land nor any control over its cultivation, but receive an allowance fixed by Government in acknowledgement of rights formerly exercised, but now obsolete. They are not intermediate between the proprietors and cultivators, and their dues are paid by a percentage on the Government demand. They are more like assignees of the revenue than the class of holders mentioned in the Statistical Committee's form. The heading for villages or lands on farming leases, which was an addition to the Calcutta form has been omitted, because these tenures are either held direct from Government, and will appear in the statement of such tenures, or they represent cases in which the village has been given in farm on account of the refusal of the proprietors to engage, or on account of arrears of revenue having accrued. A fuller detail of tenants paying in cash and in kind has been introduced.

The above are the principal alterations. The others are either rearranged from the old headings or slightly modified, so as to render the forms more intelligible and complete.

143 The general result of the new forms has been to account much more nearly, in the case of tenures held direct from Government, for the whole area of the province, excluding municipalities. By the census returns of 1868 the total area of the province was 6,51,70,757 acres. The total areas, the proprietary tenures of which are shown in statement No XXXIII, are as follows for the three years in which it has been compiled —

1868-69	5,29,04,238 acres
1873-74	5,01,73,214 "
1875-76	6,30,26,126 "

If to the last figures the area covered by the municipalities in the province be added, the difference between the amount and the total area of the province will probably be made up.

The details also appear to be more accurate than in previous years. The following is a summary of the tenures —

Nature of tenure	Number	Area in acres
Zamindari estates held by individuals or families	1,695	26,90,994
Village communities paying in common*	3,393	27,78,930
Village communities divided upon ancestral or customary shares subject to the law of inheritance	4,188	46,00,559
Village communities in which possession is the measure of the right in all lands	8,068	1,50,36,578
Village communities in which the lands are held partly in severalty and partly in common	16,972	2,58,61,787
Grantees or lessees of British Government	1,584	17,72,343
Landholders who have redeemed the revenue	63	51,001
Purchasers of Government waste land	64	17,078
Government waste unassigned		1,02,16,872
Total	37,659	6,30,26,126

The estate of the Khattak chief in the Kohát district, comprising half the area of the district, appears as a great zamindari. This estate is entered as held under the law of primogeniture. Four estates in Karnál are also so entered, but the Commissioner reports that this is a misapprehension.

144. The mode in which statement No XXXIV has been arranged has brought to light some facts which has not been previously reported. Details are wanting for Muzaffargarh, as the figures of the present settlement had not been completed. For the other districts, excepting perhaps Kohát, where a regular settlement has recently been begun, the returns are probably more to be relied upon than those previous years, and the distinctions are more definite. The following is the classification of tenants —

Nature of tenure.	Number	Average area of holding		
		A	R.	P
With right of occupancy paying rent in cash at different amounts (a detail of which will be found in the statement)	3,69,849	5	3	13
Ditto Ditto paying rent in kind Ditto Ditto	1,42,231	8	1	4
Tenants holding conditionally	28,417	6	2	17
Tenants-at-will { Paying in cash	5,70,352	5	4	10
{ Paying in kind	5,26,238	7	0	5
Holders of service grants cultivating the land so held	40,409	1	3	2
Total	16,77,486	6	0	4

The following general facts may be deduced from this statement. Of the total area of the province, 16 per cent., and of the cultivated area, 44 per cent., is held by tenants. This fully bears out the statement which has often been made that the land is held largely by cultivating proprietors. This is a point which greatly affects all questions of revenue administration, and cannot be too prominently noticed. The number of tenants with right of occupancy amount to 30 per cent of the total number. The majority (about 72 per cent) of tenants with right of occupancy pay rent in cash, 52 per cent of tenants at-will pay cash rents. The average area of holdings of tenants who pay in cash is a little more than 5 acres, that of tenants paying rent in kind is larger.

There is reason to suppose that several officers have taken considerable pains with these statements, and that they are a considerable improvement on those previously prepared.

STATEMENT SHOWING THE VARIETIES OF TENURE IN THE PROVINCE OF DELHI

NATURE OF TENURE.			Division	Number of villages	Number of holdings	Number of acres held	Area in acres	Average area (each holding)	Per cent of total	
DELHI										
I.—Zamindari—			DELHI.							
(1) Great Zamindari paying above Rs. 50,000 Revenue.	(a) Held by individuals under law of primogeniture (b) Held by individuals and families under ordinary law									
(2) Large Zamindari paying above Rs. 5,000 Revenue.	(a) Ditto (b) Ditto									
(3) Zamindari ranging from Rs. 1,000 to Rs. 5,000 Revenue.	(a) Ditto (b) Ditto			8	3	5	6,400	1,500	2,484	1.6
(4) Zamindari paying Rs. 1,000 and under	(a) Ditto (b) Ditto			3	8	5	1,700	566	408	0.11
(5) Proprietary cultivating communities paying in common				101	101	1,847	55,848	548	576	1.0
II.—Village communities not paying in common—										
(1) Patidari	In which the land and the Revenue are divided upon ancestral or customary shares, subject to succession by the law of inheritance.			167	167	2,455	1,66,891	1,012	660	0.15
(2) Bhaichari	In which possession is the measure of right in all lands			148	148	9,785	1,04,498	704	701	0.17
(3) Mixed or imperfect Patidari or Bhaichari	In which the lands are held partly in severalty and partly in common. The measure of right in common land being the amount of the share or the extent of land held in severalty			364	364	56,280	4,68,168	1,272	1,583	1.1
III.—Grantees of British Government (not falling under any of the previous classes) paying Revenue direct to Government in the past or—										
(1) Proprietors	Including individuals rewarded for service or otherwise, but not purchasers of Government waste (V)		8	8	19	9,308	1,129	831	0.13	
(2) Lessees			13	13	1	8,878	744	1,707	1.7	
IV.—Landholders who have retained the Revenue, and are not members of any village community, not included in any of the previous classes										
V.—Purchasers of Government waste paying Revenue direct to Government, and not falling under any of the previous classes										
VI.—Government waste reserved or unassigned.										
Total area of the Province, excepting Municipalities				808	838	77,417	8,18,967	1,012		
HISSAR										
I.—Zamindari—			HISSAR.							
(1) Great Zamindari paying above Rs. 50,000 Revenue.	(a) Held by individuals under law of primogeniture (b) Held by individuals and families under ordinary law									
(2) Large Zamindari paying above Rs. 5,000 Revenue.	(a) Ditto (b) Ditto			1	62	7	1,78,298	1,78,298	3,435	0
(3) Zamindari ranging from Rs. 1,000 to Rs. 5,000 Revenue.	(a) Ditto (b) Ditto			7	26	16	71,940	10,277	1,334	0.6
(4) Zamindari paying Rs. 1,000 and under	(a) Ditto (b) Ditto			1	1	1	1,793	1,793	225	0.1
(5) Proprietary cultivating communities paying in common.				45	62	111	1,18,540	2,523	330	0.1
II.—Village communities not paying in common—										
(1) Patidari	In which the land and the Revenue are divided upon ancestral or customary shares, subject to succession by the law of inheritance.			87	87	7,718	2,87,686		501	0.2
(2) Bhaichari	In which possession is the measure of right in all lands			382	383	54,946	14,24,406	3,724	764	0.8
(3) Mixed or imperfect Patidari or Bhaichari	In which the lands are held partly in severalty and partly in common. The measure of right in common land being the amount of the share or the extent of land held in severalty			3	3	528	15,000	5,000	863	0.1
III.—Grantees of British Government (not falling under any of the previous classes) paying Revenue direct to Government in the past or—										
(1) Proprietors	Including individuals rewarded for service or otherwise, but not purchasers of Government waste (V)									
(2) Lessees										
IV.—Landholders who have retained the Revenue, and are not members of any village community, not included in any of the previous classes										
V.—Purchasers of Government waste paying Revenue direct to Government, and not falling under any of the previous classes										
VI.—Government waste reserved or unassigned.										
Total area of the Province, excepting Municipalities				870	657	64,995	22,04,165			

GURGAON.						KARNAL						TOTAL								
Number of estates	Number of villages	Number of holders or proprietors in acres	Gross area in acres	Average area held by each estate	Average area held by each estate	Revenue rate per acre	Number of estates	Number of villages	Number of holders or proprietors in acres	Gross area in acres	Average area held by each estate	Revenue rate per acre	Number of estates	Number of villages	Number of holders or proprietors in acres	Gross area in acres	Average area held by each estate	Revenue rate per acre		
1	1	7	5,156	736	6,608	1 4 6	4	4	1	7,665	1,916	1,533	0 12 10	4	4	7	7,665	1,916	1,533	0 12 10
2	12	15	22,410	1,494	5,202	0 7 8	11	11	11	12,886	1,172	221	0 8 0	16	26	13	40,706	3,544	1,264	0 5 8
8	8	12	5,821	485	280	0 6 2	12	12	1	6,179	515	244	0 8 10	22	23	29	18,700	695	299	0 8 0
192	192	5,558	1,48,084	268	605	0 12 7	58	55	1,674	50,874	877	644	0 11 9	361	361	9,077	2,54,306	722	603	0 13 4
224	224	12,664	2,27,685	1,800	946	0 14 10								391	391	22,118	3,96,076	1,018	962	0 15 0
248	248	15,241	2,02,657	1,330	632	0 12 5								396	396	25,038	3,07,158	772	658	0 13 7
572	572	47,228	6,26,305	1,306	1,017	0 14 10	770	761	77,736	12,48,168	1,618	1,054	0 10 5	1,706	1,697	1,81,254	28,36,629	1,369	1,154	0 13 6
8	8	22	10,914	496	318	0 9 1	4	4	19	8,481	870	194	0 2 5	20	20	810	28,431	1,172	399	0 5 5
4	4	17	2,226	566	318	0 9 1	54	54	1,743	72,960	1,351	134	0 1 7	71	71	1,781	84,869	1,195	323	0 4 4
1	1	45	1,912	425	200	6 1 8	1	1	45	1,912	1,912	200	6 1 8	1	1	45	1,912	1,912	200	6 1 8
157			465	3			157		465	3				158	1		1,612	10		
1,259	1,259	81,018	12,50,602	993			1,071	905	81,260	14,02,588	1,309			3,138	2,982	2,39,900	34,72,217	1,107		

ROHTAK						SIRSA						TOTAL								
Number of estates	Number of villages	Number of holders or proprietors in acres	Gross area in acres	Average area held by each estate	Average area held by each estate	Revenue rate per acre	Number of estates	Number of villages	Number of holders or proprietors in acres	Gross area in acres	Average area held by each estate	Revenue rate per acre	Number of estates	Number of villages	Number of holders or proprietors in acres	Gross area in acres	Average area held by each estate	Revenue rate per acre		
1	1	7	36,400	5,199	6,783	0 3 0	1	1	7	36,400	5,199	6,783	0 3 0	1	1	7	36,400	5,199	6,783	0 3 0
1	62	7	1,78,298	2,891	86,682	0 3 3								1	62	7	1,78,298	2,891	86,682	0 3 3
8	10	25	18,189	728	4,012	1 12 3	3	7	10	28,489	8,813	1,184	0 2 2	18	43	61	1,16,568	476	8,388	0 8 4
5	5	50	8,277	656	288	0 7 0	116	34	440	8,67,620	8,197	244	0 1 3	165	201	1	1,798	783	228	0 2 0
14	15	128	16,334	1,182	820	0 11 8	128	14	1,035	3,78,149	2,964	224	0 1 8	184	199	4,120	4,95,973	1,696	311	0 1 10
6	6	128	15,114	2,619	1,974	0 12 6	298	207	8,474	9,48,512	8,863	393	0 1 9	331	350	11,517	11,51,322	3,478	468	0 2 2
270	273	58,042	7,10,540	2,632	2,440	0 14 10	1	1	56	1,510	1,510	140	0 1 6	653	659	1,07,343	21,30,450	8,272	1,455	0 6 2
198	188	20,863	3,78,951	1,969	212	0 1 8	12	14	1,222	70,970	5,914	1,273	0 3 5	208	205	22,618	4,69,926	2,366	284	0 1 10
8	8	8	5,878	1,339	1,863	0 13 7	90	90	2	2,65,596	2,951	208	0 1 1	98	98	296	2,71,474	2,919	252	0 1 5
			10,846	63										1	1	532	18,656	107		
																2,068	2,068			
							493	688	7,143	13,95,180	3,988			1,462	1,817	1,46,910	53,53,474	3,241		

NATURE OF TENURE	DIVISION	UMBALLA						
		Number of estates	Number of villages	Number of holders or share holders	Gross area in acres	Average area of each estate	Average assessment of each estate	Revenue payable per acre
I.—Zamindars—								
(1) Great Zamindars paying above Rs 50,000 Revenue	(a) Held by individuals under law of primogeniture (b) Held by individuals and families under ordinary law			7	6,870	708	1,162	1 10 0
(2) Large Zamindars paying above Rs 5,000 Revenue	(a) Ditto (b) Ditto							
(3) Zamindars paying from Rs 1,000 to Rs 5,000 Revenue	(a) Ditto (b) Ditto	9	9					
(4) Zamindars paying Rs 1,000 and under	(a) Ditto (b) Ditto	81	81	240	22,527	727	185	0 4 1
(5) Proprietary cultivating communities paying in common		112	112	2,188	68,481	567	318	0 5 0
II.—Village communities not paying in common—								
(1) Pattidars	In which the land and the Revenue are divided upon ancestral or customary shares, subject to succession by the law of inheritance	104	104	11,608	1,42,754	736	456	0 9 1
(2) Bhaicharas	In which possession is the measure of right in all lands	1,756	1,756	94,664	12,28,064	670	578	0 18 9
(3) Mixed or impure Pattidars or Bhaicharas	In which the lands are held partly in severalty and partly in common The measure of right in common land being the amount of the share or the extent of land held in severalty	206	206	33,502	1,87,746	911	430	0 7 4
III.—Grantees of British Government (not falling under any of the previous classes) paying Revenue direct to Government in the position of—								
(1) Proprietors	Including individuals rewarded for service or otherwise, but not purchasers of Government waste (V)							
(2) Lessees								
IV.—Landholders who have redeemed the Revenue, and are not members of any village community, not included in any of the previous classes								
V.—Purchasers of Government waste paying Revenue direct to Government, and not falling under any of the previous classes								
VI.—Government waste reserved or unassigned								
Total area of the Province, excepting Municipalities		2,323	2,317	1,42,353	16,78,721	720		
JULLUNDUR								
I.—Zamindars—								
(1) Great Zamindars paying above Rs 50,000 Revenue	(a) Held by individuals under law of primogeniture (b) Held by individuals and families under ordinary law			1	10,262	10,262	13,198	1 4 1
(2) Large Zamindars paying above Rs 5,000 Revenue	(a) Ditto (b) Ditto							
(3) Zamindars paying from Rs 1,000 to Rs 5,000 Revenue	(a) Ditto (b) Ditto	8	5	10	2,743	914	1,288	1 6 6
(4) Zamindars paying Rs 1,000 and under	(a) Ditto (b) Ditto	27	21	237	7,231	271	258	0 14 11
(5) Proprietary cultivating communities paying in common		28	21	188	8,963	300	294	0 12 0
II.—Village communities not paying in common—								
(1) Pattidars	In which the land and the Revenue are divided upon ancestral or customary shares, subject to succession by the law of inheritance	17	17	975	20,117	595	750	1 4 3
(2) Bhaicharas	In which possession is the measure of right in all lands	10	9	399	4,183	418	708	1 1 4
(3) Mixed or impure Pattidars or Bhaicharas	In which the lands are held partly in severalty and partly in common The measure of right in common land being the amount of the share or the extent of land held in severalty	1,288	1,163	84,762	8,05,545	650	1,012	1 8 11
III.—Grantees of British Government (not falling under any of the previous classes) paying Revenue direct to Government in the position of—								
(1) Proprietors	Including individuals rewarded for service or otherwise, but not purchasers of Government waste (V)							
(2) Lessees								
IV.—Landholders who have redeemed the Revenue, and are not members of any village community nor included in any of the previous classes								
V.—Purchasers of Government waste paying Revenue direct to Government, and not falling under any of the previous classes								
VI.—Government waste reserved or unassigned								
Total area of the Province, excepting Municipalities		1,330	1,247	86,505	8,50,057	644	983	1 8 6

Serial number of estate	Number of villages	Number of holders or share holders	Gross area in acres	Average area of each estate	Average assessment of each estate	Revenue rate per acre	Number of estates	Number of villages	Number of holders or share holders	Gross area in acres	Average area of each estate	Average assessment of each estate	Revenue rate per acre	Number of estates	Number of villages	Number of holders or share holders	Gross area in acres	Average area of each estate	Average assessment of each estate	Revenue rate per acre	
LUDHIANA.							SIMLA.							TOTAL.							
4	4	4	2,170	541	499	0 14 9								9	9	7	6,870	763	1,452	1 10 0	
22	22	182	13,138	597	455	0 12 2								35	35	244	24,097	631	221	0 5 0	
														134	134	2,320	76,619	571	341	0 9 6	
	4	86	1,861	468	496	1 1 1								198	198	11,096	1,44,615	730	456	0 10 0	
800	860	68,236	2,54,296	993	1,096	1 1 8	9	153	1,961	7,874	876	948	1 1 4	1,765	1,909	9,6896	12,35,938	700	360	0 12 3	
							8	120	600	2,448	306	649	2 1 11	1,074	1,186	1,17,241	10,44,490	677	260	0 15 11	
								4	5	76	25	78	1 14 9	8	4	5	76	15	78	1 14 9	
890	890	68,518	6,71,466	979			20	277	2,436	1,0896	520			5,238	5,484	2,23,202	5,55,584	791			
HOSHIARPUR							KANGRA							TOTAL							
1	1	1	1,880	1,880	1,196	0 10 2								1	9	1	10,262	1,262	13,198	1 4 5	
7	7	1	3,969	567	626	1 1 8								1	1	1	1,880	1,880	1,196	0 10 2	
														10	12	11	6,712	1,671	826	1 3 8	
6	6	6	1,665	278	180	0 10 6	3	3	1	1,905	635	260	0 6 4	9	9	7	2,570	397	204	0 5 2	
55	55	73	23,030	419	193	0 7 5	10	16	206	15,687	1,669	374	0 3 10	92	86	521	46,048	530	239	0 7 4	
101	168	4,908	98,460	569	301	0 8 3	14	14	236	11,522	825	415	0 8 1	198	188	5,361	1,18,985	676	393	0 8 7	
80	89	0,767	78,327	870	970	1 1 10	7	7	75	13,871	1,982	374	0 3 0	114	113	10,607	1,02,915	897	398	1 0 0	
432	413	21,887	2,50,919	581	638	1 1 7	127	127	84,518	4,31,253	3,396	1,761	0 8 4	669	549	1,06,804	68,63,55	1,206	800	0 11 9	
1,404	1,331	71,146	8,94,363	641	648	1 0 2	470	474	1,88,913	10,70,965	2,236	1,316	0 9 5	3,121	2,968	3,44,834	27,75,506	589	881	1 0 0	
							10	10	2,942	16,538	1,054	1,725	1 10 2	10	10	2,242	1,0539	1,054	1,725	1 10 2	
1	1	1	1,936	1,936	10	6 0 1								1	1	1	1,936	1,936	10	6 0 1	
2			3,358	4,078			112			22,799	204			114	1		32,289	283			
2,150	2,060	1,07,736	12,96,796	631			770	653	2,78,245	15,80,746	2,402			4,240	3,954	4,70,683	37,32,602	834			

NATURE OF TENURE		Division	Number of estates	Number of villages	Number of holders or share holders	Gross area in acres	Average area of each estate	Average of gross area in acres	Average of gross area in acres	Average of gross area in acres	Average of gross area in acres
AMRITSAR											
I.—Zamindari—											
(1)	Great Zamindaris paying above Rs 50,000 Revenue		{ (a) Held by individuals under law of primogeniture (b) Held by individuals and families under ordinary law	1	1	1	3,027	3,027	2,690	0	13
(2)	Large Zamindaris paying above Rs 5,000 Revenue		{ (a) Ditto (b) Ditto	2	2	1	3,777	1,888			
(3)	Zamindaris paying from Rs 1,000 to Rs 5,000 Revenue		{ (a) Ditto (b) Ditto	11	11	11	7,378	672	490	0	11
(4)	Zamindaris under Proprietary rights paying Revenue in common.		{ (a) Ditto (b) Ditto	36	36	2,108	23,568	655	909	1	6
II.—Village communities not paying in common—											
(1)	Patidars		{ In which the land and the Revenue are divided upon ancestral or customary shares, subject to succession by the law of inheritance	78	78	5,931	78,158	938	1,057	1	2
(2)	Bhaisachars		{ In which possession is the measure of right in all lands	58	58	5,704	62,627	1,080	638	0	9
(3)	Mixed or imputed Patidars or Bhaisachars	{ In which the lands are held partly in severalty and partly in common The measure of right in common land being the amount of the share or the extent of land held in severalty	874	874	62,717	7,98,770	914	1,158	1	4	
III.—Grantees of British Government (not falling under any of the previous classes) paying Revenues direct to Government in the Province											
(1)	Proprietors		{ Including individuals rewarded for service or otherwise, but not purchasers of Government waste (V)	3	3	98	4,566	1,528			
(2)	Lessees		1	1	6	907	907	111	0	3	
IV.—Landholders who have redeemed the Revenue, and are not members of any village community, not included in any of the previous classes			21	2	3	1,070	51				
V.—Purchasers of Government waste paying Revenue direct to Government, and not falling under any of the previous classes			50		60	1,412	28	26	0	14	
VI.—Government waste, reserved or unassigned			10			3,883	388				
Total area of the Province, excepting Municipalities			1,149	1,070	1,06,869	9,86,227	868				
LAHORE											
I.—Zamindari—											
(1)	Great Zamindaris paying above Rs 50,000 Revenue		{ (a) Held by individuals under law of primogeniture (b) Held by individuals and families under ordinary law	1	1	1	7,164	7,164	1,500	0	8
(2)	Large Zamindaris paying above Rs 5,000 Revenue		{ (a) Ditto (b) Ditto	1	1	1	1,467	1,467	1,059	0	12
(3)	Zamindaris paying from Rs 1,000 to Rs 5,000 Revenue		{ (a) Ditto (b) Ditto	59	59	59	82,133	545	151	0	4
(4)	Zamindaris under Proprietary rights paying Revenue in common.		{ (a) Ditto (b) Ditto	126	229	1,218	1,11,744	327	142	0	2
II.—Village communities of paying in common—											
(1)	Patidars		{ In which the land and the Revenue are divided upon ancestral or customary shares, subject to succession by the law of inheritance.	498	498	12,687	6,40,142	1,285	386	0	4
(2)	Bhaisachars		{ In which possession is the measure of right in all lands	409	409	34,966	6,38,077	1,560	502	0	6
(3)	Mixed or imputed Patidars or Bhaisachars	{ In which the lands are held partly in severalty and partly in common The measure of right in common land being the amount of the share or the extent of land held in severalty.	326	386	22,361	5,67,930	1,742	451	0	4	
III.—Grantees of British Government (not falling under any of the previous classes) paying Revenue direct to Government in the Province											
(1)	Proprietors		{ Including individuals rewarded for service or otherwise, but not purchasers of Government waste (V).	63	63	742	94,534	1,501	617	0	6
(2)	Lessees		100	100	180	2,26,148	2,331	458	0	3	
IV.—Landholders who have redeemed the Revenue, and are not members of any village community, nor included in any of the previous classes			9	9	11	7,043	753				
V.—Purchasers of Government waste paying Revenue direct to Government, and not falling under any of the previous classes			1	1	1	1,426	1,426	60	0	0	
VI.—Government waste, reserved or unassigned			15	16		42,369	2,827				
Total area of the Province, excepting Municipalities			1,803	1,608	72,292	23,72,277	1,475				

GURDASPUR.										SIALKOT										TOTAL									
Number of estates.	Number of villages.	Number of holders or share-holders.	Gross area in acres.	Average area of each estate in aces.	Average assessment of each estate.	Revenue rate per acre.	Number of estates.	Number of villages.	Number of holders or share-holders.	Gross area in acres.	Average area of each estate in aces.	Average assessment of each estate.	Revenue rate per acre.	Number of estates.	Number of villages.	Number of holders or share-holders.	Gross area in acres.	Average area of each estate in aces.	Average assessment of each estate.	Revenue rate per acre.									
3	3	0	4,879	1,626	1,756	1 2 7	9	2	2	2,902	1,451	1,360	0 15 2	1	1	1	5,027	5,027	5,027	2,590	0 15 3								
9	9	9	2,900	266	295	1 2 6	18	10	18	12,706	706	292	0 6 7	4	4	4	2,940	2,940	2,940	142	0 4 5								
102	102	96	25,620	251	247	1 1 0	89	72	798	23,471	285	224	0 10 8	226	210	3,806	78,659	358	853	1 0 3									
1,826	1,401	51,768	6,67,970	488	650	1 7 9	24	23	1,116	9,669	403	403	1 3 6	1,628	1,502	53,865	7,50,591	488	667	1 7 2									
212	308	9,314	1,03,830	511	529	1 0 7	20	18	883	10,230	512	630	1 3 2	280	274	15,901	1,81,196	511	557	0 14 3									
229	229	10,779	1,89,241	808	708	1 2 8	2,859	2,085	82,274	11,83,235	507	500	0 15 9	3,461	3,188	1,90,761	21,33,499	808	738	1 3 2									
278	278	14,803	2,12,276	764	834	1 1 6	2	2	457	228	228	99	0 6 10	283	281	14,900	2,17,476	764	820	1 1 1									
							2	1	6	818	169			23	3	9	1,4												
									2	237				60		62	1,6				26	0 12 7							
							4	4	1,095	273				14	4		4,97												
2,359	2,530	87,704	1,60,227	491			2,518	2,221	96,099	12,62,429	501			6,026	5,811	2,80,802	34,08,983	491											
GUJRANWALA										FEROZEPURE										TOTAL									
26	85	35	85,894	1,232	402	0 5 0	104	104	60	91,269	877	186	0 3 0	191	193	154	1,59,344	834	1,98	0 3 9									
105	1,966	1,73,034	1,145	200	0 4 2	193	193	1,186	1,18,414	613	148	0 8 10	409	424	3,072	3,33,3	815	179	0 3 6										
41	41	1,637	64,005	1,561	439	0 4 6	124	124	1,946	1,91,419	1,544	391	0 4 0	668	663	16,270	8,95,566	1,561	336	0 4 7									
27	1,018	22,976	1,13,794	1,447	548	0 6 1	403	408	27,667	6,70,673	1,664	562	0 8 5	1,706	1,747	82,024	26,62,269	1,447	577	0 5 5									
10	10	11	7,596	754	368	0 5 8	0	0	29	5,757	960	269	0 4 11	79	79	785	1,07,927	754	546	0 6 5									
2	2	6	1,554	779	217	0 4 5	4	4	2	806	200	84	0 6 5	106	106	205	2,30,507	779	465	0 3 5									
11	11	26	11,144	1,013			1	1	1	265	265			31	31	38	18,439	1,013											
														1	1	1	1,426				40	0 8 2							
			1,65,007	3,438										65	15		207,496												
			36,976	14,854	14,93		1,311	1,311	70,329	17,30,612	1,230			4,128	4,141	1,72,530	29,04,563	1,311											

NAME OF TENURE	DIVISION	RAWALPINDI						JHELMUM								
		Number of estates	Number of villages	Number of holders or owners	Gross area in acres	Average area of each estate in aas	Average assessment of each estate in aas	Revenue rate per acre	Number of estates	Number of villages	Number of holders or owners	Gross area in acres	Average area of each estate in aas	Average assessment of each estate in aas	Revenue rate per acre	
I.—Zamindari—																
(1) Great Zamindari paying above Rs 50,000 annuities	(a) Held by individuals under law of primogeniture															
	(b) Held by individuals and families under ordinary law															
(2) Large Zamindari paying above Rs 5,000 annuities	(a) Ditto															
	(b) Ditto															
(3) Zamindari paying from Rs 1,000 to Rs 5,000 Revenue	(a) Ditto															
	(b) Ditto	1	1	1	10,742	10,742	1,408	0 2 1	1	1	1	1,408	1,408	668	0 6 5	
(4) Zamindari paying from Rs 1,000 and under	(a) Ditto	3	3	3	4,122	1,374	144	0 2 6	2	2	2	4,118	4,318	234	0 4 5	
	(b) Ditto	46	46	76	45,012	1,000	154	0 2 6	6	9	9	24,964	860	819	0 3 2	
(5) Proprietary holding common in village	(a) Ditto	70	70	844	1,23,368	1,762	184	0 1 6	24	39	117	48,729	2,030	368	0 2 10	
II.—Village communities—																
(1) Patidari	In which the land and the Revenue are divided upon ancestral or customary shares, subject to succession by the law of inheritance	171	171	5,818	2,16,711	1,261	305	0 8 10	9	2	119	7,705	3,852	662	0 2 4	
(8) Bhaichaks	In which possession is the measure of right in all lands	69	69	2,742	91,535	1,453	492	0 5 5	6	6	376	9,835	1,840	862	0 9 4	
(3) Mixed or impure Patidari or Bhaichaks	In which lands are held partly in severalty and partly in common. The measure of right in common land being the amount of the share or the extent of land held in severalty	1,310	1,809	1,33,232	20,20,930	1,543	486	0 4 9	721	910	84,677	20,19,026	2,902	811	0 4 7	
III.—Grantees of British Government (not falling under any of the previous classes) in the position of—																
(1) Proprietors	Including individuals rewarded for service or otherwise, but not purchasers of Government waste	9	2	26	1,219	406	408	1 0 0	2		8	90	45	50	1 1 8	
(2) Lessees	"	8	1	165	628	209	219	1 0 9	90		6	8,55	160	8,940	146	0 0 7
IV.—Landholders who have redeemed the Revenue, and are not members of any village revenue class.																
V.—Purchasers of Government waste paying Revenue direct to Government, and not falling under any of the previous classes.																
VI.—Government waste land or unassigned																
Total area of the Province accepting Municipalities		1,737	1,658	1,42,899	39,79,937	2,231			865	984	85,613	24,90,293	2,981			
MOOLTAN																
JHANG																
I.—Zamindari—																
(1) Great Zamindari paying above Rs 50,000 annuities	(a) Held by individuals under law of primogeniture															
	(b) Held by individuals and families under ordinary law															
(2) Large Zamindari paying above Rs 5,000 annuities	(a) Ditto															
	(b) Ditto	2	2	2	12,268	6,134	2,623	0 6 1								
(3) Zamindari paying from Rs 1,000 to Rs 5,000 Revenue	(a) Ditto															
	(b) Ditto	596	618	945	96,129	185	34	0 3 4	13	13	17	14,576	1,121	1,260	1 1 10	
(4) Zamindari paying from Rs 1,000 and under	(a) Ditto															
	(b) Ditto	281	226	1,636	1,35,345	485	100	0 3 3	39	89	258	86,893	694	609	0 11 11	
(5) Proprietary holding common in village	(a) Ditto															
II.—Village communities—																
(1) Patidari	In which the land and the Revenue are divided upon ancestral or customary shares, subject to succession by the law of inheritance	9	9	651	10,946	2,216	1,478	0 10 8	10	10	471	19,942	1,994	1,219	6 9 9	
(2) Bhaichaks	In which possession is the measure of right in all lands	638	638	20,564	11,92,864	1,728	4,084	2 5 9	194	194	10,580	4,11,834	2,122	411	0 8 1	
(3) Mixed or impure Patidari or Bhaichaks	In which lands are held partly in severalty and partly in common. The measure of right in common land being the amount of the share or the extent of land held in severalty	314	314	11,972	4,84,508	1,543	516	0 5 4	632	632	15,925	8,00,160	1,518	1,307	0 18 9	
III.—Grantees of British Government (not falling under any of the previous classes) in the position of—																
(1) Proprietors	Including individuals rewarded for service or otherwise, but not purchasers of Government waste	6		30	188	23	5	0 3 5	2	2	25	3,950	1,975	222	0 1 9	
(2) Lessees	"	23	27	50	1,863	70	22	0 5 3	512	512	908	80,102	66	19	0 5 2	
IV.—Landholders who have redeemed the Revenue, and are not members of any village revenue class.																
V.—Purchasers of Government waste paying Revenue direct to Government, and not falling under any of the previous classes.																
VI.—Government waste land or unassigned																
Total area of the Province accepting Municipalities		3,022	1,748	65,786	33,34,847	1,748			1,814	1,303	29,418	11,084	2,600			

VARIETIES, &c.—(Continued)

GUJRAT.										SHAHPUR										TOTAL									
Number of estates	Number of villages	Number of holders or share-holders in acres	Gross area in acres	Average area of each estate	Average area of each holder	Revenue rate per acre.	Number of estates	Number of villages	Number of holders or share-holders in acres	Gross area in acres	Average area of each estate	Average assessment of each estate	Revenue rate per acre.	Number of estates	Number of villages	Number of holders or share-holders in acres	Gross area in acres	Average area of each estate	Average assessment of each estate	Revenue rate per acre.									
26	26	64	16,660	641	501	0 11 1	20	20	20	22,237	1,112	290	0 4 2	1	1	1	1,608	1,608	668	0 8 6									
24	24	364	12,831	535	257	0 7 8	47	47	464	78,478	1,670	151	0 1 5	165	174	1,789	2,68,331	1,559	232	0 2 8									
288	288	7,147	1,28,568	446	218	0 7 9	1	1	17	1,277	1,277	150	0 1 10	462	462	13,101	3,53,296	765	250	0 5 3									
1,000	1,000	49,228	9,51,879	951	476	0 8 0	5	5	120	2,819	564	308	0 5 10	1,074	1,074	52,467	10,55,585	963	478	0 7 9									
79	79	8,308	69,944	884	470	0 8 6	569	578	82,959	20,89,835	3,588	622	0 2 9	2,679	2,871	2,64,476	61,49,995	2,256	537	0 4 2									
							8	8	497	68				13	2	37	1,808	123	101	0 13 1									
							69	1	91	47,938	695	70	0 1 7	162	2	252	4,03,726	4,492	112	0 0									
1	1	13	13											4		3	44	11											
							2		5	4,113	2,056			2		5	4,113	2,056											
52			71,397	1,373			167		8,09,950	4,850				127	167	23,55,107	1,544												
1,470	1,417	60,115	12,50,681	851			721	814	83,678	80,07,130	8,047			4,793	4,860	3,22,308	107,1778	2,336											
MONTGOMERY										MUZAFFARGARH										TOTAL									
1	8	1	7,747	7,747	1,656	0 3 8								2	2	2	12,268	6,134	2,629	0 6 1									
129	194	140	66,554	616	77	0 3 5	11	11	11	26,027	2,368	127	0 0 10	506	519	943	88,126	165	34	0 3 4									
1,010	1,175	7,907	4,40,450	434	96	0 3 6	68	63	638	80,468	1,277	828	0 4 1	1,938	1,503	10,757	4,83,951	489	116	0 3 10									
1	89	2,460	84,363	820	102	0 4 11	16	16	1,063	37,564	1,723	779	0 7 8	200	94	4,024	1,21,817	609	274	0 7 2									
370	375	11,423	3,19,967	1,131	322	0 4 7	545	546	60,975	8,29,690	1,622	775	0 8 2	1,651	1,654	1,06,493	26,63,875	578	1,936	1 3 2									
370	375	12,267	3,62,090	978	288	0 4 8	83	83	6,377	87,757	1,057	781	0 11 1	1,300	1,805	46,541	17,43,515	341	789	0 9 5									
2	2	2	3,263	1,631	180	0 1 9								12	12	285	7,396	616	70	0 1 9									
149	151	257	17,404	117	36	0 4 11								68	690	1,242	49,471	71	23	0 5 3									
1	3	1	9,000	9,000										6	8	7	19,312	718											
148			22,95,634	16,511			72		9,51,170	13,214				372			70,29,363	2,796											
2,214	2,244	34,480	38,76,494	1,567			794	715	72,553	30,03,671	2,538			4,380	6,013	1,71,045	123,34,996	965											

NATURE OF TENURE		Division	DERA ISMAIL KHAN										DERA GHAZI KHAN.									
			Number of estates.	Number of villages	Number of holders or share hold ers	Gross area in acres	Average area of each estate in acres	Area of each estate in acres	Revenue of each estate	Revenue rate per acre.	Number of estates	Number of villages	Number of holders or share hold ers	Gross area in acres.	Average area of each estate	Area of each estate	Revenue of each estate	Revenue rate per acre.				
I.—Zamindari—																						
(1) Great Zamindaris paying above Rs 50,000 Revenue	Held by individuals under law of primogeniture																					
(2) Large Zamindaris paying above Rs 5,000 Revenue	Held by individuals and families under ordinary law																					
(3) Zamindaris paying from Rs 1,000 to Rs 5,000 Revenue	Ditto																					
(4) Zamindaris paying Rs 1,000 and under	Ditto																					
(5) Proprietary cultivating communities paying in common.	Ditto																					
II.—Village communities paying in common—																						
(1) Pattidari	In which the land and the Revenue are divided upon ancestral or customary shares, subject to succession by the law of inheritance.																					
(2) Bhaichakra	In which possession is the measure of right in all lands.																					
(3) Mixed or imperfect Pattidari or Bhaichakra	In which lands are held partly in severally and partly in common. The measure of right in common land being the amount of the share or the extent of land held in severally.																					
III.—Grantees of British Government (not falling under any of the previous classes) paying Revenue direct to Government in the position of—																						
(1) Proprietors	Including individuals rewarded for service or otherwise, but not purchasers of Government waste																					
(2) Lessees	"																					
IV.—Landholders who have redeemed the Revenue, and are not members of any village community, not included in any of the previous classes																						
V.—Purchasers of Government waste paying Revenue direct to Government, and not falling under any of the previous classes																						
VI.—Government waste, redeemed or unassigned																						
Total area of the Province excepting Municipalities			778	736	79,897	58,16,659	7,476			750	676	93,531	50,38,325	4,012								
			PESHAWAR										HAZARA									
I.—Zamindari—																						
(1) Great Zamindaris paying above Rs 50,000 Revenue	Held by individuals under law of primogeniture																					
(2) Large Zamindaris paying above Rs 5,000 Revenue	Held by individuals and families under ordinary law																					
(3) Zamindaris paying from Rs 1,000 to Rs 5,000 Revenue	Ditto																					
(4) Zamindaris paying Rs 1,000 and under	Ditto																					
(5) Proprietary cultivating communities paying in common.	Ditto																					
II.—Village communities paying in common—																						
(1) Pattidari	In which the land and the Revenue are divided upon ancestral or customary shares, subject to succession by the law of inheritance.																					
(2) Bhaichakra	In which possession is the measure of right in all lands.																					
(3) Mixed or imperfect Pattidari or Bhaichakra	In which the lands are held partly in severally and partly in common. The measure of right in common land being the amount of the share or the extent of land held in severally.																					
III.—Grantees of British Government (not falling under any of the previous classes) paying Revenue direct to Government in the position of—																						
(1) Proprietors	Including individuals rewarded for service or otherwise, but not purchasers of Government waste																					
(2) Lessees	"																					
IV.—Landholders who have redeemed the Revenue, and are not members of any village community, nor included in any of the previous classes																						
V.—Purchasers of Government waste paying Revenue direct to Government, and not falling under any of the previous classes																						
VI.—Government waste, redeemed or unassigned																						
Total area of the Province excepting Municipalities			794	668	81,622	15,89,561	1,909			1,064	992	83,950	15,14,530	1,753								

D I KHAN.

PESHAWAR

BANNU.										TOTAL.										GRAND TOTAL.									
Number of estates.	Number of villages.	Number of holders or share holders etc.	Gross area in acres.	Average area of each estate.	Average assessment of each estate.	Revenue rate per acre.	Number of estates.	Number of villages.	Number of holders or share holders etc.	Gross area in acres.	Average area of each estate.	Average assessment of each estate.	Revenue rate per acre.	Number of estates.	Number of villages.	Number of holders or share holders etc.	Gross area in acres.	Average area of each estate.	Average assessment of each estate.	Revenue rate per acre.									
1	1	1	864	864	698	0 11 1	35	5	5	25,682	7,138	216	0 0 6	37	6	6	26,546	7,138	216	0 0 6									
15	15	15	7,532	502	224	0 6 2	36	36	41	61,207	749	307	0 6 7	51	51	46	68,739	749	307	0 6 7									
62	62	625	77,354	1,247	228	0 2 11	167	167	2,448	2,33,501	2,061	183	0 1 5	229	229	2,513	2,61,252	2,061	183	0 1 5									
30	30	8,415	3,01,077	10,188	1,789	0 2 10	67	67	18,227	5,24,830	9,475	1,172	0 2 0	97	97	26,642	8,26,660	9,475	1,172	0 2 0									
300	300	65,289	7,23,259	2,411	909	0 4 0	1,164	1,164	1,83,252	51,40,790	4,416	647	0 2 5	1,464	1,464	2,49,541	52,64,580	4,416	647	0 2 5									
67	67	12,773	2,66,053	3,831	1,079	0 8 3	456	456	56,228	93,33,258	7,310	824	0 1 2	523	523	69,001	95,96,516	7,310	824	0 1 2									
13	13	217	15,149	1,165	603	0 8 3	15	13	239	15,360	1,020	523	0 8 2	30	26	476	30,720	1,020	523	0 8 2									
2	2	763	9,266	4,633	1,263	0 6 5	14	2	763	3,01,358	21,525	562	0 0 5	16	4	1,526	3,10,624	21,525	562	0 0 5									
91		20,943	280				200			4,16,189	2,081			291			4,16,189	2,081											
579	488	87,857	14,12,024	3,439			2,113	1,899	2,81,265	10,28,294	4,857			2,692	1,899	2,81,265	10,28,294	4,857											
KOHAT.										TOTAL.										GRAND TOTAL.									
1	107	1	7,76,960	7,76,960	60,637	0 1 3	1	107	1	7,76,960	7,76,960	6,000	0 1 3	1	107	1	7,76,960	7,76,960	6,000	0 1 3									
16	16	16	35,630	2,227	141	0 1 0	23	20	23	37,521	1,631	207	0 2 11	39	36	39	73,041	1,631	207	0 2 11									
5	5	195	14,883	2,977	137	0 0 9	137	137	172	1,50,803	1,101	168	0 2 9	142	142	172	1,65,686	1,101	168	0 2 9									
							170	162	4,628	1,55,208	918	123	0 2 2	312	298	4,628	1,70,716	918	123	0 2 2									
							34	34	3,118	49,961	1,440	776	0 8 7	346	332	3,118	54,879	1,440	776	0 8 7									
123	115	16,997	7,34,708	4,768	553	0 1 7	124	111	13,824	3,62,539	3,924	713	0 3 11	247	226	13,824	4,25,268	3,924	713	0 3 11									
							1,266	1,216	1,74,138	32,84,063	2,660	346	0 5 3	1,413	1,216	1,74,138	34,58,101	2,660	346	0 5 3									
														485	421	18,809	3,83,730	825	234	0 4 3									
11	9	1	44,351	4,023	637	0 2 6	12	10	2	44,314	3,699	501	0 2 3	24	20	3	88,628	3,699	501	0 2 3									
														63	41	595	51,001	610											
														84	13	319	17,078	267	50	0 3 0									
161	343	172	11,08,432	6,990			1,949	1,997	1,35,963	50,22,523	2,577			2,110	1,997	1,35,963	51,58,486	2,577											
														37,659	36,660	34,45,016	6,00,281,126	1,674											

STATEMENT OF TENURES NOT HELD

1		2	3					4						
NATURE OF TENURES		Division.	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding.	Average rent per acre	Number of holdings	Area of land held	Average area of holding	Average cash rent of each holding	Average rent per acre.		
			DELHI					GURGAON						
			A	R	P	Ra	A	P	Ra	A	P	Ra	A	P
Paying cash rates	I.—Tenants with right of occupancy—		(1) Paying only the amount of the Government Revenue to the proprietors	7,100	89,853	5 2 18	10 5 8	1 13 6	9,565	60,682	6 0 0	6 8 0	1 0 4	
	(2) Paying such amount, plus a cash Mithkda	2,906	14,571	6 2 17	11 8 5	1 11 11	1 524	12,529	8 0 0	12 8 0	1 8 6			
	(3) Paying at stated cash rates per acre	466	2,370	5 0 3	7 14 10	1 9 2	182	941	5 0 0	9 11 2	1 14 0			
	(4) Paying lump sums (cash) for their holdings	377	2,226	5 9 25	17 3 8	3 0 4	731	7,159	10 0 0	13 6 3	1 6 1			
Total paying rent in cash			10,149	89,020	5 3 10	10 12 0	1 13 7	12,002	81,291	7 0 0	7 11 9	1 2 3		
Paying in kind	(1) Paying by a stated share of the produce in kind	A	(a) $\frac{1}{2}$ Produce and more.	4	17	4 1 0								
			(b) $\frac{1}{3}$ Produce and less than $\frac{1}{2}$ produce	442	2,388	5 1 23			478	7,327	16 0 0			
			(c) $\frac{1}{4}$ Produce and less than $\frac{1}{3}$ produce	100	99	0 8 38								
			(d) $\frac{1}{5}$ Produce and less than $\frac{1}{4}$ produce	51	207	4 0 9	9 6 8	2 3 1						
(2) Paying by a stated share of the produce, plus a further cash contribution	B	(a) When the share of produce paid is $\frac{1}{2}$ and more	20	200	10 0 0	9 6 10	0 16 1							
		(b) When the share of produce paid is less than $\frac{1}{2}$												
(3) Paying a fixed amount of grain for their holdings with or without a further cash contribution.	C		40	60	2 0 0	5 4 0	3 10 0							
Total paying rent in kind			657	2,986	4 2 7			478	7,327	16 0 0				
Grand Total of tenants with right of occupancy			10,806	92,006	5 2 38			12,480	88,118	7 0 0				
II — Tenants holding conditionally —														
(1) For life			2	19	9 2 0	11 4 0	1 3 0							
(2) For period on lease	(a) Written		76	456	5 2 20	13 11 0	2 6 11	1,035	8,999	9 0 0	20 14 2	2 6 6		
	(b) Not written		216	713	3 1 6	5 2 2	1 9 3	231	1,829	8 0 0	8 6 2	1 0 13		
(3) Subject to village service and payment of rent			7	9	1 1 6	1 14 4	1 7 8							
III — Tenants-at-will—		(a) Paying in cash	29,070	88,054	3 0 0	27 5 7	8 15 2	53,023	2,52,876	5 0 0	6 7 8	1 4 13		
	(b) Paying in kind		196	856	4 2 5	15 1 5	3 5 5	9,217	21,410	7 0 0				
			1,248	2,435	2 0 0	14 9 2	7 4 7	1,541	11,407	7 8 0				
IV Holders of service grants cultivating the lands held by a parties enjoying freeholds from proprietors being excused all revenue—														
(1) Sankalap or Dharmarth			979	1,798	1 2 14			2,088	7,119	3 0 0				
(2) Conditional on service			228	416	1 1 19			1,683	3,417	3 0 0				
Total			42,816	1,57,691	3 8 24			75,298	3,95,995	5 0 0				

1		2		3	4	5	6	7	8	9	10	11	12	
NATURE OF TENURE.		Division	HISSAR.					ROHTAK.						
			Number of holdings	Area of land held	Average area of holding.	Average cash rent of each holding	Average rent per acre	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre.		
I—Tenants with right of occupancy—														
Paying cash rents	(1) Paying only the amount of the Government Revenue to the proprietors.			A. E. P.	Rs. A. P.	Rs. A. P.			7 082	43,348	6 0 0	8 9 11	1 1 8	
	(2) Paying such amount, plus a cash <i>Malkhana</i>	214	1,886	9 0 0	8 1 6	0 5 6			175	742	4 0 0	6 0 0	1 8 0	
	(3) Paying at stated cash rates per acre	99	1,890	19 0 0	8 11 9	0 7 4			3	457	162 0 0	234 8 0	1 8 8	
	(4) Paying lump sums (cash) for their holdings	11 782	1,75,69	15 0 0	6 6 5	0 6 10								
Total paying rent in cash		261	3,920	12 0 0	5 14 6	0 7 10			7,260	44,547	6 0 0	6 7 4	1 1 2	
Paying in kind	(1) Paying by a stated share of the produce in kind.	A.	(a) $\frac{1}{2}$ Produce and more.	---	---				180	1,024	6 0 0			
			(b) $\frac{1}{2}$ Produce and less than $\frac{1}{2}$ produce.	512	13,235	26 0 0								
			(c) $\frac{1}{2}$ Produce and less than $\frac{1}{2}$ produce.	223	6 053	27 0 0								
(2) Paying by a stated share of the produce, plus a further cash contribution.	B.	(a) When the share of produce paid is $\frac{1}{2}$ and more.												
		(c) $\frac{1}{2}$ Produce and less than $\frac{1}{2}$ produce.	17	525	31 0 0	35 10 10	1 2 5							
(3) Paying a fixed amount of grant for their holdings with or without a further cash contribution.	C.													
Total paying rent in kind			754	19,813	36 0 0				180	1,024	6 0 0			
Grand Total of tenants with right of occupancy			18,060	2,02,299	15 0 0				7,440	45,571	6 0 0			
II—Tenants holding conditionally—														
(1) For life	(a) Written		204	6 439	32 0 0	13 11 2	0 6 11		2	50	25 0 0	20 0 0	1 3 2	
		(2) For period on lease	(a) Not written	74	563	8 0 0	6 5 7	0 12 8		2	14	7 0 0	8 11 6	1 1 1
			(b) Written							2	12	6 0 0	14 4 0	1 6 0
(3) Subject to village service and payment of rent														
III—Tenants at-will—	(a) Paying in cash	(a) $\frac{1}{2}$ produce and more.		31 158	4,06,847	13 0 0	8 14 7	0 10 11	50,517	3,12,189	6 0 0	6 0 0		
			(b) Paying in kind	4,312	42,348	10 0 0				220	2,079	9 0 0		
IV Holders of service grants cultivating the lands held (i.e. parties enjoying freehold from proprietors being secured all revenue)—	(1) Sanhalap or Dharmarth		926	10 453	11 0 0				1,537	4,365	3 0 0			
		(2) Conditional on service	180	1 203	7 0 0				116	174	3 0 0			
Total			49,935	6,72,182	14 0 0				59,661	3,64,921	6 0 0			

DIRECT FROM GOVERNMENT—continued

13					14					15					16					17					18					19					20					21					22					23					24					25					26					27					28																																																																																																																																																																																	
Number of holdings					Area of land held.					Average area of holding					Average cash rent of each holding					Average rent per acre					Number of holdings					Area of land held.					Average area of holding					Average cash rent of each holding					Average rent per acre					Number of holdings					Area of land held.					Average area of holding					Average cash rent of each holding					Average rent per acre																																																																																																																																																																																						
SIRSA					A R P					Ra A P					Re A P					TOTAL					A R P					Ra A P					Re A P					GRAND TOTAL																																																																																																																																																																																																																				
5,923	81,811	16	0	0	3	3	7	0	3	2	12,519	1,37,045	10	0	24	5	2	3	0	8	1	4,281	82,989	19	0	0	3	13	0	0	2	4	4,555	85,621	18	3	7	3	1	0	0	2	7	11,010	1,85,454	17	0	0	4	1	7	0	3	10	22,782	3,61,144	15	3	18	5	4	7	0	6	4	364	3,477	13	0	27	8	7	11	0	1	0	20,514	3,50,204	17	0	0	3	14	6	0	3	8	40,100	5,77,287	14	1	28	5	2	2	0	5	8	1,160	15,760	14	0	0	1,672	23,995	17	1	14	1,267	21,413	16	3	24	1,62	1,793	11	0	11	6	8	8	0	9	6	17	525	31	0	35	10	10	10	1	2	5	2,364	32,913	14	0	0	3,298	53,750	16	1	7	..	22,878	3,83,167	17	0	0	48,398	6,31,037	14	2	6	842	12,191	14	0	0	5	9	10	0	5	9	312	3,540	11	0	0	4	13	11	0	7	11	4	66	18	0	3	9	3	0	4	5	13,532	2,60,763	19	0	0	6	2	10	0	5	4	7,198	99,229	14	0	0	..	95,208	9,71,799	10	0	32	2	15	5	0	4	6	220	2,079	9	0	0	190	2,350	12	0	0	1	6	8	0	1	8	11	144	13	0	5	1	2	0	8	5	44,963	7,51,344	18	0	0	1,54,558	17,88,397	11	2	12

STATEMENT OF TENURES NOT HELD

1		2	3	4	5	6	7	8	9	10	11	12	
NATURE OF TENURES		DIVISION	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre	Number of holdings	Area of land held	Average area of holding	Average cash rent of each holding	Average rent per acre	
			UMBALLA				LUDHIANA.						
I.—Tenants with right of occupancy—													
Paying cash rents	(1) Paying only the amount of the Government Revenue to the proprietors.		1,349	7,069	5 0 0	9 0 4	1 12 10	2,046	24,469	12 0 0	10 0 0	0 14 0	
	(2) Paying such amount, plus a cash <i>Malkána</i>		3,335	26,656	7 0 0	11 6 4	1 10 0	382	4,932	13 0 0	13 0 0	1 0 0	
	(3) Paying at stated cash rates per acre		405	4,297	11 0 0	15 4 6	1 6 3						
	(4) Paying lump sums (cash) for their holdings		2,610	24,432	9 0 0	15 3 9	1 11 1	243	567	2 0 0	3 0 0	1 8 0	
Total paying rent in cash			8,199	62,474	8 0 0	12 6 8	1 8 10	2,677	29,969	11 0 0	11 0 0	1 0 0	
Paying in kind.	(1) Paying by a stated share of the produce in kind.	A.	(a) $\frac{1}{2}$ Produce and more	977	3,481	4 0 0		96	221	2 0 0			
			(b) $\frac{1}{3}$ Produce and less than $\frac{1}{2}$ produce	8,817	25,460	7 0 0		1,416	5,289	4 0 0			
			(c) $\frac{1}{4}$ Produce and less than $\frac{1}{3}$ produce	1,574	5,556	5 0 0		279	1,262	5 0 0			
			(d) $\frac{1}{5}$ Produce and less than $\frac{1}{4}$ produce	1,066	3,775	4 0 0							
		(2) Paying by a stated share of the produce, plus a further cash contribution.	B.	(a) When the share of produce paid is $\frac{1}{2}$ and more.					88	286	11 0 0	3 0 0	0 4 11
			(b) When the share of produce paid is less than $\frac{1}{2}$	1,613	8,127	5 0 0	5 0 0	1 0 0					
	(3) Paying a fixed amount of grain for their holdings with or without a further cash contribution.	C.		25	385	15 0 0	0 45 0	3 0 0					
Total paying rent in kind			9,071	49,784	5 0 0			1,879	7,851	4 0 0			
Grand Total of tenants with right of occupancy			17,270	1,12,258	7 0 0			4,556	37,820	8 0 0			
II.—Tenants holding conditionally—													
	(1) For life		17	87	5 0 0	10 0 0	2 0 0						
	(2) For period on lease	(a) Written	185	950	5 0 0	2 6 0	0 6 0						
		(b) Not written	618	688	1 0 0	6 5 0	0 6 0						
	(3) Subject to village service and payment of rent		589	334	0 2 1	1 8 0	1 8 0						
III.—Tenants at-will—													
	(a) Paying in cash	$\frac{1}{2}$ produce and more		5 83	22,292	4 0 0	20 1 0	5 0 3	21,784	73,926	3 0 0	7 0 7	3 1 2
				2,537	13,900	5 0 0	0 30 0	0 5 0	7,180	24,765	3 0 0		
	(b) Paying in kind	Less than $\frac{1}{2}$ produce.	18,232	75,363	6 0 0	38 0 0	6 5 4	3,180	27,863	8 0 0			
IV Holders of service grants cultivating the lands held (i. e., parties enjoying freeholds from proprietors being excused all revenue)—													
	(1) Sankalp or Dharmarth		1,182	1,191	1 0 0			1,607	2,412	2 0 0			
	(2) Conditional on service		1,103	816	1 0 0			55	43	1 0 0			
Total			42,458	2,27,035	5 0 0			43,740	1,66,819	4 0 0			

STATEMENT OF TENURES NOT HELD

1	2	3	4	5	6	7	8	9	10	11	12	
NATURE OF TENURE	Division.	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre.	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre.	
		JULLUNDUR						HOSHIARPUR				
I—Tenants with right of occupancy—												
Paying cash value.	(1) Paying only the amount of the Government Revenue to the proprietors	4,811	18,244	4 1 13	8 10 2	1 15 10	10,896	32,627	3 3 39	A. R. P.	Re A P	Re A P
	(2) Paying such amount plus a cash Māhkāna	6,068	27,230	4 1 39	9 7 8	2 1 9	30,934	68,402	2 3 17	6 8 1	2 2 9	2 2 9
	(3) Paying as stated cash rates per acre	43	113	2 2 17	9 5 7	3 9 5	6,452	6,721	1 0 7	2 5 5	2 3 9	2 3 9
	(4) Paying lump sums (cash) for their holdings	1,313	6,714	5 0 15	11 7 8	3 3 11	6,628	25,248	2 3 23	4 11 9	1 9 10	1 9 10
Total paying rent in cash		11,625	52,300	4 2 0	9 6 4	2 1 5	56,910	152,998	2 2 30	5 9 10	2 1 5	
Paying in kind.	(1) Paying by a stated share of the produce in kind	A.	(a) $\frac{1}{2}$ Produce and more	240	709	3 3 33	4,818	13,292	2 3 1			
			(b) $\frac{1}{3}$ Produce and less than $\frac{1}{2}$ produce	113	453	4 0 0	6,769	21,498	3 0 29			
			(c) $\frac{1}{4}$ Produce and less than $\frac{1}{3}$ produce				360	894	2 1 38			
(2) Paying by a stated share of the produce, plus a further cash contribution.	B.	(a) When the share of produce paid is $\frac{1}{2}$ and more	4,674	8,228	1 3 1	5 7 6	3 1 10					
		(b) When the share of produce paid is less than $\frac{1}{2}$						3,110	1 13	5 0 0	0 7 9	
(3) Paying a fixed amount of grain for their holdings with or without a further cash contribution.	C.	2	27	13 2	0 70	0 0 5	3 0	18	86	4 3 4	9 11 6	1 15 5
Total paying rent in kind		5,029	9,414	1 3 19			12,004	35,937	2 3 39			
Grand Total of tenants with right of occupancy		16,654	61,714	3 2 9			68,914	1,38,935	2 2 38			
II—Tenants holding conditionally—												
(1) For life	(a) Written (b) Not written	3	48	16 0 0	0 0		6	10	1 3 20	4 2 8	2 5 0	
(2) For period on lease		339	2,550	7 2 3	0 0		7,387	18,947	1 2 35	7 14 11	4 8 11	
(3) Subject to village service and payment of rent		169	647	5 0 2	0 0		5,800	8,412	1 2 11	3 2 1	5 9 11	
		67	46	0 3 9	0 0		2	8	4 0 0	8 0 0	2 0 0	
III—Tenants at-will—												
(a) Paying in cash	(b) Paying in kind	{ $\frac{1}{2}$ produce and more	25,064	80,990	3 0 9		44,644	66,693	1 1 39	6 12 2	4 3 5	
		{ Less than $\frac{1}{2}$ produce	25,801	83,358	3 0 37		26,000	60,814	1 9 29			
		734	3,351	3 0 32		10,282	14,270	1 1 22				
IV Holders of service grants cultivating the lands held (i.e., parties enjoying freeholds from proprietors being excused all revenue)—												
(1) Sankalap or Dharmarth		2,792	2,314	0 3 16		9,898	1,660	0 2 23				
(2) Conditional on service		1,297	1,694	1 0 30		1,935	1,496	0 3 4				
Total		72,880	2,05,441	2 3 11			1,67,560	3,45,045	3 0 9			

1		2	3	4	5	6	7	8	9	10	11	12	
NATURE OF TENURE		Division.	Number of holdings	Area of land held	Average area of holding	Average cash rent of each holding	Average rent per acre	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre	
			AMRITSAR				GURDASPUR						
I — Tenants with right of occupancy—					A	R	P	Rs	A	P	Rs	A	P
Paying cash rates	(1) Paying only the amount of the Government Revenue to the proprietors		1,212	5 017	4 0 0	10 0 9	2 8 0	75	5,25	7 0 0	13 0 0	2 9 0	
	(2) Paying such amount plus a cash Milkānā		10 799	54 530	5 0 0	11 7 6	2 4 8	10,105	59 052	5 0 0	12 14 5	2 9 3	
	(3) Paying at stated cash rates per acre		158	882	4 0 0	4 5 7	1 1 4						
	(4) Paying lump sums (cash) for their holdings		295	846	3 0 0	5 1 3	1 11 1	1,190	10 595	9 0 0	24 0 0	2 10 8	
Total paying rent in cash			12,464	61,076	5 0 0	8 0 0	1 9 7	11 370	61,172	5 0 0	14 1 7	2 11 0	
Paying in kind.	(1) Paying by a stated share of the produce in kind	A	(a) † Produce and more	87	617	7 0 0			405	3,924	10 0 0		
			(b) † Produce and less than † produce						385	1 695	4 0 0		
			(c) † Produce and less than † produce										
(2) Paying by a stated share of the produce plus a further cash contribution	B	(a) When the share of produce paid is † and more.	300	1,010	3 0 0	8 0 0	2 0 0						
		(b) When the share of produce paid is less than †											
(3) Paying a fixed amount of grain for their holdings with or without a further cash contribution.	C												
Total paying rent in kind			87	617	7 0 0			1,000	6,629	6 0 0			
Grand Total of tenants with right of occupancy			12 551	61 692	5 0 0			12,460	67 801	5 0 0			
II — Tenants holding conditionally -													
(1) For life			83	869	4 0 0	6 3 0	1 9 0						
(2) For period on lease	(a) Written		305	1,782	6 0 0	10 0 0	1 10 8						
		(b) Not written	1,128	2 093	2 0 0	7 9 0	3 12 6						
(3) Subject to village service and payment of rent			218	618	2 0 0	3 13 0	1 14 6						
III — Tenants at will—	(a) Paying in cash	{	† produce and more	47 653	1 81 881	4 0 0	0 0	10 110	75 902	7 0 0	21 0 0	0 3 0 0	
			Less than † produce										5 016	21,235	4 0 0		87 606	2,01,105	5 0 0	23 0 0	0 5 0 0
	(b) Paying in kind	{	† produce and more	3 040	14,367	4 0 0		10,109	96 396	9 0 0	37 0 0	4 1 9	
IV Holders of service grants cultivating the lands held (s. e. parties enjoying freeholds from proprietors being excused all revenue)—													
(1) Sankalp or Dharmvath			650	882	1 0 0			127	107	1 0 0			
(2) Conditional on service			655	2 029	3 0 0			85	72	1 0 0			
Total			71,308	2 86,348	3 0 0			69,897	4,39 689	6 0 0			

STATEMENT OF TENURES NOT HELD

1		2	3					4				
NATURE OF TENURE		DAWSON	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre.	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre.
			LAHORE					GUJANWALA				
					A. R. P.	Rs A P	Rs A P			A. R. P.	Rs A P	Rs A P
I—Tenants with right of occupancy—												
Paying cash rates.	(1) Paying only the amount of the Government Revenue to the proprietors		723	8,911	12 0 0	0 0 0	0 12 0	330	3,819	10 0 0	10 0 0	1 0 0
	(2) Paying such amount, plus a cash Málkáná		6 277	64,618	10 0 0	4 0 0	0 6 9	6 644	59,218	9 0 0	11 0 0	1 3 8
	(3) Paying at stated cash rates per acre		204	731	4 0 0	2 0 0	0 9 8					
	(4) Paying lump sums (cash) for their holdings		1,038	5,630	5 0 0	3 0 0	1 0 0	900	6,290	7 0 0	9 0 0	1 4 7
Total paying rent in cash			8,242	79,890	9 0 0	5 0 0	0 8 10	7,574	68,822	9 0 0	10 0 0	1 1 0
Paying in kind	(1) Paying by a stated share of the produce in kind	A	(a) $\frac{1}{2}$ Produce and more	30	289	10 0 0						
			(b) $\frac{1}{3}$ Produce and less than $\frac{1}{2}$ produce	812	12,471	40 0 0			101	2,115	21 0 0	
			(c) $\frac{1}{4}$ Produce and less than $\frac{1}{3}$ produce	3,401	18,733	13 0 0			147	1,317	9 0 0	
			(d) $\frac{1}{5}$ Produce and less than $\frac{1}{4}$ produce	427	7,940	19 0 0						
	(2) Paying by a stated share of the produce, plus a further cash contribution.	B	(a) When the share of produce paid is $\frac{1}{2}$ and more.	88	330	9 0 0						
(3) Paying a fixed amount of grain for their holdings with or without a further cash contribution.	C	(b) When the share of produce paid is less than $\frac{1}{2}$						96	983	10 0 0	11 0 0	1 1 7
Total paying rent in kind			3,208	89,778	19 0 0			344	4,435	13 0 0		
Grand Total of tenants with right of occupancy			10,450	1,19,668	11 0 0			8,218	73,247	9 0 0		
II—Tenants holding conditionally—												
(1) For life	(a) Written (b) Not written	54	921	17 0 0	3 0 0	0 5 2						
(2) For period on lease		858	9,444	11 0 0	5 0 0	0 9 1	640	5,840	9 0 0	13 0 0	1 7 1	
(3) Subject to village service and payment of rent		559	1,573	2 0 0	0 11 0	0 5 6	426	3,800	8 0 0	13 0 0	0 9 0	
			26	108	4 0 0	2 13 0	0 11 3	1,180	4,764	4 0 0	3 0 0	0 13 0
III.—Tenants at-will—	(a) Paying in cash (b) Paying in kind	$\frac{1}{2}$ produce and more Less than $\frac{1}{2}$ produce.	21 860	1,89,736	7 0 0	4 0 0	0 9 1	71 036	1,18,824	11 0 0	16 0 0	1 7 3
			3,302	9,328	4 0 0			1 219	7,968	6 0 0	13 0 0	2 2 6
			21,138	1,58,294	7 0 0			4,057	84,440	8 0 0	13 0 0	1 10 0
IV Holders of service grants cultivating the lands held (i. e., parties enjoying freeholds from proprietors being assessed all revenue)—												
(1) Sankalop or Dharmarth			109	263	3 0 0			483	400	1 0 0		
(2) Conditional on service			110	358	3 0 0			867	1,065	1 0 0		
Total			57,026	4,84,478	8 0 0			38,178	2,60,403	8 0 0		

STATEMENT OF TENURES NOT HELD

1		2	3					4				
NATURE OF TENURE		Divanon.	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre.
			RAWALPINDI					JHELUM				
					A. R. P.	Rs. A. P.	Rs. A. P.			A. R. P.	Rs. A. P.	Rs. A. P.
Paying cash rates	I—Tenants with right of occupancy—											
	(1)	Paying only the amount of the Government Revenue to the proprietors	78	382	4 2 20	5 15 0	1 4 6	1,106	9,081	7 2 14	4 1 0	0 8 7
	(2)	Paying such amount plus a cash Mātkāna	16,996	76,984	4 2 5	3 15 9	0 14 1	9,481	56,934	6 0 0	7 8 0	1 4 6
	(3)	Paying at stated cash rates per acre	2,903	8,852	3 2 22	8 5 7	1 13 8	973	8,909	9 1 0	5 11 0	0 9 10
(4)	Paying lump sums (cash) for their holdings	10,674	22,408	2 0 16	8 14 11	1 13 11	40	40,510	0 20 11	1 9 1	1 1 5	
Total paying rent in cash			80,547	1,08,086	3 2 6	4 1 6	1 2 6	11,690	75,418	6 1 20	7 1 0	1 1 9
Paying n. land.	A	(a) ½ Produce and more	10,866	62,464	5 2 38			4,982	33,074	6 2 22		
		(b) ½ Produce and less than ½ produce	5,869	43,772	7 2 0			1,237	12,160	9 8 0		
		(c) ¼ Produce and less than ¼ produce.	1,304	2,867	2 0 32			100	2,608	2 2 37		
		(d) ¼ Produce and less than ¼ produce.	524	4,186	7 6 37			85	611	7 0 30		
	B	(a) When the share of produce paid is ½ and more	1,652	23,269	14 2 30	0 13 2	0 0 11					
		(b) When the share of produce paid is less than ½	420	8,130	10 1 21	1 7 4	0 1 2					
C	(3) Paying a fixed amount of grain for their holdings with or without a further cash contribution.											
Total paying rent in kind			2,0636	1,44,697	7 0 2			6,424	48,448	7 2 6		
Grand Total of tenants with right of occupancy			51,189	2,52,763	4 8 30			18,114	1,23,869	6 8 14		
II.—Tenants holding conditionally—												
(1)	For life		10									
(2)	For period on lease	(a) Written	25	77	7 2 22	4 6 4	0 9 2					
(3)	Subject to village service and payments of rent	(b) Not written	16	86	3 1 24	15 9 7	4 9 5	80	231	2 3 22	5 8 0	1 14 5
III.—Tenants as—		(a) Paying in cash	18,976	29,563	2 0 18	5 7 1	2 9 3	25,860	95,384	3 2 30		
		(b) Paying in kind	34,137	90,368	3 2 24			18,620	60,634	3 1 0		
		(c) Less than ½ produce.	12,648	57,819	4 2 14			18,416	99,216	6 1 21		
IV Holders of service grants cultivating the lands held (i. e., parties enjoying freeholds from proprietors being excused all revenue)—												
(1)	Sankalp or Dharmarth		264	260	3 1 15			5	25	5 0 0		
(2)	Conditional on service		211	328	1 2 9			9	70	7 3 4		
Total			1,12,389	4,33,053	3 8 15			81,144	2,72,419	4 2 22		

DIRECT FROM GOVERNMENT—continued.

13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Number of holdings.	Area of land held	Average area of holding	Average cash rent of each holding	Average rent per acre.	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre.	Number of holdings.	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre	Remarks	
GUJRAT					SHAHPUR.					TOTAL						
	A	R	P	Rs.	A	R	P	Rs.	A	R	P	Rs.	A	R	P	
150	250	1 2 36	1 7 4	0 13 6	680	3,488	5 0 0	7 8 0	1 8 0	2,098	13,160	6 1 4	3 10 1	0 9 3		
10 398	46,069	4 1 29	4 12 4	1 1 3	1,483	18,384	12 0 0	7 6 0	0 9 10	32,358	1,98,881	6 0 7	5 3 2	1 0 2		
										8,778	17,348	4 2 10	5 6 2	1 2 8		
										10,714	22,818	2 0 29	3 16 4	1 13 6		
10,548	46,828	4 1 23	4 11 9	1 8 0	2,163	21,872	10 0 0	7 2 0	0 11 4	54,948	2,51,702	4 2 13	4 15 4	1 1 3		
623	1,048	2 2 33			1,002	5,146	5 0 0			17,474	1,04,631	6 3 19				
450	1,969	3 9 7			1,128	5,668	5 0 0			8,634	62,939	7 1 0				
46	230	5 0 17								1,469	5,705	3 2 7				
80	405	5 0 10								689	5,209	7 2 8				
										1,653	23,269	14 2 30	0 13 2	0 0 11		
										420	8,139	19 1 21	1 7 4	0 1 2		
30	85	2 3 13								30	85	2 3 13				
1 230	3,937	3 0 32			2,190	10,813	5 0 0			30,419	2,07,890	6 2 13				
11,778	50,205	4 1 3			4,293	32,686	7 0 0			85,367	4,59,692	5 1 4				
1		11 0 0	6 0 0	0 8 8						1	11	11 0 0	6 0 0	0 8 8		
348	2,029	5 3 26	3 10 4	0 9 10						353	2,108	6 0 0	3 10 2	0 9 9		
132	397	3 0 1	2 7 4	0 13 1						528	38	3 1 24	15 9 7	4 9 5		
23,247	82,107	3 2 5	2 12 10	0 12 10	656	19,630	30 0 0	29 0 0	1 0 0	68,748	2,26,974	3 2 0	2 8 8	0 11 5		
914	1,903	2 0 13			11,426	1,20,916	11 0 0			65,136	2,73,821	4 0 33				
7,244	26,807	3 2 22			2,322	26,909	11 0 0			40,570	2,10,761	5 0 31				
7	17	2 1 29			11	37	3 0 0			307	1,043	3 1 16				
136	396	2 3 25								366	706	2 0 33				
43,602	1,64,024	3 3 0			16,756	2,00,377	10 0 0			2,56,091	11,75,873	4 2 16				

STATEMENT OF TENURES NOT HELD

1	2	3	4	5	6	7	8	9	10	11	12					
NATURE OF TENURE.		Number of holdings.	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre.	Number of holdings.	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre.					
		MOOLTAN					JHANG									
I.—Tenants with right of occupancy—				A	R	F	Rs.	A	P	Rs.	A	P				
Paying cash rents.	(1) Paying only the amount of the Government Revenue to the proprietors	190	1,711	9	0	11	2	2	1	4	11					
	(2) Paying such amount plus a cash Mālikāna	230	2,385	10	0	24	11	0	3	1	1	11				
	(3) Paying at stated cash rates per acre	17	784	46	0	19	27	10	3	0	9	8				
	(4) Paying lump sums (cash) for their holdings	30	59	2	0	0	7	11	5	3	13	3				
Total paying rent in cash		467	4,889	10	1	4	11	11	7	1	2	8				
Paying in kind.	(1) Paying by a stated share of the produce in kind.	A	(a) $\frac{1}{2}$ Produce and more.	289	4,944	17	0	17		240	30,215	126	0			
			(b) $\frac{1}{3}$ Produce and less than $\frac{1}{2}$ produce	1,495	25,220	16	2	3		173	12,539	75	0			
			(c) $\frac{1}{4}$ Produce and less than $\frac{1}{3}$ produce	338	5,248	15	2	4		500	8,527	7	0			
			(d) $\frac{1}{5}$ Produce and less than $\frac{1}{4}$ produce	716	7,025	9	3	4								
	(2) Paying by a stated share of the produce, plus a further cash contribution.	B	(a) When the share of produce paid is $\frac{1}{2}$ and more.	22	384	17	1	33	53	14	3	3	4			
			(b) When the share of produce paid is less than $\frac{1}{2}$	27	577	21	1	16	65	15	6	3	1	5		
(3) Paying a fixed amount of grain for their holdings with or without a further cash contribution.	C	4	65	12	3	12	47	15	3	3	11	9				
Total paying rent in kind		2,929	43,951	15	0	1			929	46,793	50	0				
Grand Total of tenants with right of occupancy		3,396	48,840	14	0	14			929	46,793	50	0				
II.—Tenants holding conditionally—																
(1) For life	(a) Written (b) Not written	5	65	12	2	16	59	9	7	3	2	3				
(2) For period on lease																
(3) Subject to village service and payment of rent																
III.—Tenants at-will—	(a) Paying in cash (b) Paying in kind	{	Produce and more Less than $\frac{1}{2}$ produce.	(a) Paying in cash	27	298	4	1	30	22	15	8	5	2	7	
				(b) Paying in kind	(a) $\frac{1}{2}$ produce and more	7,945	1,30,454	22	2	34	43	4	4	2	1	10
					(b) Less than $\frac{1}{2}$ produce.	8,042	1,91,528	22	0	20	35	9	0	1	9	8
IV Holders of service grants cultivating the lands held (i. e., parties enjoying freeholds from proprietors being assessed all revenue)—																
(1) Sankalap or Dharmarth	(2) Conditional on service	3	16	5	1	13	2	13	4	0	8	6				
(2) Conditional on service																
Total		20,068	4,21,190	21	0	0			27,405	6,57,860	24	0				

DIRECT FROM GOVERNMENT—continued

13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28									
Number of holdings	Area of land held	Average area of holding	Average cash rent of each holding	Average rent per acre.	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre	Number of holdings.	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre.	Remarks									
MONTGOMERY					MUZAFFARGARH					TOTAL														
		A. R. P	Rs. A. P	Rs. A. P			A. R. P	Rs. A. P	Rs. A. P			A. R. P	Rs. A. P	Rs. A. P										
56	448	8 0 0	6 10 11	0 13 4	No details available					246	2,158	2,158	8 3 4	10 9 8	1 8 4									
1,928	12,004	7 0 0	6 0 8	0 11 5												2,158	15,299	7 0 14	5 11 0	0 12 10	0 9 8	0 9 8	0 9 8	0 9 8
3	64	21 0 0	11 0 0	0 8 5																				
1,987	13,476	7 0 0	5 1 2	0 11 7	6,341	66,932	10 2 9	12 15 6	1 3 8	8,795	85,997	9 2 32	11 1 0	1 2 3	For the whole division including Muzaffargarh									
64	535	8 0 0			No details available					593	2,972	35,694	8 0 31											
1,305	8,049	6 0 0													1,329		12,004	9 8 8						
301	3,229	8 0 0																						
113	878	8 0 0													740		17,734	23 2 28	27 3 1	1 1 2	0 6 7	0 13 9	0 13 9	0 13 9
727	17,850	24 0 0	26 5 2	1 1 7																				
2,600	30,041	12 0 0			5,998	94,657	16 0 19			12,454	2,17,442	17 1 34			Notes and averages for three districts only									
4,587	43,517	9 0 0			12,537	1,63,589	13 1 2			21,249	3,02,736	14 1 1				For entire division, including Muzaffargarh.								
151	17,464	116 0 0	36 0 6	0 4 11	719	15,830	22 0 5	11 5 1	0 8 3	875	33,356	38 0 19	15 11 10	0 6 7	For entire division, including Muzaffargarh.									
10	148	16 0 0	12 14 6	0 13 9						10	148	16 0 0	12 14 6	0 13 9										
876	6,489	7 0 0	4 13 2	0 11 0						1,166	8,081	6 3 20	4 15 2	0 11 5	For entire division, including Muzaffargarh.									
2,130	16,116	8 0 0								34,749	7,14,790	20 2 11												
10,035	2,67,454	14 0 0								20,256	5,50,176	18 3 0												
6	37	6 0 0			11	27	1 23	8 2 11	3 5 4	17	64	3 3 9			For entire division, including Muzaffargarh.									
2	5	2 0 0								5	21	4 0 32												
24,707	8,51,170	13 0 7			18,067	1,79,455	13 2 37			87,327	16,09,374	18 1 39												

STATEMENT OF TENURES NOT HELD

1	2	3	4	5	6	7	8	9	10	11	12
NATURE OF TENURE		Number of holdings	Area of land held	Average area of holding	Average cash rent of each holding	Average rent per acre	Number of holdings	Area of land held	Average area of holding	Average cash rent of each holding	Average rent per acre
		DERA ISMAIL KHAN					DERA GHAZI KHAN				
I — Tenants with right of occupancy—											
Paying cash rent.	(1) Paying only the amount of the Government Revenue to the proprietors.	582	2 867	4 3 28	3 5 3	0 10 10	68	968	14 0 0	1 9 8	0 1 10
	(2) Paying cash amount, plus a cash Mālikāna ..	919	4 140	4 2 1	2 8 0	0 7 9					
	(3) Paying at stated cash rates per acre ..	1	1	1 0 0	0 8 0	0 8 0					
	(4) Paying lump sums (cash) for their holdings	8	9	1 2 0	4 10 0	3 1 4					
Total paying rent in cash		1 506	7,017	4 2 24	2 10 2	0 9 1	68	968	14 0 0	1 9 8	0 1 10
Paying in kind.	A. (1) Paying by a stated share of the produce in kind.	(a) $\frac{1}{2}$ Produce and more.	576	13,108	22 3 1						
		(b) $\frac{1}{2}$ Produce and less than $\frac{1}{2}$ produce	2,228	75,046	33 2 17		1,551	19,044	12 0 0		
		(c) $\frac{1}{3}$ Produce and less than $\frac{1}{3}$ produce	2,579	87,116	22 0 29		10,631	64 940	6 0 0		
		(d) $\frac{1}{4}$ Produce and less than $\frac{1}{4}$ produce	3,182	1,63,168	48 0 28		1,290	14,089	11 0 0		
	B. (2) Paying by a stated share of the produce plus a further cash contribution.	(a) When the share of produce paid is $\frac{1}{2}$ and more.	48	865	11 3 2	6 4 10	0 8 8				
	(b) When the share of produce paid is less than $\frac{1}{2}$	597	5,160	8 2 23	2 0 0	0 3 9					
C. (3) Paying a fixed amount of grain for their holdings with or without a further cash contribution.		1		3 3 0	0 1 0	0 5 4					
Total paying rent in kind		9 216	3,04,166	33 0 1			18,572	98,082	7 0 38		
Grand Total of tenants with right of occupancy		10 794	3 11,183	29 0 3			18,640	99,060	7 1 2		
II — Tenants holding conditionally —											
	(1) For life	1		12 12	0 0						
	(2) For period on lease	114		2 751	24 0 21		20	250	12 0 0		
	(3) Subject to village service and payment of rent	48		836	17 1 28		116	1,894	16 0 0		
		1		4	2 0 0						
III — Tenants at-will—											
	(a) Paying in cash	3 538	15 499	4 1 19	2 7 5	0 9 1	60	648	9 0 0	4 2 7	0 7 5
	(b) Paying in kind $\frac{1}{2}$ produce and more	2,794	73,509	26 1 13							
		7,162	70 794	9 3 20			15,618	1,89,611	12 0 0		
IV Holders of service grants cultivating the lands held (i.e. parties enjoying freeholds from proprietors being excused all revenue)—											
	(1) Sankalap or Dharmarth	35		2,300	62 3 17						
	(2) Conditional on service	4		62	15 2 0						
Total		24 421	4,76,900	19 2 5			29 354	2,91,363	10 0 0		

1		2	3					4					
NATURE OF TENURE		Division	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding.	Average rent per acre.	Number of holdings.	Area of land held	Average area of holding	Average cash rent of each holding	Average rent per acre.	
			PESHAWAR.					HAZARA					
					A. R. P.	Rs. A. P.	Rs. A. P.			A. R. P.	Rs. A. P.	Rs. A. P.	
Paying cash rents.	I.—Tenants with right of occupancy—												
	(1)	Paying only the amount of the Government Revenue to the proprietors	1,179	12,111	10 0 0	7 4 0	0 11 7						
	(2)	Paying such amount, plus a cash Mālikāna	3,460	23,691	8 0 0	11 7 0	1 0 0	903	4,961	8 0 0	5 0 0	1 8 0	
	(3)	Paying at stated cash rates per acre	104	5,430	8 0 0	5 7 0	0 8 2	1,377	2,264	2 0 0	3 0 0	4 8 0	
(4)	Paying lump sums (cash) for their holdings						14,290	1,36,871	10 0 0	5 0 0	0 8 0		
Total paying rent in cash			4,883	40,232	10 0 0	10 3 0	1 0 4	16,370	1,44,198	9 0 0	6 0 0	0 10 8	
Paying in kind.	(1) Paying by a stated share of the produce in kind.	A.	(a) $\frac{1}{2}$ Produce and more	711	4,245	8 0 0			2,640	7,308	3 0 0		
			(b) $\frac{1}{3}$ Produce and less than $\frac{1}{2}$ produce.	654	14,165	22 0 0			6,235	50,104	8 0 0		
			(c) $\frac{1}{4}$ Produce and less than $\frac{1}{3}$ produce	484	2,170	4 0 0			532	3,457	7 0 0		
			(d) $\frac{1}{5}$ Produce and less than $\frac{1}{4}$ produce	235	1,281	5 0 0			28	302	13 0 0		
			(e) When the share of produce paid is $\frac{1}{2}$ and more.							489	7,013	14 0 0	3 0 0	0 3 5
(2) Paying by a stated share of the produce, plus a further cash contribution.	B.	(f) When the share of produce paid is less than $\frac{1}{2}$	69	5,048	73 0 0	3 12 0	0 0 10	137	3,508	18 0 0	3 0 0	0 2 8	
(3) Paying a fixed amount of grain for their holdings with or without a further cash contribution.	C.							186	318	3 0 0	5 0 0	2 10 5	
Total paying rent in kind			2,153	26,836	19 0 0			10,298	71,205	7 0 0			
Grand Total of tenants with right of occupancy			6,986	78,118	11 0 0			26,668	3,15,403	8 0 0			
II.—Tenants holding conditionally—													
(1)	For life												
(2)	For period on lease	(a) Written	8	123	15 0 0	3 2 0	0 3 4	13	48	4 0 0	8 0 0	2 0 0	
(3)	Subject to village service and payment of rent	(b) Not written	6	110	14 0 0	3 6 0	0 3 10	9	68	8 0 0	4 0 0	0 8 0	
			6	78	18 0 0	2 7 0	0 3 3						
III.—Tenants at-will—		(a) Paying in cash	7,259	70,176	10 0 0	5 5 0	0 8 6	8,198	63,275	7 0 0	4 0 0	0 10 1	
		(b) Paying in kind	14,028	66,895	5 0 0			1,637	5,437	3 0 0			
			11,057	1,20,688	11 0 0			6,264	80,884	6 0 0			
IV Holders of service grants cultivating the lands held (i. e. parties enjoying freeholds from proprietors being excused all revenue)—													
(1)	Sankalap or Dharmarth		392	455	1 0 0			191	202	3 0 0			
(2)	Conditional on service		813	2,614	3 0 0			798	4,179	6 0 0			
Total			40,592	3,34,156	8 0 0			48,927	3,16,444	7 0 0			

13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Number of holdings.	Area of land held	Average area of holding	Average cash rent of each holding	Average rent per acre	Number of holdings	Area of land held	Average area of holding	Average cash rent of each holding	Average rent per acre	Number of holdings	Area of land held.	Average area of holding	Average cash rent of each holding	Average rent per acre	Remarks
KOHAW					TOTAL					GRAND TOTAL.					
		A. R. P.	Ra. A. P.	Ra. A. P.			A. R. P.	Ra. A. P.	Ra. A. P.			A. R. P.	Ra. A. P.	Ra. A. P.	
706	4,547	6 1 80	2 8 2	0 6 3	1,856	16,656	8 3 14	5 7 7	0 9 10	86,001	4,47,701	6 0 14	5 4 3	1 0 7	The figures in columns 2 to 27 are for 31 districts only & excluding Musasgarh for which no details have been given. For entire province including Musasgarh. The figures in cols. 23-27 are for 31 districts only & excluding Musasgarh for which no details have been given. For entire province, including Musasgarh.
9	13	6 3 0	18 13 0	2 14 2	4,295	33,665	7 3 23	10 15 9	1 6 3	1,38,231	9,16,973	5 0 13	5 15 1	1 3 3	
102	90	0 3 21	2 11 24	0 0 0	1,379	2,354	1 9 33	9 14 5	5 12 10	38,149	4,11,206	10 3 5	6 3 4	0 7 9	
301	2,042	6 3 5	6 0 2	0 14 2	14,785	1,44,443	9 3 3	5 0 5	0 8 3	49,077	3,14,299	6 1 26	6 8 2	1 0 3	
1,111	6,692	6 0 5	5 3 3	0 13 10	22,314	1,97,120	8 3 13	6 8 1	0 11 9	8,69,849	21,57,111	5 3 13	5 13 10	1 0 2	
409	3,423	8 1 19			3,762	14,976	3 3 37			41,243	2,03,966	4 8 31			
28	165	5 3 23			6,971	64,434	9 0 39			47,588	3,97,566	8 1 17			
407	2,875	7 0 10			1,423	8,508	5 3 37			25,408	2,21,825	8 2 37			
208	1,665	8 0 0			466	3,216	6 3 25			9,286	2,04,554	22 0 5			
51	180	8 2 5	4 10 4	1 4 13	540	7,193	13 1 11	3 2 6	0 3 10	8,836	64,679	7 1 11	6 3 5	0 13 7	
					206	7,557	36 2 29	3 4 0	0 1 6	8,033	32,232	10 2 23	4 6 9	0 6 8	
					186	513	3 0 0	5 0 0	1 10 8	826	3,984	4 3 12	13 3 10	3 9 9	
1,103	8,308	7 2 4			13,554	1,06,399	7 3 16			1,42,221	12,25,457	8 1 4			
2,214	15,000	6 3 4			35,868	3,03,519	8 1 34			5,12,070	33,42,598	6 3 17			
					21	171	8 0 23	6 2 3	0 12 1	537	2,858	5 1 4	6 1 10	1 2 7	
					8	110	14 0 0	3 6 0	0 3 10	14,289	1,05,934	7 1 25	9 7 10	1 4 6	
					15	146	0 2 37	3 7 2	0 6 8	10,141	33,795	3 1 13	7 9 8	2 4 0	
										3,450	15,757	4 2 11	6 13 5	1 7 9	
1,047	5,551	5 1 9	4 8 2	0 13 7	16,432	1,29,001	7 3 16	4 9 10	0 11 3	5,70,352	27,88,089	4 3 22	5 4 10	1 1 4	
2,566	12,003	4 3 6			18,236	84,340	4 2 19			2,96,273	1,45,436	5 3 26			
2,957	11,230	3 3 8			20,278	1,68,858	8 1 20			2,30,965	10,54,798	8 1 34			
900	4,586	5 0 15			1,363	5,243	3 3 15			22,332	50,107	2 0 30			
154	361	2 1 15			1,076	7,154	4 1 3			18,077	29,483	1 2 21			
9,778	48,736	4 3 37			98,897	6,98,336	70 1 30			16,77,466	101,08745	6 0 4			

CHAPTER I, QUESTION II.

11 *Are the holders of the above tenures in the habit of carrying out material improvements, such as digging wells, or channels necessary in order to use the water in a canal? Are their actions in this respect affected most by the security or insecurity of their tenure, or by their wealth or poverty? Or are there any other reasons which hinder such investments of their labour and capital? What have been the effects of recent Land Improvement Acts? Have they tended to enlarge or narrow the making of advances by Government? Does the condition of the country render it desirable that the operation of these Acts should be facilitated, or their scope enlarged, and are there any apparent difficulties in the way of doing this that could be removed? Is the demand for interest on Government advances obstructive or prohibitory?* Cr. I.

REPLY—By MR. GORE OUSELEY, *Financial Commissioner.*

The owners of land, and in some places occupancy tenants, do carry out the material improvements enumerated in the question. Their actions in this respect are affected chiefly by their pecuniary means and by the degree in which they possess provident habits. Many wealthy landowners squander their means without bestowing a thought on improving their estates. The effect of the Land Improvement Acts has tended to enlarge the making of advances by Government. The provisions of the Acts afford I think all due facilities, compatible with the safety of the advances made, for their being easily obtained. During the present year special advances to the amount of Rs. 1,80,000 have been made in seven Districts only. The rate of interest is, I think, sufficiently moderate.

REPLY—By COL. W. G. DAVIES, C. S. I. *Commissioner of Delhi.*

First as regards proprietary tenures.—There can be no doubt whatever that village communities and individual proprietors are in the habit of making material improvements. This is well known to all who have had any revenue experience in this part of India. To obtain particular information as to what had been done in this way in Karnál and Gurgaon I addressed the Deputy Commissioners of those Districts. Mr. Ibbetson, regarding Karnál, writes as follows—

“During the 35 years since last settlement about 300 masonry wells have been built by them (the proprietors), moreover, almost the whole system of canal distributions, which up to within the last 3 years irrigated more than 1,00,000 acres, has been created by the people with such small assistance as the remains of old water channels afforded them.”

Mr. Roberts writes with regard to Gurgaon, that the settlement operations have lately retarded the investment of money by the proprietary classes in improvements, but that since the announcement of the jamas, applications for Takávi have commenced pouring in so that between June 1877 (when the new jamas were given out) and 1st April 1878, applications to the amount of 17,325 rupees had been received, of which 14,000 rupees was paid and the rest would be provided for out of the current year's allotment.

There can be no doubt I think that security of tenure has most to do with the investment of capital in improvements in the case of tenants, for tenants-at-will never I believe incur expense in sinking wells or other irrigation works, and tenants with rights of occupancy only to a very limited extent, though the law (sections 37 and 38 of the Punjab Tenancy Act) seems to recognize a right on their part to improve the land in their occupation. In the case of proprietors, their tenure being absolutely secure, their wealth or poverty has more to do with the decision of the question of whether they shall lay out money in improving the land, than the nature of their tenure.

It is difficult to say what have been the effects of the Land Improvement Act. Before a sound opinion on this point could be given a special enquiry would have to be made, including a collation of the statistics of the number and amount of the advances made under the old and new rules. My impression is that at first, notwithstanding the more liberal terms as to the repayment of advances under the Land Improvement Act, the

CH I number of applications for advances made after its promulgation fell off very considerably. This however was not due, in my opinion, to the demand for interest so much as to the cumbrous and rigid nature of the rules issued under it, which require so many forms to be gone through before the advance can be made, and compel repayment with such stern exactness. If we wish to encourage the taking of advances we must simplify the rules and render them more elastic by giving power to the local authorities to relax them where necessary.

It is unnecessary here to enter into any detailed explanation of how this should be done.

REPLY—By MR. J B LYALL, *Settlement Commissioner*

I have the honor to reply to Question 11 and 12 of 1st Chapter of the Famine Commission's inquiries. I propose to write of the Mooltan and Derajat Divisions, in which I have been serving as Commissioner of Settlements for the last six years, during which time Settlements have been in progress in all 7 Districts of those Divisions.

2 In the whole of this country (excepting parts of Bannu) the rain-fall is too small to admit of land being periodically cultivated with rain-water only, for all regular farming some other means of irrigation are necessary.

In the Trans-Indus country the torrents which flow after storms in the Súlman mountains flood the daman or high sloping plain along the edge of the hills, the low lands in the khadirs of the Indus, Sutlej, Jhelum, Chenab and Ravi are moistened by the sailáb or floods from those rivers which occur between May and September.

These same floods fill the Inundation Canals which in Dera Gházi Khan, Muzaffargarh, Mooltan and part of Montgomery irrigate certain tracts which are out of the reach of the river floods, or which are artificially protected from such floods by embankments.

Wells are much used to supplement the sailáb in khadir lands, they are also almost always used to assist in the cultivation of land on Inundation Canals. Without wells such land could only grow one kharif crop, and even that might fail if the canal ran dry for a time.

In the Bár or Thal upland tracts, which occupy the centres of the Doábs between the great rivers, and which are out of the reach of floods or canals, wells are the only means of regular cultivation. But the profits of such cultivation by well alone are always small, and when two or more years of unusually small rain-fall succeed each other, many such wells are thrown out of cultivation, ordinarily till better times come, but sometimes permanently. In some parts of these upland tracts the water is too far below the surface or too salt to be profitably used for irrigation.

3. The landowners in the country I am writing about are of course in the habit, so far as their means allow, of digging wells and canal water-courses. All the canals have, I should say, as many water-courses as they can properly supply, if they have not more. Wells are, as I have said, agricultural necessities in the upland and canal irrigated tracts, in sailába or riverside lands they are not so very necessary, and the serious risk of their destruction by floods or diluvion checks their construction. Except in these riverside lands cultivation has followed the construction of the well or canal, not preceded it.

There is no law that I know of which checks the landowner's readiness to improve his land by digging wells, water-courses, &c. The expectation of having to pay increased revenue does check the making of such improvements to a considerable extent, when the term of a settlement is near its close. I have observed a decided suspension of such works during and immediately before settlement operations, and a sudden outburst of them when the new settlement was concluded. The fact that a new settlement is impending has a greater effect on such works than it ought to have, seeing that it is a rule of our revenue system that protective pattahs for *terahs* of 20 years are granted by Government to constructors of new wells, and for 10 years to repairers of old wells and diggers of water-courses. As this rule becomes more thoroughly known, and as the confidence of the people in our really acting up to it increases, the effect of an impending settlement will greatly diminish.

4 Tenants are not in the habit of digging wells or canal water-courses, by the custom and feeling of the country it is the business of the landowner to sink a well or dig a new water-course, and he also has to keep the well in repair, and in some places he does the annual clearance of the water-course. As I said above, the making of the well or water-course precedes the cultivation of the land, and therefore the occupancy of the tenant, except in the case of *sailába* lands, and a tenant of *sailába* land does not ordinarily hold enough land in one block to induce him to sink a well in it, and like the proprietors, he is deterred by fear of diluvion.

Waste lands are often brought into cultivation by agreement between the landowner and other persons, whereby the latter bear the expense of sinking the well or digging the water-course, and in return become owners of a half or smaller share in the land so cultivated. These contracts are locally known as *adhlapí* or *taraddad-káři* agreements, they were formerly more common than at present, as the proprietary right has become more valuable, and the land owners are less and less willing to let it go out of their own hands.

It was also very common in former days for landowners to take a lump sum of cash called *jhuri* or *sirópá* as a fine on institution, and in return for allowing a non-proprietor to sink a well, and to hold the land attached as a sub-proprietor, subject to payment to the original landowner of nothing more than a small fixed quit-rent or proprietary fee. This is sometimes done even now, but the fine, which used to be light, is now heavy, in fact not much below the full market price of the land granted.

There is nothing in the law to prevent tenants from sinking wells or digging water-courses for the improvement of land in their occupancy, the Tenant Act allows them to make such improvements, and the Canal Act has clauses which facilitate the making of water-courses. But of course a tenant-at-will can practically do nothing without his landlord's consent, as the latter can stop his proceedings by serving notice of eviction, and in spite of provisions of the law the majority of occupancy tenants cannot afford to disregard their landlord's wishes.

But in this part of the country most landowners would be delighted to see their tenants make wells or dig water-courses in land not already provided therewith, if the tenants had the energy and capital to do it, and did not demand proprietary right or too great privileges in return. I do not think anything more can be properly done than has been done to facilitate the making of such improvements by tenants.

5 Where the State is, the landowner, as it often is of the waste lands in this part of the Punjab, I think that the present rules for the sale or lease of waste lands are ill-adapted to the country, if it is advisable to encourage the extension of cultivation and the digging of wells and canal water-courses in such lands. I have expressed my views on this subject in my review of the Montgomery Settlement Report, and in a letter forwarding to the Financial Commissioner Mr Broadway's application for the lease of waste land in Jhang.

6 I have had nothing to do with the working of recent Land Improvement Acts, as I have been engaged in settlement work since 1864. In conversations which I have had from time to time with natives, I have heard that few advances are taken. The mass of the people are frightened by the prescribed formalities, and at the prospect of having to dance attendance at Public Offices, they also dread entering into agreements with so powerful a party as the Government. Under these circumstances the only men likely to apply for loans to Government instead of to the *Sáhúkára*, are first a few influential and intelligent men who feel that they need not be afraid of Government or its officials, and secondly unsafe men who cannot get credit elsewhere.

The difference between the rates of interest demanded by the Government and the *Sáhúkára* will not tempt the mass of the people in the face of the other strong reasons which they have for preferring to deal with the *Sáhúkára*. I think it would have a good effect in encouraging advances and in other ways if Government asked for no interest except upon arrears of instalments.

QUESTION 12, CHAPTER I.

12. *How far is the landowner's or the cultivator's readiness to improve the land checked CH I by any operation of the law? Is the digging of wells checked in any such way? How far does the expectation of having to pay increased revenue or rent in consequence of any improvement check the execution of improvements?*

REPLY—BY MR. GOEN OUSELEY, *Financial Commissioner*

I am not aware of any thing in the state of the Law which unduly checks an owner's or occupancy tenant's readiness to effect material improvements on his land. The digging of wells is certainly not checked by any existing Law. As to how far the expectation of having to pay increased revenue or rent in consequence of effecting improvements may check the execution of those improvements, this depends on a variety of circumstances, such as the original cost, the length of time the settlement or lease has to run, the probable annual profit, the disposition of the individual owner or tenant, his age, circumstances, &c. &c.

REPLY—BY COLONEL W G DAVIES, C S I, *Commissioner of Delhi*

I am not aware that there is any provision of the law which checks improvements. The Punjab Tenancy Act sufficiently protects the rights respectively of the landlord and of the tenant. But *ignorance* of the provisions of the law in the case of the latter undoubtedly has the effect of checking improvements, for tenants with rights of occupancy are not as a rule aware that they have any right to make permanent improvements, and the prevailing idea is that a person of this class who sinks a well thereby acquires a proprietary right in the land in his occupancy or in so much of it as is irrigable by the well, and proprietors therefore will not permit their tenants to make such improvements. The best way to remove this ignorance would be to embody the provision of the law on the subject in the administration paper of villages, but unfortunately we are forbidden to enter in these papers any matter expressly provided for by law.

In the case of proprietors there can be no doubt that the fear of having to pay an enhanced assessment (notwithstanding the promulgation of the rules relating to pattas) operates in checking improvements toward the close of the period for which a settlement has been made. But this cannot be said to have any permanent effect in restraining the investment of capital in improvements. The case of tenants is different, besides ignorance of their rights, there is always before them the knowledge that they may have to pay a higher rent if they sink a well or otherwise increase the productive capacity of their land, and this knowledge must have the effect of *permanently* checking any disposition on their part to lay out money in improvements.

REPLY—BY MR. J B LYALL, *Settlement Commissioner*

For this Officer's answer to this question, see his reply to question 11 of this chapter, the answer to the 2 questions are there given by him together

QUESTION 13, CHAPTER I

What is the general incidence of Land Revenue on the cultivated area, both for the whole land as a whole, and for the different classes of such land (irrigated, dry, &c.)? What proportion does such revenue bear to the value of the gross produce? CH I

The complete preparation of an answer to this part of the question having involved some delay, it was not convenient to print it in this place, and the reply will consequently be found at the end of the whole volume

Is the incidence on the various classes of land fairly distributed, or would you propose any readjustment of it?

The incidence of the revenue on the various classes of land is fairly distributed. The land revenue system of the Province provides material securities for this. The settlement of each district being made for 20 or 30 years, as described in reply to the next clause of this question, at the expiration of that term the District comes under re-settlement. The Settlement Officer is required to report in detail the new assessment which he proposes to impose. A separate report is required for each Tahsil. To this end he estimates the value of the gross produce, and the share thereof to which Government is customarily entitled in each tract composing the Tahsil under report, he then explains the proportion of this which each soil ought to contribute, stating the result in the form of average rates on each main class of soils. In doing this he is expected to show that he has observed a just mean between an over minute and arbitrary classification of soil on the one hand, and on the other a classification so broad as not to neglect substantial diversities of fertility, natural or artificial, locally recognised by the owners in their dealings with each other, or with their tenants. It is necessary to pay attention to this subject, because the assessment of each Tahsil being first estimated in the lump, the power of distributing it justly over each village depends on a just appraisal of the relative value of the principal soils. The proportion of different soils held by each village is never the same. The Settlement Officer's preliminary report having been approved by the Financial Commissioner, the next step is to divide the gross assessment sanctioned for the Tahsil, or for each principal tract contained therein, over the villages of which it is made up. This is done by applying to the areas of each village the average rates which the Financial Commissioner has sanctioned. The Settlement Officer, however, is not required to apply the rates blindly but to consider how far the circumstances of each village agree with the average condition of the tract. If the soils of any one soil of a village is better or worse than the average of the tract, or if there are any other circumstances affecting the prosperity or productiveness of the village and its rent paying power, he is required to adjust the assessment correspondingly thereto. Having thus assessed each village, he again reports the result. This report is in the form of a tabular statement, in this statement each village is entered separately, and in cases in which the assessment proposed for a village differs from that indicated by the general rates before sanctioned, the Settlement Officer is required to record his reasons for the divergence. These proposals being sanctioned, each village is informed of the total sum assessed on it. At this point a new check comes into play for insuring the fair distribution of the revenue. The Settlement Officer cannot dictate to a village the manner in which it should divide the assessment over the holdings of which it is composed, nor impose on the owners his own average rates as their guide in the division of the assessment among themselves, he can, and does, no doubt, influence them materially, but this influence could not be successfully extended to the forcing on them of arbitrary or unfair relative assessment of soils. The form of the assessment will, in some cases, decide the question partially, and this occurs usually in the assessment of canal irrigated villages, where so much of the assessment as is due to irrigation profits is levied by fixed rates on the various descriptions of crops cultivated each year, the amount assessed in each year thus depending partly on the extent of irrigation, and the manner in which it is applied. Omitting this and a few other similar instances, the manner in which the gross assessment of a village shall be divided over the holdings, is decided by the village owners themselves. In the great majority of cases, especially where the gross assessment has been fairly made, the village owners succeed

CH I in doing this amicably. They are practical agriculturists, they have been paying similar assessments for years past, and if in Sikh rule they paid the revenue by a share of the produce, that share usually varied according to the value of the main soils. Moreover, if a Settlement Officer commands the confidence of the people among whom he is employed, the owners of most villages as a matter of fact will not attempt to overreach each other in matters of this sort. Of course in a certain number of cases disputes do arise, though they are rarely very complicated or difficult. When a complaint is filed before the Settlement Officer (the jurisdiction of the Civil Courts in such matters is barred), it is heard as a Revenue case, and there is an appeal from the decision to the controlling revenue authorities. The complaint may be, that the method of distributing the Revenue, which the other side desire to enforce, is opposed to the tenure on which the village is held, as where a village is owned on shares, and it is attempted to distribute the revenue on a different principle, or on different shares than the shares of ownership,—or where the village is not owned on shares, the petitioner may complain that the relative value of the soils has been unfairly appraised, or that his own fields have been wrongly classed. The principal basis of decision in these cases is the past practice of the village concerned, and the common practice of adjacent villages similarly situated. No doubt such practice is not an infallible guide, and no doubt also there is a steady action in our Settlement whereby inequalities previously existing are corrected under the influence of the views held by the Settlement authorities. But we have never attempted to introduce any arbitrary soil classification of our own, and have mainly confined our action to assisting the people to settle such questions voluntarily among themselves, and when they have failed to do so, we have decided such disputes as far as possible on the lines already laid down by the agricultural practice of the neighbourhood.

In short, while it is believed on the one hand that the incidence of the revenue on the various classes of soils is fairly distributed, being based on distinctions locally recognised, and on the voluntary action of the land owners in dividing the gross assessment of each village over their holdings, on the other hand no attempt has been made to make the existing distribution permanent. As the revenue leases of each District expire, and a new Settlement is made, the existing system of assessment compels the revenue authorities to reconsider the matter thoroughly, and independently of this action the land owners have it in their own power on such occasions, either to maintain the former distribution, or to remedy any inequalities which they may consider to exist—a power with which the revenue authorities will not interfere, except, upon proof by dissentients that the former system on the proposed innovations are inequitable.

When was the assessment fixed ?

The whole of the Delhi Division with one exception has been under re-settlement since 1872, when the assessments (made 30 years before) expired. The exception is a portion of the Karnal District of which the existing leases will expire in 1880, having been made 30 years previously.

In the Hissar Division, the Rohtak District has been under re-settlement since 1873, its previous 30 year lease having then expired. The Hissar District was settled on a 20 year lease in 1863, and the Sirsa District at various dates about 20 years ago, which expired in 1876. The Sirsa District is about to be placed under re-settlement.

In the Umballa Division the existing assessments were nearly all made about 30 years ago. The Ludhiana district has been placed under re-settlement, and the Umballa district will shortly be so treated, the leases in both districts having expired or being on the eve of expiring.

The Jullundur Division is in the same position as the Umballa Division.

The Amritsar and Lahore Divisions, except the Ferozepore District, were settled from 10 to 13 years ago on 20 year leases, which will expire between 1885 and 1888. The greater part of the Ferozepore District was settled on a 30 year lease 24 years ago, the assessment will expire in 1884, and that of the rest of the District, settled later, in 1892.

In the Rawalpindi Division, the District of that name and the Shahpur District were settled 20 years ago, and the Gupat District 10 years ago. The leases of these 3 districts run for 20 years from completion of the assessment, expiring respectively in 1880, 1881, and 1888. The Jhelum District's leases expired in 1874, and the District has since been under re-assessment.

In the Mooltan Division, the Montgomery District was settled on a 20 year lease Ch I.
about 1870-73. The rest of the Division has been under re-settlement for the last 5 years

In the Derajat Division, the District of Dera Gházi Khan was assessed on a 20 year lease in 1873. The rest of the Division also has lately been re-assessed, the operations being just completed.

In the Pesháwar Division the Kohat District is under settlement, the Pesháwar District has a 20 year lease, and the Hazára District a 30 year lease dating from 1874 *

It is necessary to explain the principle on which the dates and duration of each district lease is fixed. It is the fixed policy of Government to give usually leases of 30 years duration, but for sufficient reason, the term is restricted to 20 years or even a shorter period. Such reason may be, that the assessment is apparently inadequate, and that important changes, such as the extension of canal irrigation, are impending.

In the next place, it has lately been decided to restrict the number of Districts under Settlement at the one and the same time. It has been found by experience very embarrassing to subject a large number of Districts to Settlement operations simultaneously, the revenue establishments in all grades become abnormally enlarged, the difficulty of supervising extensive assessment operations is very great, and if important issues are raised, they are presented in a form affecting such large areas, that their decision involves great responsibility and very wide spread results. Moreover, after a few years of these extensive operations no more Districts remain to be re settled, and the Government is consequently compelled to disband valuable Establishments, and to absorb the Covenanted Settlement Officers in the regular line of administration. Subsequently, a few years later, when the leases of other Districts have fallen in, these Establishments have to be formed anew with great difficulty, and much of the experience before gained has been lost by the hiatus which has occurred in the operations. Under the system lately adopted, by only undertaking the re-settlement of a small number of Districts at a time, these evils are avoided. The re-settlement of a District ordinarily takes from 4 to 5 years, it follows that 6 Districts can be settled in 30 years, and therefore that with 5 Settlement Establishments working in the

† The number of districts is 32, of which one, Simla is very small. Punjab, † all the leases would have been revised in the same period, and the leases of those first settled would have by that time expired, so that the 5 Settlement Establishments will have continuous employment. The number of Settlement Establishments is at present in excess of five, but will shortly be reduced to that number. The application of a system of this sort no doubt needs some care, to prevent loss of revenue to Government during its introduction, but it has been ascertained that there are no insuperable, or even very serious, difficulties of this nature, and the system admits of some elasticity of application, as it would be comparatively easy to increase 5 Settlement Establishments on occasion to 6, or to reduce them temporarily to 4. But perhaps the value of the system to the people of the province is even greater than its value to Government. For it ensures that the establishments employed on settlement work shall be carefully trained, and possess steadily accumulating experience, and also that the controlling authorities shall have leisure to consider fully the important issues raised in the course of their operations.

Has there been any practical difficulty in realising the land revenue as now assessed? At what dates are the instalments of revenue payable, and what relation do these bear to the ordinary periods of harvest, or of realisation of rents, as the case may be? Do the several instalments bear a fair proportion to the value of the several harvests, from which the revenue or rent has to be made good?

The land revenue has been realised with ease in the whole Province for years past. In the few years immediately following annexation (A. D. 1849), our assessments were necessarily based on the heavier collections of Sikh rule, we had little knowledge of the country at our command, the prices of grain were much depressed, and the peaceful influences of our rule had scarcely begun to tell on the community at large. Under such circumstances

* In the foregoing remarks I have abbreviated details as much as possible, the object I presume being rather to give a summary of the subject than unimportant details concerning each District. The dates are taken from statement 23 appended to the annual Revenue Report for 1876-77, the last issued.

Ch I it was not to be expected, that the land revenue would always be realised with ease. But from the first the use of the severer measures of coercion known to the Land Revenue Law of India was discontinued. Attempts to sell, transfer or farm the lands of defaulters were avoided wherever possible, in fact almost entirely. This action was partly based on a sense of the great difficulties involved in the consolidation of our rule in those earliest days of the Punjab Administration, and partly prompted by the personal experience of the principal Civil Officers first entrusted with its Government, Officers who had seen with their own eyes in our older Provinces the evil wrought by the use of severe measures to realise a revenue evidently paid with difficulty. We knew that, if we would secure the prosperity and contentment of the country, we could not expect to realise a revenue pitched at the same heavy incidence as that levied by the Sikh rulers. We also knew that the mere striking off a per-centage of what our predecessors had levied was in all cases a very rough measure of relief, and in not a few cases probably an insufficient one. Any attempt to realise balances with severity was consequently avoided from the first. New Settlements of a complete or summary character were rapidly pushed on, and the growth of the cultivated area gave whatever additional relief was required. It followed that ten years after the Punjab was annexed the difficulties of over assessment which the Sikh Government had bequeathed to us had disappeared, higher prices set in, and from that time to the present the cases of difficulty in realising the assessment have been few and exceptional.* Further information on the subject is given in the reply to Question 14.

As regards the instalments in which the land revenue demand is paid, over the greater part of the province, they are 4 in number, payable at the following dates —

RABI	-	{	1st Instalment	15th June
			2nd Instalment	15th July
KHARIF	-	{	1st Instalment	1st December
			2nd Instalment	1st February

There are local differences of practice, which have been allowed to suit specialities of season and crop, but no object would be served by detailing minor differences of this nature. The principle on which the above instalments were fixed, and variations from them are allowed, is that the agriculturists should be allowed full time for harvesting their crops, and land-owners for collecting their rents, before they are required to pay the revenue demand. If the reply to Question 5 be referred to, it will be seen that the harvesting of the Rabi crop is completed by May and that of the Kharif by November (except sugar-cane which is later), so that the above dates for paying the revenue amply meet the principle on which they were fixed. There is indeed in the Financial Commissioner's opinion reason to fear, that the liberality of Government in thus delaying its demand has in some cases been carried too far. The Patwari (Revenue Accountant) of each village is bound to have ready a month before the revenue of each harvest falls due a statement showing the demand payable by each owner.

As regards the proportion that each instalment bears to the value of the harvest for which it is paid, there is no reason to suppose that it is otherwise than fair. These proportions were originally established at a time when much of the revenue was levied in kind, or if levied in cash was assessed at each harvest by appraisement of the standing crop, and they were presumably based on the accounts of what was actually levied under such systems. The agriculturists moreover do not view with favour innovations in matters of this kind, until a substantial necessity arises for them, or unless the changes to be introduced carry with them some obvious advantage.

Both this subject and also that of the dates and number of instalments are open to readjustment at each settlement of a District, and any changes which are desired, or for which a substantial reason can be shown, are then sanctioned by the Local Government. Several proposals of this nature have been sanctioned in the late settlement of the Mooltan, Derajat, and Peshawar Divisions.

* The total number of warrants issued for revenue overdue in the year 1876-77 was 47,860, and only in 142 cases was it necessary to enforce them by personal imprisonment, and in 173 cases by distrainment of chattels.

(5)

The following table shows the proportion of the Land Revenue of each Division paid CH I at each harvest, and roughly the manner in which that compares with the produce of each harvest —

Division	Percentage of the annual area on its annual demand, voted with crops, paid.		Of the average what percentage is cultivated with		REMARKS.
	At the Rabi harvest	At the Kharif harvest.	Rabi crops	Kharif crops	
Delhi	51	49	40	69	The last 3 columns only show the area of the crops of each harvest. It would not be possible to show the value without entering into a complicated calculation.
Rissar	35	55	21	79	
Umballa	47	53	55	40	
Jullundur	43	57	55	45	
Amritsar	50	50	61	39	
Lahore	55	45	58	42	
Kawalpindi	54	43	59	41	
Mooltan	57	43	69	31	
Derajat	58	42	59	41	
Peshawar	41	49	63	37	
Total	49	51	51	49	

It should be added that so much of the land revenue as may be assumed to be contributed by grazing and milch produce, is by the old customs of the country a kharif demand. It is only in autumn that the grasses of the hills and waste plains attain any nutritious growth, and the dues levied by owners on cattle grazing are very generally known by the name of *sawani*, or the dues of sawani (15th July to 15th August), the month when the grass grows. The richer crops, sugar-cane, rice, cotton, indigo &c, also belong to the kharif season.

What rate of interest, if any, is charged on land revenue in arrears?

None

CHAPTER I, QUESTION 13

What is the general incidence of land Revenue on the cultivated area, both for the arable land as a whole, and for the different classes of such land (irrigated, dry, &c.)? What proportion does such Revenue bear to the gross produce? CH I

REPLY

In a country such as the Panjab, the major portion of which passed from Native to British rule only 30 years ago, the incidence of the Land Revenue can be stated from three different points of view,—its present incidence as compared with the Revenue levied before British rule, the actual Cash rates per acre now levied, and the share of the produce which they may be assumed to absorb. Of these three methods of viewing the subject, the first is probably the one entitled to most weight, it is certainly the point of view from which the subject must most commonly be regarded by the agriculturists themselves, and it will readily be admitted that the relation of the State's present demand from the land to the standard sanctioned by the immemorial usage of the country up to British annexation is of at least equal importance to that of its actual present incidence viewed by itself.

On the question of the incidence of the Land Revenue under the Native Governments, the best testimony is that of those officers who controlled the Sikh Government from 1846 to 1848, during the 3 last years of its existence. Similarly we can refer to the testimony of those officers, to whose lot it fell in the first years of our administration in the Panjab to reduce the standard of the Sikh Government to such a demand, as they judged necessary for the prosperity of the agricultural classes.

Of such testimony selections are appended to this reply. It is impossible to read these selections and to doubt the substantial accuracy of the following statement, which I quote from the Panjab Administration Report for 1875-76 —

"The Sikh system of assessment was that the State as proprietor-in-chief took all that it could get, and it did take often as much as one-half the gross produce of an Estate, besides a multitude of cesses under the names of *rasūn*, *narsānā*, &c, and exorbitant fines on succession."

Looking at the evidence before us, it is safe to assert that the Sikh Land Revenue collections were usually not less than from two-fifths to one-third of the gross produce, independently of the irregular cesses just referred to.

The usual method by which the Land Revenue was brought into the State's coffers was by lease of large tracts to local Governors, or small tracts and villages to local headmen or petty farmers. These men were virtually renters, not collectors. The principle they followed was to collect as much and pay as little as possible. In a bad year they would collect not less than the amount of their lease, and in a good year much more. Thus, though much less than the value of what the agriculturists paid reached the Government's chest, the local managers and farmers took the full value of that share, and a practically unlimited number of additional exactions. I need not here repeat the details contained in the papers appended. But as we read the accounts of such a system written by those who were eye witnesses of it, we can scarcely understand how the people tolerated it.

The object of our Summary Settlement was, 1st, to fix the amount of the State's demand, 2ndly, to define the quota thereof payable by each contributor, and 3rdly, to give a small immediate relief in its amount—a relief which was required by the severity of the previous collections and by the depressed state of the country consequent on *misrule*.

The object of the first Regular Settlements was of a similar character. But made as they were some 5 or 6 years after the previous ones, our officers possessed a better experience of the amount of Revenue that could be demanded consistently with the prospects of each tract. Reductions of 20 and 30 per cent on the last Sikh collections, and even on our Summary Settlement, were commonly found to be necessary, a state of

CH I affairs which it is now a-days difficult to conceive. It is true that the instructions under which our Revenue Officers worked impressed on them the necessity of moderate assessments, and that the accepted theories required them to make all assessments not exceeding two-thirds of the net assets or rent. But their reports show that there then existed no means of applying such a standard, that—difficult as it now is to ascertain the average produce of land—it was then far more difficult, and that practically their assessments depended on their personal judgment of what it was fair and wise to demand, a judgment mainly based on the collections of the years preceding the Settlement. There is seldom any indication in the reports that Revenue reductions were lightly given, but complaints that they had been delayed too long were not uncommon.

During the last 20 years other influences have operated to lighten the incidence of the Revenue, viz, higher prices and well established increase in cultivation and irrigation. It is believed that on the revised settlements the new assessments usually fairly appreciate increased irrigation, tho' a serious shortcoming in this respect undoubtedly took place in the re-assessment of the Amritsar and Lahore Divisions between 1862 and 1868. It is more difficult to make the assessments follow increased cultivation. The system of assessment, unlike that of Southern India where each field is separately leased, gives a lease to each village, which lease usually covers all the village land, cultivated and uncultivated. Large increases of cultivation occur during the currency of the lease, and experience shows that at the lease's expiry much caution is required in increasing the State's demand proportionately. Subject to such caution the increase of the Land Revenue demand proportionately to the increase in cultivation is insisted on at the expiry of each lease, but the value of the increased cultivation, consisting as it not uncommonly does of the poorer soils, is usually less than the ratio it bears to the old, and it would consequently usually be wrong to argue that a revised assessment is lighter than the preceding one merely because the average rate of its incidence on the whole cultivation is lighter. The influence of prices is in their present unsettled state still more difficult to follow. I have given an account of this subject in my reply to Question 16 which it is not necessary here to repeat. But it is pertinent to point out that the position of a Revenue Officer charged with fixing the Revenue lease of a village for a term of years is wholly different from that of his successor, who towards the close of that term will perhaps inquire what proportion of the produce the lease has actually absorbed. It is impossible to make a cash assessment of the Revenue, except on the basis of prices which have usually prevailed in past years, but owing to the steady and continued use in values which has prevailed for 20 years past, the actual value of the produce has nearly always been greater than was assumed as the basis of our assessments.

It is only by bearing in mind these considerations, that we can understand the great difference which now exists between the share of the produce which the Punjab agriculturist paid to the State, or rather to the State's farmer up to 1846, and that which he now pays to the British Government. Commencing in 1849 with a standard of one third of the produce, a period of low prices, combined with other considerations affecting the welfare of a newly conquered and previously much oppressed country, compelled us to reduce that standard successively to a fourth and a sixth. And after having done thus from the year 1860, a period of high prices has set in under which undoubtedly our assessments absorb very much less than the standard share of the produce on which they were framed.*

The Standard share, which was aimed at in the Settlement of each District, so far as it can be given, will be found in the appended statements of the average incidence of the Revenue in each District. But in estimating its value and its meaning some additional data need to be borne in mind, over and above those already stated.

The Preamble to the Punjab Land Revenue Act (33 of 1871) asserts that "the Government is by Law entitled to a proportion of the produce of the land of the Punjab to be from time to time fixed by itself." Arbitrary as such an assertion may sound, it is a strictly correct historical statement, as this reply and the papers appended abundantly

* The Financial Commissioner desires to observe that though the Lahore and Amritsar Divisions and one or two other Districts were assessed between 1860 and 1872 on a standard of $\frac{1}{3}$ produce the standard now observed ($\frac{1}{4}$ or $\frac{1}{6}$), in the late assessments of the Mooltan, Derajat and Delhi Divisions and Jhelum Districts) is $\frac{1}{4}$ assets, $\frac{1}{4}$, $\frac{1}{6}$ the customary rate, which as a matter of fact are usually produce rates.

shows Nor was it inserted in the Act on theoretical grounds, it merely stated the case Ch I. as we found it at annexation and as the people continue to regard it. But when a Revenue Officer speaks of the State's demand as being equivalent to a certain share of the produce, the statement is slightly misleading, harmlessly and imperceptibly perhaps to himself, but materially so to economists and to persons unacquainted with the country. In the depressed condition of the country which preceded our rule, little of the produce of land had any marketable value, except grain and butter. This remark does not apply of course to market garden cultivation near towns, nor to such crops as sugarcane, cotton, spices and the like. But the great mass of the cultivation in a depressed condition of the country is confined to cereals, and nine-tenths (or more) of the marketable produce consists of their grain, wood, grass, straw, milk and other items which add much to the rent of the land in more prosperous conditions of agriculture have no marketable value. It is of the yield of grain, that both our former and present officers for the most part speak, when they describe the State's demand as a given share of the produce.

The complete predominance of cereals in the agriculture of the country remains to this day, but the tracts are now few and exceptional, in which their grain is the only marketable product, straw, fodder, and butter have now usually a well established value, and the number of petty items which contribute to an agriculturist's income is increasing. Whatever may be the abstract claim of the State to share in such new sources of profit, and however much our assessing officers may desire to see that a State more moderate than any of its predecessors succeeds in realising the full standard so moderately fixed, in practice it is very difficult to make our assessments keep pace with prosperity of this nature. There are no competitive rents, which might bring to account such accretions to the annual value of land, our assessments are in the form of long leases, and deal directly with petty proprietors cultivating their own lands, and the customary system whereby the State's demand is based on a stated share of the produce does not lend itself easily to the extension of that demand to items of produce not previously reckoned. I do not urge that we are in any way bound to yield the State's claim to share in all marketable produce, I merely assert from personal experience that it is practically difficult to make the assessments follow such new sources of profit, and that, as the agricultural prosperity of the country rises, there is in fact a practical increasing divergence between on the one hand the share of the produce which the State claims and which its officers endeavour to levy by their cash assessments, and on the other hand the proportion which those assessments really bear to the whole value of the produce.

If I have succeeded in describing intelligibly these influences, the reader will not be entirely unprepared for the conclusions arrived at by the Hon'ble T H Thornton in an interesting paper appended to this reply, (though not prepared in connection with the inquiries of the Famine Commission), as to the real value of the agricultural produce of the Punjab, the profits of the cultivator and the share absorbed by our Land Revenue assessments. He finds that the Land Revenue is one-sixth of the profits, and one-sixteenth of the gross produce of the whole Province.

Such an assertion, when compared with the efforts of our Settlement Officers to assess a Revenue which shall nearly represent one-sixth of the produce in all the more fertile Districts of the Province, undoubtedly opens a considerable field for discussion. But if all the influences which I have above described be duly weighed, especially the effect of increased cultivation and of rising prices towards lightening the incidence of leases fixed for 20 or 30 years, we shall find reason to admit that the assessment in most years probably now absorbs only one-tenth of the whole produce of the land which pays it, (the term produce being understood in its fullest sense).

To proceed to the question of the incidence of the Revenue expressed in money, a statement appended shows the average incidence in each District reckoned on the whole cultivated area, and 3 other statements show the rates paid by irrigated lands in each District, by moist alluvial lands, and by the ordinary dry lands dependent on rain. These rates are so various, that an attempt to summarise them in narrative form would be of questionable utility.

The question how far the incidence of the Revenue varies from year to year is one of great difficulty. There are no data from which such a question could be answered. But whenever the annual variation in the area of cultivation, or in the area of irrigation

CH I are such as to cause great variations in the incidence of the assessment, it is the accepted policy of Government to modify the ordinary fixed character of its Settlements. Thus on the Bari Doab Canal irrigated Revenue is levied not by fixed lump assessments on each village, but by acreage rates on the area actually irrigated each year. The same system is in force on the Upper Sutlej Irrigation Canals in the Lahore and Montgomery Districts. In the Inundation Canals of the Mooltan Division and Dera Ghazi Khan District, though the Revenue payable by each village is assessed at a fixed amount, the assessment books show how much of this is charged for canal irrigation, and that share is not leviable in any year in which the irrigation has failed. In the same way in the Mooltan, Muzaffargarh, Dera Ismail Khan and Bannu Districts, where the annual variations of cultivation in the riverain lands situate in and on the banks of the Sutlej, Chenab, and Indus rivers are of a serious character, the assessment payable by each village for such lands is not fixed, but is charged at the Settlement acreage rates on the area actually cultivated each year. The same system is also applied to the cultivation of the Dera Ismail Khan District, which depends on the capricious and uncertain torrents that run down from the Sulaiman Range. These fluctuating assessments have been in force about 10 years on the Bari Doab Canal, and 5 on the Upper Sutlej Canals. In the other instances they have only lately been introduced.

It only remains to notice one point connected with the incidence of the Land Revenue, which has often provoked remark. It frequently occurs that heavier rates are paid by the more industrious villages and lighter rates by their less skilful neighbours occupying lands of similar natural advantages. It is practically impossible to adjust inequalities of this nature, and it is politically inexpedient to attempt to do so. The more skilful agriculturists pay the higher rates with more ease than their less able neighbours pay the lower rates, and also after paying the higher rates have a much larger margin of profit left to them. The less skilful agriculturists on the other hand are absolutely unable to pay the higher rates. In dealing with these matters it is impossible to be guided solely by theories of equality of assessment. When differences of this nature are inquired into, they are found to have their origin in the different antecedent circumstances of each class, and not to be merely due to present differences of agricultural skill. So long as the more industrious class is treated with real moderation, they have no just claim to hold their land at rents far lighter than any ever before paid by them. On the other hand, agriculturists, from whom our predecessors have uniformly levied comparatively low rates, have a substantial ground of objection against the enhancement of old established standards of rent merely on theoretical grounds. Every man's right in the soil, and no less that of the State, is to be decided primarily by what he has in fact enjoyed during past years. Any attempt to ignore this principle in our assessments in favour of theoretical equality would not only be financially injurious, but it would be distinctly opposed to the common feeling of the country which is built up on and permeated by class distinctions to a degree unsurpassed in any other.

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- (1) Extracts from the Punjab papers, presented to Parliament in 1849, describing the Land Revenue system of the Punjab as it existed under the Sikh Government
 - (2) Extracts from the Punjab Administration Reports 1849-50 to 1857-58, showing how the incidence of the Land Revenue as it stood under the Sikh Government was gradually reduced to its present standard
 - (3) Extract from the Punjab Administration Report for 1875-76, describing the treatment of the subject in recent years
 - (4) A paper on the present incidence of the Land Revenue in the Punjab, written by Mr T H Thornton, B C L, C S I, Judge of the Chief Court Punjab, with reference to statements on the subject contained in a recent article in the "*Nineteenth Century*"
 - (5) Statement showing average incidence of Land Revenue per acre cultivated
 - (6) Three statements showing the average rates charged in each District for—
 - (a) Irrigated lands
 - (b) Moist alluvial lands in the vicinity of rivers
 - (c) Lands entirely dependent on rain
 - (7) Thirty-one brief summaries of the assessment and rates of each District
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QUESTION 13, CHAPTER I

CH I

The following extracts from the papers relating to the Punjab, which were presented to the House of Commons in 1849, will explain the incidence and management of the Land Revenue, as it stood under the Sikh Government, and the standard to which in 1847 our Officers thought it necessary to adjust it, so that it should neither oppress the people nor be less than the fair claims of Government as then acknowledged. The Officer described in these papers as the Resident of Lahore was the late Sir Henry Lawrence, and the Acting Resident, who held that office during the Resident's absence on furlough, was Mr John Lawrence, since created Lord Lawrence. The Punjab in 1847 was administered by a council of Sikh Chiefs on behalf of the infant Maharaja, the council being controlled by a Resident appointed by the Governor General of India. Under the Resident a few English Officers were employed in controlling the Governors of the out lying Districts west of Lahore.

The Acting Resident—To the Secretary with the Governor General, dated Lahore 10th September 1847

(EXTRACTS)

I submit a letter which I have this day addressed to Major Lawrence, the Principal Assistant to the Resident of Lahore, stationed at Pesháwar. Should his Lordship approve of its tenor and purport, I do not anticipate that Major Lawrence will have any difficulty in effecting a settlement of all the Khalsa portion of Pesháwar, during the ensuing cold weather.

As regards the management of the land revenue, the completion of a settlement, by which the amount demandable from every village shall be defined, with punctual returns of the collections, will soon work a change. At present every Kárdár does pretty much as he pleases; he is virtually a large renter, not a mere collector of the land tax. His principle is to realize as much, and pay as little, as possible, there being no exact record of Government demand in any case, and, in many instances, it varying with each season, the calling him to account is too often a mere mockery. He can give in what account he pleases, and, provided he stands well with the officials at Lahore, usually escapes with impunity. It is no doubt true that the Durbá have returns of what is considered the revenue of every rabi of a large portion of the country villages, and in settling with the Kárdárs, these documents are then referred to, and the Government demand against them is limited to the revenue thus exhibited. But the Kárdár does not thus act towards the proprietors of the soil, from them he takes as much as he can. In a bad year, he will not collect less than what he pays the Government, in a good year, a great deal more. In this way, all Pesháwar had a settlement, yet Major Lawrence informs me that it is in the hands of *zardárs*, who collect as they please. The Trans Sutlej territory also had a nominal revenue, yet the village accounts showed that from 25 to 30 per cent. in addition was taken, and such is the rule throughout the country, otherwise it would be impossible to account for the rapid fortunes which those intrusted with the revenue accumulate in a few years. Some Districts, as Mooltan, Jhang, and, formerly Kashmir, were in the hands of *Názims*, who literally farmed them, and collected as they pleased. I see little difference, in practice, between the one system and the other. With a fixed and recorded revenue to collect the Kárdár can neither plunder the people, nor defraud the Government, to any great extent, without discovery. He can, at a moment's notice, be relieved of his charge, and called to account. Experience has shown that, when once much in arrears, it is nearly impossible to recover balances from the Kárdár; they should, therefore, be obliged to account for the collection weekly, and be suspended from employment for the first neglect of this rule.

If the plan of a summary settlement be approved Major Lawrence might assess Pesháwar; Captain Abbott is now engaged in Hazára, General Cortlandt might assist Lieutenant Edwards in Dera Ismail Khan, and the country beyond the Indus in that quarter, Mr Cocks might undertake the tract which was severed from Mooltan last year. For the Sind Sagur Doab, an experienced officer would be required, and, perhaps, Mr Vans Agnew might be available. East of the Jhelum the assessment might be performed under the eye of the Resident himself, by Dewán Deená Náth, or some person in his office in whom the Dabár have confidence, and Sirdár Lehná Singh might be intrusted with Manjha, or country round about Amritsar.

The Acting Resident—To MAJOR LAWRENCE, at Pesháwar, dated Lahore 10th September 1847

As I observe that the revenue of Pesháwar is not in as satisfactory a state as it might be, being generally in the hands of farmers, who rent from the Government large tracts from which they collect pretty much as they please, it strikes me, as being highly desirable, that arrangements be made for the introduction of a better system, a system by which that which is levied from the people, shall all, or nearly all, come into the exchequer, by which the Government demand shall be rendered fixed and certain, and every man shall know what he has to pay, and to whom he is responsible for the amount.

The farmers or *izárdárs*, of Pesháwar will probably, tell you that the system I propose introducing is impracticable, that the people are wild and unruly, that they will make away with their crops, and that the Government officers will never be able to collect the assessments. This, however, I do not believe. The Government Officials if men of energy, activity, and experience, can never fail where a farmer will succeed. Moreover as my plan will afford the agricultural community an immediate, and sensible relief from taxation, as it will consolidate, or do away with, numerous vexatious cesses, I feel certain that the people have only to thoroughly understand our object to further it in every way they can.

In the *Trans-Sutlej* territory I was, at first, met with such representations from interested parties, and even in some instances, my offers were refused by the cultivators, particularly where the system of collections in kind prevailed. Gradually, however, all opposition gave way, and, as I proceeded I found my work become every day easier, until, at last, whole villages belonging to, *Jagirdárs*, and even beyond our frontier, earnestly besought me to arrange for them, as I had done for the Government villages.

What I propose is, that you make a summary settlement of the revenue in Pesháwar, for a term of three years, to be continued or modified, as may be thought necessary, at the expiration of that period. I know little of the details of the revenue of Pesháwar, and what proportion of the actual produce is supposed to remain with the occupier of land, after making good all demands of the state, but, judging from what I have seen in the territory lately ceded to the British Government, and what I can ascertain on enquiry here, I believe that the Government demand, with the exception of *Kárdárs* exceeds, rather than falls short of, half the gross produce. I have no doubt also, that if you limit your demand to one-third the Government will lose little or nothing, perhaps on the whole, gain. They will, certainly, do so in a course of years. But, even supposing that the result is a considerable reduction in the rent-rol the sacrifice will be nothing compared with the contentment and satisfaction which will ensue. A country in which the land tax is lightly and equally fixed, is a country pacified, without it, every other remedy will prove fruitless, and with it, almost any other evil be endured.

I consider that you will have no difficulty in assessing the whole province, in three months, * if you pursue the plan which I am about to propose beginning with the Districts round Pesháwar where the people are most tractable, and their condition and means most easily ascertained. As you proceed to a distance from the capital, and come in contact with wilder people and poorer lands, the report of your light taxation will go before you, and smooth your difficulties. It is possible that especial arrangements for particular localities will be required, and even that in some instances your plans may for a time be frustrated but depend on it that, in the end the most unruly and turbulent will yield where their interests will be so palpably consulted. In saying that one-third of the produce may be considered a fair demand, I by no means propose that you should invariably exact that proportion. In all cases, after taking into consideration every demand, I would fix the revenue so as to leave the villagers not only sufficiently well off absolutely, but relatively better off than they have hitherto been. In wild desolate, and thinly peopled tracts a fourth, a fifth, or even a sixth, is, probably, not paid to Government.

I annex a form of statement which I suggest that you circulate to all the *izárdárs*, or farmers, to fill up, and get them if possible, all in before you commence operations in order that the statement may be as correct as possible. In the office of Nazim of Pesháwar you will no doubt find records of the collections of past years on account of the Government demand, for every village in the country. Your people should prepare a village statement of past receipts, for a series of years. The *Kárdárs* statements, and this return, cannot fail to throw considerable light on the revenue statistics of the county, and the capabilities of the villages.

You will find the descendants of *Canoozees*, and other Provincial Officers, both capable and anxious to give you information and you will be able, during the ensuing cold weather, to ride about and judge for yourself in doubtful cases.

If you find it difficult to prepare your returns by *talookas*, or local Divisions, it can be done, in the first instance, by *Kárdárs*ships. In some instances you will not be able to obtain returns of arrears, in others, of the proportion of uncultivated and cultivated land, and the like, but you must not on this account be disconcerted, the plan is to get as much information as possible, and, when you get little, to make the most of it. In many cases you will have nothing but the past collections to go by and these must then suffice. Under the head of remarks should be inserted the mode in which the revenue has hitherto been paid if in kind, by *batai* or *kunkot*,—in cash, or partly in kind, and partly in money. A detail of all the different cesses under the name of *Adwab*, should also be noted. General information should also be collected regarding each tract, the mode in which the revenue has been paid, namely, either through a farmer who contacted for the whole or by fixed assessments, the facility or otherwise with which it was collected, the general condition of its inhabitants, the nature of the soil, the facilities of irrigation, the locality, and peculiar features of the country, the caste of the cultivators, and their habits. When your returns are ready, collect all the influential men the heads of the villages, and the accountants, in short, encourage as many as possible of the inhabitants to attend, check the returns of the *Kárdárs* by the statements of these people, particularly as to what they have been in the habit of paying. Hear what they may say of their own villages, and of those of each other. Observe their dress, appearance, and bearing. You will quickly perceive if they are over-assessed, and, therefore, illfed,

* The whole revenue is but Rs. 13,60,812 including jagirs and customs with which you will interfere, your work therefore, will embrace about six lakhs of revenue, in round numbers.

CH I. ill-clothed, miserable creatures, or a thriving, comfortable population. Lastly, having got all the information in your power, do not hesitate, but, quickly make up your mind, fix your demand, and offer it for their acceptance

It will include, in one sum, every thing which, under any pretence, the village can be called on to pay as revenue. As the villages are assessed, give them a *putta*, stating the exact sum to be paid for the whole year, and the proportion for each harvest and in each instalment, and make the headmen describe, briefly in what mode the revenue will be collected. As you secure them from further demands, so also guard the co partners and under tenants, from their extortion.

Steadily bind all farmers of even isolated villages, but if, in any particular locality, either from the peculiar influence of an individual, or a family, you find that there is any advantage in so doing you may make one person responsible for the revenue, provided the people so wish it, giving him a percentage for his trouble

Record, in the *putta*, the man, or parquatties of the headman, where any exist, and are not extravagant, and detail the amount of rent from land not included in the lease. Where the headmen have no allowances, or rent free lands, give them 5 per cent on the village collections. In our Provinces this is the sum usually allowed. As you complete your settlements, appoint a Tahsildár for each District, giving him a charge of from Rs. 75,000 to 1,50,000, with reference to the extent of the area, and the poverty, or richness, of the country, and allow him two or three per cent of the collections, as a remuneration, and give him a small establishment. From among the most intelligent, respectable, and popular of your *izáradárs*, *canonzees*, *kazas*, and similar hereditary officers, who have displayed their zeal and energy in aiding your views, select your Tahsildárs

I propose submitting a copy of this letter for the approval and orders of the Governor General. In the mean time, you will only be collecting your statistics. Long before you are prepared to commence your settlement, a reply will be received. As you get in your returns, you can send a few of them to me, with, or without, your remarks, and I will return them with any thing that strikes me on perusal.

The Acting Resident—To the Secretary with the Governor General, dated Lahore, 25th September 1847

(EXTRACT)

In my letter, dated the 10th instant, I stated as my opinion, that the revenue of the Lahore Government was badly managed, that the people were over-assessed, and that much of that which was exacted from them did not find its way into the public treasury. I also recommended a settlement as a panacea for many evils which appeared to exist. It was Colonel Lawrence's intention, I was aware, that a settlement should be introduced, and I knew that returns, from different parts of the country, had either been sent, or were in a more or less forward state of preparation. I was then however not aware that the Dewán had actually assessed districts to the extent of upwards of 2 lakhs. He has now also promised to fix an assessment for the jaghurs resumed from Sirdár Hira Singh.

Since writing the report above alluded to, I have made inquiries, in Dewán Dina Náth's office, of the number of districts, and the amount of revenue, actually settled and from which a money revenue was taken direct from the proprietors of the soil, and have obtained the following return. It is not of course implicitly to be relied on. But any difference which may exist would probably lessen, and not increase, the amount of land tax settled and paid in money.

ABSTRACT

	No	Amount
1 Talookahs in form with Kardárs for which they pay a fixed revenue	6	26,49,873
2 Talookahs in form with the Headmen for which they pay a fixed revenue	6	18,23,656
3 Talookahs held Kham, or Amáns of which the revenue is collected by <i>batai</i> and <i>kunkoot</i>	43	89,44,658

Total Gross Revenue Rs. 1,33,16,128

Among the Districts for which Kardárs pay a fixed revenue nearly all the demand on the people is levied in kind, and depends in its amount, on the power and pleasure of the individual, Mooltan paying 19,00,000 alone, is included in this category. In all these Districts, therefore, my arguments and reasoning would apply as regards the people. In forty three Districts, stated to yield Rs. 89,44,658, the proprietors of land pay the revenue on the same principle and the Kardárs account to Government for the return of the grain collections. Here, both the people and the Government must be pillaged. Any revenue officer will admit the difficulty of looking after twenty or thirty villages, under what is termed direct management, and paying *asámewár* rates into the exchequer. No one ever dreams of realizing by *batai* and *kunkoot* from villages in that state owing to the loss which Government must infallibly suffer.

What then must be the state of a large country, like this, under that system aggravated by the practice, in many instances, of rendering no accounts for a series of years. Amir Chand's accounts involved collections in kind to the value of 3,00,000 lakhs, he is shown to owe 23,500 lakhs on his own records, probably double that sum is not the true balance against him. For, it must be recollected that the Darbái have no proper way of checking these returns, in a single case. In the same way when many villages complain of oppression and extortion, under such a system, what has the Adawlutee or Officer to

guide him in the adjustment of the case? He has literally nothing, he is completely in the dark; and must, therefore, confine his interference to urging the Kárdár to give redress, utterly unacquainted with the real merits of the case. I am convinced that a settlement, which reduced the Government rent-roll even 20 per cent, would eventually give it more revenue, independent of the inestimable benefits it would confer on the agriculturists. Nor would this be all loss, fewer Kárdárs, and their followers, would be required, and many instances of fraudulent rent fees lands would come to light, which would go far to meet the deficit. It is a mistake to imagine that under native Governments the revenue is more cheaply collected than under the British rule. The deductions, under various heads, under various pretences is great, whereas in the North West Provinces, the average expense of collecting the revenue is about 6 per cent, in the Trans-Sutlej territory about $4\frac{1}{2}$ per cent.

In the course of conversation a few days ago, with Dewán Deena Náth, I asked him how it happened that, with a record in his office of the revenue of nearly the whole territory, so many estates were farmed out. He said, originally, Maharaja Ranjit Singh had fixed money assessments for every village, but that gradually, the system, as he grew old, had been subverted, and that, for many years, there had been seven great Districts—Kashmere, Pesháwar, Wazirabad, Mooltan, Pind Dádan Khan, with the salt mines, the Kohistán of Katgra, with a portion of the Manjha and the Jullundur Doab, and in these, the Governors did what they liked.

I have dwelt on this subject at much length because it seems to be the one point of paramount importance which remains to be grappled with. As an officer bred up in the revenue department, I may give undue value to the matter. I have, however, seen the British Provinces, before, and after a good settlement, with a high assessment and a low one. I have seen native management, both Hindú and Muhammadan, in Jaghir estates and Khálsá, and the result of my experience is that, to benefit the people at large, and render the country truly flourishing, you must fix a moderate land tax for the Government and secure to the community that they shall enjoy, on paying that quota, the results of their own industry.

The Resident at Lahore—To the Secretary with the Governor General, dated Simla 29th September 1847

I recommend that we be permitted with all practicable speed in concert with the Durbár Officers, in the manner proposed by Mr Lawrence, to make a summary settlement of the whole of the Lahore territory, except Mooltan which has still two years of its lease to Dewán Mulráj to run.

Major Lawrence says that the revenue of Pesháwar is collected at the point of the bayonet, and the same might be said of almost the whole country, especially of the tract beyond the Jhelum. The removal of the custom duties has rejoiced men's hearts, and raised the British character, a settlement of the revenue will be considered a still greater blessing.

At present, the Zamidárs pay revenue direct to Government for only one-seventh of the lands under the Lahore Ráj, nearly two-sevenths are farmed to Kárdárs, and, on four-sevenths, the revenue is collected by batái and kunkoot. Renting to Kárdárs is destruction to the country, and indeed, the process by which collections in kind are made, is often as injurious. In new countries, however, ignorant people are often afraid of the liabilities entailed by cash payments, where this may be found to be the case, instead of taking proportions of the crop in the field, or threshing ground, I will endeavour to induce the Zamindárs to pay their kists in fixed quantities of grain. The idea was suggested to me by Mr John Lawrence, and is, I think, a good one.

CAPTAIN ABBOTT—To the Acting Resident dated Hoshiarpur, Hazárá, 30th September 1847

(EXTRACTS)

The whole of the Hazárá (one or two small talookáhs excepted) is assessed in a fixed rent, which is supposed to be half the gross produce, but varies, in reality, very greatly in different talookahs, not amounting, in some, to more than a third over and above this, under the title of Russum and Nuzzetáná about 15 per cent was taken previous to my coming, and the two laws, Mussulman and Sikh prevailing in the land left a wide gap for exactions, under the name of fines, the Government interfering in all the domestic concerns of the subject. Now, so far as I have examined the revenue regulations of the Punjab, I have found there precisely the same system, half the gross produce taken by Government, with the addition of Nuzzeráná, Russum, and exorbitant fines.

It seemed to me that I could not, with justice, let the revenue of the country fall very much below the rate prevailing in the Punjab, but I abolished at once all Russum, Nuzzeráná &c., and took off 5 per cent universally, reducing the rent in particular cases, according to circumstances.

In order to realize your view of taking only one-third gross produce (a view in which I most heartily concur) I must have reduced the assessments 50 per cent, which was beyond the limit allowed me. That limit also was named as an extreme instance.

Owing to the entire absence of khusráhs, and the prevalence of fixed rents, it is extremely difficult to ascertain the true produce of the village estates. Although the rate is, nominally half the produce, yet there are villages where the Málguzar makes 20 per cent, after paying his rents, others are very much over-assessed. In others, the rents appear to me to be equitable, but these are hill tracts where collection is difficult. The assessment I am now making lets down the revenue about 20 per cent, by doing away with all extra charges, and the late order remitting transit duties is an additional relief of about 8 per cent. The system, here, has been to over assess the country and to bribe the Mullicks to submissiveness, by pretty grants of ploughs, mills, arable land, &c.

CH I These grants have grown up to something very considerable, but they do not appear in the ordinary register of Jaghirs, as many of them were granted by Kárdárs who had not efficient authority. I have deducted such grants from the total rents of their respective village believing that their existence is generally a strong symptom of over-assessment, and I am confirming to individuals only those which have been recognised in the collections.

The people seem to me satisfied with the assessment. I have attended to every complaint of excessive rent, and lowered the rate, upon convictions, but the complaints have not been frequent

The Acting Resident—To A. H. COCKS, Esquire, Chief Assistant to the Resident, dated Lahore, 4th October 1847

(EXTRACTS)

You will make over charge of your offices in Lahore to Mr. Bowring, and at once proceed to Jhang, and, in communication with the Officers of the Durbát make a settlement of the land revenue, for a term of three years certain, with a clause in the agreement that the assessment may be still further extended should the Government and the people both wish it. The revenue of Jhang and its dependencies amounts to about eight-and-half lakhs of rupees and I am given to understand by Mir Sahib Dyal that the country is by no means overtaxed, but that the people are flourishing and content. Of this however, you will be the best judge. If this prove correct, I would certainly not raise the demand, but confine my endeavours to divide it, as equally as possible over the country. If necessary however, you will not hesitate to reduce it. You will also do away with all abwabs, or cesses, of every description, consolidating the Government demand into one sum, and fix the khisis for each harvest, so as to give the cultivator full time to dispose of his crops.

The Jhang laqua is for the most part in the Rechna Doab, but a portion lies beyond the Jhelum Sudgurra and Heerah are under separate Kárdárs, but should be assessed at the same time as Pákpattan.

The revenue of the Jhang laqua, I understand, has been for many years collected by kunkoot and in some places by money rates. It was formerly a portion of the Nizamát of Mooltan and was severed from it last year. Where the kunkoot system prevails from two to four sérs for expenses were deducted in each maund in favor of the cultivator and the remainder divided into two equal shares, one for the Government and the other for the cultivator. This would make the Government demand about 40 per cent of the produce, but practically, it cannot be conceived have amounted to so much. Where batab prevails, two thirds were fixed as the Government share. About Jhang itself the assessment is said to have been at the rate of only twenty-two rupees per well, on irrigated lands, and kunkoot, on the bárián lands.

A large income is derived from the pasture lands. In Sindwála it amounts to upwards of Rs 32 000, on the whole laqua to about 80 000. In the cultivated Districts, it will be absorbed in the village assessments, but Sindwála, I understand is nearly all forest, and the revenue is almost entirely paid by a tax on cattle. This tax, which was formerly very equally distributed, has now become unequal, from the changes of fortune among individuals, the owner of 100 cattle being assessed as that of ten, the owner of fifty as if he had 100.

The Resident at Lahore—To L. BOWRING, Esquire, Assistant to the Resident on deputation to Pind Dadán Khan, dated Lahore 8th November 1847

(EXTRACTS)

You will at once proceed to Pind Dádan Khan, and make a summary settlement of all the Tallookahs under that Kárdárship as well as all those south of the Salt Range. I annex a list of these Districts as far as I can ascertain them from the records of the Lahore Darbár, but should you find any tracts, south of the Salt Range not enumerated, you will not fail to assess them also. On the completion of this portion of the Sind Sagar Doab, you will cross into the Rechná, or Doab between the Chenab and Jhelum and make a settlement of all the Tallookahs, which, by that time, have not been assessed by the Zamindárs coming into Lahore.

The principles which I have laid down, for the guidance of Major Lawrence and Mr. Cocks are those which should guide you. Consolidate the Government demand into one sum, take darkhásts from the heads of villages, and give them puttahs under your signature, for three years certain, or until a second settlement.

Where the people are thriving the country well cultivated, the old assessment notoriously high, you will be at liberty to give such moderate reductions as may appear necessary. Where the assessment, with the abwabs amounts to or exceeds, one-half the produce, it may be reduced safely to two-fifths, which would give a reduction of about 10 per cent, where less than two-fifths unless the country is manifestly impoverished, I do not think that more will be required, but, if such be the case you will make an especial report to me, furnishing full data for the views you have formed. It must, however be an assessment which will work, or it will be useless.

You should take notes, as you travel through the country and visit the different Districts in respect to its physical features, facilities of irrigation, nature of soil, caste, character, and habits of the people, their past history, the conduct of the Kárdárs, and the like.

Encourage the people to sink wells, and make improvements in their lands and insert in their lease a clause that parties sinking new wells, or repairing old ones out of use, shall not, for the term of the settlement, be charged by the headman for these improvements

The Resident at Lahore—To LIEUTENANT J NICHOLSON, Assistant to the Resident, dated Lahore, 8th November 1847

Mr L Bowring has this day, been directed to proceed to Pind Dádan Khan and make a settlement of all the Districts under that Kárdárship, as well as all those south of the Salt Range

You will consider that those north of that Range are under your control I wish you to select one District or Talooka, and, after making a summary settlement of it, send the papers to me, and not do more than collect the data for those of other Districts, until you receive my reply

The principle which I wish pursued, is to consolidate the Government demand into one sum, which the village will pay, in lieu of all claims Where the past assessment, direct or indirect, has exceeded one-half of the produce it may be reduced to two fifths, which is equal to 10 per cent, where it has been but two-fifths, or less than that proportion, I do not think that any reduction will probably be required, but, should you think otherwise, you must make an especial report to me, giving, in detail, your reasons for thinking reduction necessary

You should take notes as you go along, in all matters connected with the past and present fiscal history of the Tallooka, its physical features the character of the people, their caste, habits and condition, the nature of the soil, the facilities for irrigation, the extent of cultivation, and the like

You should encourage the people to sink new wells, and repair old ones, by inserting a clause in their leases, prohibiting the head men making any demand in excess of old rates, for such improvement, during the settlement, you will take acknowledgments from the heads of villages, and give them leases for three years, until another settlement, and give no farms to strangers

The Resident—To LIEUTENANT EDWARDS, Assistant to the Resident, on deputation to Bannu, Tank, and Dera Ismail Khan dated Lahore 13th November 1847

(EXTRACT)

In your arrangements for Bannu and Dera Ismail Khan &c, I request your attention to the principles laid down in the enclosed letter to the address of Mr Bowring In a new country, such as Bannu, a communication, in cash, for one-third of the crop should be the extreme taken from any man, in Dera Ismail Khan, Kulachi, and the other Districts, as much as two fifths may be taken, where that amount is found not to press on the people Endeavour to persuade all classes to pay in cash, they will hesitate to do so, but I hope you will be able to convince them, that their real interest is involved in paying a definite sum and thereby escaping all other demands, no muzzars or cesses of any kind to be continued, the rates of one-third and two-fifths, are for general guidance you are, in no case, to make a higher assessment than that of the Sikhs, and can, where you think it advisable, lower it down even to one-fourth of the crop Rungit Singh's custom, as well as that of the Trans-Indus country, was to favour Syads and other religiousists, you should continue the practice to a moderate extent, so as to enlist them in our favour

The Acting Resident at Lahore—To the Secretary to the Government of India, dated Lahore 12th January 1848

(EXTRACT)

When this country has once been settled completely, we shall then for the first time have a true rent-roll The difference between the real and nominal revenue will, probably, be little less than a fourth, and from the former, must again be deducted the reductions on the Summary Settlement The savings from the decreased expenses of management will go far to meet the last noted deficiency, but, still the income will, I fear, inevitably fall short of the expenditure As I daily become better acquainted with the details of the existing system, I see more clearly the absolute necessity of our entire interference if we hope to see affairs on a satisfactory footing As the accounts of the great farmers of revenue are passed by the Darbár I receive copies, not so much with the object of discovering and remedying past frauds, for this would be hopeless, but to obtain a thorough insight into these matters, and thus be able, for the future, to detect similar malversation I have now before me, those of Dewan Moorá, of Pind Dádan Khan, the manager of the Salt mines, as well as an extensive tract of country round them By an analysis of the returns of the salt Mahal, I find that Rs 8,18,820 were thus accounted for—

	Rs	As	P	per cent
By wastage	14	0	0	"
By expenses of management	17	0	0	"
By pensions	1	8	0	"
Due by merchants	40	0	0	"
Paid into the Treasury	25	8	0	"
Spit up hand	5	0	0	"

Total Rs 100 0 0 "

CH I. The accounts of the land revenue are equally melancholy On a demand of Rs 3,80,000 I observed the following result —

	Rs	As	P.	% per cent.
Remissions	22	0	0	
Expenses	16	0	0	
Fissions	11	0	0	
Dues by farmers	6	0	0	
Paid into Treasury	47	0	0	
Total Rs	100	0	0	

The late Acting Resident at Lahore—To the Secretary to the Government of India, dated Lahore 31st March 1848

(EXTRACTS)

I submit the reports of the different officers who have been employed during the past five months, in making the settlement of the land tax in the Punjab, as well as a report from Major Napier on the canals of the Bari Doab

These reports contain many interesting particulars of the past history, physical features, and resources, of the Districts, which our officers have visited, and the local information, thus obtained, will, doubtless, prove of much value both in the future management of the country, as well as in the event of military operations hereafter occurring in the Punjab With the exception of the Province of Mooltan there is not a Dist tct which has not been visited, from the confines of the Suliman range to the banks of the Sutley and Beas.

That portion of the Punjab which still belongs to the Lahore Government, may be appropriately divided into seven Divisions, the four Doabs termed the Bari Rechna, Chuch and Sind Sagar, Hazara, the Frans-Indus Districts, and Mooltan, which, with the Jullundur Doab Kashmir and the hilly tracts, extending from the right bank of the Sutley in Kulu to the borders of Kashmir, comprehended the whole kingdom, created by the valor and policy of Maharajah Runjeet Singh, during a period of thirty years

A revenue survey would no doubt, restore to the state much land of which no record exist, but such a survey, under present circumstances, would be impracticable It may fairly, however, be anticipated that the general security which now prevails, the abolition of town and transit duties the reform of the customs generally, and the disbandment of large bodies of troops, will all give an impetus to agriculture

The opening up of new branches of the Hulsee canal would however do more for the prosperity of this Doab and the improvement of the finances than any scheme which could be adopted I would, strongly advocate the expediency of re-modelling the whole system of management

It is superfluous for me to attempt pointing out the advantages of canal irrigation, they are now fully admitted If irrigated land, in other parts of India, yield treble or quadruple, the produce of unirrigated soils, here, the comparative advantages are still greater, the stiff clay uplands of the Punjab are literally uncultivable, without water

It is well known that the Bari Doab, though containing many Muhammadans, is the seat of the Sikh power, and is the tract from which the flower of their soldiery were recruited The great mass of these men came from the unirrigated villages of the Manjha These spots are now thronged by soldiers, disbanded since the war but chiefly deterred from taking to agriculture for a livelihood, from the deficiency of irrigation In a political, therefore as well as a financial, view the opening up of new lines of canals would prove of vast importance

The population of the Rechna Doab is of various castes Rajpoots towards the foot of the hills Jats in the centre, and Muhammadan tribes in the south Many of the Rajpoots and Jats are Hindu only in lineage, their forefathers during Muhammadan power having turned to that faith In the whole Doab, the great mass of the population is decidedly Muhammadan The chief pursuit is agriculture, there are few manufactures, and little trade

The inhabitants of Chuch Doab are chiefly Muhammadans, whose character much depends on their circumstances and condition In the waste lands, they are rude and uncivilized keeping up large herds of cattle and attending little to agriculture, where the soil is at all fertile, or possesses facilities for irrigation, they are, on the contrary, well behaved, and peaceable The Hindus are but few in number, except in Misni and Sahiwal, where they are the principal merchants and traders

The revenue has always been collected in this Doab with difficulty It was not uncommon in cases where the people would not pay, to quarter bodies of cavalry on Districts to attack villages, and plunder them Thus, the country has yearly, become more populated, the land has remained uncultivated, and the people leant to detest the Government, which oppressed without controlling them It is to be hoped that the present equitable system of settlement will bring back peace, order, and wealth, to the country The land tax of the whole of the District has been settled, with the exception of the border tract which Captain Abbott is now engaged on, and which may be expected to be completed in a few days

The population of the Sind Sagar Doab is almost exclusively Muhammadan, many of them lawless and troublesome, and, hitherto-only paying revenue when coerced

time, the Revenue was collected even before the date on which the instalments fell due. This was affected without the least difficulty, and indeed with the consent of the people. Even in the Cis-Sutlej States, extensively disturbed in a manner described in the previous chapter, the Revenue was collected with at least ordinary regularity. In that Territory a delay in payment on part of one village, was justly held to be a symptom of rebellion, and instant measures were taken accordingly. Even on the turbulent Peshawar Frontier the Revenue was withheld by only two villages, and to them armed force was applied. These exceptional instances of recusancy, however, arose from instigation by our enemies beyond the border. In the southern part of the Jhelum Division, there were a set of villages who spoke of withholding payment, but an indirect demonstration of force sufficed to bring them to their senses. In the Gujra District, and the Hills around Murree there was considerable disturbance during the autumn, but still the instalments falling due two months afterwards, were collected to the last rupee. It will have been seen already that the difference between the demand and collection amounts to only Rs 5,57,749, but of this the greater portion is nominal only, or capable of remission under the standing Rules, being occasioned by damage done to land from action of rivers, or casual disaster, and the like, or consisting of reductions of assessment made within the year, or incorrect entries in the rent-roll of the year. The real uncollected balance amounts to less than one per cent on the total Revenue. And thus 99 per cent was collected during the crisis without any particular resort to coercive process. During 1857-'58, there was no sale, there were only 3 in 1856-'57, and in 1857-'58 only 7 farms and transfers to 14 in the former year. Imprisonment of defaulters was scarcely ever resorted to, and even common notices to pay had not to be served in greater numbers than usual.

39 The main cause of this fortunate result, no doubt, was that the people are always ready to pay Revenue to the Power that is, and that despite our reverses, they still considered us to be that power. As already explained, the Land Tax was light, there was no particular grievance to complain of in our Revenue system, the tenures had been fairly adjusted, there was no class, among the landholders and cultivators at least, who had suffered by British rule, there were no dispossessed malcontents, no depressed village communities, no upstart usurpers over the heritage of others through the operation of our laws, there had been no wholesale, or extensive transfers of estates or tracts from one set to another, there had been some unfortunate transfers of individual properties but such cases were exceptional among the agriculturists at least. Thus it befell that no one had reason to hope for benefit by a change of rulers, and so long as we were at all able to assert authority, most agriculturists were quite willing to pay tribute to Cæsar. It were vain from such facts to assume the existence of any active heartfelt loyalty. But at all events, there existed no feeling against us, there was a kind of passive acquiescence in our favor among the masses. The best Revenue administration will not secure much more than this, but recent events have shown that to secure even this much, is great gain. Moreover at that juncture there was an unusual degree of prosperity. The spring and autumn harvests of 1850, had not been abundant, there had been epidemic sickness among the people, and murrain among the cattle, in many places there had been even a scarcity of grain, and prices had generally risen, not indeed to the standard of former days, but much above the rates which had prevailed of late years. But in the spring of 1857, the harvest was excellent, sickness and murrain had abated, the markets owing to previous deflection, were not over stocked, and prices did not fall greatly, so that generally the agriculturist had plenty of grain which he could sell at a tolerably good price. In some few places only was there a difficulty of exporting grain owing to disturbed state of the times, which resulted in a slight glut of the markets, and a corresponding fall of prices. Thus on the whole, agricultural prosperity told in our favor during the crisis.

40 In former reports it was explained how the circumstance of so much money going out of the Punjab, contributed to distress the agriculturist. The native army was Hindustani, to them was a large share of the Punjab Revenues disbursed, of which a part only they spent on the spot, and a part was remitted to their homes. Thus it was that year after year lakhs and lakhs of Rupees were drained from the Punjab, and enriched Oude, but within the last year, the native army being Punjabi, all such sums have been paid to them, and have been spent at home. Again, many thousands of Punjabi soldiers are serving abroad. These men not only remit their savings, but also have sent quantities of prize property and plunder the spoils of Hindustan to their native villages. The effect of all this is already perceptible in the increase of agricultural capital, a freer circulation of money, and a fresh impetus to cultivation. There has indeed, been a diminution of laboring hands to till the ground such large numbers of husbandmen having enlisted in the army, but this is more than compensated for by the augmentation of those means which are the sinews of agriculture as of everything else. Probably at no time since annexation have the agriculturists of the Punjab been in such easy circumstances as they are at the present time of writing.

in operation to keep down prices The following Table will show that, with slight oscillations, prices are CH, I, nearly as low as ever —

Average Prices

For ten years,* up to 1860 61	Wheat Rs. 2 per maund of 82 lbs.	Indian Corn Rs 1 $\frac{11}{16}$ per maund.
1861 62	Rs. 1 per maund	Rs. 0 $\frac{14}{16}$ per maund.
1862 63	Rs. 1 $\frac{8}{16}$ ditto	Rs. 1 $\frac{1}{16}$ ditto.
1863 64	Rs. 1 $\frac{9}{16}$ ditto	Rs. 1 $\frac{9}{16}$ ditto
1864-66	Rs. 1 ditto	Rs. 0 $\frac{12}{16}$ ditto
1865 66	Rs. 1 $\frac{1}{16}$ ditto	Rs. 0 $\frac{14}{16}$ ditto †

The price has always been one maund, more or less, or 82 lbs. for the Rupee, during the last five years, that is, nearly as cheap *agaru* as it used to be before annexation. Furthermore, not only are the prices much lower than they used to be in the Punjab, but also lower than they are in other parts of Upper India. During the past five years the average price of gram in the North-Western Provinces has been 33 sérs to the Rupee and in the Punjab 37 sérs

46 It is clear then that the Punjabee, though he has more produce to sell than heretofore, must sell it at a much lower rate than formerly His money taxation must therefore be kept low It is evident indeed that too large a proportion of the people are agriculturists, that they cultivate too much of one thing, *i. e.*, cereals, and that they have not sufficient means of disposing of that produce To remedy these defects, it would be necessary either that people should take to other professions besides agriculture, or if they must remain agriculturists, that they should introduce new products besides cereals, or if they cannot do this, that they should have the means of exporting their

cereals and other produce That the Punjabees can easily take to non-agricultural employment is doubtful Many kinds of lucrative services, once open to them, no longer exist It is probable that three-fourths will for some time continue to be agriculturists Something may be done regarding the introduction of new products or the improvement of old, but the result will be slow of accomplishment. The most promising plan is to supply the means of exportation The Punjab cannot export to the West or to the North, as those regions are poor, nor can it export to the East, as in that direction there is already abundance It can only export to the South to Kurrachee, the port destined by nature to be the outlet for these Territories Thence the produce can be shipped for Bombay or for distant countries and colonies Already it is found that Sindh and Punjab wheat can be profitably exported to the Mauritius. Already some 5,357 tons or 150,000 maunds per annum of Punjab produce find their way with difficulty down the Indus, and this will, it may be hoped, become the nucleus of a mighty traffic That the Punjab must be producing more than it can consume is easily calculated The cultivated area has been returned at 12,751,151 acres

Some three-fourths of this area are certainly grown with articles of daily food, namely, wheat, barley and Indian corn, maize and rice. At an ordinary average of production per acre namely 6 $\frac{1}{2}$ maunds, some 80,164,616 maunds or 2,863,022 tons may be produced annually There are thirteen millions of souls, at an ordinary rate of consumption per annum of about 4 $\frac{1}{2}$ maunds or 360 lbs to each person, they would consume 59,000,000 maunds or 2,107,143 tons in a year, which deducted from the aggregate produced leave 5 a surplus of 777,481 tons, which surplus, though attained by a rough calculation will give some idea of the actual state of the case What is to become of this surplus? If possible, it should not be allowed to fill our granaries and glut our markets, causing derangement of prices and embarrassment to the agriculturists, yet it cannot be exported to Kurrachee unless the communication shall be improved by steam or rail, or by both That this can be effected, there is happily reason to suppose, as will be seen in one of the following Sections (IV) In this place, therefore, it is sufficient to urge that the measure is of the very last importance to the agricultural interest and to the future prosperity of the Punjab, and that until something of the kind be effected, there must always be some anxiety regarding our Land

Revenue. Let means of export, the grand desideratum, be once supplied, every thing will follow There are known to be nearly six millions of *culturable* acres yet to be brought under the plough There is a population prolific to increase, hardy and industrious to labor There are vast supplies of water in the rivers and facilities for excavating canals Then money will be abundant, prices will recover their standard, and the Land Revenue will flourish

47 In regard to the collection of the Land Revenue, it will be remembered that for several years there used to remain heavy balances uncollected But these amounts were remitted and the demand for

* before prior to Annexation

† The great cheapness which has generally prevailed during the last year which was dry and unfavorable, leads to the conclusion that granaries were full and markets glutted with the grain of former years

Ch. I future years was reduced After that, the collections became steady and did not further fall off For the last three years the uncollected balances have been slight, as follows —

YEARS.	Demand	Collected.	Balance uncollected.	Nominal	Real	Per centage of real Balance on demand
1853-54	£1,620,670	£1,391,910	£228,669	£74,780	£57,879	3.54
	1,620,670	1,391,910	228,669	74,780	57,879	
1854-55	£1,470,038	£1,409,873	£60,165	£29,909	£20,800	1.41
	1,470,038	1,409,873	60,165	29,909	20,800	
1855-56	£1,462,425	£1,415,810	£46,615	£22,547	£14,967	.09
	1,462,425	1,415,810	46,615	22,547	14,967	

43 It is evident, then, that the uncollected balance is only an inappreciable fraction and out of Facility of collection Rs 100 demand 98½ are easily realized, so that really the whole demand is realized, and this result is effected without any of the coercive processes authorized by law, such as sale, farm, transfer, or direct management, by Revenue Officers of the defaulting estates. Such measures were adopted only in 2 cases during 1853-54, 13 in 1854-55, and 16 in 1855-56. These numbers will appear small when it is remembered that there are 28,000 estates and probably no less than three millions of tax-payers to be dealt with. On the appointed quarter days (the Revenue being paid in four instalments two for the spring and two for the autumn harvest), the headmen bring the money for their respective villages. If there be any delay, a notice to pay is sent to them, which usually has the desired effect. But even these notices are not likely to increase. In 1853-54 there were 67,37½, in 1854-55, 58,747, and in 1855-56 69,464. There is notoriously much uncertainty of season in the Punjab. The upper Districts have generally a fair supply of rain; the central Districts a scanty fall, and the lower Districts hardly any at all. From the Meteorological Registers, it appears, on the general average, that in 1853-54 there fell 19.38 inches of rain, in 1854-55, 23.84 inches, in 1855-56, 15.18 inches, and these years were not unusually dry, except perhaps the last.

Extract from Punjab Administration Report for the years 1856-57 to 1857-58

36 The Land Revenue system existing in the Punjab, was fully described in the last Report. We are now to see how that system worked during the past two years 1856-57, and 1857-58.

37 In that system a prominent feature was the frequent and repeated reduction of the assessed Frequent reduction of the Land Land Tax. For reasons previously explained, the agriculturists cannot get Tax good prices for their abundant produce wherewith to pay up their Revenue, so there is nothing for it, but to lower the demand. It often happens, that no sooner has an assessment been elaborately calculated, than it has to be altered, no sooner have engagements been entered into with the people for terms of years, then they have to be broken. All this may be discouraging, and even detrimental to system. But it must be done, for the circumstances are peculiar, and the good of the people is paramount to every other consideration. And viewed by the light of recent events this policy has proved most fortunate. There are many Officers now in the Punjab, who can remember how, in 1831-52, when prices of agricultural produce first fell fifty per cent., large bodies of landholders in some Districts tumultuously crowded round the Revenue authorities, and violently declared, that the markets were overstocked with grain, and that money could not be got in return for produce. At that moment, a temporary derangement of the Land Tax, from causes beyond the control of any Government, created a strong excitement in some localities. Now it is evident that had such circumstances existed at the commencement of the crisis in 1857 our difficulties would have been grievously aggravated, and perhaps in some places insurrection might have occurred. But in 1852, the Government, though it could not relieve agricultural distress could yet reduce the Land Tax, and that it did at once. That policy of reduction having been consistently followed for five years, the reward was reaped when the day of trial came. For then the agricultural classes were comfortable and quiet, none were pinched in circumstances, none were looking forward to change. In the last Report it was shown how, at different times, 23½ lacs of Rupees, or 2,35,000£ had been abated from the Land Tax, still further abatement was however, made during the period under report, for the demand, which in 1856-57 stood at Rs 1,48,46,122 or 14,84,612£, fell in 1857-58 to Rs 1,46,51,060 or 14,65,106£. But owing to fresh lands coming under assessment, (owing to lapses and resumptions) the collections scarcely varied in the aggregate as will be thus seen. Land Tax collected, 1856-57, Rs 1,40,18,915 or 14,51,891£, 1857-58, Rs 1,45,16,032 or 14,51,603£. It is evident then that throughout the year of trouble, the Land Tax was realized as usual. It is probable that still further reductions will have to be made in some places before the assessment will have approached finality.

38 Indeed, the willingness and punctuality with which the landholders paid up their Revenue for the instalments which fell due just as the crisis set in, is not only shown by the public records and accounts, but is also testified to by all the European Officials who were present at the time. In some places, owing to the critical circumstances of the

large reductions were made in the second year in consequence of a failure of the crop and a murrain among the cattle. In the Rawalpindi District also the people complained of over-assessment, which was greatly aggravated by the remarkable fall of prices in the commencement of last year, but here relief was not granted with that promptitude which the occasion demanded, and much discontent and distress was, in consequence, experienced. This, however, was at once remedied when brought to the Board's notice.

242 The remainder of the country, not assessed in 1847-48, consisted of a large portion of Peshawar the Upper Derajat, and all Dewan Moolraj's charge comprising the present Districts of Mooltan Khangur Dera Ghazi Khan, and the greater part of Leia, with two small tracts in Pakpattan and Jhang.

243 The settlements of all these Districts were rapidly completed except that of the Upper Derajat (Dera Ismail Khan) where Major Taylor was so much absorbed with the defence of the frontier, and the superintendance of the military details all of which for the first two years fell to his lot that he found it impracticable to assess the land-tax. Out of some five lakhs of revenue only two were assessed the remainder of the revenue was collected mainly in kind. But the settlements are now rapidly progressing under Major Nicholson and Mr Simson.

244 In the important Province of Peshawar, (with the exception of the large District of Yusafza, which the Sikhs never effectually subjugated, and where, as has already been observed, the land-tax was nearly nominal) the Government demand is a large portion of the produce. But the people being fierce and warlike it was found expedient to farm out the country to middlemen, whose expenses and profits were added to the Government demand. The extreme fertility of the rich clay soils perennially fertilized as well as irrigated, by the waters of the Kabul, Bala and Swat rivers, enabled the agriculturists to give up half the actual produce. These lands produced annually two crops without the expenditure of any capital, or much labour beyond a superficial ploughing. It would hardly appear possible that lands would continue for ages to pay such a proportion of the crop in the shape of revenue, but such is doubtless the case, both in this valley, and others similarly situated. Thus, in the Kangra and Riloo villages, in 1846, we found the people paying annually a fixed grain revenue equal to ten and twelve rupees per acre, and thus the inhabitants of the Kashmir valley are able to farm the land, and surrender a proportion of the crop, which would appear incredible to those unacquainted with it or similar localities.

245 In Peshawar, however the unirrigated lands were comparatively lightly taxed, and in some places such as the District of Hashtnagar, were thrown into the account free of all tax thereby greatly mitigating the severity of the Government lien on the irrigated soils. As a general rule the tax on irrigated lands was a clear half the produce exclusive of cesses and that on unirrigated land was one-fourth, the fact being that the crops of the latter are wholly dependent on the winter rain if the showers are not abundant the yield is most scanty, the stiff clay soil requiring much water.

246 The Peshawar valley and Kohat District under the Sikh rule, were estimated to yield Rs 13,39,000 per annua. This estimate excluded petty jagheers and tent lands but included the large jagheers of the Baukzaze family which alone absorbed Rs. 5,15,000, as well as other grants to the extent, in all of Rs. 6,20,000. The net revenue which remained to the Government was but 7,80,000 Rs. of which at least 3,00,000 Rs. may be set down to the town and transit duties, and the import and export customs, all of which have been abolished.

On the other hand, all the Baukzazes and many of the other Jindirs joined in the late war against us and having lost their fields, have retired to Kabul the native country of the majority. A deduction of two lakhs of Rupees for the whole revenue of Kohat, and those for the Customs and Town duties would leave a land revenue of Rs. 8,40,000. Yusafza now yields from the land tax Rs. 1,34,000, out of which large payments are made to the Khans or heads of clans and the eight Districts round Peshawar now pay but Rs. 5,63,000. The reductions in various ways, are affirmed to have been equal to a relief of 30 per cent, on the total amount paid by the people under the former regime including the extra imposts and the profits of the middlemen. The official report, however, of the most recent reductions, has not yet been received.

247 Kohat formed part of the Baukzaze Chief's jagheer and its land revenue was equal to Rs. 1,51,884 per annum. This has been gradually reduced, until it is now no more than Rs. 96,679 which is equal to a relief of 30 per cent. The Government share of the produce was estimated as equal to half on irrigated lands, and a quarter on unirrigated soils, except in Teer which is a wild and sterile tract and here it varied from a quarter to one-eighth.

Teer is held by Khan Manomed Khan, its Chief. He paid 31,000 Rs. per annum as tribute to the Baukzazes, which sum has since been reduced to 25,000 Rs.

248 The remainder of the Punjab, under the Durbar's immediate control, consisted of the Upper Derajat which comprised the Districts of Bannu, Muwat, Isa Khel, Tank, Kolachee, Drabund, Dera Ismail Khan Gnanag and Kalabagh, all Trans-Indus, the revenue of which may now be set down at five lakhs of rupees. In Bannu the revenue was fixed at one-fourth the gross produce from the mass of the people and one-sixth from the Wuziris of the hills, and the Sauds of the plains. It was estimated by Major Edwardes who brought Bannu under control in 1847, that it would yield one and a half lakhs per annum. It has hitherto given a gross revenue

Ch I of about one and a quarter lakhs, out of which the *Mahks*, or heads of villages, received a considerable allowance This valley has not yet been assessed, and the revenue has been collected in kind

249 **Murwut**, under the *Sikhs* previous to 1847, paid one-fourth its gross produce, besides a heavy capitation tax, which was peculiarly obnoxious to the people In 1847, Major Edwardes estimated that it yielded one lakh of Rupees per annum In that year, at the request of the inhabitants, Major Edwardes abolished the capitation tax, and raised the proportion of the crop, demanded by Government, to one-fourth The average collections, under this system, have equalled during the past four years, about Rs 1,30,000 Major Nicholson is now assessing Murwut, in which the Government revenue has been collected hitherto by a biennial appraisement of the crops In *Baunu*, the majority of the lands are well irrigated while in Murwut, the cultivation is altogether dependent on the rains

250 In *Isa Khel* about one-third the land is irrigated In 1847, Major Edwardes estimated that the annual collections by the *Sikhs* were equal to Rs 63,744 besides the revenues enjoyed by the Khan, or hereditary chief It has yielded since that period about Rs 40,000, collected by the same system as that which has prevailed in *Baunu* and Murwut, namely appraisement of the crop Major Nicholson has lately assessed it at Rs 32,000, equal to twenty-five per cent below the former collections He describes both Murwut and *Isa Khel* as in rather an impoverished condition The Government demand, probably, does not now exceed one-sixth the produce in these two districts

251 **Yānk**.—In 1847, this District was estimated to be worth a lakh of rupees per annum in land revenue and customs, and was held as a *fief* by certain expatriated chiefs of *Mooltan*, who kept up a body of three hundred horse Some twenty years before this period, it was estimated to yield one and a half lakhs of rupees In 1847 the administration of the *Mooltan* Patans being unpopular and oppressive, the District was taken from them, and transferred to *Shah Nuwar Khan*, the exiled son of the last chief He was allowed Rs 25,000 for his personal expenses and the cost of management, and paid, Rs 75,000 revenue to Government Since this arrangement was made, the customs have been abolished, and the land revenue reduced to 65,000 Rs

252 **Kolachee**.—Previous to 1847, the Sikh Government collected, on an average, Rs 60,000 per annum from this tract, one-sixth of which was customs. This left land revenue of Rs 50,000 per annum Major Edwardes fixed the assessment at Rs 45,000, which was calculated to be equal to two-fifths of the crop, but which cannot be equal to this proportion Out of this the hereditary chiefs were to receive 13,825 Rs, and the heads of villages ten per cent Much of the land for many years has been mortgaged, and the continued struggle between the two parties, the debtors and creditors, has injured the cultivators This District is now being assessed by *Mi D Samson*

253 **Diabund**.—This District, when leased to a farmer by the Sikh Government, yielded as much as Rs 25,000 per annum The Government share of the crop is said to be one-fifth The assessment since annexation has been Rs 17,900 which has lately been reduced to 13,500 rupees

254 **Dera Ismail Khan**.—A large section of this District, with the whole of the adjoining one of *Chondwan* is held in *Jagir* by the ex-Chief and ruler of *Dera Ismail Khan* and *Munkhear* That portion retained by Government yields a land revenue of Rs 62,422, of which about three-fourths is a money-assessment, and the remainder collected in kind In this District alone, the customs lately repealed used to yield 1,60,000 rupees per annum

255 **Girang**, (as it was called by the *Sikhs* from the fort they built, or *Dera Fatah Khan*, its ancient name,) is a poor District, the majority of its lands being dependent on the autumnal rains, and not more than one-twelfth being irrigated In 1848, it paid Rs 22,051, and is now assessed at Rs 19,940 per annum

256 The revenue of *Kālabāgh* has been relinquished in favor of its *Mulik*, or Chief, in lieu of the customs and town duties recently abolished.

257 **Dewan Moolraj's** late Government comprises the rest of the *Punjab* Under that designation may be recognized the Districts now known as *Mooltan*, *Kangur*, a large portion of *Leia*, all *Dera Ghāz Khan*, and some small strips of land in *Pākpatan* and *Jung* Previous to 1846, the territories administered by the *Dewan* were, according to the *Durbar* records, estimated to yield a revenue of 34,95,542 rupees, for which he paid a tribute of 21,66,585 rupees, the difference being allowed for the expenses of management and his own profits.

In that year, *Districts* estimated at 7,92,465 rupees were severed from his charge, and the tribute on the remainder raised to Rs 19,65,000 per annum By this calculation, he retained lands recorded as yielding 27,03,077 rupees, of this sum, three lakhs of rupees per annum may be deducted for customs

258 **Dewan Moolraj** and his father *Sawun Mul* had held the above charge, under the name of Government of *Sawun Mul* and the Province of *Mooltan*, for twenty years, and during that period accumulated a large fortune When *Sawun Mul** was entrusted with the viceroyalty of the country, a large portion of it was little better than a desert war, rapine, and general

* *Sawun Mul* originally went to *Mooltan*, as the head of one of the offices of account in 1820, under *Hazareh Mul* In 1828, *Ranjit Sing* gave him half the Province. In 1829, he obtained the whole, and was assassinated in 1844

insecurity had decimated a population, which for a long period perhaps for more than a century, had CH I

Physical improvements effected not been numerous He dug canals, and induced the people from by Sawun Mul neighbouring states to settle under his auspices The whole cultivated area of Mooltan proper, with the exception of a low tract of limited extent, which is annually under water during a portion of the year, is dependent on artificial irrigation, without which no crops are raised In this District there are no less than fifteen canals, of an aggregate length of 325 miles, the largest of which are from six to seven feet deep, and from twenty to thirty feet wide, and the smallest from two to five feet deep, and from six to ten feet wide They irrigate the lands of 410 villages In the progress of years, tracts, for which Sawun Mul paid a mere trifle yielded a large revenue But General revenues of the assuming his land revenue as that which the Durbar records give, and Provincios which Moolraj himself admitted, it exceeded slightly Rs 24,00,000 per annum These Districts, however, have been assessed at no more than Rs. 19,42,000 This is equal to a reduction of upwards of eighteen per cent., or Rs 4 58,000

259 If however, instead of this general comparison, we review the past and present land-tax in each District in detail, it will appear that the difference in favor of the agriculturists is fully equal to this proportion The Commissioner, Mr Edgeworth, writing of the fiscal arrangements of that tract of country which now forms the District of Mooltan, states that it yields a land revenue of Rs 5 65 735, whereas Dewan Moolraj derived a land revenue of no less than Rs 8,51,025, or Rs 2,84,269, in excess of our present demand This is equal to a reduction of thirty-eight per cent.

Lieut. James, who made the assessment of a large portion of the Mooltan and a part of the Kangur Districts, declared that, besides giving all fees, fines and similar petty but numerous demands, made by the late Government, he reduced the land-tax, on the average of the former four years, by fifteen twenty and twenty-five per cent., on the following principles —where irrigation was abundant without danger from flooding, with a market in the vicinity, and cultivators numerous he gave a reduction of fifteen per cent. In villages bordering on the great central waste, which characterizes the Doab, at the extremity of canals, where the supply of water was uncertain, and where markets were distant or cultivators scanty, the remissions varied from twenty to twenty-five per cent. Again, in villages where the land was higher than the canal so that the husbandman could not rapidly conduct irrigation over the fields at pleasure, but had to raise the water by artificial means, in some instances both tedious and expensive, in such cases the reductions also varied from twenty to twenty-five per cent. Thus, Lieutenant James remarks, there are villages where two wheels are required, the lower one conveying water to a reservoir, whence, by means of the highest one it reached the up land Besides the abandonment of half the grazing-tax in Mooltan, the tax on date groves was diminished In the Mooltan District, the Government demand in Moolraj's time never appears to have exceeded one-fourth of the gross produce, it was often one-fifth, and sometimes as low as one-sixth But to this should be added the various cesses, whereas the present demand, as has been already shown, was based on the above proportions, while the extra imposts were repealed However, notwithstanding this reduction on the amount entered as having been demanded and collected by the former Government, still representations of over-assessment have been made by the local authorities, and many complaints were presented to the President of the Board during his last tour The Board have taken steps to ensure the concession of whatever relief may be required

Its summary settlement.

260 The revenue of the Kangur District, which adjoins Mooltan, amounts to Rs 4 95 343, a part of it was settled in 1849-50 by Lieut. James, and the remainder by Mr Wedderburn This District comprises the lower portion of the Rechna Doab, and possesses great facilities for irrigation In it, the Government share of the gross produce never exceeded one-third, and was usually one-fifth or one-sixth, on indigo and sugar cultivation, it was always calculated at one-sixth In Muzaffargarh, one of the largest sections of the District, Lieutenant James's reductions were equal to twenty-three per cent, and he calculated that the Government demand, as fixed by him, could not then exceed one eighth of the produce In other tracts, it was reduced seventeen, and nineteen, and twenty-one per cent below the former demand. The present demand, on the average, is probably less by twenty per cent. than that of the former Government. The District of Kangur abounds in date-groves, and on the revenue derived from this source, a large reduction was given

261 The Leiah District extends from the confines of Kangur, on the South, to the boundaries of the Salt Range, on the North It occupies the whole of the Sind Sagur Doab, and in superficial area is perhaps the largest District in the Punjab Its revenue does not exceed Rs 5,43,571 All the Northern portion was administered by the Durbar, and was included in the general settlement of 1847 All the Central and Southern parts, having been under Dewan Moolraj's jurisdiction, were settled by Captain Hollings, who evinced great zeal in the execution of this work From his report, it does not appear what proportion of the gross produce Moolraj was in the habit of collecting, but it could not have exceeded that of the adjoining District of Kangur

In the Leiah District, the rate of assessment varies from 15 anas to Rs 1-4 per cultivated acre, while from one-fourth to one-third of the cultivation is irrigated This is an extremely low rate of assessment. The grazing-tax in this District is very productive The various tracts in Leiah, formerly under Moolraj, now yield a revenue fully equal to that which they paid to him.

CR I 262 The lands of the Dera Ghāzi Khan District are in places watered from the river Indus, and in other places are dependent for irrigation on the flooding of the hill-streams. In Dera Ghāzi Khan, there are alone twelve canals the aggregate length of which is equal to 231 miles. These are repaired annually under the direction of the Government officers, the occupiers of the land subscribing half the cost, and the State paying the remainder. In Mitankote, the canals are all under the exclusive control of the agriculturists. The proportion of the produce taken by Dewan Moolraj varied from one-third to one-fifth something less than one-fourth may be assumed as the average of his demand, exclusive, however, of many cesses. The latter have been abolished, and the revenue reduced from 5 02 106 Rs to 4,56,287 Rs, equal to nine per cent, but still the complaints to the President were loud and numerous, as he passed round and through the District in April last.

263 From the above rapid sketch of the past and present history of the land-tax in the Punjab, it may clearly be seen that reduction has taken place since 1847 when fixed money-assessments were substituted for the system we found in existence. It is not easy to estimate the exact amount of this relief, because the revenue was continually fluctuating from the alienations which were constantly made, and from the lapse and confiscation of jagheers which from time to time occurred. It must also be recollected that many items of revenue not actually derived from land, were mixed up in the accounts of its revenue. At the close of the assessment of the land in 1847-48, the revenue of the Punjab proper did not exceed ninety-eight lakhs (£980,000) of which eighty-two may be set down to land revenue and to customs. It probably did not realize this estimate. After the war of 1848, there was a large increase to the land-tax, from the difference between the tribute formerly derived from Mooltan and its gross revenue, from the resumption of assignments on the revenue in favor of Durbar officials and dependants, (for which pensions were substituted,) and from the confiscated jagirs of the insurgent chiefs and officers. This was further considerably added to, by subsequent lapses, and the resumption of large jagirs held in lieu of Military contingents. On the other hand, the country had suffered much from war and devastation. In Mooltan, Shahpur, Gujrat, Rawalpindi and other places, large defalcations on this account occurred but this was fully compensated by the recovery of arrears due from Kardars and other officials.

* District	Land Tax Lakhs	Customs Lakhs	Total Lakhs
Four Doabs,	54	0	54
Mooltan,	16	3½	19½
Hazara	2½	½	3
Dera Ismail Khan,	5	0	5
Peshawar,	4	3	7
Salt and Customs,	0	9	9
Total	82	16	98

264 For the first year after annexation, the entire collections under the head of "land revenue" amounted to Rs. 98,12,425, in which are included receipts from pasture lands, Government gardens, canals, and similar items not usually borne on the rent-roll. In the second year 1850-51 it amounted to Rs 1,01,85,043 for the whole of the annexed territory. In 1851-52, the third year, it reached Rs 1,06,09,757. Assuming it to have been Rs 82,00,000* at annexation, it increased by Rs 19,85,047 in the second, and by Rs 23,89,757 in the third year. No portion of the enhanced revenue was derived from increased taxation of the land. On the contrary, in all the resumed and confiscated estates, the Government demand was lowered in proportion to the reduction, which the public lands had already received. The relief thus granted fully equalled thirty per cent. In the whole of the Punjab, the reduction of the land-tax may be estimated to be equal to twenty five per cent., exclusive of any extra items which may have been levied. This increase of revenue obtained in spite of reduction in assessments, has been explained in para. 263 to have occurred through confiscations, lapses and resumptions of jagirs, and the difference between the tribute and revenue of Mooltan.

265 That such is no extravagant estimate, may be gathered from the preceding analysis, and, if any confirmation of this fact be wanted it may be obtained from the jagirdars now in the Punjab in the enjoyment of their estates, who, in consequence of the general reductions in the land-tax, have had to reduce their revenues also.

266 In despite, however, of these large reductions, the complaints during the past year on the part of the agriculturists have been loud and general, and there can be little doubt but that, to a certain extent, there has been cause for this discontent.

For the three first years after annexation, the harvests, with a few isolated exceptions, were remarkably favorable. For twenty years, the agriculturists declare they had never witnessed such crops of wheat and barley. Not only did the unirrigated lands, usually under cultivation yield particularly large returns, but cultivation was greatly extended. Lands, which in ordinary season were seldom sown, given large returns. These circumstances, joined to the general peace and security of the country, and the fact that large bodies of disbanded

* £ 820 000 0 0
 † £ 198 804 6 0
 ‡ £ 238 976 14 0

soldiers and discharged employees had to turn their attention to agriculture for a subsistence, all contributed to cause so great an increase of produce, as to reduce prices to an unprecedented extent. The result of these different causes has doubtless been that production has exceeded consumption, and hence that, while an abundance of food exists there is not sufficient market to secure its sale at remunerative prices. No countries surround the Punjab to which any great quantity of grain could be exported. To the West the disturbed state of Afghanistan, and the difficulties and cost of transit, must prevent the exportation of food. To the South, are Sind and Bahawalpur, the former producing more than it consumes, the latter a poor and thinly peopled tract. To the East, is the Jullundur Doab, densely peopled, but so fruitful in its own soil as fully to support the inhabitants. To the North, are the hills, whose inhabitants have not the means of purchasing our surplus produce.

267 The demand for food has not decreased, it has probably increased, for although the army of the late Government have been disbanded, there are not, between the Still home consumption large Sutlej and the Khaeber, less than 60 000 fighting-men, with perhaps five times that number of camp followers. Hence there is a larger demand than before for food over the country generally, though the market round and about Lahore is more limited. The labor employed on canals, roads, cantonments, and other public works that have been undertaken, must cause the circulation of large sums of money, and increase the demand for food. The pay of our army, within the limits above quoted, has been estimated to be equal to 165 lacs (one million, six hundred and fifty thousand pounds). The expenditure by the various civil establishments the Commissariat and Executive Departments, and the different works in progress under the Boards, are probably equal to another million, so that nearly double the Punjab revenues are at present spent in the country. But it must also be admitted that much of this money is now very differently distributed. Large sums which, under the Sikh rule, found their way direct to the villages of the Manja now flow into the Oude territory. A vast amount formerly expended on wood, lime, and iron, is now carried to a distance or goes to enrich our neighbour, Maharaja Goobal Sing. The laborers employed on our public works do not belong to the agricultural classes, whereas, under the Sikh rule, the service of the State was chiefly recruited from the land-holding community. The expenditure of so much revenue however doubtless does much good, and tends to mitigate the social evils inseparable from so great a change as that which took place at annexation.

268 The effect of a very large and sudden increase of production, even where prices do not fall in a greater ratio, must have tendency to derange money assessments. Rich and highly irrigated soils produce no more, in a favorable season, than in one of actual drought. In the great famines of 1834 and 1838, agriculturists in the villages along the canals of the Delhi territory, made enormous profits. Their produce, in a year when grain was selling at seven sers for the rupee, was equal to what their lands yielded when it averaged thirty sers and the revenue paid by them was the same. Exactly the reverse has occurred in the Punjab. Villages with great capabilities of soil and irrigation, are proportionately highly assessed, and with the average amount of produce, prices have fallen a half. To these villages, a season of abundance and low prices is manifestly an evil.

269 But much land in the upland below the hills in the vicinity of Jumoo and Jusrota, and extensive tracts in Shahpur, Jhang Saekapoor, Leiah and Pakpattan, have broken up since annexation. Such lands pay little or no revenue, and thus untaxed produce floods the market and competes with the grain of the more highly taxed lands. The peace and security which have prevailed in the Yusufzai country, however beneficial to its inhabitants, and politically advantageous to Government, have injured the agriculturists of the Chui valley on the left bank of the Indus, and the effects have probably extended down to Rawalpindi. The people of Yusufzai have a fertile soil, which though chiefly unirrigated is pretty certain to bear good crops, from the vicinity of the hills, which usually ensures rain. They have lately doubled perhaps trebled, their cultivation. The greater part of this surplus produce crosses the Indus into the Rawalpindi District. The land in the one District is fully taxed, in the other, it pays but a nominal revenue, and from political considerations, we could not equalize the demand.

270 The cry of over-assessment has been very general throughout the country, but more particularly so in the Rawalpindi and Jhelum Districts of the Sind Saganu Doab, Deia Ghazi Khan beyond the Indus, and in Mooltan. There has been a very general demand, among the agriculturists, for a return to grain payments, to a division or appraisement of the crops, every season. The Board have resisted this call, but have directed the suspension of revenue wherever it appeared desirable and have urged on the local officers the necessity for a new settlement, where the old one had expired, or the current one was manifestly excessive. The reduction and equalization of revenue, it is hoped, will afford the necessary relief.

271 There can be no doubt that, however much has been the reduction of the land tax in the Punjab generally, since 1847, the country in particular parts, requires still further relief, and that the result of a new settlement must have that effect. In the Jhelum Division such has been the case with the summary settlement. The revised assessments, now in progress in both the Bari and Rechna Doabs, which are founded on an accurate measurement of every field, and a careful, but liberal, estimate of the productive powers of the

On soil, have produced the same result. The revised settlement, just completed in the Trans-Sutlej territory, in which the reduction in the land tax in 1846 was considerable, has also produced no increase in the champagne country of Hoshiarpur and the Jullundur, but a considerable reduction in the hill country. In the Cis-Sutlej states, similar operations have been attended with the same result. The history of the fiscal system, in force under Sikh rule unquestionably proves that, where the country was thoroughly subjugated and densely populated, the State exacted a larger proportion of the produce than could be permanently realized without impairing the resources of agriculture. But, under these circumstances, it will be the policy of the British Government to reduce the demand, in order that the people may flourish and capital may be accumulated.

272 *

273 The effect, also, of the abolition of customs and town duties has doubtless been to reduce prices. The producer, therefore, has not suffered to the whole extent of the fall of prices, even where produce has not increased. Indigo formerly paid eight rupees (sixteen shillings on the Panjabes maund of 105lbs sugar, four shillings, on the same quantity.) Moolraj always made the agriculturists pay for the grain the Government share of the crop, at a price from four to eight pence the maund of 105 lbs in excess of the market price. This, however, was not taken into consideration in estimating the value of the average produce on which the assessments were made. In Mooltan and Pakpattan, some of the tracts which have

suffered most, have been those in which the water in canals has failed, from the heads being choked up with sand. Such causes, unless promptly remedied, are sufficient to ensure the failure of the whole harvest. But it is necessary to distinguish these results from those arising from over-production. No regular rent-roll for 1849-50 was prepared. The land-tax for 1850-51 and 1851-52 may thus be detailed.

274 Abstract rent-roll of "the Panjab" for the year 1850-51 and 1851-52 —

Division	District	Revenue, 1850-51	Total	Revenue, 1851-52	Total
Lahore	Ishore	3 80 698 8 0		4 06 143 8 0	
	Amritsar	8 68 720 0 0		10 24 729 8 0	
	Dinanagar	8 99 269 4 0		9 40 407 0 0	
	Wazirabad Buckhupura	10 85 387 4 8 3 15 168 2 8		11 40 177 7 11 3 84 223 12 6	
		35,51,133 5 0			38 94,680 4 6
Jhelum	Gujrat	5 93 819 8 0		5 98 588 8 0	
	Jhelum	6 95 480 0 0		7 20 008 0 0	
	Rawalpindi Shahpur	8 24 618 14 2 4 12 210 16 0		8 20 853 1 6 9 43 816 0 0	
		25,26 427 5 2			24,85,876 9 6
Lahore	Leiah	4 84 439 6 8		5 43 571 6 9	
	Kangur	4 96 948 5 6		4 84 628 3 6	
	Dera Ghazi Khan Dera Ismail Khan	4 55 748 7 0 4 89 679 12 0		4 72 801 0 0 5 06 668 4 1	
		19,25,205 15 3			20 07,558 14 4
Mooltan	Mooltan	5 64 301 0 0		6 08 289 3 11	
	Jhang	2 78 776 6 8		3 49 021 6 2	
	Pakpattan	2 67 565 0 0		3 83 124 5 6	
	Peshawar Hazara	11 00 645 6 3 5 98 072 8 6 1 88 541 5 0		11 00 645 6 3 5 98 072 8 6 1 88 541 5 0	
		11 00 645 6 3			13 86 394 15 7
					7 19 286 1 0
					1 68 122 6 9
	Total Rs.		1,01,85,023 11 2		1,06,00,898 2 7

Extract from Punjab Administration Report for the years 1854-55 and 1855-56

39 Former Reports have also shown how preceding Governments realized their Land Tax, either in kind or else by a money payment annually variable, according to appraisement of standing crop, but the British Government has from the first decided on levying the tax by money payments assessed for a term of years. The peasant proprietors compound with the State for a fixed period, such assessment and compounding being technically termed a Settlement. But the proprietors do not engage *individually* with the Government but by *villages*. The brotherhood, through its headmen or representatives, undertakes to pay so much for so many years, and then having done this, they divide the amount among themselves, assigning to each man his quota. Primarily each man cultivates and pays for himself, but ultimately he is responsible for his co-proprietors and they for him, and they are bound together by a joint liability. The Punjab system therefore is not Ryotwari, nor Zamindari, but the *village system*. In the Hills, and occasionally elsewhere, the Zamindari system, and near Mooltan, something approaching to the Ryotwari system, may be found. But the village system is the prevalent one, especially in the most important Districts. In short the same system prevails in the Panjab as in the North-Western Provinces.

* see Appendix A

40 As each part of the country came under British Administration a rough assessment was made for two or three years. It has been shown conclusively in former Reports, that by these assessments an abatement used to be made of about 25 or 30 per cent on the Revenue of our predecessors. In this manner probably some forty lakhs of Rupees were remitted in the Punjab Proper, some ten lakhs in the Trans-Sutlej States, and some ten lakhs more in the Cis-Sutlej States. On the whole the reduction of taxation allowed by the British Government on its first occupation of the country, was not less than 50 lakhs or £500,000 sterling at the lowest.

41 But liberality by no means ended here. Not a year passed away in which even these Summary Settlements were not still further lowered in any place where undue pressure might be apparent. In the meantime a Regular Settlement Department was organized and specially commissioned to ascertain the resources of the country and to fix a moderate and equitable assessment, based upon solid and accurate data, for a longer term of years. In the Cis and Trans-Sutlej States these assessments have been fixed for periods of twenty and thirty years. In the Punjab Proper the term has been ten years, with a proviso that it may be further prolonged on the expiry of the ten years if the assessment has worked well. These assessments have now been completed in the Cis and Trans-Sutlej States, in the upper portions of the Bari Doab (comprising the Sikh Manjha), and of the Rachna and Chuch Doabs, that is, all the Northern region between the Rivers Beas and Jhelum. Enquiry preliminary to such assessments is progressing in all remaining parts of the Punjab, except the Trans-Indus Frontier and the Mountainous Hazárf. The portion already settled is the richest in the whole territory, and the Revenue regularly, and for the present finally, assessed, amounts to ninety-five lakhs, or nearly two-thirds of the whole Land Tax. The remaining one-third or sixty lakhs will be shortly assessed, and within the next five years, the entire Land Tax of these territories will have been placed upon a definite and satisfactory footing. These regular assessments have, like the Summary Settlements, almost invariably resulted in reduction of taxation. In the richest parts of the Jullundhur Doab only, the Summary Settlement has been maintained. In all other Districts there has been a reduction at the Regular Settlement. These reductions, together with the summary reductions on the first assessments, have caused the burdens of the taxpayers to be decreased year by year as follows —

Permanent reductions or decrease by Settlement since Annexation

In 1860-61, decreased by Settlement, Rs	1 63 116	£16 311
" 18 1-62 " " " "	1 82 817	£18 281
" 1862-63, " " " "	4 80 638	£48 063
" 1863-64, " " " "	5,10,018	£51 001
" 1864-65, " " " "	7 41 660	£74 166
" 1865-66, " " " "	2,62 426	£26,242
Total, Rs	25,40 676	£264 067

or 23½ lakhs or £234,000, and this amount may be fairly added to the 50 lakhs originally reduced, making a total of Rs 72,47,244 or £723,724—deduction made by British Government from the burdens of the people. If the amount of reduction since annexation be taken in proportion to Land Revenue as it stood in the first of the above years, viz., Rs 1,69,40,723, the decrease will be not less than 25 per cent. It will be observed, however, that for the last two years the decrease has been diminishing as reduction is gradually reaching its limit, and as the adjustment of the tax is becoming gradually perfected. It is probable however, or indeed certain, that the assessments now being prepared will effect some further reductions. The incidence of the tax upon the District regularly settled may be thus seen. Besides the permanent reductions, there have been casual remissions of uncollected Revenue as follows —

1851-53	Rs	6,96,713	£ 69,671
1852-54	"	20,97,898	£209,789
1853-54	"	5,61,867	£ 56,186
1854-55	"	9 0 0	
1855-56	"		

Total, Rs 30 66,473 or 30 lakhs of Rupees, or £306,647

42 The rate of assessment per acre per annum in the Cis-Sutlej States is Rs 1-2-4 or 2s 3¼d, in the Trans-Sutlej States Rs 1-15-7 or 3s 11¾d, in the Upper Bari and Rachna Doabs Rs 1-6-5 or 2s 9¾d, in the Upper Chuch Doab Rs 1-2-7 or 2s 3¼d. It will be observed that the rate diminishes as the Settlement progresses westward, the country being poorer, the same result will occur in the southern Districts. It is estimated that a peasant proprietor cultivates on an average 8 acres, and at a mean rate of assessment (say Rs 1-4-0 per acre) would pay Rs. 12 or £1-4-0 per annum to the State. From this point of view the amount would not seem heavy. Again, from searching and accurate inquiry in the Settlement Department, showing the exact yield and value per acre of every kind of crop, it has been ascertained that the Government demand does not exceed one fifth of the gross value of the produce in rich tracts and one sixth, or one-eighth, or even less, in poor tracts. Suppose, for instance, a proprietor obtains Rs 100 in a year from his little patrimony, of this he would pay Rs 20 to the State. The expenses of his husbandry and to gross produce would be light (not more than Rs 20) consisting of the purchase of seed, of implements, the repair of the well, feed of cattle, and the like. He pays nothing for labor, as the labor

CII I, is that of his own hands, of his sons, and of his wife. Thus the Government demand and the expenses of cultivation might together amount to Rs 40, leaving Rs 60 Rs worth of produce, with which he may maintain his household and save a small surplus as capital. A portion of the produce he would convert into money, a portion he would consume at home. But such a man would also have some waste land, whence he obtains many necessary things for nothing such as grass for thatching wood, fuel, fodder, and the like. The above description may apply to tens of thousands of holders of the condition of land and the like of the peasantry. But there are also tens of thousands of yeomen with double and quadruple the above means who can afford to have substantial cottages, patches of garden cultivation round their wells, to keep brood mares, several yokes of plough oxen and herds of cattle grazing in pasturage, and to spend occasional sums at marriages and such like festivities. One-fifth of 20 per cent. upon income may appear a high rate of taxation as compared with European countries, but it is low as compared with Asiatic countries. It could not safely be reduced much lower, for it must be borne in mind that other sources of taxation besides those now existing are not available. Indeed the people themselves would hardly expect any thing more, they are grateful for that which has been allowed.

43 Indeed the fiscal moderation of the British Government is notorious all over the Punjab and among all classes, especially among those most conversant with the practice of former times. In 1848 the rebel Sikh Chiefs in their proclamation of rebellion, laid it to the charge of British Officers, that by their low assessment they had sacrificed the State Revenue. The allegation was true, but though meant to convey blame it really conveyed praise. The British have advantageously pursued the same policy ever since. One excellent proof is that the feudal Jāgirdārs, whose Revenues have been assessed on the same principles as the Government Revenue, complain that their Revenues have been reduced one-half. A Jāgir, of which the valuation, as recorded some years back was, say Rs 5 000 or £500 is now assessed at Rs 3 000 or £300—there are hundreds, and even thousands of such instances the subjects of common conversation, and by this sure standard the general reduction throughout the British territory may be measured. This well known fact would alone, independent of all the other proofs suffice to prove the great reduction of fiscal burden effected by the British Government in the Punjab, which has indeed been the prominent characteristic of our Revenue Administration.

44 For this beneficent end there has been a considerable sacrifice of Revenue, but this has been partially compensated for by the resumption of Jāgirs at annexation and by the lapse of *hefs* and Jāgirs and petty tenures since that time. These lapses have nearly sufficed to make up for the reductions subsequent to annexation, so that the Land Tax has not materially fallen off since annexation. There has, however, after allowing for all these sets off been a net sacrifice of at least half a million sterling, this sum being (at the least) the difference between the Land Tax of the *tiks* and the Land Tax of the British. But since Annexation the lapses and resumptions have balanced the reductions of assessment, for as regards actual realization, the tax yielded Rs 1,59 40,722 or £15,94,072, for 1850-51, the highest year and during the last year, 1855-56, it has still yielded Rs 1,50,00,650 or £1 500 065. In this respect the policy of the Sikh Government was to tax heavily the agriculturists, and to make large assignments of Revenue to the nobility as payment for service and support. But the policy of the British Government is to tax lightly the agriculturists, to pay its servants from its own Treasury, to excuse the native nobility from service, and to gradually reduce their assignments of Revenue.

45 But while on the one hand every consideration has certainly been shown to the tax-payers, on the other hand there has been no causeless sacrifice of the resources of the State, for there are weighty reasons to show that high money assessments could not be maintained in the Punjab. In former Reports it has been seen that the sudden pacification of the Province after annexation, the cessation of military and political employment, which occupied many thousands of persons and caused money to circulate in the villages, induced large numbers to devote themselves to agriculture. Formerly a proportion of the agricultural classes were engaged in war and service of various kinds and thus they supported themselves, and contributed to the support of those who tilled the ground at home. But now the entire support of all these classes fell upon the land. Again, there came a cycle of seasons more favorable than the average of years under British rule. From all these causes the agriculture became unusually productive, flooded the markets with produce, and reduced prices nearly 50 per cent. This cheapness rendered it difficult for the agriculturists to obtain cash for their produce when they wanted to pay their new money assessments. There was less money in the Punjab than previously, large sums, which would formerly have circulated in the Punjab, were remitted to other parts of the Empire by the soldiery and other Government employes. Again the fact that nothing but cash was accepted in payment of the Government Revenue, enhanced the value of money. The agriculturist therefore, with abundance of surplus produce on his hands, found difficulty in converting it into money, and this difficulty was perhaps aggravated by the unvarying nature of the Government demand (however low) with men accustomed to an annually fluctuating demand under Sikh rule. For some time it was supposed that prices would partially though not entirely, regain their former standard. But it appears that the same causes must still be more or less

in operation to keep down prices. The following Table will show that, with slight oscillations, prices are CH. I. nearly as low as ever —

Average Prices.

For ten years,* up to 1850-51	Wheat.		Indian Corn
	Rs 2 per maund of 82 lbs.		Rs $1\frac{11}{16}$ per maund.
1851-52	Rs. 1 per maund		Rs. $0\frac{11}{16}$ per maund.
1862-63	Rs. $1\frac{1}{16}$ ditto		Rs. $1\frac{1}{16}$ ditto.
1863-64	Rs. $1\frac{1}{16}$ ditto		Rs. $1\frac{3}{16}$ ditto
1854-55	Rs. 1 ditto	..	Rs. $0\frac{11}{16}$ ditto.
1855-56	Rs. $1\frac{1}{16}$ ditto		Rs. $0\frac{11}{16}$ ditto.†

The price has always been one maund, more or less, or 82 lbs for the Rupee, during the last five years, that is, *nearly as cheap again* as it used to be before annexation. Furthermore, not only are the prices much lower than they used to be in the Punjab, but also lower than they are in other parts of Upper India. During the past five years the average price of gram in the North-Western Provinces has been 33 sérs to the Rupee and in the Punjab 37 sérs.

46 It is clear then that the Punjabee, though he has more produce to sell than heretofore, must sell it at a much lower rate than formerly. His money taxation must therefore be kept low. It is evident indeed that too large a proportion of the people are agriculturists, that they cultivate too much of one thing, *s, e, c*, cereals, and that they have not sufficient means of disposing of that produce. To remedy these defects, it would be necessary, either that people should take to other professions besides agriculture, or if they must remain agriculturists, that they should introduce new products besides cereals, or if they cannot do this, that they should have the means of exporting their cereals and other produce. That the Punjabee can easily take to non-agricultural employment is doubtful. Many kinds of lucrative services, once open to them, no longer exist. It is probable that three-fourths will

True remedy for agriculture disadvantages.

for some time continue to be agriculturists. Something may be done regarding the introduction of new products or the improvement of old, but the result will be slow of accomplishment. The most promising plan is to supply the means of exportation. The Punjab cannot export to the West or to the North, as those regions are poor, nor can it export to the East, as in that direction there is already abundance. It can only export to the South, to Kurrachee, the port destined by nature to be the outlet for these Territories. Thence the produce can be shipped for Bombay or for distant countries and colonies. Already it is found that Sind and Punjab wheat can be profitably exported to the Mauritius. Already some 5,357 tons or 150,000 maunds per annum of Punjab produce find their way with difficulty down the Indus, and thus will, it may be hoped, become the nucleus of a mighty traffic. That the Punjab must be producing more than it can consume is easily calculated. The cultivated area has been returned at 12,751,151 acres

Surplus production. Some three-fourths of this area are certainly grown with articles of daily food, namely, wheat, barley and Indian corn, maize and rice. At an ordinary average of production per acre, namely 6½ maunds, some 80,164,616 maunds or 2,863,022 tons may be produced annually. There are thirteen millions of souls, at an ordinary rate of consumption per annum of about 4½ maunds or 360 lbs to each person, they would consume 59,000,000 maunds or 2,107,143 tons in a year, which deducted from the aggregate produced leave a surplus of 777,481 tons, which surplus, though attained by a rough calculation, will give some idea of the actual state of the case. What is to become of this surplus? If possible, it should not be allowed to fill our granaries and glut our markets, causing derangement of prices and embarrassment to the agriculturists, yet it cannot be exported to Kurrachee unless the communication shall be improved by steam or rail or by both. That this can be effected, there is happily reason to suppose, as will be seen in one of the following Sections (IV). In this place, therefore, it is sufficient to urge that the measure is of the very last importance to the agricultural interest

and to the future prosperity of the Punjab, and that until something of the kind be effected, there must always be some anxiety regarding our Land Revenue. Let means of export the grand desideratum, be once supplied, every thing will follow. There are known to be nearly six millions of *culturable* acres yet to be brought under the plough. There is a population, prolific to increase, hardy and industrious to labor. There are vast supplies of water in the rivers and facilities for excavating canals. Then money will be abundant, prices will recover their standard, and the Land Revenue will flourish.

47 In regard to the collection of the Land Revenue, it will be remembered that for several years there used to remain heavy balances uncollected. But these amounts were remitted and the demand for

* Seven prior to Annexation

† The great cheapness, which has generally prevailed during the last year, which was dry and unfavorable, leads to the conclusion that granaries were full and markets glutted with the grain of former years

CH. I. future years was reduced. After that, the collections became steady and did not further fall off. For the last three years the uncollected balances have been slight, as follows —

YEARS.	Demand	Collected.	Balance uncollected.	Nominal	Real	Per-centage of real Balance on demand
1853 54	£1 520 570 1,520 570	£1 991 910 1 99 19 102	£128 659 12 85 698	£74 780 7 47 804	£53 879 5 38 794	3 54
1854 55	£1 470 088 1 47 00 864	£1 403 373 1 40 09 731	£66 715 6 07 153	£39,909 3 49,959	£20 806 2 08 054	1 41
1855 56	£1 462 420 1,46,24,259	£1 415 810 1,41,68,107	£46 615 4 65,152	£2,547 2,36,478	£14 067 1,40 674	-09

48 It is evident, then, that the uncollected balance is only an inappreciable fraction, and out of Rs 100 demand, 98½ are easily realized, so that really the whole demand is realized and this result is effected without any of the coercive processes authorized by law, such as sale, farm transfer, or direct management by Revenue Officers, of the defaulting estates. Such measures were adopted only in 2 cases during 1853 54 13 in 1854 55, and 16 in 1855-56. These numbers will appear small when it is remembered that there are 28,000 estates and probably no less than three millions of tax-payers to be dealt with. On the appointed quarter days (the Revenue being paid in four instalments two for the spring and two for the autumn harvest), the headmen bring the money for their respective villages. If there be any delay a notice to pay is sent to them which usually has the desired effect. But even these notices are not likely to increase. In 1853-54 there were 65 87½, in 1854 55, 58,747, and in 1855-56, 69 46½. There is notoriously much uncertainty of season in the Punjab. The upper Districts have generally a fair supply of rain, the central Districts a scanty fall, and the lower Districts hardly any at all. From the Meteorological Registers, it appears, on the general average that in 1853-54 there fell 19 93 inches of rain, in 1854-55, 23 84 inches, in 1855-56, 15 18 inches, and these years were not unusually dry, except perhaps the last.

Extract from Punjab Administration Report for the years 1856-57 to 1857-58

36. The Land Revenue system existing in the Punjab, was fully described in the last Report. We are now to see how that system worked during the past two years 1856-57, and 1857-58

37 In that system a prominent feature was the frequent and repeated reduction of the assessed Frequent reduction of the Land Land Tax. For reasons previously explained, the agriculturists cannot get good prices for their abundant produce, wherewith to pay up their Revenue, so there is nothing for it, but to lower the demand. It often happens, that no sooner has an assessment been elaborately calculated, than it has to be altered, no sooner have engagements been entered into with the people for terms of years, than they have to be broken. All this may be discouraging and even detrimental to system. But it must be done, for the circumstances are peculiar, and the good of the people is paramount to every other consideration. And viewed by the light of recent events this policy has proved most fortunate. There are many Officers now in the Punjab, who can remember how, in 1851-52, when prices of agricultural produce first fell fifty per cent, large bodies of landholders in some Districts tumultuously crowded round the Revenue authorities, and violently declared, that the markets were overstocked with grain, and that money could not be got in return for produce. At that moment, a temporary derangement of the Land Tax, from causes beyond the control of any Government, created a

Policy of reducing the Tax. strong excitement in some localities. Now it is evident that had such circumstances existed at the commencement of the crisis in 1857, our difficulties would have been grievously aggravated, and perhaps in some places insurrection might have occurred. But in 1852, the Government, though it could not relieve agricultural distress, could yet reduce the Land Tax, and that it did at once. That policy of reduction having been consistently followed for five years, the reward was reaped when the day of trial came. For then the agricultural classes were comfortable and quiet, none were pinched in circumstances, none were looking forward to change. In the last Report it was shewn how, at different times, 23½ lacs of Rupees, or 2 35 000£ had been abated from the Land Tax, still further abatement was, however, made during the period under report, for the demand, which in 1856-57 stood at Rs 1,48,46,122 or 14 84 612£, fell in 1857-58 to Rs 1,46,51,066 or 14,65,106£. But owing to fresh lands coming under assessment, (owing to lapses and resumptions) the collections scarcely varied in the aggregate, as will be thus seen. Land Tax collected, 1856-57, Rs 1,45,18,915 or 14,51,891£, 1857-58 Rs 1 45,16 03£, or 14,51,003£. It is evident then that throughout the year of trouble, the Land Tax was realized as usual. It is probable that still further reductions will have to be made in some places before the assessment will have approached finality.

38 Indeed, the willingness and punctuality with which the landholders paid up their Revenue for Realisation of Land Revenue the instalments which fell due just as the crisis set in, is not only shown by the public records and accounts, but is also testified to by all the European Officials who were present at the time. In some places, owing to the critical circumstances of the

time the Revenue was collected even before the date on which the instalments fell due. This was effected without the least difficulty, and indeed with the consent of the people. Even in the Cis-Sutlej States, extensively disturbed in a manner described in the previous chapter, the Revenue was collected with at least ordinary regularity. In that Territory a delay in payment on part of one village, was justly held to be a symptom of rebellion, and instant measures were taken accordingly. Even on the turbulent Peshawar Frontier, the Revenue was withheld by only two villages, and to them armed force was applied. These exceptional instances of recusancy, however, arose from instigation by our enemies beyond the border. In the southern part of the Jhelum Division there were a set of villages who spoke of withholding payment; but an indirect demonstration of force sufficed to bring them to their senses. In the Gugera District, and the Hills around Murree, there was considerable disturbance during the autumn, but still the instalments falling due two months afterwards, were collected to the last rupee. It will have been seen already that the difference between the demand and collection amounts to only Rs. 5,57,749, but of this the greater portion is nominal only, or capable of remission under the standing Rules, being occasioned by damage done to

land from action of rivers, or casual disaster, and the like, or consisting of reductions of assessment made within the year, or incorrect entries in the rent-roll of the year. The real uncollected balance amounts to less than one per cent on the total Revenue. And thus 99 per cent. was collected during the crisis without any particular resort to coercive process. During 1857-58, there was no sale, there were only 3 in 1856-57, and in 1857-58, only 7 farms and transfers to 14 in the former year. Imprisonment of defaulters was scarcely ever resorted to, and even common notices to pay had not to be served in greater numbers than usual.

39 The main cause of this fortunate result, no doubt, was that the people are always ready to pay Revenue to the Power that is, and that despite our reverses, they still considered us to be that power. As already explained, the Land Tax was light, there was no particular grievance to complain of in our Revenue system, the tenures had been fairly adjusted, there was no class, among the landholders and cultivators at least, who had suffered by British rule, there were no dispossessed malcontents, no depressed village communities, no upstart usurpers over the heritage of others through the operation of our laws, there had been no wholesale, or extensive transfers of estates or tracts from one set to another, there had been some unfortunate transfers of individual properties, but such cases were exceptional among the agriculturists at least. Thus it befell that no one had reason to hope for benefit by a change of rulers, and so long as we were at all able to assert authority, most agriculturists were quite willing to pay tribute to Cæsar. It were vain from such facts to assume the existence of any active heartfelt loyalty. But at all events, there existed no feeling against us, there was a kind of passive sentiment in our favor among the masses. The best Revenue administration will not secure much more than this, but recent events have shown that to secure even this much, is great gain. Moreover at that juncture there was an unusual degree of prosperity. The spring and autumn harvests of 1856, had not been abundant, there had been epidemic sickness among the people, and murrain among the cattle, in many places there had been even a scarcity of grain, and prices had generally risen, not indeed to the standard of former days, but much above the rates which had prevailed of late years. But in the spring of 1857, the harvest was excellent, sickness and murrain had abated, the markets, owing to previous deflection, were not over-stocked, and prices did not fall greatly, so that generally the agriculturist had plenty of grain which he could sell at a tolerably good price. In some few places only was there a difficulty of exporting grain owing to disturbed state of the times which resulted in a slight glut of the markets, and, a corresponding fall of prices. Thus on the whole, agricultural prosperity told in our favor during the crisis.

40 In former reports it was explained how the circumstance of so much money going out of the Punjab, contributed to distress the agriculturist. The native army was Hindustani, to them was a large share of the Punjab Revenues disbursed, of which a part only they spent on the spot, and a part was remitted to their homes. Thus it was that year after year lakhs and lakhs of Rupees were drained from the Punjab, and enriched Oude, but within the last year, the native army being Punjabi, all such sums have been paid to them, and have been spent at home. Again, many thousands of Punjabi soldiers are serving abroad. These men not only remit their savings but also have sent quantities of prize property and plunder, the spoils of Hindustan, to their native villages. The effect of all this is already perceptible in the increase of agricultural capital, a freer circulation of money, and a fresh impetus to cultivation. There has, indeed, been a diminution of laboring hands to till the ground, such large numbers of husbandmen having enlisted in the army, but this is more than compensated for by the augmentation of those means which are the enews of agriculture as of everything else. Probably at no time since annexation have the agriculturists of the Punjab been in such easy circumstances as they are at the present time of writing.

REPLY TO QUESTION 13, CHAPTER I

Extract from Punjab Administration Report for 1875-76, paras 10-14 (inclusive) CH I
of General Summary

10 During the incumbency of Sir Henry Davies, settlement operations have been either in progress or undertaken, or closed or finally sanctioned in the whole or part of 24 Districts out of the 32 in the Province. In 10 Districts the settlements have been finally sanctioned, the revision extending to the record of rights alone in Kangra and Hoshiarpur, and to the record of rights and assessments in the 6 Districts of the Lahore* and Amritsar Divisions, and in Gujrat whilst in the Hazara District there was a first regular settlement. In 3 Districts, those of Dera Ghazi Khan, Peshawar and Montgomery, the settlements have been completed, the assessments sanctioned, and the establishments withdrawn, in the 2 former of these the final report is awaited, and in the last it has just been received by the Punjab Government.

In the year 1871-72 the reports of the revision of settlement in the Lahore, Gujrat and Gujranwala Districts and on the assessments of the Amritsar, Sialkote and Gurdaspur Districts, were submitted to the Lieutenant Governor. All these were in the first instance confined for a term of 10 years only, as His Honor considered the assessments too low compared with the increase in cultivation and population, but under the orders of the Government of India, the term was subsequently extended to 25 years. The net result can only be approximately estimated, as it was a new feature in these settlements to separate the demand upon land in its unirrigated state from that due directly to irrigation, and the amount of the water advantage revenue collected under the latter head varies from year to year. But it may be said, if the present year may be taken as an average, that after making allowance for water-advantage revenue and progressive jama, there was a net decrease of some Rs 40,000 per annum in the Amritsar Division settlements, and a net increase of some 2 lakhs of Rupees per annum in the Districts of Lahore, Gujranwala and Gujrat. These settlements belonged to the first set of Districts in which the revision of the original Punjab Settlements was undertaken. The opinion entertained by the Lieutenant Governor that the assessments of the rich tract of the country comprising the Districts of the Amritsar Division, were framed too low to ensure to the Government its equitable share in the increased prosperity of the country, he has found no reason to alter.

On the frontier, first regular settlements have been in progress in Peshawar, Hazara and Dera Ghazi Khan, and have been undertaken in Dera Ismail Khan, Bannu and Kohat. The frontier settlements thus belong to a class by themselves as distinguished from the revisions of settlements in the Punjab proper. The assessments sanctioned by the Lieutenant Governor in Montgomery, Dera Ghazi Khan, Peshawar and Hazara yield a net increase of some Rs 2,40,000 per annum taking the fluctuating assessments in the Montgomery District into account. The general fiscal results of the Punjab settlement are given in the appropriate place in the body of the report. It may here be noted that in the assessment reports which have been received in regard to one or more Sub-Divisions of the Bannu, Dera Ismail Khan, Mooltan and Gurgoon Districts, substantial increases are every where proposed except in one tahsil of the Gurgoon District and the Marwat pargannah in Bannu, and that the return for the expenditure is now beginning to come in at the rate of some four lakhs of rupees per annum. The recently sanctioned settlements have in fact turned the scale and demonstrated the profit of the undertaking.

11 In order to explain the recent settlement policy of the Punjab Government with reference to assessments, it is only necessary to repeat the remarks already recorded in the General Summary of the Administration Report for 1872-73:—"The Sikh system of assessment," it was then said, "was that the State as proprietor-in-chief took all that it could get and it did take often as much as one-half the gross produce of an estate, besides a multitude of cesses under the names of *rasim*, *nazrana*, &c, and exorbitant fines on succession. Immediately after the first Sikh war, an assessment by British Officers on the principle of taking one-third of the gross produce, was considered light and liberal. When regular settlements were first introduced, the system in force in the North-Western Provinces was adopted under which the State's demand was limited to two-thirds of the net assets of an estate, or about one-fourth of the average gross produce. It is now limited to one-half the net assets, but in practice, it is considerably less. It may be said never to exceed one-sixth is frequently not more than one-eighth, one-tenth or one-twelfth, and in some tracts, where the rain fall is scanty, it is not more than one-fifteenth of the average gross produce, the value of which is calculated on the average price of produce for a period of from 21 to 31 years. In Frontier Districts especially the rates are exceptionally light, and in border villages almost nominal, the people being required, in return for their light assessments to assist actively in the defence of the frontier. The result is that there is a striking difference in the land revenue demand in British territory on the one hand and in the territory of adjoining native states on the other, and the new assessments even where the increments have been considerable, have been collected with the greatest ease. In the countries of Central Asia which have recently come under the sway of Russia, where a moderate assessment of land revenue was called for on the

* In Ferozapore the Settlement only affected the Muktasar and Mandot Diaks.

CH I strongest grounds of political expediency, the Government demand is said to have been fixed at one-fifth of the gross produce and is admitted to be eminently liberal. His Honor is a warm advocate of light assessments, that is of assessments which approximate fairly to the liberal standard of one-half the net assets, and he has endeavoured in all settlements effected under his superintendence to see that this principle is observed, subject of course to exceptions in the case of Districts situated on the border, or otherwise peculiarly circumstanced. A system of assessment which goes beyond this in liberality besides being uncalled for and disastrous in a financial point of view, is unfair to the influential class of jagirdars or grantees of the Government land revenue in the villages or tracts assigned to them. Many of these are the representatives of ancient families or of the leading members of past dynasties, their power is great for good or evil according as they are contented or the reverse. Many of them do good service to the State as *Honorary Magistrates*, or as chiefs of the border clans, but their income being wholly or mainly derived from the share of the land revenue assigned to them, must rise or fall with the Government demand; if that is unduly light they, and not the State only are the sufferers, and in His Honor's opinion "more political danger is to be apprehended from a native aristocracy impoverished by inadequate assessments, than from a thriving peasantry called upon to pay a moderate and equitable demand."

12 It may be added that it is of course impracticable, even were it just, to assess grants at a higher rate than lands which pay revenue to Government, for the first result of so questionable a measure would be discord between the cultivators and the assignees of the revenue, and the attempted conciliation of the latter's support would be entirely stultified. In the year when the remarks above quoted were penned it appeared that, out of a land revenue of Rs 1,83,65,063 a portion amounting to about one-sixth, or Rs 31,26,125 was assigned to 129,935 individuals or institutions, and of the amount so assigned, more than one-half was assigned in perpetuity, while Rs 10,67,737 were disbursed to 4633 persons in the shape of pensions, so that 1 out of every 140 persons in the Punjab was either a grantee of land revenue or a pensioner. It is needless to pause for an estimate of parallel figures in the current year, setting subsequent grants against subsequent lapses the figures given may be regarded as representative, and they show of what large importance it is to very numerous private interests that assessments should not be pitched below the proper mark, while they bear witness to a large alienation of the revenues of the State which is by no means judged, but the extent of which is not generally known and ought to be borne in mind when the pressure of taxation on the Province as a whole is considered.

13 It is perhaps superfluous to say more in justification of a policy which in effect aims at nothing more than equity towards all concerned but there is one peculiarity connected with the assessment of a rapidly improving Province which the Lieutenant Governor has always kept in view. Where agriculture is progressive, the unnecessary abandonment of any share of the Government demand leads prospectively to the abandonment of much more than that share because, during the currency of the settlement, a new and higher standard of comfort in living is attained, and when next assessments are framed it is not only impossible to assess up to the abandoned share but a further relinquishment has to be made, caused by the better standard of living which under-assessment has permitted. Even as it is, in the settlements which have come under the Lieutenant Governor's notice, it has frequently proved impracticable to take an increase fully proportioned to the extension of cultivation because the popular expenditure and mode of life have kept pace with the increase of assets. These considerations are most important arguments against under assessment in the Punjab, and unless they are remembered there is much danger that the increase in the land revenue will be disproportionately small as compared with the increase of provincial resources and cultivation.

14 The peculiar circumstances of particular tracts have been recognised. The Lieutenant Governor saw reason to believe that in some Districts of the Punjab the rigidity of the process by which the demand was enforced might tend to produce indebtedness and schemes have more than once been considered for reconciling such fixity of demand as is a necessary concomitant of settled proprietary institutions with the phenomena of precarious and fluctuating cultivation. Thus a system based upon the principle of proportioning the annual demand to the area annually irrigated successfully from canals has been sanctioned for parts of the Montgomery District, and analogous proposals have been approved more recently in the Isa Khel, Dera Ismail Khan and Bhakkar tahsils, where, however, the source of water supply is either the Indus or hill drainage. It may be noted that the distinction between the irrigated and unirrigated demand the former being fixed and the other fluctuating, on which these systems frequently depend, was first introduced by Mr E A Frisep, and though it is now altogether unnecessary to remark on its application in the Amritsar settlements, it has subsequently proved in many ways a valuable contribution to the revenue system of the Punjab. As before remarked, some special treatment has been accorded to the Frontier Districts, notably in the case of border villages. But the deviations from the commonly accepted principle of revenue policy which the state of the frontier has shown to be necessary are nowhere considerable, and are such as the local peculiarities of any well defined section of a large province might reasonably involve. Although, in some cases a large increase of Government revenue has been and will be the result of the re settlement, yet it has been the desire of Government, here or elsewhere, to keep the revenue demand within such limits as to ensure the contentment and loyalty of the population. Care has been taken to recognise, by the liberal grant of jagirs and allowances, the interests and position of the heads of the tribal and rural communities. It has been the desire of the Punjab Government to invest its revenue policy in the Frontier Districts with the character best suited to a country whose inhabitants rapidly developing or perhaps disintegrating under British rule into village communities of the famher type, are still as corporate bodies, associated with the Government for the defence of British territory against attack from without.

Mr HYNDMAN'S Article in the "Nineteenth Century," entitled "The Bankruptcy of Ch. I India," considered with reference to the Province of the Punjab

A full and complete criticism of Mr Hyndman's paper must necessarily be a work of time and of more minds than one, for it involves acquaintance with the state and circumstances of a population of two hundred millions, a population divided into races widely differing from each other in habits and in language, spread over an area twelve times the size of the United Kingdom, and living under distinct physical and administrative conditions. But, meanwhile, an examination of Mr Hyndman's statements, as applied to one out of the nine Provinces of British India, will not, perhaps, be valueless.

If his conclusions are shown, so far as that Province is concerned, to be erroneous, this, of itself, will be a point gained, the area of alleged insolvency will be sensibly contracted and an instalment of relief afforded to the public mind, while should the process of investigation reveal, as I believe it will reveal, errors and misconceptions affecting the very foundations of Mr Hyndman's arguments, fair ground will be given for questioning the correctness of his conclusions generally. I propose then to examine Mr Hyndman's statements with special reference to the province of the Punjab, a province with an area larger than Great Britain, and a population—allowing for increase since the census of 1868—of 20,000,000 souls. I select this province simply because it is the part of India in which I have been employed for many years, and I propose, on this occasion, to restrict my inquiry to the agricultural population, leaving the non-agricultural population to be dealt with, if necessary, in a future paper.

Before proceeding further let me briefly recapitulate the main points of Mr Hyndman's arguments. The annual value of the agricultural produce of India, Mr Hyndman's says is £300,000,000. This, divided amongst a population of 100,000,000, gives an average yearly income of 31s 6d per head. But judging from the cost of detaining a prisoner in the Bengal jails, viz., Rs 28 per annum, the cost of procuring food alone (irrespective of clothing, repairs, feed of bullocks and other contingencies) must amount, all round, to Rs. 23, or 46s per head of population. *Ergo* the population has not sufficient means to procure even the necessaries of life. Furthermore, supposing the produce to be divided, not amongst the entire population, but amongst the agricultural population only, still, as this population comprises 150,000,000 out of the 190,000,000, the same result will be obtained, namely that the mass of the population has not the wherewithal to support a healthy existence. Under these circumstances, our taxation (imperial and local), though falling at the low rate of 5s per head, is crushing, the people are becoming more and more impoverished, whilst the soil is being steadily exhausted.

Let us examine these statements with special reference to the agricultural population of the Land of the Five Rivers.

Mr Hyndman gives the area under cultivation in the Punjab as 20,957,735 acres, or, in round numbers, 21,000,000 acres, and the annual value of the produce as £36,000,000, or allowing a six per cent. reduction for seed grain, £33,80,000. This statement may be accepted as fairly correct so far as it goes, it is taken, in fact, from the statistical returns published annually by the Punjab Government, some further details, derived from the same source, are given in the subjoined table—

CROP	Average area under cultivation in acres	Average produce in lbs.	Value at average market rates, in £	REMARKS
Wheat	5,800,000	5,100,000,000	12,700,000	I have taken the average produce per acre of wheat at 880lbs., barley at 1040lbs. maize and millets from 425 to 610lbs., pulses at 400lbs. all round, oil-seeds at 420lbs., cotton (cleaned) at 160lbs., in accordance with the opinion of the Financial Commissioner based upon a series of experiments and returns of average yield obtained from all classes of soil in all parts of the province. Sugar cane is usually sold standing. I have taken the average value of the crop as £3 per acre, though, if good, it often sells for £10. The average value of raw tobacco I have taken at £3 an acre.
Barley, Maize and Millets	7,500,000	4,900,000,000	8,800,000	
Pulses	3,300,000	1,320,000,000	8,000,000	
Condiments, Pepper, Turmeric, Coriander, &c.	300,000	100,000,000	800,000	
Rice	778,000	624,000,000	£ 400,000	
Vegetables	200,000	1,200,000,000	800,000	
Oil seeds	720,000	300,000,000	1,600,000	
Cotton	650,000	63,000,000	1,000,000	
Sugar cane	374,000	600,000,000	1,100,000	
Tobacco	74,000	74,000,000	1,000,000	
Indigo	100,000	5,000,000	450,000	
Opium	12,500	125,000	750,000	
Miscellaneous crops of food grains, fibres, dyes, fruits, &c., &c.	1,004,500	..	1,450,000	
Total	21,000,000		£ 36,000,000	
		Deduct for seed	2,200,000	
		Balance	£ 33,800,000	

But here we encounter one of the misconceptions to which reference has been made above, the above statement of the average output and value of the Punjab harvests, though it may be accepted as fairly correct so far as it goes, is not an exhaustive account, or anything like an exhaustive account, of the income of the agriculturists, nor, I would add, was it ever intended as such by the Government for whom it was prepared, for, not to mention minor heads of income, such as the value of straw and other

CH I fodder, or the profits derived from the sale of fish, eggs and poultry, three items of income from the land—items sometimes of considerable importance—are entirely omitted from the calculation, viz, receipts from *stock, dairy and forest or jungle produce*. In the case of the province with which I am at present concerned, all the above items are of some importance and especially the two first inasmuch as the bulk of the population are (for India) large consumers of flesh, milk, ghee (clarified butter) and curds, and require, for at least six months in the year, protection against the cold in the shape of woollen shawls, wrappers and blankets.

With regard to *stock and dairy produce*,—the Punjab possesses, in addition to the ordinary fallows, large tracts of grazing-land situated chiefly in the *Dodhs* or stretches of low jungle between the beds of the large rivers. These grazing lands comprise, in all, five millions of acres, on which large numbers of buffalo, cattle, sheep and goats are pastured, yielding a considerable income in the shape of milk and its products (ghee and curds), hides, wool and animals sold or slaughtered.

With regard to *forest or jungle produce* leaving out of view income derived from such items as *barilla, saltpetre, gum, lac, bamboos, catechu, forest fruits and fibrous grasses*, no small returns are derived from the sale of two of the prime necessities of life—*timber and firewood*. The former source of profit is confined chiefly to villages of submontane or hill Districts where the country is well wooded, but many village communities in the plains have, in their waste or jungle lands, large supplies of fuel, which they dispose of to the non-agricultural population at an average rate of one shilling per cwt.

No complete returns of either *stock, dairy or forest produce*, are available, and I cannot myself pretend to any practical acquaintance with farming or with forestry, but, with the help of official statistics and the information kindly afforded by English and native experts,* I venture at the risk of being tedious, to give the following rough estimates of the amount and value of these sources of income—

(1) *Milk, Ghee and Curds*.—The following data are available on which to base our estimate—

(a) From the Punjab stock-returns (which are believed, if anything to understate the truth) it would appear that the number of milch cows and buffaloes in the Punjab is about 1,000,000, capable of yielding milk, ghee and curds to the value of at least £4,000,000, annually,

(b) The amount of ghee allowed to adult prisoners in gaol, *viz*, the minimum considered sufficient for the maintenance of health, is 5lbs per head per annum,

(c) The amount imported into towns (as shown in the octroi returns) gives an average annual consumption of 8lbs a head, but this does not include the ghee produced within octroi limits, the amount of which must be considerable,

(d) The estimate of consumption of ghee in towns, made for the purpose of regulating octroi taxation, gives an average of 8lbs per head per annum.

Upon the whole we shall probably be not far wrong if we take 8lbs a head as the average yearly consumption of this item of dairy produce. On this assumption the value of ghee annually consumed by the Punjab population of 20,000,000 will amount (at 4lbs per rupee) to £4,000,000, but in calculating the value of Punjab produce the value of imported ghee (£800,000) must be deducted, leaving £3,200,000 as the value of the local produce, to this however, the sum of £800,000 which we have just deducted may be re-added as representing the value of the milk and curds not converted into ghee, making the total value of milk, ghee and curds produced and consumed or sold in the Punjab £4,000,000.

(2) *Hides*.—The average cost of a pair of shoes of the commonest sort in the Punjab is 9d, and of this amount 7½d represent the value of the leather, if, therefore, as native friends inform me all but the younger children, or say 16,000,000 out of the 20,000,000 of our population, wear out on an average two pairs of shoes a year, the value of the common leather consumed in the Punjab will be 32,000,000 × 7½d or exactly one million sterling, but the value of the raw material is a little less than half the value of the tanned hide, so we may reckon the value of the common hides required for the shoes of the people, at £450,000 annually, to this however, must be added £150,000, being the average value of hides exported (as shown in the Punjab Trade Returns) and £70,000 on account of leather exports, and something further must be allowed for sheep and goat-skins used in the manufacture of superior kinds of shoes and for leather used for other purposes, such as harness water bags and receptacles for oil. Probably £800,000 will not be an excessive estimate of the value of this item of produce.

(3) *Wool*.—Assuming each family of five to purchase but one new blanket annually,—a moderate estimate, it will be admitted, the annual supply of coarse wool required for the use of the population will amount to, at 6lbs of wool per blanket (the amount of wool allowed for a prisoner's blanket) 24,000,000lb, representing at 3d a lb, a money-value of £300,000. But the hill population require more woollen clothing than the people of the plains, bearing this in mind and allowing for the superior class of Punjab wool used in the manufacture of the warm clothing of the wealthier classes, and also £200,000 on account of exports, we may estimate the annual value of the wool produce of the Punjab as not less than £800,000.

(4) *Animals* sold for slaughter or other purposes—

(a) Assuming the adult population of the Punjab to consume meat to the extent it is allowed to prisoners in gaol, the value of the meat required for the Province will amount, at 2d, a lb, to £3,300,000 annually.

* That is to say persons well acquainted with the country—not Parsee gentlemen from Bombay who notwithstanding their intelligence and merits, know about as much of the condition of the Punjab as a Parsee knows of the condition of Fomcrans.

(b) Assuming the population generally to consume meat to the extent to which the octroi returns CH I and estimates show it to be consumed in towns the annual value of the meat consumed in the Punjab will be £2,500,000 without taking into account the value of the better class of meat largely consumed by the troops and English residents of the province. To be on the safe side we will take, the smaller sum £2,500,000 per annum, as the value of the Punjab meat supply.

Of the value of animals sold for other purposes than slaughter it is impossible to form an estimate approaching accuracy, but the receipts under this head must be considerable.

(5) *Timber and Fuel*—Of the value of timber sold by villagers, it is impossible to make more than a very rough calculation.

The last octroi returns show an importation into towns of £220,000 worth of building materials for the use of 2,200,000 of the population, and these must have consisted almost entirely of timber, for bricks are ordinarily untaxed. Assuming then the agricultural population of the Province to obtain their timber gratis the value of the timber used annually by the non-agricultural population for buildings alone will amount to about £900,000, to which must be added the value of Punjab timber supplied by villagers for the construction and maintenance of railways and other public works, for boat-building, carts, furniture and other purposes. Altogether £1,000,000 will not I think, be an excessive estimate for this item of receipt, after making due allowance for the value of timber supplied from Government lands and from the territories of Native States.

In regard to fuel it may be observed that the fuel consumed in cooking prisoners' food amounts to 266 lbs. per head per annum, costing at market rates 2s 4½d. per prisoner. At this rate the value of the fuel used for cooking purposes by the non-agricultural population (I assume the agricultural population to obtain their fuel gratis) would exceed one million sterling annually, but the cooking of prisoners' food being done on a large scale requires a minimum of fuel, the amount of fuel allowed a sepoy for the same purpose is exactly four times as large, taking a mean between these two extremes, and reckoning the amount of fuel required per head of non-agricultural population for cooking and other domestic purposes at half the amount supplied to sepoys for cooking only, we shall probably be well within the mark, on this assumption the value of fuel supplied annually to the non-agricultural population for household purposes will amount, at market rates, to £2,000,000, but this amount does not include the value of fuel supplied for locomotives, steamers, manufactures and other non-domestic purposes which must amount to, at least, £500,000 more.

Upon the whole I venture to think we shall not be erring on the side of excess if we put down the value of stock, dairy and forest produce of the province as not less than £12,000,000 annually. This raises the value of the annual produce of the Punjab from £33,800,000, to £45,800,000, or in round numbers to £46,000,000 sterling.

But in estimating the value of this produce to the agriculturist some deduction must be made from its market-value on account of cost of carriage, and the profits of the grain-dealer or salesman. Allowing a deduction on these accounts, of 10 per cent, the average money-value of the Punjab produce to its producers will amount to £41,400,000 annually.

Now the number of agriculturists in the Punjab (allowing for the increase of population since the census of 1868) is, in round numbers 11,000,000. The sum of £41,400,000 divided amongst 11,000,000 persons gives an average income per head of about 7½s per annum—an amount far in excess of Mr Hyndman's estimate of what is required for subsistence.

But let us now examine Mr Hyndman's estimate of what is required for the subsistence of the peasant population, he has based his calculation on the annual charge per head for feeding prisoners. This he takes from the Bengal gaol returns at Rs 28 per head, and then allowing a reduction for children, assumes an all-round rate of Rs 23, or 46 shillings per head per annum, as a fair estimate of the cost of living by the population generally on the gaol standard.

Here we are introduced to another of Mr Hyndman's misconceptions.

In the first place, the Bengal rate of charge for feeding prisoners (Rs 28 per annum) is by no means universally applicable, it is certainly not applicable in the Punjab, where food is cheap, and prisoners are liberally dieted* at an average cost per head of less than Rs. 20, or £2 per annum.

In the second place, the cost of such diet to the population, and especially the agricultural population is far less than it is in the case of prisoners, and for obvious reasons, for the price of all the constituents of gaol diet, except vegetables, which are grown in the gaol garden, is enhanced by cost of carriage, dealers' profits, agency charges, &c., until it exceeds the price of the same articles at the place of their production by as much in some cases as 15 or 20 per cent. But, to be on the safe side I will assume the difference of cost to be 12½ per cent only. This will reduce the cost of diet on the gaol standard in the case of the adult male agricultural population of the Punjab from 40s to 35s per head.

* The diet of an adult male prisoner sentenced to labor consists of one and half pounds of flour per diem, pulses four times a week, meat or curds and butter milk with vegetables and ghee three times a week, condiments daily, and salt at the rate of 1½ lbs per annum. This scale of diet was adopted by the Punjab Government, on medical advice after years of practical experience of the food requirements of prisoners. It has proved sufficient to maintain even the hardest laboring prisoners in excellent health, so much so that in nine gaols out of ten the mortality is less than that of London, and far less than that of the town population of India.

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In the third place, in the calculation of his average rate, Mr Hyndman has made a very inadequate reduction on account of the smaller consumption of food by women, youths and children. In gaols the diet allowed to women and to youths between the ages of 12 and 16 is about one fifth less in amount than that of male adults, and the food required for children between infancy and twelve years may be safely set down as not more, on the average, than half the amount necessary for working men.

Assuming then the entire agricultural population of the Punjab to live as well as the inmates of our gaols, the cost of their subsistence will be as follows —

8,800,000 adult males at 8s per annum	70,400,000
3,000,000 adult females at 4s	12,000,000
1,800,000 youths and girls between 16 and 12 years at 28s per annum	50,400,000
3,200,000 children at 17½s per annum	55,200,000
Total	188,000,000

Falling at the rate of less than 28s per head of population, instead of 46s. as estimated by Mr Hyndman.

Let us proceed to the other items of necessary expenditure referred to by Mr Hyndman as requiring provision over and above the cost of subsistence, viz *clothing, repairs, feed of bullocks and other farming contingencies*. To commence with *clothing*—Judging from its cost in gaols and enquiries made from agriculturists, it must be easy for the Punjab peasant (with the help of home-spun cotton) to provide himself and family with raiment and blanketing for £1 a year, while his shoe-maker's bill for the whole household need not exceed 6s. These may appear small sums, but it is to be remembered that, in the Punjab, cotton cloth, well suited for the ordinary wear of the agriculturists, can be procured for 1½d a yard, and coarse woollen cloth and blanketing for 4½d a yard, that a change of raiment can be bought for 8s 3d, and a pair of full-sized shoes for 9d. At this rate the cost of clothing the agriculturists of the Punjab may be estimated on a liberal basis, at £3,000,000 per annum. If to this be added an aggregate sum of £2,000,000 per annum on account of tobacco,* occasional sweetmeats and miscellaneous expenses, we shall have provided the Punjab agriculturists with all that is necessary for a very comfortable existence.

Repairs—With wood procurable on the farm or common, clay in abundance, and straw on the premises, repairs, whether of house or furniture, cost almost nil, a few nails, some hemp and string, a few earthen pots, and now and then a new grindstone, being all that is required, the cost of which can be met from the sum assigned for miscellaneous household expenses.

A more important item has now to be considered—the cost of *cultivation*, seed-grain has already been provided for, and so has the cost of labor, the bullocks are generally fed from the straw, the crushed sugarcane, the cotton seeds and other refuse produce of the farm, or from the grazing on the common or the fallows, but we have still to provide for the cost of *agricultural implements*, replenishing stock, keeping well-gear in order and other contingent farming expenses, wood being procured gratis on the farm or from the village common, these expenses will be well covered, so far as I can learn, by an average annual charge of 5s per cultivated acre, or about £5,000,000 per annum for the province.

The only other items of necessary expenditure is that of "Taxes." Reserving the general subject of taxation for subsequent consideration, it may be here observed that the only indirect tax to be included in the necessary expenditure of the agriculturists is the *salt tax*, for he can do even without spirit or opium, or fine clothing from Manchester, and this tax has been already included in the cost of living, of direct taxes he has to pay the imperial land tax, falling at an average rate of 1s 10½d per acre, and local rates and cesses for defraying cost of district roads, village schools, Municipal Police &c, &c, falling in the aggregate at the average rate of 4½d. per acre, the imperial land-tax amounting for the Province to £2,000,000, and the local rates and cesses to £400,000.

According, then, to the above estimates, the average income, expenditure and profits of the agricultural population of the Punjab will be as follows —

Value of produce	£ 41,400,000
<i>Deduct—</i>	
Cost of subsistence	188,000,000
Clothing	3,000,000
Tobacco and miscellaneous expenses	2,000,000
Cost of cultivation other than cost of labor, seed-grain and feed of cattle	5,000,000
Land tax and local cesses	2,400,000
Total	195,400,000
Balance in favor of agriculturists	14,000,000

* Tobacco can hardly be considered a necessary of life in the case of the Punjab cultivators, seeing that the most stalwart and healthy of our peasantry—the Jat Sikhs—do not smoke at all but as they drink spirits and eat opium instead, it may be as well to admit a moderate amount of tobacco into the recognised dietary of the agriculturists. Judging from the amount of tobacco produced and imported, the value of the tobacco consumed in the Punjab per head of population, exclusive of the Sikhs, must amount to 2s annually or if divided amongst adult males to 2s 6d, but to this must be added 1s 8d. as the cost of the molasses with which the tobacco for smoking is invariably mixed, but there is undoubtedly a good deal too much of the hookah amongst our cultivators, and if I allow to each adult male an annual expenditure of 8s per head on smoking, I shall be allowing as much as is good for him. The cost of moderate smoking will thus amount in the aggregate to £600,000 out of the £2,000,000 allowed for miscellaneous expenses, leaving a margin of £1,400,000 for oil and other household contingencies and little luxuries.

Let us now test the correctness of this calculation by dealing with the matter somewhat differently. **Ch. I.** Instead of attempting to give a money-value to the articles of home-produce consumed by the agriculturist, let us allow from the amount of such produce a sufficiency for the comfortable subsistence of the peasant population, and see what is the value of the surplus. Again taking our liberal gaoi dietary as the standard of healthy subsistence,* we have the following result:—

	Average amount produced (after reduction for seed) in lbs. (000 000 omitted.)	Required for subsistence of agricultural population (000 000 omitted.)	Balance for sale in round numbers (000 000 omitted.)	Value at average market rates.
Wheat	4 500	1,100	3 400	£8,600,000
Inferior Grains, viz, Barley Maize and Millet	4 600	3,390	1,200	2 200 000
Pulses	1,220	620	600	1,200 000
Wheat	300	165	135	1,200 000
Vegetables	1 200	730	470	300 000
Condiments	100	47	53	420,000
Ghee and Buttermilk	†128	47	81	2,000 000
Milk and Curds	206	160	96	300,000
Tobacco	80	44	36	75,000
				£16,292,000

To the value of the surplus produce shown in the above table we must add—

Value of Bee crop	£ 3 400,000
Oilseed	" 1 500,000
Cotton	" 1,000,000
Sugarcane	" 1,100,000
Indigo	" 450,000
Opium	" 750,000
Miscellaneous	" 1,200,000
Hides and Skins	" 800,000
Wool	" 800,000
Firewood and Timber	" 3,500,000
	£ 14,600,000
Making the total value of produce for sale	£ 30,792,000
Or in round numbers	" 30 000,000

Deducting from this—

(1) Ten per cent. as the difference between market and village prices	£ 3,000,000
(2) Cost of clothing	" 3,000,000
(3) Cost of salt, oil, and miscellaneous household expenses	" 2,000,000
(4) Cost of cultivation other than cost of seed, labour and feed of bullocks	" 5,000,000
(5) Taxes (Imperial and Local)	" 2,400,000
	Total £ 15,400,000
We have a balance of	" 14,600,000

Again let us test our conclusions by another process. In the Punjab the proprietor usually takes his rent not in money but in kind, leaving the tenant cultivator a share of the produce sufficient to support himself and family and cover all the expenses of cultivation. If, therefore, we can ascertain the share of the crop left to the most favored class of cultivating tenants, we shall have another means of gauging the cost of living and cultivation on admittedly comfortable terms. Fortunately this information is available for among the Punjab Government's Statistical Returns for 1875-76 is one of great interest and value entitled "Statement of Tenures not held direct from Government," which gives *inter alia*, a return of the proportion of the crop taken by proprietors from all classes of cultivating tenants. From this statement it appears that, in the case of the most privileged class of tenants (*vis*, those with right of occupancy), the proportion left to the tenant is generally two-thirds of the crop, but very often less—in some cases less than half the crop. We may, therefore, fairly assume the value of two-thirds of every class of crop to represent the cost of living and cultivation upon very comfortable terms, but, to be on the safe side, I will go further than this, and assume the cost of comfortable living and cultivation to be

* Although I have taken the gaoi dietary as the standard of healthy subsistence for the Punjab population I do not wish it to be understood that it represents the dietary of the well-to-do classes in all parts of the Punjab. In some localities and by some castes more grain is consumed and less meat, and vice versa. Some few tribes such as the *Bhaharaks*, wholly abstain from meat, others, especially the Mahomedan tribes on the frontier, consume it in large quantity.

† Exclusive of buttermilk.

CH I. represented by the value of *three-fourths* * of every class of crop The average market-value of the crops of the Punjab being, as we have seen, £36,000,000, and their average value to the producer ten per cent. less, or £32,400,000, three fourths of this latter sum, or £24,300,000, will represent the money-value of the share we have assigned for cost of cultivation and subsistence, if to this amount we add the sum of £2,400,000, for taxes (imperial and local) and deduct the total (£2,670,000) from £41,400,000, a balance remains of £14,700,000

We have thus arrived by three different processes at an estimate of the profits of the Punjab agriculturists—the calculation being made, in each case on the principle of giving the agriculturist the benefit of every doubt, and avoiding everything approaching to exaggeration of receipts or under-estimating of charges. Of these three processes one brings out an average profit of £14,000,000 another of £14,600,000, while the third, which is, after all, the most practical and reliable, an average profit of £14,700,000. We are, therefore, in a position to assert with some confidence that, after liberal provision has been made for the subsistence (including food, clothing and household expenses) of the entire agricultural population, the cost of cultivation and all taxes, imperial and local, there will remain in ordinary years to the peasant proprietors of the Punjab a balance of profit from the land of at least £14,000,000 sterling—a balance to be expended at discretion on English calicoes and other luxuries, on improved accommodation, in meeting losses in bad years, payment of interest on loans, extension of cultivation, and, last not least, upon gold and silver ornaments and marriage feasts.

At this point an English reader may be tempted to exclaim, "It is all very well to talk about the agricultural community of the Punjab obtaining a nett profit from the land of £14,000,000 per annum, the sum appears large when stated in the lump but if divided amongst the agricultural population, it amounts, after all, to little more than a profit of £6 per family."

The criticism is a very natural one, but in estimating the value of this sum to its recipients it is necessary to remember that in a society where a pair of shoes can be bought for 9d., a suit of clothes for 3s. 3d., where meat costs 2d. and flour a half-penny a pound—and where other articles of ordinary use are proportionately cheap, a profit of £6 is equivalent to a profit of at least £60 in England. How many English peasants save £60 a year?

Another point has to be remembered in connection with the profits of the Punjab agriculturist. Our calculation has been made on the supposition that grain is fairly cheap, but should it happen as it has not unfrequently happened of late years, that the price of produce rises, not from failure of the local harvest but in consequence of extensive exports then the cultivator's profits increase rapidly. If grain-produce rise in price by as little as one seer (2½ lbs.) in the rupee, he gains, in the case of wheat, an additional profit of 1s. 3d. on every acre's produce sold, and, in the event of a general rise to that amount, the agricultural community of the Punjab is richer by £500,000. Of course the reverse may sometimes happen, but, owing, it may be presumed, to improved communications, the general tendency of prices for the last 20 years has been to rise and not to fall, in other words the profits of the agriculturists tend to increase rather than to diminish.

From 1858 to 1861 the price of wheat rose steadily from 4½ lbs. a shilling to 18 lbs. a shilling, from 1861 to 1863 it fell to 3½ lbs., from 1863 to 1864 it rose to 14½ lbs., between 1864 and 1876, it fell (with the exception of one year) from 14½ lbs. to 25 lbs., in 1877 and 1878 it rose again, it is now falling, but has not reached the level of 1876.

Again, it has to be remembered that besides the profits realized from the land, the cultivating proprietor or tenant makes no inconsiderable gain from hiring out his cart, in the slack season, for transport of goods or merchandize, while agricultural laborers earn large sums by working on canals, railways, and other public works. At the present moment large numbers of the peasants are receiving as much as 9d. a day for earth-work.

Then, many a peasant has a son or brother, or other member of his family in the service of the Government as sepoy, policeman or revenue official, or employed upon the railway, who contributes from his earnings to the common stock, some two hundred thousand hold the office of village headman receiving a commission of five per cent. on all taxes they collect, while not a few of our peasant proprietors are the happy possessors of a plot of revenue free land.

Lastly, should any peasant proprietor desire to improve his holding by sinking a well, constructing an embankment, or other work of permanent utility, he can obtain a loan from Government at six per cent. per annum.

But here a political economist will perhaps venture a remark "Granted that profits from the land in the Punjab may amount to a considerable sum, pray how is the amount distributed? For it is possible to have a wealthy landed interest side by side with an impoverished agricultural population."

To this remark I can reply, on the authority of the Tenure Statement above referred to that the profits are as widely distributed as they well can be with benefit to the community. In the Punjab there are no millionaire proprietors, indeed there are but nine individuals in the whole province whose land-tax exceeds £100 per annum. Of the entire agricultural population—

2,000,000 are proprietors of land in common or in severalty, with an average holding of 13 acres of cultivated and fallow land, exclusive of rights in the uncultivated area—

* The liberality of this assumption may be measured by the fact that in Italy where the standard of living and cost of cultivation are, from climate and other reasons, far higher than in the Punjab, the share of the produce left to the *wetayer* tenant is usually *one-half*—in Tuscany as little as *one-third*. In Northern Russia, where the soil is far from rich while the cost of living and cultivation is greatly enhanced by the rigours of the climate, the *wetayer* tenant retains, according to Huxthausen, only half the produce.

the proprietor, as a rule, cultivating 7 acres himself and letting the remainder to tenants on the *metayer* system, CH I

500 000 are tenants with right of occupancy, with holdings averaging 6 acres,

1,200 000 are tenants-at-will, with holdings slightly smaller, and the rest of the agricultural population is composed of the families of the above-mentioned classes, and a limited number of farm-laborers. As a rule the produce of six acres will support an agricultural family in comfort. In a community so constituted the benefit of any general increase of wealth derived from land, whether owing to rise of price or the introduction of more valuable staples, is felt not by a few *grac* capitalists only, but by almost every member of the agricultural population.

But here it may be urged, by some new critic, fresh from the pages of the *Nineteenth Century* "Granted that your peasants may realize great profits, and that these profits are theoretically well distributed, is it not true that they are all pledged to the village banker? And is it not the case that the ancestral lands of the peasant population are passing with terrible rapidity from the possession of the hereditary owners into the hands of the money-lending class?"

In reply to this enquiry, I would refer the reader to the pages of the Administration Reports of the Punjab Government for the last four years, where he will find this fashionable allegation carefully considered and triumphantly refuted. It is there shown that of the cultivated area of the Province comprising, with fallows, 25 000 000 acres, less than one fourteenth part is under mortgage—no less than 23 240 000 acres being unencumbered, that the number of suits for debt against the agriculturists of the Punjab is far less in proportion to population than the number of debt suits in England, for while in the Punjab one agriculturist out of 110 is annually sued for debt, in England, one person out of 22 has yearly to undergo that unpleasant operation, that transfers of agricultural land, so far from being alarmingly frequent are, in proportion to the extent of acreage, singularly few and unimportant, the sale of ancestral land by decree of Court being indeed almost unknown, while, in spite of tempting prices, the amount transferred by private sale is less than one acre per annum per square mile of assessed area of which the greater portion passes into the hands not of money-lenders, but of agriculturists, that the average selling price of land has risen steadily from four years' purchase of the land-revenue-demand in 1859 to thirty years' purchase in 1876-77, and that nearly the same amount can be raised by mortgage as can be raised by sale. It is shown, in short, by statistics procured from every district in the province, that the peasant proprietors of the Punjab, so far from being, as a body, insolvent or oppressed with debt, are eminently prosperous, being not only as we have already seen, the recipients of an average surplus income of at least fourteen millions sterling, but blest with an available but unused credit at their bankers for nearly sixty millions more!

The result of this not unsatisfactory state of things is seen—and I say so in spite of Mr Hyndman's sneers—in the enormous increase of cultivation which has taken place of late years in the Punjab, the sinking of multitudes of irrigation wells, the increased production of more valuable crops, the gradual substitution of masonry dwellings for mud huts, of brass for earthen vessels, in increased expenditure on goods from Manchester* and decreasing applications for loans from Government—all which things are written in the valuable but unread reports of the Financial Commissioner and Settlement Officers of the Punjab, it is seen also in the fact that, notwithstanding a large export of grain in 1876, the markets were so overflowing that there was danger of a glut, and that, in spite of a total failure of the autumn harvest of 1877, there was no general distress in the Punjab.

A word as to taxation. The Imperial revenues and receipts of the Punjab amounted in 1876 77 (the latest year for which I have returns by me) to £3,400,000, adding to this amount £200 000 as the share of sea-customs duty collected at the ports on articles consumed or used by the people of the province and deducting on the other hand, for obvious reasons, the following items—£28 000, paid as tribute by Native States, £80,000 on account of sugar export duties, and £130,000 postal receipts, being simply a payment for service immediately rendered, we have the following result *viz*, that the sum taken by the State from the pockets of the people for general purposes of administration amounted, according to latest information, to £3,362 000 falling at the rate of 8s 3½d per head of population. If to this be added £400,000 on account of local rates and cesses, the sum total of imperial and local taxation combined will not exceed £3 762,000, falling at the rate per head of only 3s 8½d.

After what has been said above it is hardly necessary to observe that the weight of taxation in the Punjab, at any rate so far as the agricultural population is concerned, is any thing but crushing. The indirect taxes, salt excise and customs, are included in the cost of living and paid insensibly, the land-tax which in Sikh times varied from two-fifths to one third, is now one sixteenth of the value of the produce. Moreover in Sikh times stock and dairy produce was taxed and sometimes heavily, it is now practically untaxed, for the assessment of grazing lands is nominal †. As for local rates and cesses I

* The Trade Returns of the Punjab for 1876 77 show a net import of Manchester cotton goods to the amount of £4,000 000 sterling.

† As some critics may complain of my going back to Sikh times for a standard of comparison, I venture to give the following examples of the rate of the land tax in civilized countries at the present time. In Italy according to a writer in the *Spectator* for the 16th November 1876 the land-owners have to pay a tax on their *prediali* amounting on the average to thirty per cent of their incomes—the proportion being in some cases more than forty per cent. According to Mr Zincke's Article in the *Fortnightly* for November the peasant proprietor in the *Languedoc* pays for house and lands comprising 6 *hectares* or 16 acres taxes to the amount of 86 or 8s an acre yearly besides, 3d on every bottle of home made wine he sells. If comparison be made between the Punjab and Native States the difference in favour of the Punjab cultivator is striking. In *hassour* the recent cash settlement was made on the principle of the State being entitled to the value of sixty three per cent of the gross produce. In *Bahawalpur* which is being temporarily administered by British Officers, the taxation, after being immensely reduced under our auspices, falls at the rate of 8s. per head of population.

CH I can perhaps best indicate their lightness by stating that the ordinary cultivator can defray them all, including Sir John Strachey's famine insurance rate,—and improve his constitution into the bargain—by reducing his smoking to three pipes a day, or if he be a Sikh cultivator who does not smoke, by a slight reduction in the amount of his potatoes or of his daily allowance of opium or post.* But though the pressure of the local cesses is thus hardly felt, the benefits derived from them are immense. From the cesses the cultivator is provided with roads to his market, which he thoroughly appreciates, Postal communication with the head-quarters of the District and the Imperial Postal lines, which he is beginning to appreciate, and education for his children,—which I fear he does not as yet appreciate at all. He is provided, besides, with a hospital within reach, a watchman and the services of a surveyor and accountant.

But another objector may arise and say, "It is all very well to prove statistically that the peasantry of the Punjab are lightly taxed and prosperous, but your statements are so very satisfactory that you must pardon me for doubting their correctness. Have you seen, with your own eyes, the prosperity you so logically describe?"

To this direct appeal, if made, I can reply as follows: "I know every District in the Punjab, I have watched its progress with deep interest for many years, and from many points of view—as a judicial, as an executive, as an administrative officer,—and I know that my story though widely different from Mr Hyndman's, is substantially correct. I do not, of course, claim for the Punjab the attributes of Paradise. There, as in more favored regions, are to be found some cases of depression and distress, there as elsewhere, the people have their grievances and vast indeed, is the room for progress and improvement, there are villages which suffer from over-population, there are villages which suffer from over-irrigation, some villages there may be, but very few, in which the land-tax presses, there as elsewhere, in India, inundations, cattle disease, locusts do their work of destruction, and epidemic disease, in the shape of cholera, and the *choera februm*, is not unknown. Then as to grievances—there are grievances about forest-conservancy (a form of civilization not appreciated by the people), grievances about canal-water supply (especially in the matter of having to pay for it) grievances about grazing-lands, grievances about sanitary laws, moreover, though as a body the peasantry are flourishing, there are doubtless, individual cases of embarrassment, and in the event of a failure of the harvests, there is a residuum of the agricultural population possessing little or no land which readily succumbs. But the cases of distress are exceptional, and the grievances are not serious, and take it all in all I venture to assert with confidence that Her Majesty the Queen and Empress has few subjects more well-to-do (in their small way), few more contented, few more well affected than the peasant cultivators of the Province of the Punjab."

So much for the past and present—one word as to the future of the Province. Of land comprised within the surveyed boundaries of villages, there are nearly fifteen millions of culturable acres as yet untilled, should these be brought under the plough or otherwise fully utilized, or should individual villages secure relief from over-population, there are nine millions of acres of culturable waste at the disposal of the State available for the formation of new settlements, and out of these nine million acres more than two millions have water within irrigable distance from the surface of the soil. In addition, moreover, to these culturable acres, there are tens of millions of acres now unculturable but destined to become of immense value when the waters of the Indus the Jhelum and the Chenab shall have been brought to fertilize the almost rainless tracts on the west and south of the Punjab. With a large area for extension of cultivation, a fairly fertile soil great capabilities for irrigation an increasing population a growing trade, and a railway to its natural port Kurrahee—the future of the Punjab is one of abundant promise.

Before concluding I must notice another count in Mr Hyndman's general indictment. He asserts that the productive power of the soil of India is and has been steadily deteriorating. This may be the case, indeed theorists contend that it must be the case but I have seen no evidence, worth a moment's consideration, that it really is the case. Of course, it is possible to produce instances here and there of lands exhausted by over cropping or defertilized by over irrigation but of general deterioration of the soil there is, to the best of my knowledge and belief, no proof whatever deserving of the name. Meanwhile, I can mention on the high authority of the present Lieutenant-Governor of the Punjab a fact which hardly favors such a supposition namely, that the average yield of wheat in unmanured land in the Punjab as ascertained by a series of experiments, is greater than the average yield of wheat in unmanured land in England—the former being 880lbs. per acre the latter 840lbs. only.

To sum up,—my answer to Mr Hyndman's general indictment is, in the case of the agriculturists of the Punjab, that he has greatly under-estimated their income, that he has greatly over-estimated their cost of living, that he has assumed a general impoverishment that does not exist, and a general deterioration of the soil that is not proved, that the peasant population of the Punjab, so far from being on the road to bankruptcy and ruin, are on the high road to increased prosperity and wealth.

T H THORNTON,

Judge of the Chief Court, and late Secy to Punjab Govt.

* An ordinary cultivator, with a holding of six acres pays in local rates and cesses about 2s 4d annually but, as we have already seen he expends 2s 6d on his *beedi* which he smokes on an average nine times a day. A Sikh cultivator will not infrequently expend annually on spirits or opium or both a sum sufficient to pay not only his local taxes but a large portion of his land tax in addition. The superior sturdiness and vigour of the Sikh cultivator who drinks freely but does not smoke as compared with the Muhammadan cultivator who smokes freely but does not drink, is certainly a fact for the anti tobacco association. £20 is a doctation from the poppy, much favored by Sikhs especially of the Cis Sutlej Districts.

APPENDIX

In support of the statements made at page 10 regarding the prosperous condition of the Punjab CH I peasantry, I subjoin a few statistics taken from official reports and returns —

1 *Increase of cultivation*.—Returns of cultivated area in the Punjab are prepared every five years, the first published being that for the year 1868-69

The return for 1868-69 gives the cultivated area of the province as 20,171,558 acres,

The return for 1873-74 gives it as 22,640,889 acres

Thus the cultivated area of the province was increased in five years by nearly two-and-a-half millions of acres, or, to put the matter more familiarly, a new tract of country was brought under the plough equal to five counties of the size of Surrey

2 *Extension of irrigation by means of private capital*.—The statistics of irrigated area are also prepared quinquennially. The returns for 1868-69 and 1873-74 give the following information —

	1868-69	1873-74	Increase.
	Acres.	Acres.	Acres.
AREA IRRIGATED			
(1) By Government canals	1,872,987	1,618,864	254,867
(2). By private works (i. e., wells, water-courses, or canals constructed by or at the expense of agriculturists)	4,611,904	5,000,481	388,577
TOTAL	5,984,891	6,619,355	634,444

Thus between 1868-69 and 1873-74, the irrigated area was increased by means of private capital to the extent of 388,577 acres, or 607 square miles. In other words, in the space of five years, the peasant cultivators of the Punjab brought under irrigation, and thus secured from drought, at their own expense, a tract of country twice the size of Middlesex, or, to put the matter still more strikingly, they brought under irrigation in five years an area greater than that watered by the *Bârâ Dôbb* Canal, a work which has been upwards of twenty years under construction and has already cost nearly £1,500,000 sterling

3 *Increased cultivation of the more valuable crops*.—Returns of the principal crops of the Punjab are published annually, from these returns I have compiled the subjoined statement shewing the development of the cultivation of the following staples, *wheat*, *oil-seeds*, *sugar-cane* and *indigo*, between 1868-69 and 1876-77 —

	1868-69	1869-70	1870-71	1871-72	1872-73	1873-74	1874-75	1875-76	1876-77
	Acres	Acres	Acres.	Acres	Acres.	Acres.	Acres	Acres	Acres
Wheat	5,677,006	5,659,637	5,402,473	5,366,977	5,716,867	5,820,861	6,028,771	5,282,687	6,609,497
Oil seeds	439,155	462,430	610,416	510,140	698,905	722,648	739,167	838,794	846,689
Sugar cane	325,831	343,603	370,195	338,667	373,824	374,128	297,136	383,029	391,630
Indigo	32,444	32,039	61,439	67,736	72,674	89,969	118,815	84,838	129,465

Thus the cultivation of wheat and sugar-cane has increased in nine years by about 20 per cent, that of oil seeds has nearly doubled, and that of indigo quadrupled. It may be added that the area under tea has increased from 5,521 acres in 1868-69 to 10,046 acres at the present time.

4 *The gradual substitution of masonry dwellings for mud huts* cannot, unfortunately, be proved by statistics, but it is a matter of common observation, the substitution of *metal for earthen vessels*, and I may add of imported steel for native iron in the manufacture of plough shares, is not only a matter of observation, but is evidenced by the increase which has taken place of late years in the amount and value of metals, and metal manufactures imported. See next paragraph

CH I. 5 *Increased expenditure on silks and metals, and large consumption of goods from Manchester*

The following statements compiled from the Punjab Trade Returns will be of interest. It is to be regretted that the information cannot be given from an earlier date, but unfortunately, arrangements for registering the trade of the province were not completed until 1873-74

(1) *Metals and metal manufactures (exclusive of Railway material, machinery and bullion)*

YEAR.	IMPORTS.		EXPORTS.	
	Weight in maunds of 80 lbs.	Value in £s.	Weight in maunds of 80 lbs.	Value in £s.
1874 75 ..	177 378	255,843	44,831	67,163
1876 77 ..	265,939	355,661	62,255	85,073

(2) *Silk and silk goods*

YEAR	IMPORTS		EXPORTS.	
	Weight in maunds of 80 lbs.	Value in £s. at £20 a maund	Weight in maunds of 80 lbs.	Value at £20 a maund
1874-75 ..	10,311	£ 215,550	Returns incorrect.	Returns incorrect
1876 77 .	10,953	£ 217,560	8,785	136,750

(3) *Piece goods (European)*

YEAR.	IMPORTS.		EXPORTS.	
	Weight in maunds 280lbs.	Value at £12 a maund	Weight in maunds	Value at £12 a maund.
1874 75 ..	841,474	£ 4,097 688	61 711	740,623
1876 77	363,964	4,247,568	78,212	938,544

From the third of the above tables it will be perceived that the value of the cotton goods from Europe, imported into the Punjab for home-consumption, amounts (at £12 a maund, a rate of valuation fixed by the Punjab authorities after very careful enquiry), to about £3,800,000 annually. Deducting from this sum 20 per cent. for cost of carriage and dealers' profits, the balance, £2,640,000, will represent the sea-port values of the goods consumed in the Punjab. But the total value of cotton goods imported into India amounts after deduction of re-exports, to £18,000,000 annually. It would, therefore appear that, in spite of remoteness from the sea-board, the Punjab, with a population equal to about one-thirteenth of the population of India, consumes upwards of one seventh of the cotton goods imported. The returns for 1877-78, just received, shew a falling off in the piece-goods trade, but this was to be expected in view of the almost total failure of the autumn rain crop of 1877, and the depressed state of trade with Cabul and adjacent countries

Average incidence of the Land Revenue assessment in the Punjab per acre cultivated.

CH I

[NOTE.—Column 7 of this Statement is copied from Statement No. 8 appended to the Punjab Administration Report for 1876-77]

Division	District	Average rain fall per annum in inches		Per cent. of cultivation irrigated	Land Revenue demand for 1877, including increasing items	Average incidence of land revenue per acre cultivated	Share of the gross produce which the assessment when made was intended to cover so far as can be stated.	
		Of recording station with highest average	Of recording station with lowest average					
Delhi	Delhi	80.6	25.5	37	8,89,461	1 12 3	}	
	Gurgaon	68.6	28.6	19	11,99,255	1 2 3		
	Karnal	80.4	18.0	39	6,78,695	1 4 9		Not stated
Hissar	Hissar	17.1	14.7	5	4,24,158	0 4 9	Do	
	Rohtak	20.2	18.8	13	8,83,291	0 15 10	†	
	Sirsa	14.8	12.7	8	1,79,297	0 8 1	Not stated.	
Umballa	Umballa	43.6	25.5	18	7,75,413	1 6 5	Do	
	Ludhiana	25.3	24.0	17	7,91,351	1 5 3	Do	
Jullundur	Simsa	72.6	65.1	6	14,705	1 9 6	}	
	Jullundur	29.8	26.5	38	12,18,040	1 15 5		
	Hoshiarpur	87.9	83.7	17	12,93,802	1 12 7		
Amritsar	Kangra	126.6	40.1	27	6,14,567	1 5 3	Not stated.	
	Amritsar	24.9	23.1	39	8,35,762	1 5 1	}	
	Sialkot	89.0	24.2	50	11,09,873	1 6 10		
Gurdaspur	54.1	27.0	16	10,77,321	1 7 9			
Lahore	Lahore	21.8	18.5	97*	5,94,693	0 9 7	}	
	Ferozepore	26.5	13.3	14	5,06,086	0 8 8		Not stated.
Rawalpindi	Gujranwala	26.9	20.3	70	4,63,661	1 1 3	†	
	Rawalpindi	62.0	31.5	2	6,89,029	0 12 0	Not stated perhaps †.	
	Jhelum	18.6	12.4	3	5,83,918	0 13 2	Not stated	
Mooltan	Gujrat	80.8	26.1	13	5,72,129	0 13 2	†	
	Shahpur	16.7	11.8	64	3,89,336	0 15 10	Not stated	
	Mooltan	7.8	5.1	79	5,46,003	0 13 10	†	
Derajat	Jhang	13.0	10.3	69	2,97,594	1 1 9 $\frac{1}{10}$	}	
	Montgomery	8.7	6.3	62	4,08,867	0 12 3 $\frac{1}{2}$ (†)		
	Muzaffargarh	15.1	6.1	63	5,27,555	1 5 2 $\frac{1}{7}$		
Peshawar	Dera Ismail Khan	8.4	7.9	32	3,97,381	0 12 10	}	
	Dera Ghazi Khan	9.8	1.2	67	3,49,139	0 5 2 $\frac{1}{10}$		} Varies generally from $\frac{1}{10}$ to $\frac{1}{10}$
	Bannu	12.0	9.6	15	4,35,280	0 15 3 $\frac{1}{13}$		
Peshawar	Peshawar	27.1	13.9	25	6,75,693	0 13 11	}	
	Kohat	20.2	20.2	38	95,546	0 10 4		Irrigated land $\frac{1}{2}$ Unirrigated land $\frac{1}{13}$
	Hazara	46.3	36.9	10	2,22,191	0 13 0		Irrigated land $\frac{1}{2}$ Less than $\frac{1}{2}$

* It is believed that this is under-stated. The revised Settlement Report (of 1866-9) says that 43 per cent. is irrigated, viz by wells 36 and by canals 8. The latter has increased since settlement 7 per cent. also is main.

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CH I

(A)—Summary of the Revenue Rates assessed on irrigated lands
[Rates per acre, except where otherwise stated]

DIVISION	District.	Source of irrigation	SETTLEMENTS MADE BEFORE 1862			SETTLEMENT MADE SINCE 1862		
			Year	Highest.	Lowest	Year	Highest.	Lowest.
				Rs. A. P.	Rs. A. P.		Rs. A. P.	Rs. A. P.
DELHI	Delhi	{ Wells Canals	1838	3 2 0	2 6 0	1878	4 0 0	2 4 0
	Gurgaon	Wells and canals	1819	4 0 0	1 8 0	1876	3 8 0	1 8 0
	Karnal	Ditto	1847	2 12 0	2 6 0	1878	2 14 0	1 14 0
HISAR	Hissar	Canals	1864	1 4 0	0 12 0			
	Rohtak	Wells and canals				1878	2 12 0	2 0 0
	Sirsa	Wells	1856	1 0 0	1 0 0			
UMBALLA	Umballa	Wells	1855	5 8 0	1 0 0			
	Ludhiana	Cannot be given						
	Suhs							
JULLUNDUR	Jullundur	Wells	1851	6 0 0	2 8 0			
	Hoshiarpur	Do	1851	5 4 0	2 0 0			
	Kangra	No rates framed						
AMRITSAR	Amritsar	Wells and canals	1864	4 5 3	0 14 6	1865	Not reported	
	Sialkot	Wells	1854	3 4 0	1 1 0	1865	Do	Do.
	Gurdaspur	Wells and canals	1854	4 7 0	1 2 11	1865	Do.	Do
LAHORE	Lahore	Wells	1854	2 0 0	0 9 0	1868	Per well 14 0 0	Per well 6 0 0
	Ferozepore	Do	1850	1 6 0	1 3 0	1873	Per well 12 0 0	Per well 8 0 0
	Gujranwala	Do	1854	2 0 0	1 0 0	1866	(Mukhtar and Per well 20 0 0	Mamdot only Per well 8 0 0
RAWALPINDI	Rawalpindi	Wells	1864	7 0 0	1 8 0			
	Jhalum	Do	1857	5 4 0	2 5 0	1878	5 0 0	2 4 0
	Gujrat	Do	1858	2 6 0	1 2 0	1868	Not stated.	
MOOLTAN	Shahpur	Do	1854 56	2 8 0	1 0 0			
	Mooltan	Wells and canals	1855 59	2 8 0	0 12 0	1878	3 2 0	0 8 0
	Jhang	Wells	1856	2 4 0	1 2 0	1878	1 8 0	1 4 0
DEBRAJAT	Montgomery	Do	1856	1 12 0	1 0 0	1872	Per well Rs. 80	Per well Rs. 10
		Canals	1866	60 0 0	2 0 0			
	Masaffargarh	Wells and canals	1866	8 0 0	0 12 0	1872	3 0 0	0 12 0
PESHAWAR						1878	1 3 3	0 14 0
	Dera Ismail Khan	Wells and perennial streams				1878	2 8 0	0 4 0
	Dera Ghazi Khan	Wells and canals				1874	5 0 0	0 11 0
PESHAWAR	Banna	Do				1878	10 0 0	0 8 0
	Peshawar	Wells				1878	10 0 0	0 8 0
		Canals				1878	12 0 0	2 0 0
PESHAWAR	Kohat	Wells				1878	5 0 0	1 14 0
		Streams & channels and the Toi				1878	5 8 0	1 13 0
	Hasdra	Wells &c.	1861 62	8 0 0	1 0 0	1872	8 0 0	1 0 0

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(B) Summary of the Revenue Rates assessed on canal lands, i. e., most alluvial lands in the vicinity of or annually inundated by rivers CH I

[RATES PER ACRE]

Division	District	Settlements made before 1862.			Settlements made since 1862			REMARKS
		Year	Highest	Lowest	Year	Highest	Lowest	
			Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.	
Delhi	Delhi	1858	3 2 0	2 6 0	1878	3 0 0	2 0 0	
	Gurgaon	1849	3 3 3	1 8 0	1878	3 0 0	1 3 0	
	Karnal	No such rates						
Hissar	Hissar				1864	0 10 0	0 8 0	
	Rohtak				1878	3 0 0	2 12 0	
Umballa	Sirsa	1856	0 13 0	0 13 0				
	Umballa	Not stated.						
	Ludhiana	Cannot be given						
Jullundur	Simla							
	Jullundur	Cannot be stated						
	Hoshiarpur	Cannot be stated						
Amritsar	Kangra	No rates framed.						
	Amritsar	1854	3 4 0	1 8 3	1865	Not reported		
	Sialkot	1854-59	3 4 0	0 8 0	1865	Not reported		
Lahore	Gurdaspur	1854	4 1 3	1 2	1865	Not reported		
	Lahore	1854	1 2 0	0 9 0	1868	1 0 0	1 0 0	
	Ferozepore	1856	0 14 0	0 14 0	1872	0 13 0	0 8 0	
Rawalpindi		(Mukhtar and Maudot only)						
	Gujranwala	1854	1 8 0	1 0 0	1865	1 8 0	1 4 0	
	Rawalpindi	1864	3 8 0	0 4 0				
	Jhelum	1867	2 13 5	1 9 8	1878	1 8 0	1 4 0	
	Gujrat	1858	3 0 0	0 14 0	1868	2 0 0	0 14 0	
Mooltan	Shahpur	1854-66	1 12 0	1 4 0				
	Mooltan	1855	1 2 0	0 4 0	1878	1 4 0	0 12 0	
	Jhang	1856	1 8 0	0 10 0	1878	1 0 0	0 8 0	
	Montgomery	1856	1 6 0	0 12 0	1873	Not stated		
Derajat	Muzaffargarh				1878	1 2 0	0 12 0	
	Dera Ismail Khan				1878	1 5 0	0 11 0	
	Dera Ghazi Khan				1874	0 15 2	0 5 0	
Peshawar	Bannu				Not stated separately			
	Peshawar				1876	2 0 0	0 12 0	
	Kohat				1878	0 12 0	0 8 0	
	Hazara	Not stated separately						

E G WACE

CH I (C) —Summary of the Revenue Rates assessed on ordinary dry lands & lands entirely dependent on rain.

RATES PER ACRE

DIVISION	District.	SETTLEMENTS MADE BEFORE 1852			SETTLEMENTS MADE SINCE 1852				REMARKS.
		Year	Highest.	Lowest.	Year	Highest.	Lowest.		
Delhi	Delhi		R A P 1 10 0	R A P 0 12 0	1878	R A P 1 12 0	R A P 0 10 0		
	Gurgaon	1849	2 0 0	0 7 0	1878	1 8 0	0 9 0		
	Karnal	1847	1 8 0	0 8 0	1879	1 8 0	0 8 0		
Hissar	Hissar	1864	0 6 0	0 8 0					
	Rohtak				1870	1 6 0	0 6 0		
	Sirsa	1856	0 4 0	0 8 0					
Umballa	Umballa	1855	3 10 0	0 7 0		--			
	Ludhiana		Cannot be given						
	Simla		Ditto						
Jullundur	Jullundur	1851	3 0 0	1 0 0		--			
	Koshikpur	1851	3 4 0	0 4 0					
	Kangra		No rates framed						
Amritsar	Amritsar	1854	2 6 2	0 7 5	1855	Not reported.			
	Sialkot	1854-59	2 10 0	0 8 0	1855	Ditto			
	Gurdaspur	1854	2 11 6	0 14 0	1855	Ditto			
Lahore	Lahore	1854	1 0 0	0 3 0	1859	1 0 0	0 5 0		
	Ferozepore	1855	0 9 0	0 6 0	1872	0 18 0	0 6 0	(Mukhtasars and Mandot only)	
	Gujranwala	1854	1 0 0	0 4 0	1856	0 14 0	0 7 0		
Rawalpindi	Bawalpindi	1854	3 8 0	0 8 0		--	--		
	Jhalum	1857	2 1 0	0 6 0	1878	2 8 0	0 6 0		
	Gujrat	1856	1 8 0	0 6 0	1858	1 8 0	0 6 0		
	Shabpur	1854-55	0 8 0	0 8 0	--	--	--		
Mooltan	Mooltan	1855-59	0 4 0	0 4 0	1878	0 4 0	0 4 0		
	Jhang	1856	0 8 0	0 8 0	1878	0 8 0	0 8 0		
	Montgomery	1855	0 10 0	0 6 0	1873	0 12 0	0 6 0	(? Sialab)	
	Muzaffargarh		No Bari cultivation possible owing to scant rain fall.						
Derajat	Dera Ismail Khan					0 6 0	0 1 0		
	Dera Ghai Khan					0 6 1	0 1 0		
	Bacon					2 0 0	0 1 0		
Peshawar	Peshawar					0 12 0	0 2 6		
	Kohat					0 6 0	0 3 0		
	Hazdra	1851-52	2 0 0	0 8 0	1872	4 0 0	0 2 0		

E G WACE

CHAPTER I, QUESTION 13

Statement of the average incidence of past and present Settlements in DISTRICT DELHI, and also of the rates on different soils or crops used in assessing the same

District	TANZILS	Former and Present Settlement	Share of produce which it was intended the assessment should equal.	Total assessment	Average incidence per acre cultivated at time of assessment.	REVENUE RATES ON SOILS OR CROPS USED IN THE ASSESSMENT									
						WET RATES.					DRY RATES				
						Local term	English equivalent.	Rate per acre			Local term	English equivalent.	Rate per acre		
								Highest	Lowest	Ordinary			Highest	Lowest	Ordinary
		Rs. A. P.	Rs. A. P.	Rs. A. P.			Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.				
DELHI	Ballabgarh	Former		Rupesa 2,00,799	Rs A P 1 4 4	Chah Well irrigated	3 8 0	2 8 0	3 0 0	Dákar	Strong clayey loam	1 8 0	1 2 0	1 6 0	
		Present		2,36,646	1 7 11										Dahri Naturally moist	2 8 0	2 0 0	3 8 0	Ranshi Bhur	Light loam A poor sandy soil	1 0 0	0 10 0	0 14 0
	Delhi	Former		5,17,876	1 13 6	Chahi Well land	4 0 0	2 4 0	3 0 0	Dákar	Strong clayey loam	1 12 0	0 15 0	2 8 0	
		Present		3,09,809	1 12 6										Dahri Naturally moist	2 14 0	2 0 0	2 0 0	Ranshi Bhur	Light loam A poor sandy soil	1 0 0	0 10 0	0 12 0
	Sonapat	Former		3,99,861	2 5 11	Chahi Nahri Dahri	Well land Canal Naturally moist	3 2 0	2 6 0		Dákar	Strong clayey loam	1 10 0	1 6 0	
		Present		4,02,000	3 2 3	Chahi Nahri Dahri					Well land Canal Naturally moist	3 2 0			2 12 0
											Ranshi Bhur	Light loam A poor sandy soil	0 14 0	0 12 0	

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R MACONACHIE,
Settlement Officer

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Ch I

CHAPTER I, QUESTION 13

Statement of the average incidence of past and present Settlements in DISTRICT GURGAON and also of the rates on different soils or crops used in assessing the same.

District	TARHIL	Former or Present Settlement.	Share of produce which it was intended the assessment should equal	Total assessment	Average incidence per acre cultivated at time of assessment.	REVENUE RATES ON SOILS OR CROPS USED IN THE ASSESSMENT						REMARKS
						Wet rates			Dry rates			
						Local term.	English equivalent.	Rate per acre	Local term	English equivalent	Rate per acre.	
Gurgaon	Former	Two-thirds of net produce	Rupees, 2,07,297	1 5 8	Chahi	Irrigated from wells	Rs A P	Narmot	Good loam	Rs A P	NOTE - Where there are three rates against a soil the first represents the highest rate, the second the lowest rate, and the third the rate most commonly charged. Where there are two the highest and lowest rates have only been given.	
							4 0 0			1 9 0		
							2 4 0			1 0 0		
							2 4 0			0 14 8		
	Dahri	Irrigated from natural drainage	3 8 8	Bhur	Sand	0 7 0						
			1 8 0			0 13 0						
	Dahri	Irrigated from natural drainage	1 8 0	Chuknot and Narmot.	Clay and good loam	1 8 0						
			2 4 0			1 2 0						
	Rewari	Former	Two thirds of net produce.	2,68,586	1 8 11	Chahi	Well irrigated	4 0 0	Magda	Sandy loam		1 4 9
								8 8 0				1 8 3
8 8 0								0 14 5				
8 8 0								0 12 9				
Dahri		Well irrigated	3 0 0	Chuknot	Clay	1 8 0						
			2 4 0			1 8 0						
Dahri		Naturally irrigated	1 10 0	Narmot	Good loam	1 8 0						
			1 10 0			1 8 0						
			1 10 0			1 0 0						
			1 10 0			1 0 0						
Dahri	Naturally irrigated	1 10 0	Magda	Sandy Do	1 8 0							
		1 10 0			1 0 0							
Dahri	Naturally irrigated	1 10 0	Bhur	Sand	0 12 0							
		1 10 0			0 12 0							

Falwál	Former	Two-thirds of net produce.	2,16,571	1 10 5	Chahi Khader	Irrigated from wells	3 8 0	Bhdr	Sand	1 2 0
							1 12 0			1 1 0
	Present	One-sixth gross produce and half of net produce.	* 2,85,770	1 6 8	Chahi	Irrigated from wells.	3 12 0	Chiknot & Narmot	Hard clay and good loam	1 6 0
							2 8 0			1 4 0
					Dahri	Irrigated from natural drainage	2 0 0	Magda	Soft loam	1 6 0
										and 1 2 0
Bhdr	Sand	0 14 0			0 12 0					
		0 14 0			0 14 0					
Náh	Former	Two-thirds of net produce	2,19,171	1 6 8	Chahi	Irrigated from wells	4 0 0	Chiknot	Clay	1 12 0
							2 4 0			1 9 0
					Dahri	Irrigated from natural drainage	8 8 0	Narmot	Good loam	1 8 0
	Present	One-sixth of the gross produce and half of the net produce	* 2,69,991	1 8 8	Chahi	Irrigated from wells	3 3 8	Bhdr	Sand	1 2 0
							2 0 0			0 18 0
					Dahri	Irrigated from natural drainage	2 10 0	Chiknot & Narmot	Clay and good loam	0 14 0
							2 8 0			1 8 0
	Bhdr	Sand	2 0 0	Magda	Sandy loam	1 4 0				
			1 12 0			0 14 0				
	Bhdr	Sand	1 12 0			0 10 0				
						0 9 0				
			0 10 0							
			0 10 0							
Ferozepore	Former	Two thirds of net produce.	3,03,174	2 0 6	Chahi	Irrigated from wells.	3 10 0	Chiknot	Clay	2 0 0
							3 0 0			1 11 0
					Dahri	Irrigated from natural drainage.	3 2 0	Narmot	Good loam	1 8 0
							2 0 0			0 14 0
	Present	One sixth of gross produce and half of net produce.	* 2,30,074	1 7 0	Chahi	Irrigated from wells	3 8 0	Bhdr	Sand	1 8 0
							2 8 0			1 2 0
					Dahri	Irrigated from natural drainage	3 8 0	Chiknot & Narmot	Clay and good loam.	1 3 0
							2 0 0			1 12 0
	Bhdr	Sand	2 0 0	Magda	Sandy loam	1 4 0				
			2 0 0			1 12 0				
	Bhdr	Sand	1 6 0			1 1 0				
			1 2 0			1 2 0				
1 2 0			0 14 0							
0 14 0			0 14 0							

* Including assessment on gardens.

CH. I. Statement of the average incidence of past and present settlements in District Karnal, and also of the rates on different soils and crops used in assessing them.

District	Tahsil.	Sum of the incidences which have obtained this assessment should be equal	Total assessment.	Average incidence per acre cultivated at time of assessment.	REVENUE RATES ON SOILS OR CROPS USED IN THE ASSESSMENT						REMARKS.
					Wet rates			Dry rates			
					Local term	Eng. hah equivalent	Rate per acre.	Local term	English equivalent.	Rate per acre.	
KARNAL	Painpat	₹ 3,97,228	2 8 6	All soils	2 6 0 to 2 12 0	Dakar and Rausli	Loam	1 6 0	(A)	A - Previous settlement, B - Present settlement.	
	"	₹ 3,99,607	2 7 5	All soils	2 12 0 to 2 14 0	Dakar and Rausli	Loam	1 6 0 to 1 8 0 to 0 8 0 to 0 12 0	B		
	Karnal	₹ 1,31,851	2 3 10	All soils	2 8 0 to 2 12 0	Dakar and Rausli	Loam...	1 0 0 to 1 6 0 to 0 8 0 to 1 0 0	A.		
	Irrigated Circle	₹ 1,14,949	1 14 9	All soils	2 2 0 to 2 4 0	Dakar and Rausli	Loam Sand	1 1 0 to 1 4 0 to 0 10 0	B.		
	Karnal	₹ 63,646	1 9 6	All soils	2 8 0	Dakar Rausli	Stiff loam Light loam	1 8 0 to 1 0 0	A.		
	Highland Circle	₹ 33,497	0 13 10	All soils	1 14 0	Dakar Rausli	Stiff loam Light loam	0 12 0 to 0 9 0	B		

DENZIL IBBETSON,
Settlement Officer Karnal District

HISSAR DISTRICT.

The proportion of the average annual produce represented by the Government demand is not stated in the Settlement Report, which is dated 1864. The revenue rates on which the assessment was made, are —

	Rate per acre cultivated.
Canal irrigated land—	
1 Flow	Rs 1½ to 15 anas.
3 Lift	Rs 1 to 12 anas.
Land added by hill streams in the autumn	10 to 8 anas
Land entirely dependent on rain	6 to 5 anas.
Fallow	1 to 1½ anas.

The average incidence of the demand per acre cultivated was at the time of settlement, for the whole District, a fraction less six anas,

E. WACE,

Statement of the average incidence of past and present settlements in DISTRICT ROHTAK, and also of the rates on different soils or crops used in assessing the same.

District	Taluk	Detail of settlements.	Share of produce which it was intended the assessment should equal	Total assessment	Average incidence per acre cult. vacat at time of settlement.	REVENUE RATES ON SOILS OR CROPS USED IN THE ASSESSMENT						REMARKS.																				
						WET RATES			DRY RATES																							
						Local terms.	English equivalent.	Rate per acre.	Local terms.	English equivalent.	Rate per acre.																					
ROHTAK	Rohtak	Former	..	Rs. 1,80,691	Rs A P 0 16 8							<p>In no previous settlement were any real revenue rates fixed or produce statistics collected or framed for rates</p> <p>The well area is very small in all tahsils except Jhájár, there the well rates gradually fall to Rs 2, from Rs 2-12 0, being Rs 2 8 0 and Rs 2 4 0 in two intermediate circles: Rs 2-6-0 may be taken as an average with regard to areas. The averages for the whole tahsils of the unirrigated soils where the differences of highest and lowest rates are some what large may with regard to their areas be put about thus—</p> <table border="1"> <thead> <tr> <th>Tahsil</th> <th>Clay</th> <th>Loam</th> <th>Sand</th> </tr> </thead> <tbody> <tr> <td>Rohtak</td> <td>0 14 0</td> <td>0 12 0</td> <td>0 5 6</td> </tr> <tr> <td>Sampla</td> <td>1 4 0</td> <td>1 2 0</td> <td>0 12 0</td> </tr> <tr> <td>Gohána</td> <td>1 3 0</td> <td>1 2 0</td> <td>0 12 0</td> </tr> <tr> <td>Jhájár</td> <td>1 2 0</td> <td>0 14 0</td> <td>0 11 6</td> </tr> </tbody> </table> <p>In no tahsil has sanction to the proposed rates been received as yet.</p>	Tahsil	Clay	Loam	Sand	Rohtak	0 14 0	0 12 0	0 5 6	Sampla	1 4 0	1 2 0	0 12 0	Gohána	1 3 0	1 2 0	0 12 0	Jhájár	1 2 0	0 14 0	0 11 6
		Tahsil	Clay	Loam	Sand																											
	Rohtak	0 14 0	0 12 0	0 5 6																												
	Sampla	1 4 0	1 2 0	0 12 0																												
	Gohána	1 3 0	1 2 0	0 12 0																												
	Jhájár	1 2 0	0 14 0	0 11 6																												
	Present	‡	2,52,428	0 13 7	Nahri Canal .. 2 6 0			Matiyar Clay 1 1 0—0 9 6																								
	Gohána	Former	..	2,27,016	1 12 10	Chahi Well 2 0 0			Rausli Loam 1 0 0—0 8 6																							
		Present	‡	2,85,663	1 11 1	Chahi Well 2 0 0			Bhur Sand 0 8 0—0 6 0																							
	Sampla	Former	..	2,68,687	1 4 2																											
		Present	‡	2,85,987	1 5 9	Nahri Canal 2 12 0			Matiyar Clay 1 4 0—0 0 0																							
	Jhájár	Former	..	2,19,013	1 3 2	Chahi Well 2 6 0			Rausli Loam 1 8 0 to 0 14 0																							
Present		‡	2,38,230	1 1 8	Chahi Well 2 0 0			Bhur Sand 0 10 0—0 8 0																								
Jhájár	Former	..	2,19,013	1 3 2	Nahri Canal 2 12 0			Matiyar Clay 1 4 0																								
	Present	‡	2,38,230	1 1 8	Chahi Well 2 0 0			Rausli Loam 1 2 0																								
Jhájár	Former	..	2,19,013	1 3 2	Dahri Naturally flooded 2 12 0			Bhur Sand 0 12 0																								
	Present	‡	2,38,230	1 1 8	Chahi Well 2 12 0																											

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H. C. FANSHAWE,

Settlement Officer

Ch. I.

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SIRSA DISTRICT

CH I. There is no complete Settlement Report of this District But such papers as have been printed indicate that the prevailing Revenue rates are per acre ,

Sailab land on the Sutlej	13 annas
Well irrigated land near the same river .	one rupee
The rest of the District, where the cultivation is dependent on very uncertain rain fall . .	4 to 3 annas

The proportion of the average annual produce represented by these rates is not stated.

E. WACE.

UMBALLA DISTRICT

The Umballa District was settled between the years 1849 and 1855, on a lease which expires in 1880. The southernmost Tahsil, Piphi, was settled later, it formed part of the Thánesar District, and was added to Umballa when the Thánesar District was broken up about A D 1863. CH I.

Of the 6 Tahsils, Jagádhrí, Naraingarh, and Umballa, were for the most part settled by Mr Wynyard, and Rúpar and Kharar with parts of the first 3, by his successor Mr P S Melvill. The Settlement of the Piphi Tahsil was the work of several officers.

The Sikh collections had been of an oppressive character throughout the District, as will be seen from the following extracts —

Extract from paras 201—202 of Mr Wynyard's Report

"When the Sikhs overran the country they having taken the place of the sovereign power, collected the Government share of the yield of each field in kind, taking one-fourth, one-third, and two-fifths, or even half of the crop according as their own weakness or the strength of the Zamindars or *vicc verid*, rendered expedient or politic. The above were the rates at which the batái, or division of grain at the threshing floor was made. The crops for which rents were taken in kind, were all the spring crops but tobacco, vegetables, poppies,* and all the autumn crops but cotton, churree, vegetables, sugar-cane†. For the excepted crops, a money payment was exacted, varying from 12 annas to 2 rupees for a kuteha bigah, from Rs 4-12-8 to Rs 12-12-8 an acre. Besides these rents they used to take a share of the Bhusa (straw after the corn had been trodden out), a share of the grass, a share of the wood, of the rice straw, and of the *mukki* straw. They used to have a quantity according to their wants or their power, of *moth, khood, khueed* barley cut green *Sunnee*, and *Churri*, always planted and cut by the zamindárs as fodder for their horses. They used to take from half a maund to a maund of *Ghi* from each village, according to its size, the same proportion of cotton, one rupee a year for pay of *Hurkarrak*, the same amount for *Bhuti's* wages, two rupees a season for *Kuneeah*, the man who called the produce of the field, the same for the Superintendent of the *Kun* party, one and half rupees, besides other perquisites in grain for the *Moonshis*, who accompanied the *Kun* party, half ana per rupee on all *zabee* produce, half anna per day for each sugar mill, two rupees a season for *chaanman*, one-fourth of the value of every horse foaled on the estate, five sers of sugar cane juice, and fifteen cans of sugar per sugar mill, five or seven sers of the first *gur* made in the season, one or two men *Baygars* from each village, to attend on the *Sadar* who were paid by the zamindárs, half séer per maund on the produce of each village for the *Chappassis* in charge of the crops, and his food, while in village, *kerrasa* $\frac{1}{2}$ séer per maund, of the *Jágridár's* share of the produce, for expense of conveying it to the *Jágridár's* granary 30 mpees a year, the milk of all the cows in the village on certain fixed days."

Such were the extortionate taxes levied, amounting to 16 8-0 per cent in addition to the Revenue demands.

'Of course, these large sums were not collected in all *Jágrís*. On the contrary the amount of these *Sewáie* collections depended in a great measure on the strength of the *Jágridárs*, and in some instances I shall have hereafter to notice, the *Jágridárs* did not take more than half the rents from the Zamindárs. But it seems strange how they could have collected any thing like what they did *viz* the whole rent and from 10 to 15 per cent for extra cesses. One reason was the extreme devotion of the village Zamindárs to their paternal homestead, and acres, another was the politic grants of Inams, in money and land, to the two or three most influential men in every village and larger grants of land either rent free or paying only half Revenue, to the men of the best and oldest families in each Taluka. By thus associating with themselves the most influential men of every large estate those heads of society to whom all the village head-men looked up, and by securing the assistance of village Chowdrees by the Inams above alluded to, the Sikhs were enabled to wring out of the country a very large amount of rent and taxes, and though the condition of the million was very wretched their complaints were not attended to, perhaps not heard, when all the heads of society were comfortably off and contented."

Extract from Mr Melvill's Report, para 47

"The almost universal system of the Sikhs was to collect their revenue in kind. Two-fifths of the gross produce was the ordinary proportion taken by them from the cultivators in these states. Where the soil was very poor, or, in special cases, where religionist castes were the occupants this rate was lowered to one-third, or even a fourth. But nowhere did the proportion exceed two-fifths in the Umballa District. In the Jullundur Doab a common rate was one-half a convincing proof if others were wanting that the *Trans-Sutlej* soil is far more productive than that of the *Cis Sutelj*. It was the usual practice for all Sikh *Jágridárs* of consideration to keep accounts of their revenues. These records were often kept in detail. The name of the cultivator, the gross amount of produce, and the share derivable by the Chief are all exhibited. Where then such papers could be procured without suspicion of fraud, they are manifestly valuable guides to an officer making his assessment.

* *Soof*, *Dhamá*, *Indage*, *Uywar*

† *Sun*, *Cholia*, *Chillies*, *Mehndí*

Ch I The following extract on the same subject relates to the *Pipli and Lawda Parganahs* and is taken from the papers of the abolished *Thanesar District*

"The revenue collection was nominally a *hattái* of one-third or one-fourth of the produce, with *zabti* at fixed rates one rupee per *kucha bigah*

"The one-third produce was taken generally but one-fourth in some of the *bángar* villages, but in addition to these numerous taxes made up the revenue. In the *parganahs* where the *rabi* crop is unknown, and indeed in others where it promised unfavourably, an arbitrary assessment was fixed called a *Mooshaká* and demanded for the *Fussil* which in addition to the numerous taxes was collected by the *Zemindárs* by a "*bách*" upon cattle, poll hearth and ploughs (or the *chobach*) in the *bángar*, but on the three latter only in the *Khadr* *parganáh*s. It may be interesting and instructive to record the items that composed the revenues of a village for a *rabi fussil* as demanded by the state, and which it must be remembered is exclusive of many items, that swell the *hattádaris* or village account. For instance the village of *Huisola* paid as follows —

		Rs	A	P
Mooshuká of <i>Jama</i> for one <i>fussil</i>			310	0 0
Percentage on ditto @ 35-8	79	0	9	
<i>Sirdebee</i>	80	1	0	
<i>Nuzurana</i> to State	19	0	0	
Do to <i>Mushabits</i>	6	0	0	
<i>Nuzzar</i> to all (all the <i>Ranis</i>)	13	0	0	
<i>Bricks</i> to repair fort, &c	13	12	9	
<i>Kazee</i> , allowance to	1	0	0	
<i>Tulubana</i>	1	0	0	
<i>Neera</i> , rate fixed at 4	4	0	0	
<i>Thanádáres</i>	14	0	0	
<i>Oográhi</i> or expense of collections	7	8	6	
<i>Ameenes</i> @ 1-8 per cent <i>Mootudee</i> or <i>Record keeper</i>	4	10	6	
	102	12	6	

502 12 6

"This is not given as a solitary instance, but as a type of the prevailing system. Each village furnished a certain number of *Chamars*, which if not required, paid one rupee per head per *fussil*

"The sum above entered as *jama* was arbitrarily fixed according to the season and past collections

When the *hattái* prevailed, which was usual only when the crops promised well a poll tax of Rs. 2 per head was taken in addition, but a cattle tax had never been demanded by the State as is usually supposed. When the *Mooshaká* system was adopted it included the poll tax

"The arm of the law, if law it can be called, was weak, paralyzed, no protection was given to person or property, indeed the State set the example, and plundered without remorse. It was the most common occurrence to mark off a slice out of a village on which to locate a favorite;—entire disregard being had to right or possession. The State considered all land its own to be dealt with as it pleased. Cattle at graze were attended by bodies of armed men, forays and bloodshed were frequent and common, and want of security caused the *Zamindárs* to plunder in self-defence"

The principle of the Regular Settlements made by Messrs Wynyard and Melvill, was to sweep away all miscellaneous exactions, and to endeavour to arrive at an equitable working assessment. According to the accepted standard of the day such an assessment should have been two-thirds of the rent (net assets). But as the Sikh rulers who preceded us screwed every rupee from the people which they could possibly pay, a technical rule of this nature could not be applied, and the problem of assessment was practically reduced to the question of the amount of reduction in the Sikh collections, necessary to secure the prosperity of the country. The reductions so given were large, amounting not unfrequently to a third of the previous collections. There has been the usual extension of cultivation since the Settlement was made, which, added to the rise in prices has no doubt reduced the share of the produce absorbed by the Government demand to a point far below that contemplated by the most moderate of the rulers who preceded us

The average incidence of the Regular Settlement in each *Tahsil* at the time it was made, was per acre then cultivated

<i>Tahsil Jagádhri</i>	1	7	0
" <i>Umballa</i>	1	6	9
" <i>Narangarh</i>	1	9	0
" <i>Rupai</i>	1	13	1
" <i>Kharai</i>	1	9	8
<i>Parganah Pipli</i>	1	6	1
" <i>Ladwa</i>	1	13	0

I add an abstract of the Revenue rates on soils, by the aid of which Messrs Wynyard CH. I. and Melvill arrived at their assessments

Umballa District—Abstract of Mr Wynyard's Revenue Rates (1853 A D) per acre

Local Term	English equivalent.	IRRIGATED CULTIVATION				DRY CULTIVATION		REMARKS
		DEPENDENT ON WELLS.		DEPENDENT ON CANAL AND STREAMS.		Highest.	Lowest.	
		Highest	Lowest.	Highest	Lowest			
KHADIR OR MOIST LOW LYING TRACTS								
		Rs A P	Rs A P	Rs A P	Rs A P	Rs A P	Rs A P	
Nali	Measured	4 0 0	2 12 0	4 0 0	2 4 0	2 12 0	1 12 0	
Rausli	Rich loam	3 0 0	2 0 0	5 5 0	2 0 0	3 10 0	1 5 0	
Dakar	Stiff clay	3 4 0	1 8 0	2 12 0	1 7 0	3 2 0	1 3 0	
Bhar	Sandy	2 0 0	0 14 0	2 14 0	0 14 0	1 15 0	0 9 0	
BANGAR OR DRY UPLAND TRACTS								
		Rs A P	Rs A P	Rs A P	Rs A P	Rs A P	Rs A P	
Nali	Measured	4 0 0	2 2 0	3 10 0	1 14 0	2 12 0	1 0 0	
Rausli	Rich loam	2 12 0	1 2 0	5 0 0	1 3 0	2 3 0	0 12 0	
Dakar	Stiff clay	2 14 0	1 2 0	5 8 0	0 15 0	2 3 0	0 8 0	
Bhar	Sandy	2 4 0	0 12 0	1 12 0	0 10 0	1 4 0	0 7 0	

Abstract of Mr Melvill's Revenue rates (per acre) in Tahsil Kharar and Ruper

Detail.	KHARAR.		RUPAR	
	Highest.	Lowest	Highest	Lowest
<i>I—On irrigated land</i>				
(1) Rates levied by Jágirdars before British rule	Rs A P 7 9 3	Rs A P 2 15 4	Rs A P 7 12 4	Rs A P 1 3 4
(2) Rates of the first British Summary Settlement	5 9 7	2 5 0	5 6 2	2 11 11
(3) Rates adopted by Mr Melvill, at the Regular Settlement	4 0 0	1 8 0	4 4 0	1 0 0
<i>II—On unirrigated land</i>				
(1) Rates levied by Jágirdars before British rule	2 13 10	0 14 6	3 14 2	0 9 8
(2) Rates of the first British Summary Settlement	2 6 5	0 11 10	2 15 0	0 11 5
(3) Rates adopted by Mr Melvill at the Regular Settlement	2 0 0	0 8 0	2 8 0	0 7 0

CH I, *Statement of the average incidence of past and present Settlement in District Ludhiana, and also of the rates on different soils or crops used in assessing the same*

District	Tahsil	Share of produce which it was intended the assessment should equal	Total assessment rupees.	Average incidence per acre cash value at time of assessment	REVENUE RATE ON SOILS OR CROPS USED IN THE ASSESSMENT						REMARKS
					Wet rates			Dry rates			
					Local term	English equivalent	Rate per acre	Local term.	English equivalent	Rate per acre	
LUDHIANA				PREVIOUS	SETTLEMENT						<p>1 The former Settlement was made in 1849-53. The present Settlement has just commenced.</p> <p>2 The statement shows the Tahsils as they were constituted at former Settlement, Pakhowal and Ludhiana have been joined in one tahsil.</p> <p>3 The former assessment was thus worked out. Each tahsil is sub-divided into Parganahs and the villages were arranged in classes within each of these. The yield at average rates and thence the value of the proprietors share for each class of villages was worked out but the share of the produce taken for Government was different for each village. The greater part of the statement is therefore blank.</p>
	Pakhowal	Differnt for each village generally $\frac{1}{4}$ of half assets	2,89,959	1 4 0	Details cannot be given						
	Jagraon		1,68,388	1 2 6							
	Ludhiana		2,42,180	1 8 3							
	Saurála		2,59,108	1 14 11							
Total		9,25,600	1 7 0								

T G WALKER,
Settlement Officer, Ludhiana.

JULLUNDUR DISTRICT--INCIDENCE OF THE REVENUE

The Settlement of this District was completed in 1851. The assessment was estimated to be equal to $\frac{1}{4}$ of the produce of the land then cultivated. Its incidence per acre now cultivated is Rs 1-15-3.

The Settlement Officer in assessing the District divided it into circles, each circle being composed of villages with similar advantages natural and artificial, and then framed rates for the irrigated and unirrigated lands of the circles.

No other classification of soils was attempted, but there were two features in the assessment, which in effect secured a due appreciation of the major differences of soil, 1st, the assessment of the District in circles, the limits of which agreed with broad differences of fertility, and the framing of separate rates for each circle, 2ndly, special rates were framed for any villages in each circle, which were distinctly better or worse than the average of the circle.

The system thus followed agreed with the practice of the agriculturists in their dealings with each other.

The Revenue rates vary for land irrigated by wells from Rs 6 to Rs 2-8-0, and for unirrigated land from Rs 3 to 1.

The character of the Revenue management antecedent to British rule was the same in this District as in Hoshiárpur, which is next described.

E. G. WACE

HOSHIARPUR DISTRICT —REVENUE RATES

CH I

This District was settled on a 30 years' lease at the same time as the adjacent District of Jullundur. The greater part was assessed on the same method as was followed in Jullundur, which has been already described. The hill portion of the District was assessed in the same manner as Kángra, for which see the account of that District.

The Settlement Report contains a complete table of rates which I give below. From the year 1832 to 1839 A D, this District and that of Jullundur were governed with much wisdom and moderation by Mir Rup Lal on behalf of the Sikh Maharaja Ranjit Singh. The Mir abolished the system of collecting the revenue in kind, gave the people equitable cash assessments, and confined his demands strictly to those assessments. He was superseded in 1840 at the Maharaja's death. His successors, commonly known as the Shekhs, immediately raised the assessments 25 per cent all round, and whenever the crops were fine, levied additional arbitrary sums, consequently when the District was annexed in 1846, it was necessary to give a reduction of from 30 to 40 per cent on the revenue levied by the Shekhs. And eventually, as will be seen from the table given below, the regular settlement was fixed at rates closely corresponding with those of Mir Rup Lal's assessment.

The average incidence of the summary settlement and of the regular settlement per acre cultivated, compares thus for each Tahsil—

Tahsil	Summary Settlement	Regular Settlement.
	Rs A P	Rs A P
Garhsanker	2 2 6	1 15 0
Hoshiárpur	1 15 0	1 15 3
Hariána	2 8 7	2 5 2
Unah	2 1 4	1 15 0

HOSHIANPUR DISTRICT -- Comparative Revenue rate table

Name of Parganah	Name of Chak.	Class	BADSHAHI		SHEIKH.		MISER RUP LAL CALCULATED FROM ASSESSED AND COLLECTED REVENUE.			SUMMARY JAMA			PROPOSED JAMA.												
			General	Assessed	Collected by Kardars	Irrigated	Unirrigated.	General.	Irrigated.	Unirrigated	General	Irrigated	Unirrigated.	Irrigated	Unirrigated.										
																General.	General	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P
																Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P	Rs. A P
GURU SHANKAR	Dhak	I		3 0 7	5 2 11	2 1 2	2 6 9	6 8 4	2 7 9	3 0 2	5 4 0	2 2 0	2 2 0												
		II		2 6 6	4 4 9	1 11 6	1 15 0	4 13 11	1 15 2	3 3 2	4 8 0	1 12 0	1 12 0												
		III		3 7 2	5 8 0	2 12 0	2 12 2	5 9 2	2 12 7	2 12 10	4 12 0	2 11 0	2 11 0												
	Central	I		2 9 1	4 8 4	2 1 8	2 2 0	4 7 3	2 3 7	2 4 0	4 8 0	2 1 0	2 1 0												
		II		1 12 11	3 0 0	1 8 0	1 8 1	3 3 4	1 9 8	1 9 9	4 4 0	1 7 0	1 7 0												
	Kandee	I		2 3 4	2 12 8	1 6 1	1 6 4	3 9 8	1 12 4	1 12 4	3 0 0	1 6 0	1 6 0												
		II		1 15 4		0 14 6	0 14 6		1 2 11	1 2 11		1 14 0	1 14 0												
	Bet or Khadir	I		2 14 0	4 6 0	2 14 8	2 15 4	4 11 6	3 2 4	3 2 9	4 12 0	3 2 0	3 2 0												
		II			1 7 10	0 15 11	1 0 1	2 8 8	1 11 1	1 11 4	3 0 0	1 8 0	1 8 0												
	HOSHIANPUR	Dhak	I	3 5 7	3 3 4	5 5 5	2 6 0	2 9 7	5 10 4	2 8 2	2 12 0	5 4 0	2 8 0	2 8 0											
II			2 0 8	2 8 7	3 6 6	1 8 2	1 9 5	3 5 1	1 7 7	1 8 8	4 8 0	1 9 6	1 9 6												
III			3 6 8	3 0 6	4 1 6	4 14 11	2 7 5	2 8 5	4 7 0	2 8 6	3 4 6	5 0 0	2 8 0												
Seerwul		IV	2 0 11	2 2 8	2 3 8	3 10 0	1 13 0	1 13 7	3 5 0	1 10 6	1 11 1	4 0 0	1 12 0												
		I	2 4 5	2 2 2	2 2 7	2 14 1	1 7 0	1 7 3	2 1 6	1 0 9	1 1 2	4 0 0	1 8 0												
Kandee		II	2 1 8	3 4 11	3 8 5	5 5 4	2 10 8	2 11 11	6 6 8	2 11 4	2 12 10	4 8 0	2 12 0												
		III	1 14 2	2 4 5	2 7 11	8 2 5	1 12 10	1 13 2	3 3 9	1 13 7	1 13 10	3 8 0	1 12 0												
Seerwul		I	1 12 6	1 3 2	1 6 0	1 9 5	0 14 6	0 12 7	1 13 9	1 1 0	1 1 1	2 8 0	0 15 0												
		II	3 7 7	4 4 6	5 7 8	6 8 6	3 4 2	3 5 5	7 1 0	3 8 8	3 9 11	5 0 0	3 4 0												
Central		I	2 6 6	2 13 2	3 0 6	4 1 6	2 1 4	2 2 2	4 11 10	2 5 11	2 6 11	4 8 0	2 2 0												
	II	3 3 8	4 0 5	4 8 9	6 1 6	3 0 9	3 8 7	6 10 4	3 5 2	3 8 8	5 0 0	3 2 0													
Kandee	III	8 2 1	8 4 8	3 11 10	5 3 4	2 9 10	2 10 9	5 2 10	2 9 5	2 10 8	4 12 0	2 8 0													
	IV	2 11 5	1 16 10	2 1 9	3 7 6	1 11 9	1 11 11	3 10 10	1 13 5	1 13 7	4 8 0	1 12 0													
HURRIANAH	Single class	I	1 13 11	2 0 11	2 11	3 0 8	1 8 4	1 8 5	3 6 0	1 11 0	1 11 1	4 0 0	1 8 0												
		II				3 8 6	1 12 8	1 12 3	3 11 0	1 13 0	1 13 7	3 0 0	1 12 0												
	I		2 0 3	2 2 1	1 10 0	0 14 0	0 14 8	1 14 7	1 0 6	1 1 3	2 8 0	0 15 0													
	II										3 0 0	1 6 0													
	III										3 0 0	1 0 0													
	III											2 8 0	1 8 0												

KANGRA DISTRICT—INCIDENCE OF THE REVENUE.

The circumstances of this District are peculiar. It is a hill District, and was CH. I. annexed in 1846, and settled on a 30-year lease in 1850-52. The Settlement Officer, Mr G C Barnes, did not attempt to frame rates but satisfied himself by personal inquiry whether the assessment hitherto paid was fair or should be reduced.

He stated in para. 351 2 of his report, that the Sikh Revenue was calculated on a moiety of the produce, that our 1st Summary Settlement reduced their collections by ten per cent, and that other vexatious cesses being abolished and cultivation having extended, the Revenue probably represented in 1850, only one-third of the produce. This he reduced by one-sixteenth. The District was remeasured and the Settlement record was revised in 1865-69, and the Officer conducting those operations gave it as his opinion, that when the leases had run out, an increase of 20 per cent could be demanded. As no assessment in such a tract would be now either proposed or sanctioned, which absorbed a third of the produce, it may be stated with certainty that the present assessment does not now absorb more than a sixth of the produce.

The same Officer ascertained by his measurements that in 1869, the average incidence of the Revenue in each Tahsil was —

Tahsil.	Incidence of Revenue per acre of cultivated area.			Per cent of cultivation irrigated.
	Rs	A	P	
Nürpur	1	1	4	15
Kangra	2	3	5	55
Dera	1	1	8	9½
Hamirpur	1	0	2	2
Total Kángra proper	1	5	7	20
Kulu with Leoraj	2	1	2	12
Láhoul and Spiti	0	14	10	100
Total Kulu and Láhoul	0	15	1	22

The circumstances of this hill District and of its assessment are so peculiar, that it is worth while to annex in extenso an extract from the report of the Regular Settlement (1852), describing the Revenue system which prevailed before annexation.

Extract from Kangra Settlement Report, 1852, A. D.

832 In the rich and highly irrigated valleys of this District, the Government dues had, from time immemorial, been levied in kind. The produce was certain and regular, independent of the caprices of the season, and consequently the public officials had seen the advantage of maintaining the primitive custom of dividing the crop with the cultivator, instead of compounding for a money rent. In the Kángra valley the proportion of grain received by the State had been found, through a series of years, to vary so little that a fixed measure of produce, both for the autumn and spring harvest was imposed upon every field and gradually became a permanent assessment. This practice had been in vogue for ages before the Sikh conquest. It was, probably, derived by one of the earlier Hindu Princes, who for nearly two thousand years, ruled over these Hills. Its antiquity is so remote that the people are ignorant of the author. It will suffice to state that for every field in this beautiful valley, there is a fixed proportion of produce payable to Government, and so carefully and equitably has this valuation been made, and so ancient are the land-marks that constitute each field, that this elaborate assessment has lasted without a single instance of failure unto the present day. Although on the cession of these Hills, in 1846, Mr John Lawrence, the Commissioner, substituted money rates for the long established usage of grain payments, yet his calculations were based upon the aggregate corn receipts from each village, according to the average prices of the preceding five years, and in the distribution of the village jama, the liability of every cultivator was regulated entirely by his previous payments in grain, converted into money by market rates.

833 The Sikhs found this system in force on their conquest of the country, and they did not subvert it. In every village of the valley, there was a "kothi" or granary where the produce was carried and stored, and as the chief staple of the valley is a fine description of rice which is grown in no other locality of the Punjab, Pesháwar excepted, the Government had no difficulty in disposing of their grain.

CH I. Regularly every year, the merchants would come up from the plains below, and carry off the rice to the great markets and cities of the Punjab, and so profitable, was the trade, that the Kárdárs themselves not unfrequently speculated on their own account, and exported the rice of the valley, bringing back, on their return, the rock salt of the Pind Dádan mines.

334 Besides the Kángra valley there were other alluvial tracts where the system of kind rent also prevailed. But the permanent assessment, borne by each field, which forms so peculiar a feature in the Kángra Pargana, did not exist elsewhere. The valley of Haripur, which also possesses the means of abundant irrigation, was usually leased out to farmers, who took their rents by division of the crops, paying a fixed annual sum, in money, to the Government Kárdár. In other talukas such as Indoura and Kharim, the resident Chowdries had sufficient influence to secure the lease in their own names, and they also levied their dues in kind, paying a money assessment to the State.

335 Such was the practice on all irrigated lands, wherever the produce was unvarying and regular. In the upland Districts, however, destitute of artificial aid, and dependent for their crops upon the rains of heaven, the assessment was always in money. The Kárdár was too well aware of the vicissitudes of the seasons, to place his faith on the actual results of cultivation. Every village therefore, was assessed at a fixed money demand, which was called the "Ain," and under ordinary circumstances was maintained unaltered, for many years, until indeed the reclamation of new land, or the deterioration of the village resources had made the burden unequal.

336 The "Ain" was ascertained by a somewhat elaborate process. The Kárdár, shortly after the conquest of the country, selected a favourable year, and accompanied by "handas" or appraisers, visited every village, and computed the value of the crops. Half the estimated produce was released to the cultivator, and the other half was assumed as the right of Government. This moiety was converted into money at the prevailing rates, and the aggregate sum resulting from the process, constituted the village assessment "Ain," which henceforward, under all circumstances, was considered as the measure of the Government lien upon the estate.

337 In excess of the Revenue, the Kárdár levied an ana in the rupee, or six and a quarter per cent, as "khurch" or contingencies. This was not repaid to the village officials, but appropriated partly by his own expenses, and partly carried to Government credit. The representative of the village had to seek his remuneration from other sources. Sometimes he engaged for the farm of his village, and obtained in this way a precarious profit, or else he was authorized to levy a certain percentage on the Government revenue.

338 The collections under the Sikh system were always in advance of the harvest. The Spring demand commenced in "Nowratra," which usually falls about the end of March. The autumn revenue was realized in September, and frequently remitted to the Nazam by the Dusera festival, or end of October. The money was advanced on the security of the coming crop by capitalists, who could dictate their own terms, and thus the people were deprived of the legitimate fruits of their own industry.

339 Remissions were occasionally given under the authority of Lena Sing. During the later days of the Sikh sovereignty these remissions frequently recurred, and were an absolute surrender of the revenue, and not suspensions to be subsequently realized.

340 Such was the outline of the Sikh system of revenue as followed in the hills. As a general rule, the demand was based upon half of the gross produce, and this proportion was frequently exceeded by the imposition of other cesses. The burdens of the people were as heavy as they could bear. The utmost limits of toleration had been obtained. A native collector is too discreet to run his tenants. He knows that indiscriminate severity is sure to entail eventual loss. At the same time he will proceed to any length, short of actual destruction. He will take all that he can, without endangering the security of the future. His policy is to leave nothing but a bare subsistence to the cultivator of the soil, and with this principle as his rule of practice, all his assessments are moulded. By gradual experience the capabilities of every village were ascertained, and the demand became stationary at the highest sum that could be paid without positive deterioration. The Sikh assessment was generally equal. The exceptions were those in which personal interest had counterbalanced the Kárdár's cupidity and in the Hills which were inhabited by a foreign race, possessing no sympathy with the Sikhs, such instances of exemptions were rare. The burden, as a rule, was borne by all alike, heavy indeed according to just and liberal principles, but still impartially distributed.

341 On the cession of these Hills, in March 1846, A. D. a Summary Settlement for three years was effected by Mr John Lawrence, the Commissioner of the Jullundur Doab. Sardar Lena Singh, the Nazam of the Territory, alarmed at the commotions which were agitating his country, had retreated before the campaign to Benáres. His brother Runjodh Singh, the Commander at Alwál, governed in his place, and delivered his fiscal papers, showing the detail of villages and the annual assessment fixed upon each, to the Commissioner.

342 On this Rent Roll, revised and checked by local information, the Summary Settlement was completed.

345 In Pargana Kángra, the rents had always been taken in kind. Every field was assessed, for centuries, at a fixed value in corn. The people had never paid in money, and their feelings from long prescription and usage, were entirely in favour of grain payments. They had never accustomed to dispose of their produce, or to convert it into money, and yet our system eschewed collections in kind.

(63)

and required that the revenue should be liquidated in cash. In this Parganah therefore, the Summary Settlement was not only a revision of the assessment, but an entire reversal of ancient and time-honoured custom. The grain payments were commuted at easy rates into money and the people after a little persuasion, were brought to accede to the innovation. I may add that this measure, effected by the Commissioner, was attended with the most complete success. The Settlement itself was the fairest and best in the District, and the people are so well satisfied with the change, that they would gladly pay a higher revenue rather than revert to their old usage. Money assessment has left them masters within their own village areas. They may cultivate whatever crops they please. It has taught them habits of self management and economy, and has converted them from ignorant serfs of the soil, into an intelligent and thrifty peasantry. They appreciate the discretion with which they are now entrusted and are stimulated by the prospects which industry holds out to them.

CH I

To the above extract from the Settlement Report of 1853, I add the following remarks from the report of Mr J B Jyall, the Settlement Officer who revised the Settlement record 15 years later, his report was written in 1872

35 With regard to the regular land revenue, it would, I think, be a mistake to suppose that Mr Barnes made a real Mauzawar assessment, or, in other words, that having ascertained the cultivated and culturable area of each Mauzah, he applied to them rates based on quality of soil or estimate of value of crops and so worked out a jama or demand. The surface of the country is so broken, and the difference in productiveness of adjoining lands so immense, that it will never be possible to assess a Mauzah in the lump. In all the old jamabandi papers the demand and collections for each holding or each plot were given separately, the jama or demand for the whole Mauzah was merely the sum total of the jamas of the holdings. Mr Barnes had these papers before him, when he found from enquiry that the people of any Mauzah were in a state of poverty, or that there had been difficulty in collections, he gave a reduction of so much per cent on the old demand. When the new Khewat or rent roll came to be made out, each holding got its rateable share of the reduction, unless some holders proved, to the satisfaction of the Tahsildar and village council that their case demanded special consideration, in which case the reduction was divided unequally among the holdings by a rough process of arbitration. What I mean to point out is this that the old family holding and field assessment still lives little changed, though disguised by Mr Barnes's Mauzahwar assessments.

205 There has existed of late years a very general idea that Kangra was very lightly assessed by Mr Barnes. I believe this is based on no better foundation than the respect and gratitude with which the rural population always mention his name, perhaps also in part to the fact that many of them, from a feeling of gentile birth which is very strong in the hills, dress better than men of twice their substance in the plains. My idea is that the assessment cannot be said to have been light, and that compared with that of many other Districts in the Punjab, it was heavy. The statistics of area and assessment included in this Report appear to me to prove as much, and all my experience went to show that even now the number of men who make more than a decent subsistence out of their land is very scanty. I believe it a complete fallacy to suppose that Mr Barnes could have safely demanded a higher revenue than he did the people say I believe truly, that the assessment would have broken down in very many places had not the strain been relieved by the rise of prices which began three years after Settlement and has been maintained ever since. This has enabled them to pay the revenue easily, but the land is so sub-divided that any increased profit resulting from rise of prices is absorbed at once and it will be hardly possible for Government at next Settlement to suddenly recover any very considerable share of the value of the increase. The policy of doing away with the old fixed grain assessment may now be doubted. To assess Kangra scientifically would be an onerous task, in my opinion the only way to do it would be to make a field assessment on the Bombay system. I believe that if the usual plan of treating the village as the unit of assessment was adopted the calculations would bring out capricious results. The present assessment, as I have explained in this Report, is in all but a few villages nothing more than the old native assessment very slightly modified. I think it on the whole more equal in its incidence than any assessment which could be made now-a-days by an English Settlement Officer. I suggest therefore, that when the term of Settlement expires, it will probably be sufficient to pick out for re-assessment the villages in which the cultivated area is known to have largely increased, or to which new income has accrued, such as the profit of slate quarries, &c. These will be very few, and on all the rest, if prices continue to rise, a uniform increase of say 20 per cent might be imposed, leaving any objecting village the alternative of claiming a re-measurement and regular assessment.

E. G WACE

AMRITSAR DISTRICT

CH I This District was first assessed by regular settlement in the years 1852-54. An abstract of the revenue rates then used is given below. On the expiry of these leases, the District was reassessed in 1865 on a 20-years' lease. The officer entrusted with the settlement left the service without reporting the details of his work, so that the rates used cannot be given.

The 1st assessment was made under the rule which fixed the demand at $\frac{3}{8}$ of the rent or net assets. As regards the share of the produce it was intended to cover, the settlement report contains no distinct information. The rates appear not to have been so much based on an independent calculation of what the rent or value of the land was, as on experience gained by the Settlement Officers of the assessment which each tract could pay consistently with its prosperity.

The revised assessment of 1865 was made under the $\frac{1}{2}$ asset rule. Though the rates used have not been reported, it is known that the Assessing Officer relied for a guide on estimates of $\frac{1}{2}$ of the grain produce. He also introduced 2 new principles of assessing irrigated land, viz—

- (1) Lands irrigated from wells were assessed as if unirrigated, and a lump sum was charged to each well on account of the Government's share on the increased produce of the land which it irrigated. The principle was not entirely new, having been applied successfully to some tracts in the District at the 1st settlement. But the method of its application, and more especially the lightness of the charge for water under it, as compared with the irrigation receipts of the previous settlement, raised considerable discussion, and owing to the non-receipt of any complete report from the Assessing Officer the question practically stands over for decision at the next settlement.
- (2) Similarly lands irrigated from the Bāri Doāb Canal were assessed as if unirrigated, and water-advantage or owner's rates were fixed in addition, which would be paid every year when canal water was used, and not, if the water was not used. This system has since been incorporated into the Canal Act, and is universally approved. Under the previous system that it supplanted, land which happened to be irrigated at settlement was assessed accordingly, and was liable to pay at this rate for the whole period of the lease, whether canal water was continuously used or not, and on the other hand lands not irrigated in the year of settlement, to which irrigation was subsequently extended, continued to pay dry rates. Such a system produced great inequalities, and the new principle has removed to the benefit both of Government and of the land owners.

The water advantage, or owner's rate paid on the Bāri Doāb Canal in the Amritsar District is one rupee per acre. It represents Government's share in the increased *rent* due to irrigation, and as above explained it is paid in addition to the unirrigated revenue.

Abstract of Revenue rates, settlement of 1854 — AMRITSAR DISTRICT

TAHSIL.	IRRIGATED				UNIRRIGATED				Average incidence per acre cultivated.	
	Bhet.		Bāngar		Bhet and Sasub		Dry land		Summary Settlement	Regular Settlement
	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.		
Amritsar Tarn Taran	Rs A P	Rs A P	Rs A P	Rs A P	Rs A P	Rs A P	Rs A P	Rs A P	Rs A P	Rs A P
	2 5 6	2 5 6	4 5 3	1 14 0	1 14 0	1 6 6	2 6 2	0 13 2	2 2 3	1 14 9
Sambūān alias Ajnala	Highest	Rs A P			2 11 3	1 0 3	2 2 0	0 12 0	2 8 11	2 3 5
	Lowest	3 15 9 1 14 0								

E WACE

(65)

SIALKOT DISTRICT—REVENUE RATES

The first regular settlement of this District was completed in 1856, the assessments *Ch I.* having been made a year or two before. Some of these were revised in 1858-59. The Narowál Tahsil did not originally belong to the District, its assessment was however effected about the same time. I append an abstract of the Revenue rates employed at those settlements.

The District was again settled on a 20 years' lease about the year 1865. The rates were never reported, for the same reason as stated against the Amritsar District.

The first regular settlement aimed at an assessment equal to $\frac{1}{4}$ of the grain produce, but the Settlement Officer believed that his assessment was really much less. The revised settlement aimed at taking only one-sixth. Similarly the 1st settlement was intended to take $\frac{1}{6}$ of the nett assets, the 2nd settlement was intended to take only $\frac{1}{4}$ the nett assets. At the settlement of 1865 the land irrigated by wells was assessed on the new principle described under the Amritsar District with similar results.

E WAGE.

SIALKOT DISTRICT

Abstract of Revenue rates of settlement made 1854-59—per acre,—

TRACT	Irrigated by wells		Moist alluvial		Dry land		Average per acre assessed.	Per cent reduction on previous summary assessment	
	Highest	Lowest	Highest	Lowest	Highest	Lowest			
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
HIGHER CENTRAL TRACT (dependant on row)	Charwa	2 2 0	1 11 0	1 6 0	0 14 0	1 6 0	0 14 0	1 3 9	60
	Jutatur	2 6 0	1 12 0	1 6 0	0 14 0	1 6 0	0 14 0	1 3 3	120
	Bhurra	1 12 0	1 6 0	1 5 0	0 12 0	1 5 0	0 12 0	0 15 6	110
	Pasur	2 4 0	1 1 0	1 10 0	1 3 0	1 10 0	1 3 0	1 7 10	270
LOWEST TRACT (dependant on tract)	Doshahi	3 0 0	2 0 0	1 9 0	1 2 0	1 9 0	1 2 0	1 5 6	70
	Darp Zafarwál	3 0 0	2 0 0	2 0 0	1 4 0	2 0 0	1 4 0	1 9 1	220
	Darp Hurdo Kila	3 0 0	2 0 0	2 0 0	1 4 0	2 0 0	1 4 0	1 9 6	260
LOW WATERED BY STREAMS (dependant on stream)	Neunda	2 9 0	1 14 0	1 10 0	1 2 0	1 10 0	1 2 0	1 10 9	80
	Bet Sialkot	2 4 0	1 10 0	1 10 0	1 2 0	1 10 0	1 2 0	1 11 5	40
	Bet Sumryal	2 0 0	2 0 0	1 8 0	1 8 0	1 0 0	1 0 0	1 4 11	210
	Vela	2 0 0	1 12 0	1 0 0	0 10 0	1 0 0	0 10 0	1 4 6	200
Dry valley	Deg Kundí Zafarwál	3 4 0	2 4 0	2 4 0	1 8 0	1 10 0	1 0 0	1 10 7	50
	o Hurdo Kila	3 4 0	1 14 0	2 4 0	1 6 0	1 10 0	0 10 0	1 7 3	340
HIGH IRRIGATED (dependant on wells)	Aikwála	4 0 0	2 0 0	2 0 0	1 8 0	2 0 0	1 0 0	2 10 7	290
	Charkari No 1	3 0 0	1 12 0	1 0 0	0 12 0	1 0 0	0 13 0	2 1 3	160
	Sialkot								
	Do No 1 Sumryal	2 12 0	1 12 0	1 0 0	0 12 0	1 0 0	0 12 0	1 13 11	310
	Do No 2 Dasaka	2 8 0	1 8 0	1 0 0	0 8 0	1 0 0	0 8 0	1 5 3	860
	Do No 2 Pasur	2 8 0	1 8 0	1 0 0	0 8 0	1 0 0	0 8 0	1 7 5	360
Kalur	1 14 0	1 8 0	0 10 0	0 8 0	0 10 0	0 8 0	1 6 5	300	
TAHSIL	Irrigated.		Unirrigated		Average per acre assessed		Per cent. reduction on previous summary assessments		
	Highest	Lowest	Highest	Lowest					
Narowál or Rayá	4 4 0	1 8 0	2 10 0	0 8 0	1 11 9		21 09		

E WAGE

GURDASPUR DISTRICT—REVENUE RATES

CH I The regular settlement of this District was effected in the years 1853-4. The average incidence of the settlement when made, per acre then cultivated, as compared with that of the summary settlement which preceded it, was —

Tahsil	Summary Settlement	Regular Settlement	Per cent by which Regular Settlement was less than Summary Settlement.
	Rs A P	Rs A P	
Batala	2 4 1	1 13 3	14
Gurdaspur or Admananagar	2 1 6	1 12 2	16
Pathankot (plains)	Not traceable	1 12 11	30
Shakargarh	1 12 8	1 8 5	11

The Shakargarh assessment was modified subsequently to 1854, the incidence given is that of the assessment, as finally fixed. I append an abstract of the Revenue rates on which these assessments were framed.

The District was reassessed in 1865 by the same Officer who reassessed the Amritsar District, and his work has never been reported for the same reason as stated against that District.

As regards the share of the produce taken by the 1st settlement (1854) and at the reassessment (1865), also as regards the assessment of irrigated lands, the same remarks apply as above stated for the Amritsar District.

The owner's rate paid for canal irrigation in addition to the dry assessment varies from Rs 1½ near the head of the Bári Doáb Canal to one rupee lower down. The assessment of well irrigated land made in 1865 is believed to be unnecessarily lighter than that of 1854.

Abstract of revenue rates, settlement of 1854 —

Soil	TAHSIL ADIMANAGGAR		TAHSIL BATALA	
	Highest.	Lowest.	Highest.	Lowest
	Rs A P	Rs A P	Rs A P	Rs A P
Irrigated, moist, alluvial	8 5 0	2 1 2	4 1 3	2 13 0
Dry upland	4 7 0	2 12 0	4 1 2	1 2 11
Unirrigated	2 3 11	1 6 0	2 11 6	0 14 0

The rates of Tahsils Pathankot and Shakargarh are not given in the Report

E WACE

LAHORE DISTRICT

The regular settlement of the Lahore District was effected about the year 1854, CH I and on the expiry of the leases then made, it was re-assessed in the years 1865-68. The proportion of the produce, which the former assessment was assumed to cover, is not stated in the report, the second assessment was aimed at a standard of $\frac{1}{2}$ of the produce calculated at the yield of unirrigated land. As about half the cultivation is irrigated either by wells or by canals, the estimate is no guide to the proportion of the produce really absorbed by the assessment.

The assessment of 1854 reduced the previous summary assessment by 11 per cent., the assessment of 1868 increased that of 1854 by 16 per cent. Between 1854 and 1868, cultivation had increased by 22 per cent. An abstract of the Revenue rates of the 2 settlements is annexed. The principles of assessment followed in the settlement of 1854 and 1868 were the same as I have described in my remarks on the Amritsar District.

The owner's rate levied on Canal irrigated lands in addition to their unirrigated assessment varies according to sort from Rs 1 $\frac{1}{2}$ to 12 annas on the Bári Doáb Canal, and on the Foundation Canals in the Chúnán Tahsil it is 8 annas per acre.

The most important financial difference between the assessments of 1854 and 1868 consisted in this, that the incidence of the new rates for well-irrigation were much lighter than those of 1854. A comparison of the two showed, that the assessment of well-irrigated lands made in 1868 was about a fourth lighter than it would have been, if the rates of 1854 had been applied, and the Government considered that no sufficient reason was shown for such a reduction.

LAHORE DISTRICT

Revenue rates per acre

CIRCLE	On land irrigated by wells.				Ballab or inundated by rivers				Unirrigated land.			
	Settlement of 1854.		Settlement of 1868		Settlement of 1854		Settlement of 1868.		Settlement of 1854.		Settlement of 1868	
	Per acre irrigated.		Per well.		Per acre cultivated.		Per acre cultivated		Highest.		Lowest.	
	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.
1 - Mohá alluvial (Bos, curda).	2 0 0	1 0 0	14 0 0	16 0 0			1 0 0	1 0 0	1 0 0	0 8 0	1 0 0	0 11 0
2 - Other alluvial circles (Khadr and Mithar)	1 10 2	1 8 0	12 0 0	13 0 0	1 2 0	1 2 0			0 18 0	0 12 0	1 0 0	0 15 0
3 - Dry upland circles	1 15 2	0 9 0	14 0 0	8 0 0	0 15 2	0 9 0			0 14 0	0 3 0	0 14 0	0 5 0

Note -- At the settlement of 1868, the land irrigated by wells was assessed as if unirrigated, and to the assessment so arrived at a lump sum for value of irrigation was added per well.

E G WACE

FEROZEPORE DISTRICT

CH I

This District was annexed in 1846, and its regular settlement was completed by the end of 1854. It is bounded on the north and west by the river Sutlej. Along the bank of this river lies a tract of low alluvial land, known as the "bhet," and varying in width from 4 to 14 miles. The rest of the District is high and dry land, and is known as the "rohi." In the "bhet," water is near the surface, and a well with 6 or 8 pair of bullocks can irrigate 35 acres in the year. In the "rohi," the depth of the wells varies from 30 to 70 feet (at which depth irrigation ceases to be practicable), and the wells can irrigate only from 20 to 12 acres according to their less or greater depth.

The rates at which the rest of the District was assessed in 1854 were as follows

	Land irrigated by wells.				Alluvial land in the Bhet annually inundated				Land entirely dependent on rain						
	Highest		Lowest		Highest		Lowest		Highest		Lowest				
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.			
I.—Bhet, viz (a) new, i. e., nearest the river and annually inundated (b) old, i. e., not annually inundated	2	0	0	1	8	0	1	8	0	1	4	0	0	12	0
II.—Rohi	2	0	0	1	0	0	-	-	-	0	15	0	0	4	0

The average rate on all cultivation was at the time of settlement Rs 0-14-9

In the above table the Muktsar Tahsil and Mamdot chiefship are not included

The Muktsar Tahsil joins the southernmost and most arid portion of the District. The greater portion of this Tahsil was managed up to 1852 by the Raja of Faridkot, who levied the revenue in kind. From 1853 a cash settlement was introduced, and the Tahsil came under direct British administration. It was found to be in a very depressed condition, and the regular Settlement leases were therefore fixed at very light rates and given for ten years only. In 1872 the Tahsil was re-assessed. It was found to have so advanced in prosperity, that whereas the assessment of 1853 was Rs 47,595 and had risen by progressive increases to 62,729, the new assessment yielded Rs 97,877.

The new assessment was estimated to equal $\frac{1}{3}$ of the crop of an average year, this extremely low share being fixed on account of the scanty rain-fall and consequent frequent failure of crops. Proprietary rents in the tract are usually a little over $\frac{1}{2}$ of the produce. The rates of the two settlements compare as follows

Per acre.	Settlement of 1856		Settlement of 1872	
	Highest.	Lowest.	Highest.	Lowest.
Land irrigated by wells		12 annas.	Rs 9 per well	12 annas.
Unirrigated lands	6 annas.	4 "	7 annas.	5 $\frac{1}{2}$ "
Lately cultivated	3 "	2 "		3 "

The rates of 1872 taken all round are 14 per cent higher than those of 1856. The average rate on cultivation of the latter was annas 5 $\frac{1}{2}$, of the settlement of 1872 annas 6.

The chiefship of Mamdot is a small tract lying on the south bank of the Sutlej, a few miles below the city of Ferozepore. Since 1855 it has been administered by Government. Most of its land is in the "bhet." It was assessed in 1856 and again in 1872.

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The former assessment aggregated, with subsequent increments during its currency, **CR I**
 Rs 45,770, the latter Rs 65,334. The average produce rent is 25 per cent. The
 assessment is framed so as to take 10 per cent of the produce in the bhct, and a fifteenth
 or about 7 per cent in the rohi. The rates of the two Settlements were per acre

		1856		1872	
		Bhct.	Rohi	Bhct	Rohi
Irrigated by wells	--	Rs 1 6 to Rs. 1 3	One rupee.	Rs 12 per well	Rs. 8 per well
Most alluvial	..	14 annas.		} 11 to 13 annas	6 annas.
Dry rain lands	--	9 to 7 annas.	6 annas		

The rohi land contribute less than a sixth of the revenue, the irrigation contributes
 one-eighth, and is almost entirely confined to the bhct tract.

E G WACE

GUJRAÑWALA DISTRICT

The regular settlement was completed about the year 1856. The Sikh collections had been very severe. The summary settlement had allowed a reduction of 11 per cent, but it was found necessary to give a further reduction of 21 per cent. The assessment thus finally arrived at was believed to equal one sixth of the grain produce of irrigated land, and one fifth that of unirrigated land.

The leases of the regular settlement having expired, the District was re-assessed in 1866-67. The new assessment aimed at taking one sixth of the gross produce, and wells were assessed on the new principle described under the Amritsar District. Cultivation had increased between 1856 and 1866, 15 per cent, and of the cultivation, the proportion irrigated (by wells) had increased 20 per cent. The assessment was raised progressively 15 per cent. The main difference between the assessments of 1856 and 1866 consisted in this, that the incidence of the new well rates was much lighter than that of the old, a calculation made by the Financial Commissioner showed that the new well rates fell short of the old by one fourth, and it was held that no sufficient reason had been shown for such a reduction.

The average incidence of the summary settlement and regular settlement per acre cultivated, compares thus for each Tahsil

	Summary settlement			Regular settlement		
	Rs	A	P	Rs	A	P
Gujranwala	1	10	2	1	4	10
Wazirabad	1	15	1	1	8	8
Hafizabad	1	4	6	1	0	8
Total District	1	9	3	1	4	6

The corresponding data for the settlement of 1867 cannot be stated

GUJRAÑWALA DISTRICT—REVENUE RATES PER ACRE

CIRCLE.	ON LAND IRRIGATED BY WELLS						SAILAR OR INUNDED BY RIVERS.				UNIRRIGATED LAND														
	1854		1866				1854.		1866		1864		1866												
	Highest	Lowest	Highest	Lowest	Rs	A	P	Highest.	Lowest.	Highest.	Lowest.	Highest	Lowest	Highest	Lowest.										
1 Most alluvial tracts (Khadr and Deg)	2	0	0	1	8	0	1	8	0	1	8	0	1	0	0	8	0	0	14	0	0	8	0		
2 Lands adjacent to the above but slightly higher (Bangar)	1	8	0	1	8	0	0	17	0	0	15	0	0	0	8	0	0	8	0	13	0	0	10	0	
3 Well tracts with good rain fall (Chakhr)	2	0	0	4	0	20	0	0	18	0	0	0	0	12	0	0	8	0	14	0	0	13	0	0	
4 Similar but less advantaged (Kallar and Myra)	1	5	4	1	4	0	15	0	13	0	0	0	0	8	0	0	8	0	10	0	0	9	0	0	
5 High dry tracts where well irrigation is difficult (Bdr and adjoining thereto)	1	2	0	1	0	10	0	0	8	0	1	8	0	0	8	0	4	0	8	0	0	8	0	7	0

NOTE.—At the settlement of 1866 the land irrigated by wells was assessed as if unirrigated, and to the assessment so arrived at, a lump sum for value of irrigation was added per well—E WAGE.

RAWALPINDI DISTRICT—Revenue rates per acre (Settlement Report, paras 143 and 148)

T A H S I L	On irrigated land.	ON UNIRRIGATED LAND			R E M A R K S
		Manured and superior loams.	Fair unmanured soils	Second class soils	
	Rs.	Rs	Rs	Rs	
Rawalpind	7 to 3	2½ to 2	1½ to ½	1¼ to ½	The proportion of the produce represented by the assessment is not stated. But the assessment was framed to equal ½ the rental, i. e., half the share of produce usually paid by tenants who pay rents in kind. The assessment, when made, probably equalled one-sixth of the grain produce.
Gujar Khán . . .	5 to 4	3½ to 2½	2 to ⅞	1½ to ⅞	
Kahutá .. .	5 to 1½	3 to 1½	1½ to 1	1 to ⅝	
Murree . . .		1½ to 1	¾ to ½	¾ to ¼	
Fattehjang . . .	6 to 3	1½ to 1	1½ to ⅝	1½ to ¾	
Attock . . .	6 to 3½	2 to 1½	1½ to ½	⅝ to ¼	
Pindigheb .. .	4 to 3	2 to 1½	½ to ¼	½ to ¼	

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JHELUM DISTRICT — REVENUE RATES

CH. I

The first assessment of the Jhelum District by regular settlement was made about the year 1857. The leases of that settlement having expired, new assessments have been made and reported for sanction. The results of both these assessments and of the summary settlement which preceded them are tabulated below.

The assessment of 1857 was made on the principle of giving such reductions on the summary settlement as experience shewed to be necessary. The assessments pending sanction have been made on the $\frac{1}{2}$ assets system, that is to say, they are aimed at taking $\frac{1}{2}$ and $\frac{1}{4}$ of the grain produce, according as the prevailing rents are $\frac{1}{2}$ or $\frac{1}{4}$. In the Talagang Tahsil and west part of Chakwal, where the rain-fall is scanty, the prevailing rents are $\frac{1}{2}$ produce, in the rest of the District they are $\frac{1}{4}$ produce. The produce has been estimated with a large allowance for vicissitudes of season and variations of prices, consequently in the majority of years the Revenue will fall short of the proportion of the produce which theoretically it should represent. Another cause which operates in the same direction is, that during late years cultivation has been largely extended, and the poorest soils are now under cultivation, and it is difficult to increase the cash revenue demand proportionately, as well as dangerous to value too highly the increase of cultivation in the poorer soils of a District depending almost entirely on rain.

Table of the results of the summary (1852 A D.) 1st regular (1857 A D) and revised (1878 A D) assessment of the Jhelum District

TAHSIL.	Gross assessment			Per cent decrease 1857	Per cent increase 1878	Average incidence per acre cultivated of each assessment		
	1852	1857	1878			*1852	1857	1878
	Rs.	A.	P.			Rs.	A.	P.
Jhelum	152,450	162,327	179,840	11	11	1 6 0	1 3 4	1 0 2
Find Dādan Khan	195,376	164,015	190,542	11	16	1 10 0	1 6 8	1 1 9
Chakwal	174,999	170,941	208,940	2	22	1 8 1	0 13 3	0 11 5
Talagang	80,047	80,967	113,760	Increase $\frac{1}{4}$ per cent.	40	0 8 3	0 5 6	0 7 0
Total District	638,302	578,060	693,372	9	20	1 0 6	0 15 5	0 13 4

* This is reckoned on the area cultivated in 1857. The area cultivated in 1852 was smaller but is not known. The average incidence of the assessment of 1852 was consequently higher than is here shown.]

Revenue rates (per acre) of 1857 and 1878 compared.

Tahsil	Year of assessment.	Irrigated by wells.			UNIRRIGATED												
		Highest.	Lowest.	Average.	Manured.			Rich loams.			Average soils.						
					Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.				
Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Jhelum	1857	3 10 0	2 9 0	2 12 0	2 1 0	1 8 0			2 0 0	1 5 0	1 10 0	1 4 0	0 15 0	1 1 0			
	1878			3 0 0	2 0 0	1 8 0	1 8 0		2 0 0	1 8 0	1 8 0	1 0 0	0 12 0				
Find Dādan Khan	1857	3 14 0	2 5 0		1 14 0	1 5 0			1 8 0	1 5 0		1 3 0	1 4 0	1 5 0			
	1878	4 0 0	2 4 0		2 8 0	1 3 0			1 4 0	1 2 0		1 3 0	0 12 0				
Chakwal	1857			5 4 0	1 10 0	1 4 0			1 2 0	1 0 0		0 14 0	0 11 0				
	1878			5 0 0	1 8 0	1 0 0			1 8 0	1 0 0		0 11 0	0 9 0				
Talagang	1857			3 8 0							0 12 0				0 6 0		
	1878			3 12 0							0 14 0				0 6 0		

E WACE.

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GUJRAT DISTRICT

The following information is abstracted from the Reports of the regular (1858) and revised (1868), settlements of this District. CH I.

1ST REPORT—PARAS 89 AND 93

The Sikh revenue was $\frac{1}{3}$ produce levied in grain, or under special circumstances one-fourth. In later times sometimes the revenue was levied in cash. The average incidence of the summary settlement of 1852 was believed to be something less than Rs 1-8 0 per acre. This was then considered moderate.

1ST REPORT—PARA 136

By the regular settlement (1858) the total demand was decreased 8 per cent, and the incidence per acre cultivated fell to Rs 1 2-2. The Settlement Officer estimated that the assessment then equalled $\frac{1}{3}$ of the average annual yield on grain, or if the value of fodder, milk, wood, &c, were added, then that it was less than $\frac{1}{4}$ or $\frac{1}{5}$ of the gross produce. Allowing for increase in cultivation which had occurred, the Settlement Officer estimated that the real incidence of the Revenue had been decreased by a fifth since 1852.

1ST REPORT—TABLE AT PAGE 94

At the revised settlement concluded in 1868, it was found that cultivation had increased 40 per cent since 1858, irrigation 18 per cent, and population 23 per cent, the value of produce had also risen considerably. The revenue was however raised from only 5 to 10 per cent, a result which Government viewed with dissatisfaction, but eventually accepted. The total assessment is a fraction less 6 lakhs.

2ND REPORT—PARA 367

The revenue rates of the regular and revised settlements compare as follows —

A.—*Land irrigated by wells* was assessed in 1858 at rates varying from Rs 2 6 0 per acre in the best tracts to Rs 1-2-0 per acre in the worst. The rates of the settlement of 1868 were calculated on a different system, which makes comparison difficult, but from a statement appended to the report they appear to be from $\frac{1}{3}$ to $\frac{1}{4}$ less than those of 1858. Government estimated the loss thus caused at between Rs 48,000 and Rs 75,000 per annum.

B.—*Land unirrigated* was assessed in 3 classes, (1) moist alluvial and the best loams, (2) ordinary soils, (3) land lately cultivated. The first was assessed at both settlements at rates varying from Rs. 2 to 14 anas, the second at rates varying from Rs 1-8-0 to 6 anas, the 3rd at rates varying from 8 anas to 4 anas. There is no very important difference between the rates on unirrigated lands adopted in the settlements of 1858 and 1868.

2ND REPORT—PARA 384

The incidence of the assessments of 1852, 1858 and 1868, compare in each Tahsil thus —

TAHSIL.	INCIDENCE PER ACRE CULTIVATED AT EACH ASSESSMENT								
	1852			1858			1868		
	Rs.	A	P	Rs.	A	P	Rs.	A	P
Gujrat	1	4	4	1	3	10	1	1	7
Kharan	0	15	7	0	14	4	0	11	10
Phalan	1	3	5	0	14	10	0	14	0
TOTAL DISTRICT	1	4	0	1	2	4	0	15	5

The intention of the Settlement of 1868 was to assess a revenue equal to one sixth of the total yield in grain, but the sum actually assessed is considerably less than this.

E WACE

SHAHPUR DISTRICT—REVENUE RATES

CH I The information here given is taken from the settlement report, to which the paragraphs here quoted refer. The settlement was made at various times between the years 1854 and 1866

PARA 171.

The revenue rates of the Bhera and Shahpur Tahsils were —

- (1) For lands irrigated by wells Rs 2-8-0 to one per acre. The higher rate is paid by alluvial lands near the river, which are assisted by its moisture, and where the wells are of little depth. The rates decrease proportionately with the distance from the river, and consequent increased depth of wells, and greater cost of working them.
- (2) Salab or alluvial land on the banks of the Jhelum, Rs. 1-12-0 to 1-4-0 per acre, according to quality.
- (3) Land entirely dependent on rain, 8 anas per acre.

Lands irrigated by inundation canals pay an additional rate of Rs 1-4-0 per acre

PARA. 236

In the Khusháb Tahsíl on the lands adjoining the Jhelum the rates are similar. But (3) the hill lands in the Salt Range, and (4) the plain lands at its base, are assessed differently.

(3) *Hill lands in the Salt Range*—from Rs 2-0-0 to 8 anas per acre according to quality. The higher rates are paid by manured lands and rich loams. Owing to the hilly nature of the tract there is a wide variety in the soils. Some are very rich and some very poor.

(4) *Lands at the base of the Salt Range*—The total rain-fall is small, and the cultivation of these depends mainly on the application to them of the rain-fall which drains off the Salt Range. Lands directly fertilised by this drainage, termed naladár, pay from Rs 1-8-0 to 14 anas per acre. Lands not thus directly and regularly supplied, and consequently dependent mainly on a scanty rain-fall, aided by the drainage of adjacent waste,—locally described as rarhidár,—pay from one rupee to ten anas per acre. There is also a lower class of land rated at 8 anas per acre. The higher rates are paid by the lands nearest the hills, and the rate decreases as the distance from the hills increases.

(5) In the south-west part of the District there is a sandy waste known as the Thal, where the cultivation is poor, and the rain-fall precarious. The cultivation is there assessed at 4 anas per acre.

PARAS 165 AND 237

The assessment was aimed at taking half the rent of land in Tahsils Bhera and Shahpur, and one third thereof in Tahsíl Khusháb. The actual share of the gross produce absorbed thereby is not stated in the settlement report. It was probably under one-sixth, when the assessment was made, and is now, owing to increased cultivation and rise in prices, far less.

APPENDIX VI OF SETTLEMENT REPORT

The average incidence of the assessment per acre of land cultivated, at the time when the assessment was made, is stated to have been —

			Rs.	A. P.
Tahsíl Bhera	.	.	1	5 0
„ Shahpur	.	.	1	4 10
„ Khusháb	..	..	1	4 3
Total District			1	4 3

The average rate was high owing to the large proportion of the cultivation assisted by irrigation (see reply to Question 4 Chapter I)

Statement of the average incidence of past and present settlements in District Mooltan, and

DISTRICT	TAHSILA	Share of produce which it was in 1878 (the assessment should equal)	TOTAL ASSESSMENT				AVERAGE INCIDENCE PER ACRE CULTIVATED AT TIME OF ASSESSMENT				WHT RATES											
			1st Summary Settlement.	2nd Summary Settlement.	Regular Settlement.	Revised Settlement.	1st Summary Settlement.	2nd Summary Settlement.	Regular Settlement.	Revised Settlement.	NADRI CANAL ALONG											
											Fayya (Flow)			Jabar (Lift)			GHANI NADRI CANAL AND WELLS					
											Highest rate.	Lowest rate.	Usual rate.	Highest rate.	Lowest rate.	Usual rate.	Highest rate.	Lowest rate.	Usual rate.			
Mooltan	69,840	118,978	1,08,326	1,67,956	0.14	0.11	0.08	0.07	A.1 0.00 13 01 0 0 1 4 0 0 14 01 0 0 0 2 0 1 0 0 1 0 0 1 8 0 B.1 12 0 0 12 01 0 0 1 12 0 0 12 01 0 0 12 01 0 0 12 01 0 0 12 01													
Shejabad	1,37,431	1,41,531	1,17,744	1,52,020	1.16	0.88	0.71	0.64	A.1 0.00 11 01 0 0 1 4 0 0 14 01 0 0 1 2 0 2 8 0 1 4 0 1 8 0 B.1 8 0 0 14 01 0 0 1 8 0 0 14 01 0 0 3 2 0 1 7 0 1 12 0													
Lodhran	1,72,584	1,68,825	1,41,183	1,40,797	1.11	0.81	0.71	0.61	A.1 0.00 12 01 0 0 1 4 0 0 14 01 0 0 1 8 0 1 4 0 1 8 0 B.1 0 0 1 0 0 1 0 0 1 0 0 8 0 0 12 01 8 0 1 8 0 1 8 0													
Mafai	1,37,954	1,31,845	1,00,022	1,59,550	1.00	0.71	0.60	0.51	A.1 0.00 12 01 0 0 1 0 0 12 01 0 0 1 6 0 1 6 0 1 4 0 B.1 0 0 12 01 0 0 12 00 8 0 0 12 01 4 0 1 6 0 1 4 0													
Seraf Bidha	40,019	48,778	48,770	50,704	0.11	0.08	0.07	0.06	A.0 12 0 0 8 0 0 12 01 4 0 1 2 0 1 2 0 1 6 0 1 4 0 1 4 0 B.0 14 0 10 0 0 12 01 14 0 0 8 0 0 14 01 4 0 1 2 0 1 4 0													
TOTAL	3,80,601	3,78,169	3,29,025	3,48,097	1.00	0.71	0.61	0.51	A.1 0.00 8 0 1 0 0 1 4 0 0 12 01 0 0 2 8 0 1 0 0 1 8 0 B.1 12 0 0 12 01 0 0 12 0 8 0 1 0 0 2 2 0 1 0 0 1 8 0													

MOOLTAN
SETTLEMENT OFFICE
Dated 22nd December 1878

* A. 1st Regular Settlement
B. Revised settlement 1878

also of the rates on different soils and crops used in assessing the same.

CH I.

CHANI (WELL ABOVE)									CHANI (WELL BELOW)									RIVER FRONTAGE									DRY RATES									REMARKS			
CHANI (WELL ABOVE)									CHANI (WELL BELOW)									RIVER FRONTAGE									SAYAL LAND FERTILIZED BY THE OVERFLOW OF THE RIVERS						BARANI LAND FERTILIZED BY GREAT MAGN OF RAIN FALL						
Highest rate.	Lowest rate.	Usual rate.	Highest rate.	Lowest rate.	Usual rate.	Highest rate.	Lowest rate.	Usual rate.	Highest rate.	Lowest rate.	Usual rate.	Highest rate.	Lowest rate.	Usual rate.	Highest rate.	Lowest rate.	Usual rate.	Highest rate.	Lowest rate.	Usual rate.	Highest rate.	Lowest rate.	Usual rate.	Highest rate.	Lowest rate.	Usual rate.													
Re	A	F	Re	A	F	Re	A	F	Re	A	F	Re	A	F	Re	A	F	Re	A	F	Re	A	F	Re	A	F	Re	A	F	Re	A	F	Re	A	F				
1 2 0	1 2 0	1 8 0	1 0 0	0 14 0	1 2 0	1 4 0	1 4 0	1 4 0	1 2 0	0 8 0	0 14 0	0 14 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	1 2 0	0 8 0	0 14 0	1 2 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	Details for previous Settlements are unobtainable. Under native rule, the Government share varied from 1/4 to river lands to 1/2 and even 1/3 in well lands. The gross settlement has been ordered to be made on the basis of taking half the net assets. The average share of the gross produce taken by the proprietor for the whole District is 29 1/2 per cent, after deducting allowances for fodder and village expenses. The half net assets would thus be 17 1/2 per cent. The proposed new assessment, based on the following proportions to the total gross produce with out these deductions — In Moolan 17 1/2 per cent. in Chitabud 11 1/2 per cent. in Lohran 11 1/2 per cent. in Malud 10 1/2 per cent. in Goral Sidha 10 1/2 per cent. in the whole District 11 1/2 per cent.				
1 2 0	1 2 0	1 8 0	1 2 0	0 8 0	1 0 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0						
1 2 0	1 2 0	1 8 0	1 2 0	0 8 0	1 0 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0						
1 2 0	1 2 0	1 8 0	1 2 0	0 8 0	1 0 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0						
1 2 0	1 2 0	1 8 0	1 2 0	0 8 0	1 0 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0						
1 2 0	1 2 0	1 8 0	1 2 0	0 8 0	1 0 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0						
1 2 0	1 2 0	1 8 0	1 2 0	0 8 0	1 0 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0						
1 2 0	1 2 0	1 8 0	1 2 0	0 8 0	1 0 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0	1 2 0						

CHARLES A ROE,

Settlement Officer

Statement of the average incidence of past and present Settlements in District Jhang, and also the rates on different soils or crops used in assessing them

DISTRICT	Taluk.	Share of produce which it was intended that the Assessment should equal.	Total Assessment in rupees	Average incidence per acre cultivated at time of Assessment.	REVENUE RATES ON SOILS OR CROPS USED IN THE ASSESSMENT									
					Local Terms	WET RATES						DRY RATES.		
						English Equivalent.	Chahs Khāils	Chahs Saibā	Chahs Nahr.	Chahs Jhallāri	Nahr.	Jhallārs.	Saibā	Bardā
							Well alone	Well and river floods	Well and Canal.	Well and Jhallar	Canal alone	Jhallār alone	River Floods.	Rain lands.
J H A N G	Chambot	A	87,471	1 0 10	Highest	1 12 0	2 4 0	Nil.	As Chāns	Nil	-	1 8 0	0 8 0	
		Average			1 4 0	1 6 0	1 2 0							
	B	0 10	1,01,888	1 0 6	Highest	1 6 0	1 6 0	Nil	As Chahi Saibā and Chahi Khāils	Nil.	As Saibā 0 12 0	0 12 0	0 8 0	
					Average	1 10 & 1 30	1 4 0							1 4 0
	Jhang	A	1,13,246	1 1 11	Highest	1 8 0	1 8 0	Nil	As Chahi Saibā and Chahi Khāils	Nil	-	1 2 0	0 8 0	
		Average			1 4 0	1 6 0	1 0 0							
	B	0 106	1,50,852	1 1 11	Highest	1 4 0	1 6 0	Nil	1 6 0	Nil	1 2 0	1 0 0	0 8 0	
					Average	1 2 0	1 6 0							1 6 0
Sherkot.	A	86,648	1 0 11	Highest	1 8 0	1 8 0	Nil.	As Chahi Saibā and Chahi Khāils	NIL.	-	1 0 0	0 8 0		
	Average			1 6 0	1 8 0	1 0 0								
B	0 108	1,07,444	1 1 8	Highest	1 4 0	1 6 0	1 6 0	1 6 0	0 18 0	1 4 0	1 0 0	0 8 0		
				Average	1 4 0	1 6 0	1 6 0	1 6 0	1 4 0	1 0 0				
Lowest	-	-	-	Highest	1 1 8	1 6 0	1 6 0	1 6 0	0 18 0	1 4 0	1 0 0	0 8 0		
				Average	1 1 8	1 6 0	1 6 0	1 6 0	0 18 0	1 0 0				

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J H A N G
SETTLEMENT OFFICE.
The 9th January 1879.

E B STEEDMAN,

Settlement Officer

(79)

MONTGOMERY DISTRICT—REVENUE RATES

Ch I.

The regular Settlement of this District was made in 1856, and it was again revised in 1868-73. The rain fall is so small, that cultivation except with the aid of river inundation (sailab) Canals, or wells, is usually impossible. The District is traversed by the Ravi and Sutlej. Our assessments have till lately been unsuccessful, not because they were pitched at too high rates, but because the area of the sailab and of the Canal irrigation fluctuates largely, whereas our assessments were of a fixed annual amount. Since 1873, this error has been corrected in respect of the Canal irrigation, the assessment on which now varies with its annual extent. There are 4 Tahsils, viz—

1. Tahsil Gugera's Rates

Per acre of—	Settlement of 1856			Settlement of 1871		
	Rs	A	P	Rs	A	P
Land irrigated by wells	1	12	0	1	0	0
Sailab	1	4	0	0	12	0
Dependent on rain	0	10	0	0	6	0

2. Tahsil Montgomery's Rates

Per acre of—	Settlement of 1856			Settlement of 1871		
	Rs	A	P	Rs	A	P
Land irrigated by wells	1	8	0	1	0	0
Sailab	1	6	0			
Dependent on rain	0	8	0	0	6	0

Rates not stated. Average incidence on whole cultivated area Rs 1-4-10

TAHSILS DIPALPUR AND PAKPATTAN

The land irrigated by Canals pays an assessment, varying from year to year according to the area irrigated and the crops cultivated. The rates charged per acre are—

Kharif Crops.			Rabi Crops.		
	Rs.	A P		Rs	A P
Gardens, rice, and red pepper	3	0 0	Gram, masur	1	4 0
Melons and cotton	2	0 0	Chural methra, forest and fallow	1	0 0
Sugar cane, hemp and til.	1	12 0	Other crops	0	12 0
Other crops rates varying from	}	1	8 0		
		1	2 0		

The annual Canal clearances are effected by the labour of the agriculturists whose lands are thus irrigated.

There remains the sailab cultivation, and that irrigated by wells.

In the tracts aided by Canal irrigation, wells with 2 wheels pay from Rs 50 to 40 each, and single wheeled wells from Rs 30 to 20 each, these rates varying mainly according to depth and cost of the wells, cultivation dependent on rain is charged 8 annas per acre, and all other culturable land one ana per acre. The latter class includes land irrigated from Canals, and the ana per acre is paid in addition to the Canal Rates above stated.

CH I In the rest of these Tahsils wells are charged Rs 10 each, cultivation from 13 to 6 anas per acre, and land lately cultivated 4 anas. A single-wheeled well of moderate depth (25 feet) irrigates 25 acres per annum.

These are the rates of the Settlement of 1873. The system of assessment then followed was so different to that of 1856, that it is difficult to compare the detailed rates of the two Settlements, but the general results compare thus —

	Incidence of the assessment per acre cultivated					
	Settlement of 1856			Settlement of 1873		
	Rs	A	P	Rs	A	P
Tahsil Dipalpur	0	12	8	0	15	9
„ Pakpattan	0	13	0	0	15	9

The incidence of the two Settlements reckoned on the total cultivated area of the District, compares thus —

	Rs	A	P
1856	0	11	9
1871 and 73	0	14	0

The fluctuating assessments of the Canal lands introduced in 1873 is a great improvement on the previous fixed system. It is more productive to Government though pitched at easy rates, and it insures that when crops fail, no demand shall be made. The fixed nature of the assessment on the salab lands remains unaltered, and, owing to the fluctuating character of the inundation, is a source of much danger to the prosperity of the villages concerned, danger which can be avoided only by the careful record of the area cultivated annually in each estate. Government has directed that this should be done. If this order is carried out, we have all the trouble of the fluctuating system imposed upon us, and at the same time are debarred by our own act from reaping the advantages. It is however impossible to change the system until the Settlement expires in 1893.

The assessment was intended to cover one sixth of the produce, estimated so as to make large allowances of variations of seasons. But it is known to fall short of the share so estimated by the Settlement Officer.

E WACE.

The 22nd January 1879

Statement of the average incidence of past and present Settlements in District Muzaffargarh, and also of the rates on different soils or crops used in assessing the same.

District	Taluk	Former and present settlements.	Name of tract.	Share of produce which it was intended the assessment should equal	Total assessment rupees.	Average incidence per acre cultivated at time of assessment	REVENUE RATES ON SOILS OR CROPS USED IN THE ASSESSMENT						REMARKS
							Wet rates			Dry rates			
							Local term	English equivalent	Rate per acre	Local term	English equivalent.	Rate per acre	
MUZAFFARGARH	Sasawal	Former	Bet circle		80,344	0 14 1						The rates used in the summary settlement can be discovered The rainfall is so small that no barani cultivation is possible	
		Present	Do	$\frac{18}{100}$	82,945	0 15 2	Salisba	Irrigated by the runng of the Indus.	0 12 0				
		Former	Pakka chahi, nahrri circle		66,987	1 4 10							
		Present	Do	$\frac{15}{100}$	67,786	1 4 9	Chahi salisba.	By well and runng of the Indus.	1 2 0				
		Former	Thal chahi nahrri		15,402	1 4 10							
		Present	Do	$\frac{12\frac{1}{2}}{100}$	13,820	1 2 3	Chahi nahrri	By well and Canal	1 8 3				
		Former	Thal chahi		8,745	0 15 9							
		Present	Do	$\frac{14\frac{1}{2}}{100}$	9,230	0 15 2	Paggujhalan	Canal slow Canal Left.	0 15 6 0 14 0				
	Muzaffargarh	Former	Not known		2,18,088	1 6 2							
		Present	Not yet sanctioned										
	Alipur	Former	Not known		1,66,665	1 4 9							
		Present	Not yet sanctioned										

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E. O'BRIEN,
Settlement Officer

CH I.

669

DEHA ISRAIL KHAN -- Revenue Rates per acre.

Taluka	District	Tenure as Tenants etc.	Share of produce which is retained by the Government or other authority.	Total assessment revenue.	Average (including the share of Government etc.)	REVENUE RATES ON SOILS ON WHICH USED IN THE ASSESSMENT			REMARKS		
						Wet rates.		Dry rates.			
						Local term.	English equivalent.			Local term.	English equivalent.
Deh Ismail Khan	Feroze	Former	The Government or other authority share was leased. It was generally 1/4 or 1/5. Sulbas 1/4 to 1/5. Bakhai 1/4 to 1/5. Bakhai Damin 1/4 to 1/5.	66,258	0 7 3	No rate assessed as Summary Settlement.	1/4-0 to 1/4-0	English irrigated by well.	14 annas to 16 annas average. 1/4 anna to 1/2 anna.	Nearly all the Bakhai lands have been held by Jangheri taking on land. The increase in the assessment in such parts is due to the fact that the Bakhai area is under fluctuating assessment.	
		Present		1,90,348	0 7 3	Well irrigated 1/4-0 to 1/4-0. English 2/4-0. Irrigated by personal 1/4-0. Bakhai Damin 1/4-0.	English irrigated by well.	River food irrigated. Sulbas 1/4 to 1/5. Bakhai Damin 1/4 to 1/5.			
Thak	Feroze	Former	The Mohal share was leased. It was generally 1/4 for Kalkhai and 1/5 for Bakhai lands.	69,219	0 7 13	No rate assessed as Summary Settlement.					
		Present	Kalkhai 1/4 to 1/5. Bakhai and Bakhai 1/5.	78,242	0 8 13	Irrigated by personal 1/4-0 to 1/4-0. Bakhai Damin 1/4-0.	English irrigated by well.	River food irrigated. Bakhai Damin 1/4 to 1/5.			
Kalkhai	Feroze	Former	The Mohal share was leased. It was generally a third or fourth.	87,195	0 8 5	No rate assessed as Summary Settlement.					
		Present	Well and Sulbas 1/4 to 1/5. Bakhai Damin 1/4 to 1/5.	2,00,672	0 4 2	Irrigated by personal 1/4-0 to 1/4-0. Well irrigated. Bakhai Damin 1/4-0.	English irrigated by well.	Current irrigated. Bakhai Damin 1/4 to 1/5. Bakhai Damin 1/4 to 1/5. River food irrigated.	1/4-0 to 1/4-0 average. 1/4 anna to 1/2 anna. 1/4 anna.	1/4-0 to 1/4-0 average. 1/4 anna to 1/2 anna. 1/4 anna.	
Bakhai	Feroze	Former	Original assessment based on the value of the land but on no fixed principle.	Land cultivated 1,12,258. Land cultivated 1,12,258. Grading 61,432.	0 8 8 1/2	Chahal Thal 1/4-0. Chahal Khabab 1/4-0. Chahal Thal 1/4-0 to 1/4-0. Chahal Khabab 1/4-0 to 1/4-0.	English irrigated by well.	River food irrigated.	1/4-0 to 1/4-0 (ready bear). 1/4-0 to 1/4-0. 1/4-0 to 1/4-0. 1/4-0 to 1/4-0.	1/4-0 to 1/4-0 (ready bear). 1/4-0 to 1/4-0. 1/4-0 to 1/4-0. 1/4-0 to 1/4-0.	1/4-0 to 1/4-0 (ready bear). 1/4-0 to 1/4-0. 1/4-0 to 1/4-0. 1/4-0 to 1/4-0.
		Present	Well and food 1/4 to 1/5. Chahal Thal 1/4 to 1/5. Bakhai Damin 1/4 to 1/5.	Land cultivated 1,01,708. Grading 18,646. 1,19,352.	0 18 8	Well and river food. 1/4-0 to 1/4-0. 1/4-0 to 1/4-0.	English irrigated by well.	River food irrigated.	1/4-0 to 1/4-0. 1/4-0 to 1/4-0. 1/4-0 to 1/4-0.	1/4-0 to 1/4-0. 1/4-0 to 1/4-0. 1/4-0 to 1/4-0.	1/4-0 to 1/4-0. 1/4-0 to 1/4-0. 1/4-0 to 1/4-0.

Lalah	Former	As in Bhakkar	Rs.		0 8 8	Chahi Thal	Pure well	14 annas	Saliab	River flood irrigated	Rs. 1-4-0 really lighter	This is the rate given by the land revenue exclusive of the Tirni assessment.
			Land cultivated	75 486								
			Grasing	14 468		Chahi Nashed	Well and flood	Rs. 1 4-0 (really heavier)				
				84,954								
	Prasna	Chahi Nashed & Saliab 1 to 1 Chahi Thal 1 to 1 14 to 18	Land cultivated	1,07 098	0 18 8	Chahi Thal	Pure well	18 annas to 10 annas	Saliab	River flood irrigated.	18 annas to 19 annas	Do.
			Grasing	18 797		Chahi Nashed	Well and river flood.	Rs. 1-4-0				
				1,84,716								

N.B.—In filling up column 4 for the Trans-Indus Tahsils (Dera, Tank, and Kolschi) I have included Damán fallow in cultivated. These Damán lands are cultivated to a greater or less extent as the supply of water from the full torrents is more or less abundant. Nearly all the so-called fallow can be cultivated if water and labor is available and the actual cultivated area for a single year is no criterion of the average cultivation. The rates shown for the Rodkohi and báram (Damán) lands in column 11 are therefore the rates on cultivated and fallow, and the rates on the actual cultivation is an average year amount from Rs. 2 to 1 2-0 on Káisiáni, and from 4 annas to a rupee on Rodkohi lands. For the Cis-Indus Tahsils and for the alluvial lands of the Trans-Indus Tahsils fallow has been excluded from the calculation, and the rates given in column 11, show the rates on the actual cultivated area for year of measurement.

Note on Column 5. At the Summary Settlements Trans-Indus, the Settlement Officer ascertained the share of the produce taken by the Native Government and leased it, leaving an undefined margin for profit to the leading Zamindars and sometimes to outsiders. Thus when the Máhsul was a half share the revenue would be fixed at a third of the average realisations. At the present Settlement the Government revenue is supposed to represent half assets. In the case of Saliaba and chahi Nashed and Káisiáni lands the share taken is generally very near the full half assets. In the case of Thal wells the share is small owing to expenses of cultivation. In the Damán Rodkohi and báram tracts the share taken is much less than a full half of the rent share of the produce, because the produce is very uncertain, and in estimating half assets a deduction must be allowed for this uncertainty. The more steady the yield is the more nearly can the revenue approximate to the full half value of the rent. £100 paid £10 a year, is worth more than £100 to be paid in 10 years, but in instalments the dates and amount of which are left altogether uncertain.

H ST G TUCKER,
Settlement Officer

(88)

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CH I

DERA GHAZI KHAN DISTRICT—REVENUE RATES PER ACRE

(From Settlement Report paras 378 (a), 387 and 401)

Description of cultivation.	TAHSIL												REMARKS.															
	Sanghar			Dera Ghāzī Khan			Jāmpur			Rājānpur																		
	Maximum	Minimum		Maximum	Minimum		Maximum	Minimum		Maximum	Minimum																	
LAND IRRIGATED BOTH BY WELLS AND CANAL.	Rs	A	P	Rs	A	P	Rs	A	P	Rs	A	P	Rs	A	P	<p>The assessment is framed to equal half the rent. The next rent is usually about $\frac{1}{2}$ produce. The assessment is aimed at taking $\frac{1}{2}$ produce.</p> <p>Lands not irrigated by Canals at Settlement to which such irrigation is subsequently extended, pay rates varying according to natural advantages from one rupee to half a rupee.</p> <p>The rates at which the jama falls on the total cultivated area in each Tahsil are as follows—</p> <table border="0"> <tr> <td><i>Tahsil</i></td> <td><i>Rate per acre</i></td> </tr> <tr> <td></td> <td>Rs A P</td> </tr> <tr> <td>Sanghar</td> <td>0 5 7</td> </tr> <tr> <td>Dera Ghāzī Khan</td> <td>0 14 8</td> </tr> <tr> <td>Jāmpur</td> <td>0 8 0</td> </tr> <tr> <td>Rājānpur</td> <td>0 11 5</td> </tr> </table> <p>The rate on the cultivated area of the whole District per acre is 10 annas 6 pies</p>	<i>Tahsil</i>	<i>Rate per acre</i>		Rs A P	Sanghar	0 5 7	Dera Ghāzī Khan	0 14 8	Jāmpur	0 8 0	Rājānpur	0 11 5
<i>Tahsil</i>	<i>Rate per acre</i>																											
	Rs A P																											
Sanghar	0 5 7																											
Dera Ghāzī Khan	0 14 8																											
Jāmpur	0 8 0																											
Rājānpur	0 11 5																											
(1) bearing one crop each year	0	14	9				1	4	7	0	13	11	1	7	8	1	6	6	1	14	5	0	15	10				
(2) bearing two crops each year							5	0	0				4	0	0				4	0	0	3	4	0				
Irrigated by wells only	1	5	5	0	11	0	1	1	6	0	15	4	1	4	0	0	13	6	1	7	11	1	0	0				
Irrigated by canals only (banjar)	0	7	7				0	12	7	0	7	8	1	0	0	0	15	2	1	6	2	0	8	4				
Unirrigated, viz.—																												
(1) most alluvial lands aided by floods from the Indus river	0	13	1	0	8	7	0	15	2	0	12	4	0	14	0	0	11	3	0	12	8	0	5	0				
(2) dry lands at foot of hills and dependent on drainage floods from the hills	0	6	1	0	1	2	0	1	7	0	1	0	0	4	9	0	2	3	0	1	3	0	1	0				

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Statement of the average incidence of past and present Settlements in District Bannu, and also of the rates on different soils or crops used in assessing the same. CH I

DISTRICT	Tahsil	Share of produce which it was intended the assessment should equal.	Total assessment.	Average incidence per acre cultivated at time of assessment.	REVENUE RATES ON SOILS OR CROPS USED IN THE ASSESSMENT						REMARKS.
					Wet rates			Dry rates			
					Local term	English equivalent.	Rate per acre	Local term.	English equivalent.	Rate per acre.	
BANNU		<i>A—Previous Settlement</i>									
		No real revenue rates existed									
		<i>B—Present Settlement</i>									
	Bannu	73	1,36,669	1 0 9	From Rs 10 to annas 8 the acre	The rates are very various over twenty in number	From the acre	Rs 2 to anna 1			The distributed rates are very numerous. The extremes alone are given. My revenue rates reports have been made over to the Deputy Commissioner so I cannot be more precise
	Marwat	67	1,13,448	0 7 10	From the acre	annas 14 to 8	From 1	anna 14 to the acre			
	Isakhel	76	64,065	0 14 6	About 1 acre	1 Be the	From 4	annas 14 to			
Mianwah	83	1,17,481	0 14 1	About 2 acre	2 Rs the	From the	Rs 2 to 4 annas				
Total	75	4,31,612	0 12 3								

BANNU
SETTLEMENT OFFICE,
The 8th January 1879

S THORBURN,

Settlement Officer

PESHAWAR DISTRICT

CH I The following account of the incidence of the revenue in the Peshawar District is taken from the report of the recent settlement, dated 1876. The figures quoted refer to the paragraph of the report, from which the information is taken

PARAS, 528 to 532

The assessment was framed, so as to cover $\frac{1}{3}$ of the produce of the irrigated land, and $\frac{1}{12}$ of unirrigated land. In the Yusufzai Tahsil the Government share in unirrigated land was assumed to be only one-sixteenth. Kind rents, where levied, are usually half produce or more on the richer land, and from $\frac{1}{3}$ to $\frac{1}{2}$ on the poorer lands

The rates assessed in each Tahsil vary greatly, they are briefly summarized in the following table —

PARAS 534 to 551.

PESHAWAR DISTRICT—Revenue rates per acre

Description of cultivation.	TAHSILS					REMARKS.
	Peshawár	Naushera.	Daudsai.	Doaba.	Hechtngar and Yusufzai.	
	Rs. A	Rs. A	Rs. A.	Rs. A	Rs. A.	
Irrigated by wells	10 0 to 1 0	2 12 to 0 8	1 0 to 0 12		4 4 to 2 8	
Irrigated by Canals, viz —						
(1). Bearing two crops a year	12 0 to 4 8	8 12	5 0 to 3 12	5 0 to 3 0	5 0 to 2 0	
(2) Bearing one crop a year	8 4 to 2 12	2 12	3 0 to 2 12	3 0 to 2 12	3 0 to 2 12	
Moist alluvial land on river banks.	2 0	2 0 to 0 12	2 0 to 1 8	2 0	2 0 to 0 14	
Dry land depending entirely on rain	0 8	0 8 to 0 6	0 12 to 0 8	0 8 to 0 4	0 12 to 0 4	
Fallow	0 8 to 0 4	0 8 to 0 1	0 4	0 4 to 0 2	0 8 to 0 4	There are some higher rates for fallows on land usually irrigated.
Culturable	0 8 to 0 2	0 8 to 0 2	0 2	0 4		

The nett result of our assessments is that whereas the Sikh Government up to 1849 levied over ten lakhs from the District, our Summary Settlement reduced the demand to seven and a quarter lakhs, which has lately been raised a little over 8 lakhs, or adding cesses, 9½ lakhs per annum. Though we claim only half the share of the produce which the Sikhs realized, the increase in cultivation and rise in values have thus enabled us to realize with ease and regularity almost as much as the Sikh Government extorted from the District by measures of great severity

The average incidence of the revenue per acre cultivated now is —

Tahsil	Rs. A P.	REMARKS.
Peshawár	2 11 0	Where the incidence is highest the proportion of irrigated land is greatest.
Naushera	0 18 8	
Daudsai	2 8 7	
Doaba	2 14 11	
Hechtngar Yusufzai	0 15 8 0 7 0	
Total District	1 0 10	

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CH I

"Thus the rates charged at this Settlement on the superior irrigated lands are much the same as those of my predecessors. Those charged on the superior unirrigated lands are higher than those charged on the inferior lands, both irrigated and unirrigated are much lower than those of my predecessors. This is especially the case with the inferior unirrigated lands. The officers who fixed the previous rates evidently considered that the worst lands could pay at least 12 or 8 anas an acre. But we have now valued 16 per cent (Kals) of the lands at 2 anas per acre and some 24 per cent (Retar, Rakkar, &c.) principally at four, five and six anas. As the increased cultivation since 1863 is probably mainly composed of inferior soils, this leniency, no doubt, principally affects the lands last reclaimed from waste.

"99—Owing to the circumstance that the Summary Settlement was not based on any ascertained measurements it is not possible to compare exactly the incidence of the expired assessment at the time it was made in 1852 with that of the new assessment now reported. But we can do so approximately.

"When the census of the Punjab was taken on the 1st January 1865, the incidence of the Land Revenue of Hazara was estimated at Rs 1-4-6 per acre cultivated.

"As the cultivated area of the District was measured during the Settlement operations of 1861-64, we are able to compare the incidence of the summary Settlement jama then current, with the cultivated area then found to exist. This is done in the following statement. I also show in this statement the rates at which the assessment, made by Major Adams and Cox in 1862-63, would have fallen on the cultivated area then existing, this point is of importance, because these Officers did not aim at an increase in the revenue, and because at that time there was no reason to assume that a great permanent rise had taken place in the value of produce:—

Assessment Division	INCIDENCE PER ACRE CULTIVATED			REMARKS.	
	Of assessment of 1852 reckoned on areas cultivated in 1862-63	Of assessment of 1862-63 on areas then cultivated.	Of any assessment reckoned on areas now cultivated.*		
	Rs A P	Rs A P	Rs A P		
Irrigated plain tracts	1 6 10	1 6 8	1 5 11	} In Tahsil Haripur	
Unirrigated do	0 13 9	0 14 4	0 14 3		
Low dry hills	0 16 1	0 14 7	0 11 9		
Temperate Hills and highlands	Tahsil Haripur and Abbottabad	0 13 6	0 12 10	0 13 6	}
	Tahsil Mansabur	0 8 4	0 10 4	0 10 1	
Old mountain tracts	Tahsil Haripur and Abbottabad	0 10 5	0 10 9	0 10 2	}
	Tahsil Mansabur, Frontier tract	0 4 11	0 4 11	0 5 8	

If allowance be made for the increase of cultivation which took place between 1852 and 1862, and the consequent error in column 2 of this statement it follows that, in spite of the great rise taken by the new assessment its average incidence on the cultivated area is absolutely lighter than the assessment of 1852 was at the time it was made, and this, although the value of the assets from which it is levied has much increased, and all the other circumstances of the District have vastly improved.

"100—The actual share of the produce absorbed by the new assessment is also a point worthy of consideration.

"The assumed standard is one-sixth of the produce, but owing to the low values assumed for assessment purposes the produce estimate is far below the actual average value for the four years preceding the assessment, nor does the new assessment equal one-sixth of the produce estimate at the

* This disagrees with the last column in the previous table. The explanation is that the Settlement Officer in distributing his assessments over the villages of each tahsil failed to realise the full amount of his rates.

CH. I values assumed for assessment. In the following table the amount of the new assessment is compared with the assumed and actual value of the produce given above in para. 64 —

	According to value assumed for purposes of assessment.	According to actual value at average prices of 1868-1871
	Rs	Rs.
Total items included in the produce estimate, <i>vide</i> para. 64, above (wheat produce, the hay and other waste products, and the 2nd crop on dofsahi land being omitted)	22,38,411	47,48,288
Of which the new assessment (Rs 3,08,394) equals per cent	13.9	6.5

"I have no desire to lay too great stress on these figures. Any one who has been accustomed to deal with these matters knows that no estimate of the kind can be more than approximately accurate. But I have done my best to avoid any exaggerated account of the amount of the produce, and the prices (which are the other element of the estimate) are not open to doubt. The result stands for what it is worth. I do not myself see any grounds for reducing the estimate of the produce to a lower gross value. But seeing that the result, as it now stands, clashes with the estimate of the incidence of the summary settlement deduced by a different process of calculation in para. 18 above, it will I think be safest not to rate the incidence of the new assessment at less than one-tenth of the present value of the produce. The liberality of such an assessment as compared with any hitherto accepted standard of the State's demand based on a share of the total produce, or as compared with the standard of the previous summary settlement, is not open to question."

Since the Settlement Officer wrote the above the exceptionally high prices of 1868-71 have fallen, and until they were again raised by the failure of the kharif of 1877, the Revenue demand probably approximated a tenth or an eighth of the produce

Statement of the average incidence of Present Settlement in District Kohat, and also of the rates on different soils or crops used in assessing them.

District	Taluk	Share of produce which it was intended the assessment should equal	Total assessment	Average incidence per acre cultivated at time of assessment.	REVENUE RATES OR SOILS ON CROPS USED IN THE ASSESSMENT						REMARKS
					WET RATES.			DRY RATES.			
					Local term	English equiv- lent.	Rate per acre.	Local term	English equiv- lent.	Rate per acre	
B—PRESENT SETTLEMENT											
KOHAT.	Kohat	As above, Abi $\frac{24}{100}$ Barani $\frac{19}{100}$	Rs 72,700 in cluding recoverable remissions, inams, &c., &c.	Rs. A. P 1 1 5	Chashma	Land irrigated by spring	Single crop between Rs-3-4 and 1 12 Double crop between Rs-6 8 and 3-8.	Barani	Dependent on rain.	Between 8 annas and 3 annas.	The information called for cannot be given for the former Settlement which was summary, and founded on the former receipts of farmers. The former Revenue of Tahsil Kohat was Rs. 68,536 The former Revenue of Tahsil Hangu was Rs. 17,605.
					Chashmal.	Land irrigated by spring.	Single crop Rs-3-4 and 2 10 Double crop Rs-6 8 and 5-4	Barani	Dependent on rain.	5 annas.	
	Nahri	Land irrigated by Tou stream	Single crop Rs-3-10 and 2-2 Double crop Rs-5 4 and 4-4	Sailabi.	Liable to flood from hills or mountain tor- rents.	12 annas.					
							Hangu	As above,	Rs 24 190 in cluding recoverable remissions inams, &c., &c	1 3 7	

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E G HASTINGS,

Settlement Officer

Ch. I.

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HAZARA DISTRICT—REVENUE RATES OF PAST AND PRESENT SETTLEMENTS

Ch I

The current Settlement of the Revenue, made in 1872, was based on the assumption that the State was entitled to one sixth of the produce. The Sikh Government claimed one half of the produce, and in fact succeeded in levying one-third. Of the area now cultivated in this District, about a fourth pays kind rents, which usually amount to two-fifths, one-third, or one fourth of the produce. See Chapter VI of Settlement Report, paras 7, 8, 12, and 13. The following account of the incidence of the Revenue in Hazara is extracted from paras 66, 67, 68, 99, and 100 of the same chapter.

"66—It was well known that from Rs 16 to 24 per acre (or even more) was during Sikh rule, and still is, a common rent for the irrigated Bagh lands in the vicinity of Haripur. And since the soil rates of the present Settlement were framed, I have found a note by Major Edwardes of some rates used by Major Abbott in his assessment of the Haripur plain. These rates were as follows—

Soil	Rate per acre per annum.
Lands producing sugar, termie, opium, cotton &c., &c., Bagh or Kata lands	Rs. A. P.
Other lands bearing three crops per annum &c., inferior Bagh or Kata	24
Lands bearing 2 crops per annum (presumably irrigated, but this is not stated)	21
Lands bearing one crop per annum at two fifths produce	7
Bad land, at one third produce	1 8
	1

"67—Major Adams, in 1861-62, assessed the villages of the Haripur Tahsil. Major Coxe assessed those of Manshra Tahsil in 1863.

"I give below a summary of the rates adopted by these officers—

Assessment classes	No of villages	area Cultivated (acres) 1861-63	SOIL RATES				Average incidence of these rates per acre cultivated.			
			Irrigated		Unirrigated					
			Superior	Inferior	Superior	Inferior				
			Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs.	A.	P.	
<i>Old Tahsil Haripur</i>										
1 Irrigated plain villages 1st class	20	7 602	8 0 0	3 0 0	1 8 0	0 12 0	2	9	9	
2 Do Do 2nd class	64	26 199	4 0 0	2 0 0	1 8 0	0 12 0	1	15	11	
3 Unirrigated plain villages 1st class	64	34 041	4 0 0	2 0 0	1 8 0	0 12 0	1	0	8	
4 Do Do 2nd class	101	38 988	4 0 0	2 0 0	1 4 0	0 10 0	0	12	3	
5 Hill villages, 1st class	118	22 748	3 0 0	2 0 0	1 10 0	0 13 0	1	3	4	
6 Do Do 2nd class	97	9 184	3 0 0	2 0 0	1 0 0	0 8 0	0	12	4	
7 Indus bank villages (Khari and Kuli)	17	7 767	5 0 0		2 0 0	1 0 0	1	7	2	
Total Old Tahsil Haripur	471	146,160						1	4	0
Old Tahsil Manshra less Agror	897	146,656	Rs 6 to 1 1/2 generally Rs 2	Rs 4 to 1 generally Rs 1 1/2	Rs 1 to 1/2 generally Rs 1	Rs 1 to 1/2 generally Rs 1/2 & 1/2		0	10	9
TOTAL DISTRICT	868	292 806						0	15	4

"68—In the following table the main data of the present soil rates are given—

Main assessment Divisions	SOIL RATES				Average incidence of these rates on total cultivation		
	Irrigated.		Unirrigated				
	Superior	Inferior	Superior	Inferior			
Low dry Hills	Rs 6 to Rs 1 1/2	Rs 1 1/2 to Rs 1	Rs 3 to Rs 1	Anas 12 to 2	0	12	1
Unirrigated plain tracts	Rs 8 to Rs 2	Rs 1 1/2 to Rs 1	Rs 4 to Rs 1 1/2	Rs 1 1/2 to anas 2	1	2	6
Irrigated plain tracts	Rs 8 to Rs 3	Rs 2 to Rs 1	Rs 3 to Rs 1 1/2	Rs 1 to anas 2	1	10	4
Temperate hills and high lands	Rs 8 to Rs 1 1/2	Rs 2 to Rs 1	Rs 3 to Rs 1	Anas 12 to as 2	0	12	0
Cold Mountain tracts	Rs 6 to Rs 1	Rs 2 to Rs 1	Rs 3 to 8 anas	Rs 1 to 2 anas	0	11	1

CHAPTER I, QUESTION 14

What is the average price of land per acre? What amount of land on an average is sold every year for arrears of revenue and for decrees of Court? What quantity of land has been transferred in your District to non-agricultural and non-resident landlords? CH I

In the Punjab, in order to keep up to date the record of rights prepared at Settlement, every mutation of rights is reported by the Patwari (village accountant) of the village in which it occurs to the District Revenue authorities, and after a summary inquiry as to the truth of the report the result is recorded in a brief proceeding which is filed in the District Office with the records, and the village accountant is directed to make a corresponding alteration in the rent roll (jamabandi) of the year. This system has been in force in the Punjab for 20 years past, and the statistics of each year are incorporated for the whole Province in statements appended to the annual Revenue Report.

Accordingly with a view to furnishing a reply to this question, I have compiled and append the returns of the 8 years commencing 1869-70 and ending 1876-77. The form of the annual returns was changed from 1874-75, and in that year the total mortgages then existing were also ascertained. Consequently the returns appended are —

A—Statement of transfers (sales and mortgages) during the 5 years 1869-70 to 1873-74

B—Statement of sales for the 3 years 1874-75 to 1876-77

C—Statement of mortgages and redemptions of mortgage for the same 3 years

D—A statement in which the total mortgages existing on 31st March 1874 are compared with those existing on 31st March 1877

The most important conclusions to be drawn from these statements may be briefly summarised thus —

Reference to statements appended	Transactions	Total number of contracts	Total average thereof	Consideration paid		Percentage which the yearly revenue of the lands transferred bears to the total revenue of the Province		
				Total Rs	Average amount per acre	How many times the amount of the annual revenue of the lands transferred	For the whole period.	For one year
A	Sales of the 5 years, ending 1873-74	25 070	433,133	40 90 490	14	22	1 23	0 24
	Average per annum	5,104	86,628	12,18 098				
B	Sales of the 3 years, ending 1876-77	20 428	270 948	51,04 008	19	27	0 84	0 28
	Average per annum	6833	90 116	17 01 836				
C	Mortgages of the 5 years, ending 1873-74	68 235	839 572	1 14,26,098	14	16	3 30	0 66
	Average per annum	13,647	167,914	22 85,899				
C	Mortgages of the 3 years, ending 1876-77	53 593	592 881	95 30 324	16	19	2	0 66
	Average per annum	17,864	197,627	31,73,441				
C	Redemptions from mortgages during the same period	9 548	149 168	11,73 626	8	11	0 5	0 18
	Average per annum	3 183	49 733	3 91 209				
D	Tota' mortgages outstanding in the Punjab on 31st March 1874	139,902	13 14,146	1,87,06,396	14	15		6
	The same on 31st March 1877	183,947	17,67,820	2,70,53,004	16	17		7

CH I Nearly the whole of the land, which is the subject of these transfers, is cultivated land, very little waste is included

The conclusion indicated is, that, taking the Province as a whole, neither sales nor mortgages occur in such numbers as to give ground for anxiety concerning the general prosperity of the agricultural classes. I believe the returns to be fairly complete and reliable, but even were a wide margin allowed for short registration, the same conclusion concerning the general prosperity of the agricultural classes would hold. The most incomplete portion of the returns is probably that of the total mortgages outstanding on 31st March 1874 and 1877.

According to these returns, the total lands encumbered with mortgages amount to only 7 per cent * of the agricultural land of the Province, and the average annual sales and mortgages together amount to only 1 per cent

There is also the strongest evidence of a steady rise in the value of land, evidence which is confirmed by the common opinion of the Revenue Officers of the Province and by many of the records of our administration. For instance, in the Administration Reports of the years 1861-62 and 1862-63 † it was noticed with satisfaction that the value of land was steadily rising, the sale value then standing at so high an average as 7 years' purchase of the Government demand, the mortgage value was also said to average 8½ years' purchase. In the same years, the aggregate price of the sales reported was about 2½ lakhs, and of the mortgages 3½ lakhs. Compare these figures with the results shown in the table above given. The sums paid for sales have averaged during the past 3 years 17 lakhs, and for mortgages 39 lakhs, while prices averaged 27 years' purchase of the Government demand for sales, and 19 years' purchase for mortgages. Say, if you will, and no doubt with much truth, that the registration of transfers is now much more perfect than before, nevertheless the average values are probably not far from the truth, and even after doubling or trebling the aggregate reported transfers of 1861-62 and 1862-63, the proof of the rise in the value of the land, and of the increasing confidence with which all classes regard it as a source of profit, will hardly be materially affected.

I append extracts of the notices of the subject in the Revenue Reports of the last 6 years, and written as they were by the Hon'ble Mr Egerton, as Financial Commissioner, and by Sir Henry Davies, the late Lieutenant-Governor of the Province, they will carry greater weight than any similar remarks which could now be compiled from the revenue records.

Between the value of irrigated and unirrigated land, and also between that of land which owing to its situation near a town or village site is usually constantly manured, and land not so advantaged, there is of course the widest difference. It is to be regretted that the annual returns make no attempt to show such differences, and within the limits of this reply I can only make a general statement on the subject. Unirrigated land, usually manured and well advantaged by vicinity to a village site in the submontane Districts of the Punjab, would rarely sell for less than Rs 50 an acre, and not unfrequently reaches nearly double that value. Irrigated land is commonly sold for twice the price of unirrigated land of similar quality. And if the irrigated land is well manured, and such as usually bears the richer crops (sugar-cane, turmeric, tobacco and vegetables, and such like) Rs 200 per acre is not an unusual price. If the returns had been in such detail as to enable us to distinguish between irrigated and unirrigated land, it would have been very apparent how steadily the price of unirrigated land varies directly according to the rain-fall and irrigation. Thus the returns indicate even as they stand, for example,

* Estimated not on the acreage, but on the land revenue demand, which is a truer valuation for such a calculation as this than the acreage would be.

† Paras. 201 and 208 respectively.

the following table shows the average price of land in each district—the districts being C. I. arranged in the order of their rain-fall —

District	Rain fall of head quarters.	Percent of cultivation irrigated	Average price of land per acre, 1874-75 to 1876-77	REMARKS
Kangra	125.6	27	30	
Simla	65.1	6	70	
Hasara	46.3	10	14	
Séikot	39.0	50	36	
Umballa	35.3	18	34	
Hoshiarpur	33.7	3	62	
Kawalpindi	31.5	2	33	
Gurdáspur	30.9	16	38	
Karnál	30.4	39	17	
Jullundur	29.8	33	76	
Gujrat	29.2	13	20	
Gurgaon	28.5	19	21	
Gujranwála	26.3	70	8	
Delhi	26.5	37	44	
Ludhiána	25.3	17	54	
Amritsar	23.1	39	45	
Kohát	20.2	38	52	
Ferozepore	20.0	14	14	
Rohtak	19.2	13	18	
Jhelum	18.6	3	20	
Lahore	18.5	37	17	
Hissar	16.9	6	54	
Sirma	14.8	2	5	
Shahpur	13.0	64	14	
Peshawar	12.9	25	11	
Bannu	12.0	15	17	
Jhang	10.3	69	16	
Montgomery	8.7	62	4	
Dera Ismail Khan	8.0	32	2	
Dera Gházi Khan	7.2	57	14	
Mooltan	6.1	79	52	
Muzaffargarh	6.1	65	14	

What amount of land on an average is sold every year for arrears of revenue and for decrees of Court?

The sale of land for arrears of revenue in the Punjab is and has been for many years past unknown. Its sale to satisfy decrees of court is extremely rare.

On the latter point, the rule in the Punjab, a rule which originated with the old non-regulation Law, and was continued under the discretionary power vested in the Government by section 327 of the present Civil Procedure Code (as well as by the corresponding provisions of the Code of 1859 which it superseded), has always been* that "no land or interest in land shall be sold without the previous sanction of the Commissioner of the Division (Civil and Sessions Judge), and in the case of hereditary or joint acquired property in land, without the previous sanction of the Chief Court." Such sanction is not given as a matter of course, but only on a consideration of the conduct of both parties and of the whole circumstances of the decree which it is desired to enforce by this extreme process.

The Registrar of the Chief Court is unable to furnish statistics of land thus sold each year, but it is known to be of insignificant extent.

The statistics available show only the total sales of immoveable property of all kinds, and these average 1724 per annum for the 3 years ending 1876. Nearly all of these are cases of sale of houses and building sites in villages and towns. Of 1661 such cases which occurred in 1876, in only 169 was ancestral or jointly acquired property sold. The returns for the same years show that the number of cases, in which temporary alienations of land † were sanctioned by Civil Courts for the satisfaction of decrees, averaged 502 per annum.

* Punjab Government notification No 3859, dated 3rd October 1877. Previous thereto the prohibition extended to all immoveable property, i. e. to houses as well as land. But the terms of section 327 of the present Code limit this prohibitory action to land and interests therein.

† sections 305 and 325 Civil Procedure Code.

CH. I *What quantity of land has been transferred to non-agricultural and non-resident landlords*

On this point no statistics are available. It may be replied generally that transfers to non-resident landlords rarely occur, that is to say, the purchasers of land, whether agriculturists or capitalists, are almost invariably residents of the village in which the purchased land lies, or of its immediate vicinity. The total amount of land transferred to non-agriculturists since annexation could not be stated, except after inquiries in each district, the expedience of which would be more than doubtful. The annual returns of sales and mortgages (summarised in the statements appended) have since 1874 distinguished the transfers to agriculturists from those to non-agriculturists, and it seems better to be content with the statistics thus available, than to institute extensive inquiries concerning the transactions of years previous to 1874. The statements appended show that in the 3 years ending 1876-77, the proportions of transfers, in which the transferees were respectively agriculturists and non-agriculturists, stood as follows —

		No of trans- actions.	Acres transferred	Total consideration paid
Voluntary sales under pressure of debt	{ To agriculturists	10 996	127 320	36 25 106
	{ To non-agriculturists	6,353	80,186	17,87,611
Other sales	{ To agriculturists	2,118	36 586	4 23,873
	{ To non agriculturists	826	26 250	2 68,018
Total sales	{ To agriculturists	13 109	163 906	30 48 979
	{ To non agriculturists	7,389	106,442	20 53,629
Total		20 498	270 384	51,04 608
Mortgages for debt	{ To agriculturists	26 082	214 165	39 85 802
	{ To non agriculturists	25 085	343 318	51 07,986
Mortgages for improvements	{ To agriculturists	1,478	15,008	2 09 281
	{ To non agriculturists	947	20,399	2,17,245
Total Mortgages	{ To agriculturists	27,561	229 170	41 95 083
	{ To non-agriculturists	26,032	363 711	53 26 241
Total		53,593	692,881	95,20 324

Some remarks on the subject will be found in the appended extracts from Revenue Reports. It probably not unfrequently happens that a transferee whose main livelihood is derived from money lending or petty agricultural banking, the class of man locally described as the bania or village trader, gets himself returned as an agriculturist on the strength of a previously acquired ownership of some other land. But even after allowing for this source of error, it is evident that of 51 lakhs of rupees expended on the purchase of lands in these 3 years, at least half were spent by agriculturists, and of 95 lakhs laid out in land mortgages, a third were supplied by the same class. Though such facts may not by themselves establish the existence of prosperity among the agricultural class at large, they at least prove that the British administration in the Punjab has succeeded very generally in so adjusting its revenue demand on the soil as to leave to the agriculturist substantial profits, profits for the possession of which both the old agriculturists and those other classes, who for generations before our rule thought only of trade and money lending, are actively competing. And be it remembered, that this is taking place in a country where within the last 30 years agriculture was followed rather as a calling, to which certain castes and classes were then born, than as a profitable occupation, and where a land revenue pitched so high as to make its payment a burden and to absorb all the profits of agriculture, had been the normal feature of previous centuries of native rule.

At the same time, lest it should be thought that the above review of the subject is one sided, I append 2 papers which give a fair summary of the conflict of opinions on the subject which lately occurred in the Punjab, the one dated 1st April 1874 by Mr Justice

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Melville, the other the proceedings of the Honorable the Lieutenant-Governor of the Punjab (Sir Henry Davies) No 4609, dated 23rd December 1874 And it may be fairly argued that the question is not to be decided by per centages and averages reckoned for a whole Province We here and there find tribes and tracts, where the indebtedness and mortgaging is undoubtedly of a very serious character Some tribes, as the Saads and the Muhammadan cultivators in the east of the Province, seem to be invariably thriftless and slothful, others have been accustomed for centuries to spend their energies in *quasi*-military service and in local rivalries and feuds, the field for all, which, except the first in a very limited degree, our peaceful rule has swept away, and such men are ill adapted by traditional habits for steady agricultural industry, a quality which their forefathers regarded as the mark of men much beneath them in social status

Papers appended

Extracts from the Annual Revenue Reports and from the orders of the Punjab Government passed thereon, between the years 1872-73 and 1876-77, being notices of the reported transfers of land by sale and mortgage, and of the value realised.

Extract from selections of the records of the Punjab Government (No XIII of 1876), being papers regarding the alienation of estates of insolvent proprietors to the money-lending class

- A Statement of Transfers (by sale and mortgage) of land assessed with Land Revenue, during the 5 years 1869-70 to 1873-74
- B Statement of sales during the 3 years 1874-75 to 1876-77
- C Statement of mortgages for the same period
- D Statement of total mortgages outstanding on 31st March 1874 and the same date in 1877

CHAPTER I, QUESTION 14

CH. I

Extracts from the Annual Revenue Reports, and from the orders of the Punjab Government passed thereon, between the years 1872-73 and 1876-77, being notices of the reported transfers of land by sale and mortgage and of the values realized.

Revenue Report, 1872-73

21 So far as can be judged from the returns of transfers of lands by sale or mortgage,—and these returns are perhaps fairly reliable—the transactions are indicative of remarkable prosperity and a very modern land revenue assessment. Of the cultivated area of the Province only a small fraction (the $\frac{1}{20}$ part) was transferred by sale,—and this almost entirely by voluntary sale,—and the average selling price was 24 years' purchase of the revenue demand—the highest average ever recorded, and upwards of three times the average selling price ten years ago. In the case of mortgages the amount borrowed averaged 14 years purchase of the revenue, and the loans were taken for the most part in Districts known to be eminently prosperous. While, however, speaking generally, there is nothing to cause anxiety in the extent to which are the circumstances under which land in the Province is changing hands, individual instances have come under His Honor's notice especially in the Districts of Mooltan, Muzaffargarh, Montgomery and Jhang, in which land-holders of substance have become hopelessly involved in dealings with the money-lending class, to whom they have made over for indefinite periods the management and usufruct of their estates. The creditors, knowing the restrictions placed in the Punjab on sales of land in execution of decrees, carefully abstain from bringing their claims under the cognizance of courts of law, while by arranging for the punctual payment of the revenue demand for the mortgaged lands they defeat the operation of the law which enables a creditor to administer the estates of revenue defaulters. Once in possession, the mortgagee adds loan to loan and interest to interest until the mortgagor or his descendant becomes involved beyond the power of extrication by ordinary means, and the creditor becomes *de facto*, if not in name, proprietor of the estate. Such cases though not at present numerous, demand attention. It is true that the debts are for the most part traceable to the borrower's own improvidence, and there is much to be urged against authoritative interference to protect a debtor from the ruin he has brought upon himself, but reasons weightier than those of political economy require that efforts should be made to save these indebted land-holders from dispossession. They may have been improvident, but in the eyes of the great majority of the people improvidence is no excuse for deprivation of ancestral lands, and our failure to protect the proprietary classes from the usurer is a cause of grave dissatisfaction. A remedy for this state of things appears, however, to be available, the Punjab Laws Act confers upon the Government the power of establishing courts in any District with insolvency jurisdiction. Hitherto such jurisdiction has been confined to three courts situated at commercial centres, but it appears to be a matter deserving serious consideration whether this jurisdiction should not be extended to other Districts of the Province.

Revenue Report, 1873-74.

149 *Transfers of land*—The extent to which revenue-paying land is exchanging hands under British rule, and the conditions of its transfer, are subjects fraught with great interest and importance. They are generally held to involve grave considerations. The displacement of a considerable portion of the old agricultural proprietors by the class of money-lenders, has been thought to demand legislative interference, both on economical and political grounds.

The state of indebtedness, which gives rise to the necessity for these transfers, is caused not as in former times in other Provinces, by the pressure of the Government demand, nor does it prevail amongst the whole agricultural community. A small minority probably not a larger proportion of the whole number than might be expected to be improvident, seeing the greatly enhanced value of the land, in which for the first time in the history of the country they have a valuable property, launch into extravagant habits of living, and so become involved in debt.

Now, admitting that a certain amount of discontent is necessarily engendered in the minds of those who find an ancient privilege slipping out of their hands, it is useless to attempt to stop by legislation the result of the causes which our own method of Government has set at work. The result of British rule has been, and ever will be, to throw the people more on their own resources, and make them feel responsible for their own actions. The prosperity of improvident land-owners cannot be forced upon them in spite of their improvident habits, and if the powerful machinery of the State is employed to prevent the voluntary transfer of land, and thus to prevent the natural effect of such habits from making itself felt, the result can only be depreciation in the value of the land itself, and deterioration of its productive power. It may be granted that if the displacement of the agricultural classes were due to the intricacy of our legal or administrative system, by which advantage might be taken by those more competent to avail themselves of it than the simpler races whose status is being lost, there might be ground for such alterations as would bring its provisions within the scope of the intelligence of the latter. But is this the case? Is the system of our law of debt so complex as to be beyond the apprehension of the least educated? Are lands parted with below their market value? Do cases occur in which industrious Zamindars, for no fault of their own are involved in suits for exorbitant demands, and compelled to part with their lands? So far as these questions can be answered in the negative, will it be apparent that legislative remedy will not only be inoperative, but will further promote habits of inactivity and extravagance.

(7)

The answer to the first of the above questions belongs more properly to the Judicial branch of the Administration. But from the opinions generally advanced on the subject by those most desirous of interfering with the existing state of things, it may be concluded that it is not in the mode of administering justice that any change can be introduced to protect the agriculturists

150 Sales of land in execution of decrees of the Civil Court are allowed only in very special cases, and when land is so sold, the right of occupancy as a cultivator is reserved by law to the ex-proprietor. The second question, as to the price for which lands are alienated, will be best answered by the following table, showing for the last six years the amount of land sold and mortgaged, and average value realized upon it —

YEARS	AREA IN ACRES OF LAND		AVERAGE JAMA PER ACRE OF LAND		NO OF YEARS' PURCHASE OF LAND		AVERAGE AMOUNT AGREED ON PER ACRE	
	Sold.	Mortgaged	Sold.	Mortgaged	Sold	Mortgaged	Sold	Mortgaged.
			R. A. P	R A P			Rs	Rs.
1868-69	71,235	1,29,653	0 10 10	0 13 9	18	13	12	11
1869-70	1,03,787	1,44,460	0 7 10	0 12 6	20	15	10	12
1870-71	67,673	1,38,674	0 10 5	0 15 7	23	14	15	14
1871-72	91,395	1,74,298	0 10 8	0 15 8	21	14	14	14
1872-73	86,638	1,95,277	0 10 7	0 13 11	23½	16	16	14
1873-74	93,645	1,85,863	0 10 2	0 12 3	26½	13	14	14

Several interesting facts are brought to light by this statement —

- 1 That the area sold is not increasing in any startling proportion
- 2 That the agriculturists succeed in retaining a lien on the more valuable lands which they alienate
- 3 That the amount realized by sales and mortgages is steadily progressing, reaching in the case of the former to 28½ years' purchase of the Government demand for 1873-74

The following table shows that the interest at 12% on the amount agreed on for sales and mortgages in every case exceeds largely the annual Government demand —

	INTEREST AT 12% ON THE AMOUNT AGREED ON FOR		ANNUAL GOVERNMENT DEMAND ON LAND	
	Sales.	Mortgages.	Sold	Mortgaged
1868 69	1,09,073	1,74,535	45,710	1,14,923
1869 70	1,24,749	2,00,391	50,896	1,12,624
1870 71	1,29,691	2,34,261	44,241	1,35,229
1871-72	1,56,542	2,99,812	60,685	1,70,885
1872-73	1,61,194	3,36,531	57,262	1,69,902
1873-74	1,53,334	3,11,516	58,642	1,43,024

The excess has, therefore, continuously increased in the last 6 years. When it is apparent that the interest on the amount paid for sales and mortgages, reckoned at the current native rate of 12%, exceeds by so large an amount the Government's demand on the land thus transferred, it may be safely asserted that pressure of the Government demand is not the cause of these transfers.

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These facts, it is maintained, do not constitute any grounds for serious apprehension, on the contrary it appears from them that a natural and healthy process is going on. Land is increasing in value, almost every year the disinclination to part with valuable land is able to assert itself, and the facility of raising loans on mortgage is increasing. Is it necessary or desirable to introduce a disturbing element in this self-adjusting process, one of the first effects of which would probably be the sensible depreciation in the market value of land? The system of protection has been tried in other countries with the result, not of preventing loans, but of depreciating the security and increasing the rate of interest.

The last question, whether agriculturists are involved in suits for exorbitant demands, involves a much wider question than the mere transfer of land, and any measures framed specially to protect agriculturists would necessarily be partial. It is affected by the law of limitation, of registration, and of interest, and is beyond the scope of a Revenue Report. But here, again, it may safely be affirmed that any legislation designed to protect one class to the exclusion of others, will re-act upon the very persons whom it is intended to favor, by raising the interest on loans raised for improving the land, by destroying their self-reliance, and removing the incentives to self-denial and industry, lessons which are being gradually learnt, and by means of which alone the agriculturists of India will keep pace with their fellow subjects in success and prosperity.

The returns of sale or transfer by order of court clearly include, in many cases, mere decrees for land, whereas it is intended that only sales or transfers in execution of decrees for money should be shown. The number of such cases shown in the statement is 433, but in the report for Civil Justice, it is stated that only one sale in execution has been sanctioned, while there were 188 cases of temporary alienation in satisfaction of decree.

The Imperial return on transfers is arranged according to the nature of the holding transferred, and as has been previously pointed out, its *minute classification* renders it liable to inaccuracy. Transfers by gift are included, which swell the number of voluntary transfers to 12,458. Mortgages are excluded, and the value of land sold is not given, so the local return is more valuable.

The sales of land were largest in the following Districts —

	No of acres.	Price per acre		
		Rs.	A	P
Sirsa	22,731	0	13	0
Lahore	4,466	30	0	0
Gujranwála	4,446	15	0	0
Montgomery	4,234	3	0	0
Dera Ismail Khan	6,202	5	0	0
Dera Gházi Khan	3,764	14	0	0

The sales in Sirsa rose more than 50 per cent, but the average price of land rose from 10 annas to 13 annas, which is higher than has yet been shown in any returns for this District. The area mortgaged diminished considerably. The large increase in sales of land in Dera Ismail Khan is reported to be nominal, as the people have taken the opportunity afforded by the Settlement of registering mutations of past years.

Land fetched the highest price in —

	Rs	per acre
Hoshiárpur	70	
Jullundur	62	"
Kohát	52	"
Ludhiána	40	"

The average amount realized by mortgage was highest in —

	Rs	per acre
Hazára	73	
Hoshiárpur	49	"
Jullundur	33	"
Pesháwar	33	"

Simsa, being an exceptional District, is not included in the above

Extract from proceedings of the Punjab Government reviewing the above

26 The important subject of *Transfers of Land* which was referred to in paragraph 21 of the Review of last year's report has been carefully considered by the Financial Commissioner, and His Honor is obliged to him for the detailed information contained in this report. The matter, having formed the subject of a separate proceeding, will not be treated at length in this review. It need only be observed that from the statistics here furnished, it would appear that sale of land in execution of decrees of court is almost unknown in the Punjab, that voluntary sales of land amount only, on an average, to about one acre per square mile, and mortgages to two per square mile of assessed area per annum, that only one proprietor out of 334 parts with his land in the year, and that the proportion of mortgages is only 1 to 133. His Honor therefore concurs with the Financial Commissioner that so far as this Province is concerned, there is no case at present for exceptional legislative interference and for increasing the restrictions already placed upon the sale of land, as the extent to which land is being transferred does not amount to, nor indeed nearly equal, what might be reasonably expected in a time of prosperity and

high credit, when land is yearly increasing in value and has now reached the unprecedented amount of Cr 1 28½ years purchase of the Government assessment. But the subject will be carefully kept in view and an endeavour will be made to obtain more complete returns

Revenue Report, 1874-75

135 The area of land sold in 1874-75 was 79 750 acres, and that of land mortgaged 1,80 110 acres. In 1873-74 the area of land sold was 92,645 acres, and that of land mortgaged 1 85,863 acres

The ratio borne to the transactions of previous years will be seen from the annexed figures, showing the lowest and highest areas affected, and also the average amount transferred —

	1869-70	1870-71	Average for six years
Area of land sold in acres	1,03,787	67,763	85,728 8
	1868-69	1872-73	
Area of land mortgaged	1,29,653	1,95,277	1,63,370

136 The average rates obtained for both sale and mortgage have risen in a marked manner during the year under report. The average price for land sold, for the past six years, has been Rs 15 1 per acre. In the present year the average rates have risen to Rs 19 per acre on sale, and Rs 16 on mortgage. In 1873-74 the rates were but Rs 14 per acre in both sale and mortgage cases. The prices obtained for land sold voluntarily is higher than that obtained for land compulsorily sold, and the general average is therefore in some degree lessened. It is interesting to compare the price for land in these returns with that shown as paid by Government for land required for public purposes, which also includes all descriptions of soil. The average rate paid for land required for public purposes was Rs 29 2 per acre, the average rate for land sold voluntarily, Rs. 22 5 per acre, the prices paid by agriculturists and non-agriculturists are for the whole Province the same, but this result is in some measure owing to the high rate paid by non-agriculturists for land in Peshāwar. An opinion is expressed by more than one officer that the rate paid by agriculturists expresses the true market value of the land.

The amount of land purchased by agriculturists is a satisfactory feature in the return, as it shows that some, at all events of the agricultural community are able to lay by money, and that land is considered a good investment by those most closely connected with it. Some allowance must however, probably be made for the difficulty of distinguishing with precision between the two classes of agriculturist and non-agriculturist. An individual of the latter class may occasionally be reckoned as an agriculturist, the converse is almost impossible. Any errors on this score are, however, in all probability, of small amount.

The percentage, as shown in the return, of sales of land sold to agriculturists and non-agriculturist respectively is as follows —

	No of cases	Area of land acquired
		Acres
Agriculturists	65 per cent.	54
Non-agriculturists	35 do	45

137 The largest number of sales occurred in Rawalpindi and Kāngra, in the former there were no less than 646 cases. A large number of sales took place also in Bannu, Dera Ismail Khan, and Jhelum.

The sales shown in Dera Ismail Khan probably represent to some extent the transactions of former years now brought on the register.

The largest number of cases of mortgage took place in the Districts of Umballa, Hoshiārpur, Siālkot and Gujranwāla.

138 The number of cases in which mortgages have been redeemed during the year is 2,885, affecting 35,712 acres. This represents 19 8 per cent. of the area mortgaged during the year. The largest number of redemptions occurred in the Divisions of Rawalpindi, Amritsar, and Jullundur.

Many of these cases must, however, no doubt, be understood to involve transfer of the land by sale to the former mortgagee at the time of redemption.

CH I A new return has this year been prepared showing the number and amount of existing mortgages in the Province at the end of the year 1873-74. This statement, read with that which shows the land newly mortgaged during the year 1874-75, and the land redeemed during the year, shows the amount of land in mortgage at the close of 1874-75.

139 The results will be best appreciated by showing the proportions of the encumbered to the unencumbered land. The result obtained by comparing the area mortgaged with the area shown in Statement XXV of 1873-74, excluding Government property, is as follows —

Transfers.	Delhi	Division	AREA		Per-centage.
			Of Land mortgaged	Of Division.	
			142 square miles	5,609	2 5
	Hissar	"	128 " "	8,472	1 5
	Umballa	"	255 " "	4,007	6 3
	Jullundur	"	249 " "	5,886	5 1
	Amritsar	"	252 " "	5,335	4 6
	Lahore	"	190 " "	8,961	2 1
	Rawalpindi	"	202 " "	16,857	1 2
	Mooltan	"	430 " "	20,156	2 1
	Derajat	"	52 " "	15,007	0 3
	Peshawar	"	148 " "	8,171	1 8

The result may be considered as incorrect, on the hypothesis that none but land already under cultivation is mortgaged. This is probably not borne out by facts, but the results, on such an hypothesis, are shown below, those Divisions being taken which are generally understood to be most heavily burdened —

Divisions	Area mortgaged	Cultivated area.	Per-centage.
Mooltan	430	2,674	15 6
Umballa	255	2,633	9 6
Jullundur	249	3,184	7 5

If the same data be taken for the Districts of the Mooltan Division, the results are as follows —

Districts	Area mortgaged in square miles	Cultivated area.	Per-centage.
Mooltan	244	976	25 0
Montgomery	89	658	13 3
Jhang	93	413	22 4
Muzaffargarh	2	627	0 3

The return from Muzaffargarh is possibly incorrect, but it appears that in the most heavily indebted District 75 per cent of the cultivated area is free from encumbrance.

A more correct estimate will be that derived by comparison of the revenue assessed on the lands mortgaged with the revenue the whole District, viz —

Division.	Revenue of land mortgaged	Revenue demand.	Percentage
	Rs	Rs.	
Delhi	1,11,512	26,39,501	4 2
Hissar	28,964	14,86,363	1 9
Umballa	1,76,111	15,47,694	11 3
Jullundur	2,76,054	31,08,397	8 8
Amritsar	2,44,063	28,97,510	8 4
Lahore	83,281	14,90,807	5 5
Rawalpindi	84,029	22,23,745	3 3
Derajat	11,319	11,02,037	1 2
Peshawar	1,05,472	9,86,911	10 6

. An amended return has been received for the the Mooltan Division showing the amount of lands held in mortgage on 31st March 1875. By this the percentage of the revenue of the mortgaged lands on the revenue demand is for the whole Division 9.3 per cent. CR I

The return of the Districts is as follows, *viz*

	Revenue of mortgaged lands	Revenue demand	Percentage
	Rs	Rs	
Mooltan	61,194	5,93,772	11.4
Jhang	2,507	2,86,337	8.9
Montgomery	2,293	3,08,744	7.5
Muzaffargarh	42,977	5,26,031	8.1

Extract from Proceedings of the Punjab Government reviewing the above

The average extent of each plot sold was 13.3 acres, the average price per acre Rs 19 being Rs 5 per acre in excess of the price obtained in 1873-74, and amounting to 27 years purchase of the revenue assessment. Of the land sold 59,209 acres, *v. e.*, about three-fifths of an acre per square mile of assessed area or a little less than 2 acres per square mile of cultivation were parted with in consequence of debt, but of the amount so parted with the greater portion went into the hands—not of money-lenders but—of agriculturists and the average price was Rs 23 an acre. The greatest number of sales took place in the Rawalpindi, Kangra, Bannu, Dera Ismail Khan and Jhelum Districts,— all of them Districts known to be exceptionally prosperous.

In regard to mortgages, it appears that on the 31st March 1874, 1,314,147 acres, or 13 acres per square mile of assessed area, were under mortgage,—in other words for 1 acre of land encumbered there were 49 acres unencumbered, of which 16 acres were under cultivation. During the year 1874-75, 180,110 acres, being less than 2 acres per square mile of assessed area, and less than 8 acres per square mile of cultivation were mortgaged, and 35,712 acres were redeemed from mortgage. Of the land mortgaged, 169,037 acres were mortgaged on account of debt, and 11,023 acres in order to raise capital for improvements, the average amount raised per acre was Rs 16, being Rs 2 in excess of the amount so raised in 1873-74, and 17 years' purchase of the land revenue assessment. Of the lands under mortgage at the close of 1873-74 five-sixths were in the possession of the mortgagees and of these mortgagees 74,498 were agriculturists, and 65,404 non-agriculturists. Of lands mortgaged during the year in 6,676 cases out of 14,886 the mortgagees were agriculturists. Land is most extensively under mortgage in the Divisions of Umballa, Jullundur and Mooltan, of these the two former are known to be eminently prosperous. In the case of Mooltan where the greatest proportion of cultivated land is in mortgage, and where there are some difficulties of revenue management, 85 per cent of the cultivated area is unencumbered.

20. The above statistics appear fully to confirm the opinion expressed in last report that there is nothing alarming in the extent to which, or the manner in which land in the Punjab is being sold or mortgaged, the number and extent of the transactions are, it will be seen, insignificantly small, even if all of them were in favour of the money-lending class, they would not as remarked last year, exceed nor even nearly equal the amount which might safely accompany the natural and healthy development of wealth, but it now appears that the bulk of the transactions are effected not with money-lenders, but with brother agriculturists, while the fact that the selling price of land is rapidly rising, and now averages nearly 30 years' purchase of the land revenue, is sufficient proof that they are not generally caused by any undue pressure of the Government assessment.

Revenue Report 1875-76

146. The area of land sold during the year was 89,302 acres of which 51,910, or 58 per cent. was sold to agriculturists. The proportion shown as sold under pressure of debt amounted to 76 per cent of this area, but it is remarkable that a much larger area was parted with under these circumstances to agriculturists than to non-agriculturists, while of the other sales presumably sales effected without such purpose nearly one-half were to non-agriculturists. The price realized for lands thus disposed of is best compared by taking the number of years purchase of the jama. This is as follows—

	No of years purchase of jama	
For sales under pressure of debt	To agriculturists	33.3
	To non agriculturists	32.9
For sales under no such pressure	To agriculturists	21.7
	To non agriculturists	33.1

That is to say, the prices realized for land voluntarily transferred to agriculturists under no pressure were not so high, by 11 or 12 per cent, as those of lands sold to non-agriculturists under similar

CH I circumstances, or sold under pressure of debt. If any conclusion may be drawn from this it is that land will always fetch its full market value under whatever circumstances it is disposed of. Another inference may perhaps be drawn, namely, that the people do not willingly part with their best land. This, however, may be arrived at more directly. The average assessment and price paid per acre was —

		Assessment per acre			Price per acre
		Rs	A	P	Rs. p. a.
For land sold on account of debt	{ To agriculturists	0	9	6	51
	{ To non-agriculturists	0	13	1	25
For land otherwise sold	{ To agriculturists	0	10	0	13
	{ To non-agriculturists	0	6	0	12

On the whole sales effected the price realized was equal to 31 years' purchase of the jama, and Rs 20 per acre. Last year the sale fetched 29 ½ years' purchase of the jama, and Rs 19 per acre. The area sold this year was 10 7 per cent in excess of last year, but only 3 per cent greater than the average of the six previous years, which was stated in last year's report to be 85,728 acres.

As regards the results of the year, the mortgages and redemptions taken together compare as follows with those of the previous year —

Year	Mortgaged	Redeemed	Excess of mortgages
	Acres.	Acres.	Acres
1874-75	1,80,110	35,712	1,44,398
1875-76	2,03,826	70,416	1,33,411

showing a decrease in the extent of alienations under this head. The average mortgage money per acre is Rs 16, the same as last year. The area of land redeemed from non-agriculturists in 1874-75 was 19,608 acres. This year it has risen to 53,790 acres. It must, however, be borne in mind that the distribution among agriculturists and non-agriculturists is not quite equivalent to a distribution among the money-lending and non-money-lending classes, as many so-called agriculturists pursue a bankers' calling, and are as tenacious of their profits as the ordinary money-lender.

Revenue Report 1876-77

206 The distinction between agriculturists and non-agriculturists is not always reliable, as many persons of the money-lending class, by reason of having bought a portion of land in a village, have themselves returned as agriculturists. Supposing this cause to operate generally, it may be inferred that the total of land sold to agriculturists is over-estimated, and the land sold to non-agriculturists is under-estimated, and that the increase of area sold to agriculturists is not altogether a real increase. The decrease, however, in the value of the land sold to non-agriculturists is so large as compared with the area sold, that it must be to a great extent genuine, and shows that the better descriptions of land change hands within the agricultural, or nominally agricultural, community, while the inferior descriptions pass into the possession of non-agriculturists.

CHAPTER I, QUESTION 14

Extract from Selections from the Records of the Punjab Government (No XIII of Ch I 1876), being papers regarding the alienation of estates of insolvent proprietors to the money-lending class

ALIENATION OF ESTATES OF INSOLVENT PROPRIETORS TO THE MONEY-LENDING CLASS

Proceedings of the Hon ble the Lieutenant Governor of the Punjab in the Home Department, No. 4609, dated 23rd December 1874

READ the following papers —

- From Registrar, Chief Court, No 1698 dated 28th June 1872, forwarding Minute by Mr Justice Melvill
- From Secretary to Government, Punjab, to Registrar, Chief Court, No 2371, dated 28th June 1872
- Circular of the Chief Court No 8 of 1873
- From Registrar Chief Court, No 690 dated 6th April 1874, forwarding opinions of Mr. Justice Boulton, Mr Justice Landsay and Mr Justice Melvill
- From Registrar Chief Court, No 1643, dated 2nd July 1874, forwarding Notes by Mr Justice Boulton and Mr Justice Thornton

Annual Report of the Revenue Administration of the Punjab for 1873 74, paragraphs 149 to 150 inclusive

REMARKS.—The question discussed in the above correspondence is one which has of late attracted considerable public attention not only in the Punjab, but in other parts of India, and may be briefly stated as follows —

Is further legislative action required to protect the peasant population from the usurer and save their lands from alienation by sale or mortgage to the money-lending class ?

2 So far as the Punjab Government is concerned the subject is not a new one. The impolicy of leaving the peasantry to the mercy of the usurer, and of permitting too rapid or wholesale dispossession from their hereditary lands of old proprietary tribes, has from the first been recognized, and has largely influenced both its revenue and judicial administration

3 With regard to revenue administration, light assessments and prompt remission or suspension of demand in unfavorable seasons have been freely granted, and it is satisfactory to observe that the indebtedness of the agriculturist, which is said to call for legislative interference, is attributed not to the undue pressure of the land revenue, but to the extravagance resulting from high credit and the increasing value of land

4. In the Judicial Department a wide discretion has long been exercised by the civil courts in reducing extortionate claims for interest by money-lenders against agriculturists, and attention has been of late specially called to the subject by the learned Judges of the Chief Court in a circular which will be found amongst the annexures of these proceedings, and under instructions issued by them agricultural implements, including plough-bullocks, gear of wells, houses and sheds, are exempted from attachment in execution of decrees for debt.

Again under Section 244 of Act VIII of 1859, temporary alienation of revenue-paying land may be substituted by order of court for sale of such land in execution of decrees for debt under the provisos with which that Act was extended to the Punjab, no ancestral or joint-acquired property in land can be sold in execution save with the sanction of the Chief Court, which is rarely accorded, and under the law of pre-emption, contained in Sections 9 to 14 of the Punjab Laws Act of 1872, every voluntary sale of land within a village boundary is voidable, unless it is first offered to the co-sharers of the village, and in the event of their declining, to the other members of the village community. It is further to be noted that under the general law of India all written instruments of transfer of immovable property of more than Rs 100 in value are invalid unless publicly registered, that in regard to mortgages no foreclosure can take place except under orders of court, and in these cases also in the case of the Punjab the law of pre-emption applies, and lastly, that the wide definition of "undue influence," contained in Section 16 of the Indian Contract Act of 1872, gives the courts the most ample power to prevent the enforcement of agreements which are not absolutely voluntary

5 It is now to be considered whether any *additional* safeguards and restrictions are required to protect the agriculturist from ruin

The necessity for further legislative action was first advocated by Mr Justice Melvill in 1872, and on his suggestion inquiries were instituted by the Chief Court, with the sanction of the Lieutenant-Governor, in every District in the Province, subsequently in his review of the Land Revenue Administration of 1872-73, the Lieutenant-Governor drew the attention of the Financial Commissioner to the subject, and that officer made it the subject of special inquiry during the past official year. The result of the inquiries thus independently conducted is contained in the correspondence above referred to, copy of which is appended to these proceedings, and it will be perceived that the conclusions arrived at by the superior officers of the Province are widely different.

6 Mr Justice Melvill, to whom the Lieutenant-Governor is much indebted for the attention he has devoted to this important subject, retains the opinion that, notwithstanding the restrictive laws in force,

CH I there are still grounds for believing that owing to the usurious rates of interest charged by the money-lending class, the agriculturists are becoming deeply involved, and are being driven by pressure of creditors to transfer their lands by sale or usufructuary mortgage into the hands of strangers. He considers, therefore, that legislative action is called for and recommends—

- (1) That courts should be enjoined to "look behind the terms of a bond so as to unravel the real nature of the transaction and ascertain the principal amount with a view to the adjudication of such a sum by way of interest as might seem equitable in cases where owing to the absence of free consent, the elements of a perfectly enforceable contract were wanting,"
- (2) That the term of limitation for claims on account should be extended from 3 to 6 years,
- (3) That further restrictions should be placed on the voluntary sale or mortgage of lands by providing—
 - (a) That no transfer of land shall be permitted in payment of debt to a creditor, and,
 - (b) That no mortgage shall be valid for more than the lifetime of the mortgagor without the sanction of official authority,
- (4) That so much of the produce of land as represents the cost of cultivation should be exempted from attachment, and
- (5) Lastly, that imprisonment for debt should be abolished.

7 Mr Justice Boulton expresses inability to write at length on the very difficult and important questions raised but gives an opinion in favor of an extension of the law of limitation and the prohibition of sales of land in execution of decrees held by mahájans for debts, and also of the abolition of imprisonment for debt.

8 Mr Justice Lindsay, on the other hand, altogether doubts the necessity for legislative action, and Mr Egerton, the Financial Commissioner, after reviewing the statistics of transfers of land for the past five years, is of opinion that there is nothing alarming in the extent to which land is being transferred, but that on the contrary, a natural and healthy process is going on which should on no account be interfered with.

9 Such being the conflict of opinion amongst the superior officers of the Province as to the necessity for legislation, it appears desirable, before discussing the suitability of all or any of the measures proposed by Mr Justice Melvill, to scrutinize carefully the grounds on which their necessity is asserted, to consider whether the extent of the evil is really such as to call for legislative interference,—in other words, whether there is any sufficient evidence that the agriculturists are to an alarming extent indebted to the money-lender, or that the transfer of lands is being effected to a serious extent to the money-lending class.

10 From a reference to Mr Justice Melvill's final minute, and the voluminous reports upon the subject which have been obtained from the office of the Chief Court it would appear that those who believe this to be the case found their opinions not so much upon a comprehensive survey of facts as upon their own experience and impressions or the opinions and impressions of others. Such opinions and impressions are indeed most valuable, but it is to be remembered that they proceed for the most part from judicial officers engaged perhaps day after day in presiding as judges of civil courts in rural tracts where suits against agriculturists form, as might be expected, the staple of litigation, it is easy to understand that officers so occupied should take a gloomy view of the financial position of the peasantry but opinions thus formed, being necessarily the result of limited observation cannot be accepted as conclusive. Moreover, even judicial officers are by no means unanimous on the subject. The difference of opinion among the learned Judges of the Chief Court has already been adverted to, but besides Mr Justice Lindsay, Lieutenant-Colonel McMahon, the able Commissioner of the Hissar Division Mr Gore Ouseley, the Commissioner of Umballa, whose long and varied experience in this and other Provinces gives great weight to his opinion the late Mr Blyth, whose acquaintance with the feelings and wants of the people was perhaps unsurpassed, have recorded their opinions that no case is made out for further legislative interference. This view appears further to be in accordance with popular opinion, so far as that opinion has been ascertained, for it is stated that Lieutenant-Colonel Mercer, the Deputy Commissioner of the Jullundur District (one of the Districts especially mentioned by Mr Justice Melvill as requiring relief) convened a public meeting comprising representatives of all the classes most interested in the question, namely, Zamindárs who were in debt and had transferred their lands to meet the demands of their creditors, Zamindárs who were free from obligation, and money-lenders who held the lands of their constituents by right of sale or mortgage, and money-lenders who had no such interest in the land. The question having been put whether any alteration in the present law was desirable, it was found to be the unanimous opinion that no further restriction should be placed upon the sale or transfer of land than that which would prevent fraud or undue advantage being taken, that any legal prohibition against usurious rates of interest would affect both lender and borrower injuriously, and diminish the market value of land, and that no alteration in the law of limitation was called for.

11 The Lieutenant-Governor's sympathies are entirely with those who would use all reasonable means to protect the agriculturist from extortion, and he is not disposed to attach too much weight to the opinions expressed adverse to legislative interference.

Nevertheless it appears to His Honor that before a sound judgment can be formed upon this important question, a far wider survey of the facts is necessary than that which has been taken by the advocates of special legislation CII I.

Too sweeping conclusions must not be drawn from individual cases, the number of the indebted must be viewed in relation to the number that are prosperous, and the amount of land transferred with reference to the amount transferable. His Honor will endeavour to view the matter from this stand-point

12 Looking, then, in the first place at the statistics of Civil Justice, it appears that while the total number of agriculturists in the Province is upwards of 10 000,000, the total number of suits for debt brought against this class does not exceed 80,000 in the year, so that in one year 1 agriculturist out of 125 is annually sued for debt, but a reference to the Blue-Book of Judicial Statistics annually laid before Parliament will show that in *England and Wales about 1 person in 22 is annually sued for debt in the county courts alone*, and this notwithstanding the fact that the period of limitation for suits on account is twice as long as in this Province.

So far then, as freedom from debt suits is a test of solvency, the agriculturists of the Punjab must be considered far better off than the inhabitants of England

13 But again—Is there any valid ground for supposing that the agriculturist is being driven by pressure of debt to transfer his lands to others to any serious extent ?

The Financial Commissioner has during the year furnished statistics which afford an answer to this question. From these statistics it appears that during the last five years—

- (1)—Sales of land for debt in execution of decrees of court were almost unknown only one sale of ancestral land was sanctioned in 1873,
- (2)—That the number of voluntary sales of land averaged less than 6,000 per annum, so that as the proprietors of land, according to the Financial Commissioner's returns, number 2,006,670, only 1 proprietor out of 334 parts with land in the year,
- (3)—That the number of mortgages averages less than 15,000 in the year, being at the rate of 1 mortgage to 133 proprietors
- (4)—That the aggregate area of assessed land annually transferred by private sale amounted on an average to less than 1 acre per square mile, that during the past year there were only 6 Districts in which more than 1 acre per square mile was transferred, and in only a single District more than 2 acres per square mile,
- (5)—That, on an average not more than 2 acres per square mile were annually mortgaged, that last year in only 7 Districts did the number of acres exceed 3 per square mile, and of these Districts 5 are among the most prosperous and wealthy in the Province,
- (6)—That the value of land is steadily rising in the market, and last year averaged 28½ years' purchase of the Government assessment

14 Assuming, then, as the most unfavorable view of the case possible, that all these transfers of land are made to money-lenders, and in consequence of pressure of debt, it will be seen that the number and extent of such transfers are insignificant, and the only fair deduction to be made from the statistics is that the proportion of extravagance which prosperity and credit naturally produce is, in the Punjab, most creditably small

But in point of fact there appears no valid reason for supposing that all these transfers, whether by sale or usufructuary mortgage, are made to the money-lending class, or are in consequence of pressure of debts. Some of the sales are doubtless the result of the high prices offered and many of the mortgages for the purpose of raising capital for agricultural improvements, while the law of pre-emption places a most effective check on the acquirement of village lands by other than members of the proprietary body, and it is shown by statistics collected in one District of the Province that the bulk of the transfers of landed property are made not to village bankers but to brother agriculturists. So far then as statistics are concerned it would appear that the apprehensions which have led to a call for legislative interference are at present without adequate foundation.

15 But His Honor does not base his opinion on statistics alone, in the course of his annual tours he has visited every District of the Province, and the result of his inquiries corroborates the above conclusion he has found that though there may be individual cases of embarrassment due in most cases to personal extravagance, the state of the peasantry is in general eminently prosperous and he concurs with the Financial Commissioner (who is also well acquainted with every part of the Punjab) in the opinion that the transfers which are taking place do not exceed, or indeed nearly equal, the number which may safely accompany the natural and healthy development of wealth in a country in backward circumstances

16 There is, the Lieutenant-Governor thinks, great reason to fear that to increase the restrictions on the sale or transfer of land in the manner proposed, or to further interfere with the freedom of contract between the money-lender and the agriculturist, would operate simply to depreciate the value of land as a security, and raise still higher the rate of interest, and, while the measure would fail to teach prudence to the improvident, it would tend to destroy the habit of self-reliance and industry which characterizes

CH I. many of the cultivating races of the Punjab, and is one great cause of its agricultural prosperity. Finally, to extend the period of limitation in debt suits would, His Honor apprehends, only stave off and ultimately intensify the evil it is sought to remedy.

17 Fully sensible of the dangers attending the indiscriminate application of the received doctrines of political economy to unforeseen circumstances, His Honor is, as were his predecessors, prepared to sacrifice, if necessary, a large amount of theory to secure contentment among the people, but it is a matter of congratulation that in the present state of the Province no such exceptional action is called for. All that appears necessary is that the civil courts should bear carefully in mind the instructions contained in the Chief Court's Circular No 3 of 1873 on the subject of awarding interest. Should cases of individual embarrassment largely increase in any District, it may be perhaps necessary to extend the provisions of the insolvency sections of the Punjab Laws Act to the locality or to recommend the extension to this Province of Section 154 of the Land Revenue Act of the North-Western Provinces, enabling the District Officer to assume the management of the lands of a disqualified proprietor, but even these measures appear hardly called for under present circumstances. Meanwhile the subject will continue to receive His Honor's careful attention, and endeavour will be made to obtain more complete statistics on the subject.

18 One other subject touched upon in this correspondence requires notice,—the proposal to abolish imprisonment for debt. This subject is one which must be considered from a wider point of view than its effects upon the peasantry, in whose case, as pointed out by Mr Justice Melvill, it is rarely resorted to.

But looking at the statistics of Civil Justice, it appears that in the year 1873 though the number of applications for execution disposed of was 110,384, in only 6,107 cases were judgment debtors arrested, that out of these it was only found necessary to detain 708, and that of those detained the great majority were released before the expiration of three months. It is further to be observed that any judgment-debtor who satisfies the court that he has no assets, and has not committed fraud, is at once released, and that information as to the law on the subject is hung up in every civil debtors' ward. Now, having regard to the fact that the sale of land in execution of decrees is, in the Punjab, practically prohibited, that execution against other property is constantly evaded by concealment of assets, or vexatious claims to property attached, and lastly the fact that the existing rate of interest charged is said to be exorbitantly high, His Honor is doubtful of the expediency of reducing the security of a creditor still further, and raising his rate of interest by depriving him of a means of compulsion which is found to be eminently effective, is not shewn to be abused, and is so fenced with precautions as to be almost incapable of being made an engine of oppression.

Minute by Mr Justice P S MELVILL, Officiating Judge, Chief Court, Punjab,—dated Lahore, 1st April 1874

REPLIES having now been received to the questions suggested in my memorandum of the 11th June 1872, the substance of those replies is here noted—

1st question.—“Whether the existing law in regard to interest causes undue hardship to debtors and, if so, to debtors of what class?”

The almost unanimous reply is in the affirmative, and the class indicated is the agricultural class.

The general reasons assigned for the affirmative reply are the necessities of the revenue-paying classes, their extravagance and ignorance, and helplessness when once they have fallen into the hands of the money-lenders.

To the 2nd question,—viz, “Whether, owing to decrees for excessive interest, revenue-paying land has been sold by order of court in execution during the last five years,”—the answer is generally in the negative. There are a few instances in which land is said to have been sold in the manner and for the cause indicated in the question, but these instances are so rare, and the amount of land sold is so small, that they do not affect the general conclusion.

The 3rd and 4th questions are—“The extent to which private alienations of revenue-paying land have been made during the past 5 years in satisfaction of the debts other than decrees of court,” and “whether such private alienations are attributable to the apprehended action of the courts in decreeing excessive interest.”

The answer to these questions are very indefinite. For some Districts the number of cases of transfer is given without specification of the area, and for some Districts the return has been given only instead of five, so that it is impossible to specify the extent to which alienations have been made. The present inquiry has not, therefore, resulted in the obtaining of reliable statistics. The causes of the alienations are not stated with any degree of certainty, but most of the replies point to the action of our courts in decreeing excessive interest and to the heavy costs involved in suits. It is clear, however, that very extensive alienations have occurred in different parts of the Punjab during the five years preceding 1872.

and that they are chiefly owing to indebtedness and the extreme difficulty of escaping from it by any other method. Some of the most prominent instances are here noted —

DISTRICT	Alienations during last 5 years.	Cause assigned by Local Officers
Ferozapore	About 1 part of the revenue is paying land.	Not the apprehended action of the courts, the alienations being made out of court after decree.
Gardāspur	Sales 464 cases, mortgages 2,612 cases.	Heavy expenses of law suits
Jhang	37,565 acres	Pressure of debts and action of courts
Peshāwar	12,000 acres	Interest and costs.
Mooltan	74,637 acres	Action of courts in decreasing excessive interest.
Jhelum	2,104 cases	To avoid annoyance, expense and indignity of suits.
Kāngra	6,553 acres sold, 34,281 acres mortgaged.	Action of the courts in decreasing excessive interest
Bawalpindi	37,458 acres	Ditto Ditto.
Jullundur	45,850 acres sold, 31,895 acres mortgaged	Not the apprehended action of the courts.
Gujranwāla	20,784 ghunādas sold, 24,750 ghunādas mortgaged	Interest low (The ghunādas may be roundly stated as being equivalent to an acre)
Hoohārdpur	5,909 acres sold, 85,290 acres mortgaged.	About 12 per cent. the total mīlgnāz (revenue paying) area of the District. Not the apprehended action of the courts

The 5th question is—"What was the custom during Sikh rule in regard to interest?"

No general custom applicable to all parts of the Punjab is shown to have existed but the replies show that a very common custom in most parts of the country was that not more than 50 per cent on the principal in cash loans and 100 per cent. in loans of produce was demandable by way of interest

The 6th question is—Whether any, and what, alteration is desirable in the present law of interest? A large majority of officers recommend an alteration in the present law, their opinions generally tending to the fixation of a maximum rate of interest that may be decreed by courts, more particularly in cases where the debtors are agriculturists and to giving the courts the power of making an equitable adjudication of interest, notwithstanding any agreement made by the parties. Some of the most thoughtful reports, however, are against any alteration in the existing law

2 These reports and statistics of civil litigation prove that the agricultural population of the greater part of the Punjab is very extensively indebted to the money-lenders. The class of money-lenders has increased largely during British rule, and in addition to the petty banker, who borrows his capital from the old established bankers, we have the land-owners not uncommonly taking the lending money on the same terms and with the like avidity as the professional lender

3 The cause of this indebtedness is to be found—1stly, in the extravagance of the borrowers, 2ndly, in the rapacity and unscrupulousness of the lenders, more especially those whose profession it is to lend

The extravagance of the agriculturists is evidenced in marriage and other social rites and in a comparatively reckless way of living. They found themselves a few years after the introduction of British rule in the possession of landed property which heretofore had been of no appreciable market value but which now enabled them to raise money at pleasure, and they have too commonly used their new-born credit without reflection, borrowing more money than was fairly needed for the occasion, and squandering the excess in superfluities of living. That the prudent revenue-payer is compelled occasionally to resort to a loan is undeniable. A bad season, death of cattle, or a marriage in the family, necessitates the contraction of a loan to enable him to pay the Government demand, to plough his land, or to perform a domestic duty which may not be postponed, but there has been a common disregard of caution in incurring these necessary loans, and there has been also a want of care in devoting the profits in good years to the redemption of debts

4 The efforts of the money-lenders as a class are now commonly turned to involving the land-owner in such a burden of debt that its liquidation is only possible by the transfer of his land to themselves. They are as a general rule, rapacious and unscrupulous, the sum lent is reduced by preliminary reductions, payments by the debtor are either not credited at all, or are credited at less than their value, and

CH I exorbitant interest is rapidly piled on interest. The dealings of the money-lending class in the more populous parts of the Punjab may not inappropriately be designated as a system of open plunder, the lenders and the borrowers do not stand on an equal footing, and, as a rule, there is an absence of that free consent on the part of the borrower which is needed to constitute a valid contract. The money-lender has superior intelligence, and he takes an unconscionable advantage of the necessity, ignorance, and carelessness of the borrowing agriculturists. It must be recollected that in the Punjab the mass of the agricultural population is composed of small peasant proprietors, and that there are but few large landed proprietors.

In these remarks I am alluding chiefly to the peasant proprietors.

5 On the other hand it cannot be denied that the Punjab agriculturist is shrewd, and that he has now learnt to deny even just claims, and to invent all kinds of false pleas when brought into court for a debt.

6 A very general opinion is expressed by the officers who have written on this subject, that the main remedy for the existing state of things is to be found in the better education of the agricultural class. I confess that I have but little faith in this. The agriculturist ceases to follow the plough when he has undergone anything but the most rudimentary learning. In fact, he becomes physically incapacitated from doing so if subject to tuition for any length of time. The daily attendance in a room for many hours incapacitates him from enduring the heat of the sun and the hard labor necessary for farming operation, and the hand inured only to the pen becomes unlit for the plough. It is a well known fact that the village boy who has undergone a course of Persian, Geography and Arithmetic, disdains the furrow, and leaves his land to the care of a tenant. I believe that it is not desirable to teach the labouring agriculturists of the Punjab anything beyond simple writing and reading. Could even this amount of education be imparted to the rising generation a great step would have been gained in putting the agriculturists in a position to hold his own against the banker, but unless attendance at the school up to a certain age is made by law compulsory, it is much to be doubted whether the people will send their sons for instruction. Compulsory education involves a great deal of interference by subordinate Government officials, and the preparation of registers of births, deaths and marriages, and it would probably not be expedient to introduce such a measure at present.

There will occasionally be found men who desire to raise themselves above the herd, and every facility should be given to them to obtain a superior education, and this can be obtained by resorting to the higher class schools. But for the agricultural population generally I do not think that the education provided by the Government can be too elementary. If the existing state of agricultural indebtedness calls for a remedy, it must rather be looked for in a measure which shall restrict the credit of the land-holders rather than in any rapid improvement of their education.

7 There are still large numbers of the agriculturists who have not become indebted, but it is to be apprehended that these numbers will year by year diminish. There is a strong spirit of emulation abroad in regard to expenditure on social matters, the style of living of all classes is improving, and a general tendency is shown on the part of the agriculturists to be drawn into the vortex of extravagance.

8 The Government is the superior landlord, and, as the recipient of a share of the rent of the land is directly interested in the welfare of those who are the recorded owners of the proprietary right in land. The Government can hardly be regarded as acting wisely in standing by with folded arms while these people are undergoing a gradual, but no less certain, process of extinction. Although there are no complete or reliable statistics to show how far the ancient land owner has been evicted by the *sahukár*, I am convinced from my own experience that very extensive transfers of this kind have already taken place, and are now daily taking place, in some of the richest Districts in the Punjab, the most prominent instances of which are the Hoshiarpur and Jullundur Districts. It may be said that the capitalist whose hereditary occupation is that of banking will lay out money on the improvement of the land, and in some cases this may be true, but hitherto his aim has too generally been to squeeze as much out of the tillers of the ground as he can, and he does not spend money on the land. His first step is commonly to oust the proprietor from the cultivation. Whether he obtained the land by sale or mortgage, the condition of the transfer is that he shall be put in possession of the cultivating as well as of the proprietary right, or, if his condition of the transfer of the right of cultivation has not been expressly provided and the courts in consequence refuse to put him in possession of the cultivation he will take care to see that no doubt is left on this point in future deeds to which he is a party. The result of the present condition of the two parties is that the hereditary banker, the *bannia*, *sahukár*, evicts the cultivating proprietor from his land, and that the latter, driven from house and home, becomes a disaffected and disloyal subject. Let but this process go on for another fifty years, and the Government may find itself face to face with a serious political danger.

9 I therefore submit that it is the part of Government to provide a remedy for the evil before it is too late.

10 In my memorandum of the 11th June 1872 I did not intend to suggest any alteration of the law so as to affect the transactions of borrowers and lenders out of court. The whole object of what I wrote was in relation to the action of the courts in decreasing interest. Since that time the Book Circular of the Chief Court, No 3 of 1873 has been issued. This circular meets to a very great extent the evil which it was my wish to remedy and I am of opinion that it would now be sufficient, so far as the action of the courts is concerned, were it to be further enjoined that the equitable principle laid down in the

circular should be applied in going behind the terms of a bond so as to unravel the real nature of the transaction and ascertain the principal amount with a view to the adjudication of such a sum by way of interest as might seem equitable in cases where, owing to the absence of free consent, the elements of a perfectly enforceable contract were wanting.

On a careful consideration of this subject I am not prepared to recommend any alteration in the law of interest where the rate of interest has been agreed upon by the parties concerned.

11 But there are two measures which seem to be necessary. The first is, that the law of limitation should be altered, and the second, that the credit of the owners of land in the Punjab should be restricted.

12 The history of the law of limitation in the Punjab is as follows —

In the rules issued by the Governor-General for the administration of Civil Justice in the Punjab issued in 1849 the period for the recovery of debts on bonds or accounts was twelve years, in 1856* the limit was reduced to six years, 1859† the limit of six years was retained for debt on bond below Rs 50 and on registered bonds for and above Rs 50, but it was reduced to three years for debt based on unregistered bonds above Rs. 50 and on accounts, in 1867 Act XIV of 1859 was introduced, and this has been followed by Act IX. of 1871, which is now in force, and by both these laws the limit for suits on registered bonds is six years, and for suits on unregistered bonds and accounts it is three years.

13 When the change was made in 1859 from the limitation of six years to three years for debts on account or unregistered bonds there was much apprehension created in the minds of the bankers. I recollect that this apprehension was often expressed to me, and when I have alluded to the subject of late years I have generally found both the banking and agricultural classes opposed to the shorter term of limitation. It may be agreed that a short period for the adjustment of account works to the advantage of the agriculturist who is thus able to recollect and prove the transactions in which he has been engaged and that a longer period would result in his finding himself involved in a hopeless web of difficulty, but although there is truth in this position, it is also true that three years is frequently an insufficient term to allow of a debt being paid off. The margin of profit left to a peasant proprietor, whose holding is ordinarily small, is narrow, and, supposing that he has recourse to a loan in a time of difficulty, such as the failure of the harvest or death of cattle, it all depends on the two next years being plentiful whether he is able to pay off the loan or not. If these fail, the creditor is compelled by the law of limitation to take a fresh bond including the interest due on the first loan, and then the difficulties of the borrower become serious. Where a period of six years allowed for registered, and of twelve years for registered loans, I believe that the difficulties of the borrower would be materially lessened. I believe that the knowledge on the part of the lender that he would have a fair time within which to realize his dues would tend to reduce the rate of interest, and that the honest borrower would be able to repay the debt which now he often cannot do. An alteration of this kind in the law of limitation would be hailed as a great boon by both bankers and agriculturists. A very considerable reduction in the amount of litigation might be expected to result from this change.

14. The most important point, however, is to curtail the credit of the land-owners, and this can only be done by placing restrictions on the voluntary transfer of the proprietary right in land. Sales of ancestral land by order of court are practically unknown in consequence of the Chief Court refusing to sanction them, and therefore the restriction required must be placed on so-called voluntary transfer. The restriction might be that no transfer of the proprietorship of land by private sale should be permitted in payment of a debt to a creditor, whether alien or of the brotherhood, and that mortgages should only be allowed for the lifetime of the mortgagor to a creditor, that no sale or mortgage for a term beyond the life of the mortgagor to parties other than creditor should be allowed without the sanction of the Deputy Commissioner and Commissioner, and that that sanction should not be granted if the transaction is in any way connected with the payment of a debt. By such provisions the mere money-lender would be prevented from getting land otherwise than by fair purchase in the open market, while the legitimate transfer of land by parties not indebted would be practically free.

15 The result of such a course might perhaps be a depreciation in the value of land, but probably not to any serious extent. What is wanted in the Punjab is to prevent the hereditary owners of land from being evicted by the pressure of debt, and if this end is attained, a slight depreciation in the market value of land is not of much consequence.

16 The question then arises whether the agriculturists would find the money-lenders willing to advance loans for necessary purposes under these conditions. The fact is that the great body of the lenders are dependent on the agriculturists for their business, and there seems no reason to believe that they would hesitate to continue their dealings with them, though they would take care only to advance such amounts as there was a fair prospect of recovering. They would not lend in a reckless way, as they now do, in order to hopelessly involve the debtor with a view to eventually getting his land. They would find themselves very much in the same position as in the Sikh time. Nor do I think that the rate of interest would increase. The banking class is the most valuable section of the community and is entitled to a fair consideration of its interests. The object in what I suggest is to prevent the unfair use of their opportunities.

17 It is a question whether the Government should not, in the event of the above suggestions being approved, set on foot a scheme for redeeming outstanding mortgages held by alien money lenders with a view to the reinstatement of the mortgagors in their land. As however the measures which I have suggested are radical, and open to many opposing considerations, and the subject is one on which great differences of opinion exist, I would recommend, in the event of the Government not being prepared to take any immediate decisive action, that statistics should be collected each year shewing as far as possible the state of indebtedness of the agricultural population and full details of the alienations of land.

18 It would be a good thing if imprisonment for debt were abolished. It but rarely happens that agriculturists are imprisoned on this account, but it seems advisable to remove an engine that may be used for pressing and running those who are engaged in husbandry.

19 It is very desirable that some change should be made in the Civil Procedure Code in regard to the attachment and sale of crops in execution of decrees for money. At present the standing crop is not unfrequently attached, a watcher is appointed at the cost of the debtor and when the grain has been harvested, the whole is sold by auction, and the proceeds, after deducting the amount due as Government revenue, are made over to the judgment-creditor. Now, it may sometimes be necessary to attach a standing crop to prevent its being suddenly reaped and made away with, but the attachment should never be made until the crop is about to ripen, and in regard to the appropriation of the yield it would appear to be in consonance no less with equity than the spirit of the Code to provide that the creditor should only receive that portion of the net produce which remains after paying the Government revenue, or, in other words that the creditor should get only the proprietor's profit. It would follow from this proposition that the produce of a non-proprietary cultivator could not be touched in execution of a decree for money.

To allow a judgment-creditor to appropriate the whole of the produce that remains after satisfying the Government demands is palpably unjust, for not only is the cultivator thereby deprived of the means of supporting himself and his family, but he is incapacitated from cultivating the land in future without incurring fresh liabilities.

QUESTION 14, CHAPTER I.

A—Statement of transfers (by sale and mortgage) of land assessed with Land Revenue in the Punjab during the 5 years 1869 70 to 1873 74 (compiled from Statement No XXXV appended to the Revenue Reports for those years) CH

1	2	3										12	13
		TRANSFER BY PRIVATE AGREEMENT											
		Sales					Mortgages						
DIVISION	DISTRICT	No of Cases	Area of Land	Yearly jama.	Amount agreed on	Average per acre	No of Cases	Area of Land	Yearly jama	Amount for which mortgaged	Average per acre	REMARKS	
													Delhi	Delhi	190	6 705	6 661	1 47 6a2	23	655	10 99	1 8 114	2 70 54a	25
Gurgaon	130	8 716	16 466	92 6'2	11	2 614	10 466	18 103	2 37 4'6	16			
Karnal	443	8 832	8,812	1,48 448	17	412	6,374	8 08a	1,11 035	21			
Hissar	Hissar	375	14,798	3 447	63 518	4	634	96 822	10 291	1 42 199	4		
	Rohtak	315	3 068	3 299	68 577	22	776	10 296	8 23a	1,34 861	13		
	Thana	209	92 912	8,063	50 387	22	49	34,421	3 029	3a,544	1		
Umballa	Umballa	1 560	16 976	18 818	4 67,170	28	3 638	32 662	42 322	7 27 6a2	22		
	Tudikhana	871	5,38	7 314	1,84 109	30	3 120	24,870	82,711	6,05 616	21		
	Simla	122	99	112	6 356	64	363	340	432	14 6a1	61		
Jullundur	Jullundur	1 819	9,608	18 727	6,21,135	65	3 660	20 844	40 501	8 46,773	41		
	Hoshiarpur	77a	6 302	8 987	2,63 639	60	1,966	14 906	26 078	5 04 524	34		
	Langra	1 738	8,498	8,659	1,96 495	23	6 960	35 953	48 441	4,97 397	13		
Amritsar	Amritsar	577	6 924	7 900	2,17 061	94	1 788	18 789	24 105	3 74 775	20		
	Sialkot	1 042	10 044	14 514	8 01 276	29	7 981	70 866	90 03a	16 22 464	24		
	Gurdaspur	463	6,228	7,849	1,28,324	26	3,336	69,669	77,395	7,11,904	12		
Lahore	Lahore	1 522	27 048	16 689	5 43 1a4	20	3 738	55 321	34 435	6 62 611	12		
	Rosepore	762	16 460	7 483	2,53 677	16	2 659	61 182	30 232	5 77,362	9		
	Gujranwala	829	25,961	16,321	1,65,561	6	840	16 494	15 63a	1,30 215	8		
Rawalpindi	Rawalpindi	2 480	10 0a1	8 229	3 00 159	30	1 226	25 251	8 796	2 47,920	10		
	Jhelum	1 473	10 048	6 022	3,00 094	20	1 384	14 988	11 8 0	2 24 3a1	16		
	Gujrat	362	2 872	2,110	56 431	19	2,000	12 411	11 147	2 53 960	20		
	Shahpur	672	11,041	5 048	1,25,90a	11	1,779	48,920	21,923	3,21,783	7		
Mooltan	Mooltan	1 026	36 151	13 513	4,78 092	18	704	47 435	19 066	4 34 112	9		
	Jhang	5-3	8 496	2 316	1 18 271	14	691	10 368	3 8a5	1 19 128	12		
	Montgomery	216	14 069	3 356	46,289	3	271	40 491	6 578	75 917	4		
Derajat	Muzaffargarh	498	6,132	6 116	1,36,892	27	278	3,002	8 616	38 898	23		
	D I Khan	1,024	24 379	14 819	1 28 488	6	958	29 848	16 889	1 40 677	5		
	B G Khan	1 428	11 268	6 094	1,04 991	15	2 488	19 975	7 0 6	2 12 919	11		
Peshawar	Banna	1 628	20,102	6,049	1,71 481	9	5,74	48 610	21 076	4 18 111	9		
	Peshawar	726	6 705	18 792	2 12 991	32	6 58a	27 347	61 861	5 49 938	20		
	Hazara	124	460	601	17 099	37	106	1 652	1 641	29 415	18		
Total Punjab		25 970	4 33 138	2,71 706	60 90 490	14	68 285	8 39 572	7 31 664	1 14 26 998	14		

TOTALS OF DIVISIONS

Delhi	768	24 253	31 999	3 88 722	16	3 711	31 887	4 002	6 19 065	19		
Hissar	898	1 10 776	10 909	1 82 482	2	1 459	81 519	21 876	3 12 534	4		
Umballa	2 353	22 467	25 241	6 56 63a	29	7 108	67 773	75 47a	1 39 919	24		
Jullundur	4 399	23 308	36 8 310	2 169	46	12 576	7 7 113	1 15 020	18 45 994	26		
Amritsar	2 071	21 076	29 653	6 46 061	30	13 656	1 49 118	2 00 558	37 09 142	18		
Lahore	3 113	69 469	38 481	9 83 482	14	7 137	1 42 997	89 302	1 70 188	10		
Rawalpindi	4 487	34 007	21 486	6 81 08a	20	6 689	1 00 970	61 686	10 48 024	10		
Mooltan	2 222	63 848	24 300	7 80 544	12	1 867	81 885	33 110	7 11 035	9		
Derajat	4 040	56 746	26 961	4 63 970	8	9 020	98 373	4 001	7 71 707	8		
Peshawar	1,046	7 083	19,941	2 48 240	32	6,993	32 226	8a 628	6,3a,370	2		
Grand Total		25,970	4,33 138	2,71,706	60,90 490	14	68,285	8,39 572	7,31 664	1,14 26 998	14	

QUESTION 14, CHAPTER I

B.—Statements of lands sold in the Punjab during the 3 years commencing 1874-75 and ending 1876-77, (compiled from Statement No 85 appended to the Punjab Revenue Reports for those years)

DIVISION	DISTRICT	Class to which sold.	SALES MADE VOLUNTARILY UNDER PRESSURE OF DEBT					OTHER SALES					TOTAL						
			No of cases	Area of land in acres	Yearly Jama	Amount/agreod on	Average per acre.	No of cases	Area of land in acres	Yearly Jama	Amount/agreod on	Average per acre	No of cases	Area of land in acres	Yearly Jama	Percent of yearly jama of lands sold in Punjab of District	Amount/agreod on	Average per acre	Price how many times the year ly jama.
DEHLY	Dohs	Agriculturists	74	1 467	1,917	54 664	37					7	1 467	1 917	6 anas	54 664	37	29	
		Non Agriculturists	87	1,265	1,860	65 959	52					87	1,265	1,860		65 959	52	36	
	Gurgaon	Agriculturists	51	1 565	1 510	23,155	15	8	173	185	3 633	19	59	1 739	1 696	4 anas	26 188	15	15
		Non Agriculturists	48	679	874	19 937	29	12	176	124	2,222	41	60	855	989		27,169	31	27
	Karnal	Agriculturists	56	1 408	924	21 861	15					56	1,408	924	4 anas	21 861	15	23	
		Non Agriculturists	62	1,096	1,109	20,345	19					62	1 096	1,109		20,345	19	18	
Kissar	Agriculturists	94	2 942	678	23 267	8	36	1 871	294	5 794	3	130	4 813	1 170	11 anas	29 081	6	25	
	Non Agriculturists	34	2,795	790	23,850	9	95	7,980	1,010	38,135	4	149	10,715	1 800		66,985	6	52	
Rohtak	Agriculturists	79	573	685	17 290	30	57	575	580	8 652	6	136	1,148	1 165	3 anas	20 842	18	18	
	Non Agriculturists	29	301	374	4,928	16	7	77	80	1 884	24	85	378	334		6,812	18	21	
Sera	Agriculturists	35	2,677	309	9 827	4	23	2,085	283	5 085	2	57	4 762	555	9 anas	14 893	3	27	
	Non Agriculturists	22	3,330	451	11,877	4	8	87	61	1,279	23	25	9 387	512		13,105	4	26	
Umballa	Agriculturists	302	2,591	2 801	1,05 943	41	140	1 652	1 864	42,385	26	442	4 243	4,256	12 anas	1,48 328	35	55	
	Non Agriculturists	441	8 676	4,181	1,38,330	53	113	2,203	1,767	75 705	25	560	5,679	5,038		1,94,035	33	38	
Ludhiana	Agriculturists	371	2 701	3 992	1 21 584	45	19	48	103	1 946	45	384	2,744	4 025	11 anas	1,25 830	45	50	
	Non Agriculturists	202	1,688	2,470	1,12,582	67	18	46	83	7,123	155	215	1,734	2 353		1 19,708	69	51	
Siala	Agriculturists	181	168	149	11,365	63	4	11	14	280	23	185	179	163	1 Ro	11 615	65	71	
	Non Agriculturists	5	5	5	610	122	1	4	7	853	213	4	9	15		1,463	162	113	
Jullundur	Agriculturists	766	3 064	5 767	2,48 712	81	30	371	480	14 443	53	795	5 395	6 237	1 Ro	2 63 155	79	42	
	Non Agriculturists	742	2,784	5,425	2,10,205	75	48	270	383	13 777	51	785	3,004	5 811		2,23 982	73	42	
Hoshiarpur	Agriculturists	492	1,965	4,339	1,71,113	87	17	124	223	8,124	17	509	2,150	4 568	10 anas	1 74 237	81	66	
	Non Agriculturists	455	2 546	8 918	1,18,588	47	14	118	200	3,149	27	459	2 664	4,118		1,21,737	46	30	
Kangra	Agriculturists	1,049	4 005	4 239	1,06 120	25	209	928	767	45 454	49	1,258	4,933	5 006	1 Ro	1 51 574	81	30	
	Non Agriculturists	452	2,957	2,048	81,342	29	32	157	370	2,877	27	474	3,054	2,418		84,219	29	35	

QUESTION 14, CHAPTER I

B — Statement of lands sold in the Punjab — Continued

Division	Class to which sold	SALES MADE VOLUNTARILY UNDER PRESSURE OF DEBT				OTHER SALES					TOTAL							
		No of cases.	Area of land in acres	Yearly Janna	Amount agreed on	Average per acre	No of cases	Area of land in acres	Yearly Janna	Amount agreed on	Average per acre.	No of cases	Area of land in acres	Yearly Janna.	Percent of yearly janna of land sold on total janna of District.	Amount agreed on	Average per acre	Times how many times this year by Janna
DIVISIONAL TOTALS																		
Delhi	Agriculturists	181	4 435	4 351	99 200	22	8	175	186	3 084	18	189	4 609	4 537	5 annas	1 02 233	22	23
	Non Agriculturists	197	8 040	3 843	1,06,281	36	12	176	124	7,222	41	209	8 216	3 987		1 18 473	36	39
Hissar	Agriculturists	298	6 192	1 813	80 404	8	118	4 531	1 077	14 412	3	323	10,728	2 890	5 annas	64 816	6	23
	Non Agriculturists	80	6 416	1 015	40 655	6	106	8,064	1,191	36 248	4	190	14,480	2 636		76,903	5	29
Umballa.	Agriculturists	854	6 460	7,082	2 38 893	44	187	1 706	1 481	44 681	26	1 011	7 166	8 513	12 annas	2 83 474	40	33
	Non Agriculturists	646	5,369	6 467	2,51 522	47	133	2 253	1 847	63 681	28	779	7 622	8 304		3 16,203	41	36
Jullundur	Agriculturists	2 307	9 035	14 829	5 25 948	58	256	1 383	1 480	63,021	46	2 645	10 418	16 809	13 annas	5 88 965	57	57
	Non-Agriculturists	1,649	8,197	11,394	4,10 135	60	79	655	963	19,808	86	1 728	8 752	12,347		4 29 938	49	36
Amritsar	Agriculturists	873	6 242	8 460	1 96,880	37	202	2 332	3 852	65 860	18	776	7 574	13 112	9 annas	2 62 690	36	22
	Non Agriculturists	446	5 984	6 224	1 84 859	46	62	980	1 782	31 174	32	808	4 964	8 005		2,16 033	44	37
Lahore	Agriculturists	868	17 883	6 994	2 99,086	17	320	9 524	5,686	65 484	8	1,185	27 407	12 679	1 Ro	3 04 670	13	29
	Non Agriculturists	689	18,241	10,144	2,68 188	14	78	4 763	1,018	21,894	5	762	23,004	11 162		2 80,082	12	25
Rawalpindi	Agriculturists	1 658	12 228	5 818	2 24 679	18	478	1 647	1 672	46 075	29	2,129	18 873	7 499	9 annas	3 71 614	20	36
	Non-Agriculturists	1,197	7,719	4 936	2 16 270	28	175	1 742	564	20 761	28	1 372	8,461	5,492		3 87,031	26	40
Mooltan	Agriculturists	1 978	33 536	13 118	5 48 954	16	300	5 908	3 986	79 013	13	1,675	39 444	16 501	2 Ro	6 27 977	16	35
	Non Agriculturists	637	13 463	16 780	2 29,879	17	113	3 681	2 191	49 887	14	750	16,994	17,571		2 79,716	17	16
Derajat.	Agriculturists	2,161	29 413	11,663	5,28 466	14	255	3 190	3 195	36 335	4	2 406	32 543	14 866	2 Ro	3 64 821	11	26
	Non Agriculturists	352	9 769	9,907	34 659	4	70	8 122	733	15 398	3	422	14 891	4 640		49,967	3	11
Peshawar	Agriculturists	326	9 897	11,201	1,12 859	11	27	252	146	5 159	20	858	10 149	11 347	1 Ro	1 17 818	19	10
	Non Agriculturists	665	4 098	6 102	85 283	13	4	20	3	2 000	100	669	4 118	6 106		67 283	14	9
Total Punjab	Agriculturists	10 996	37 920	84 776	26 26 106	21	2 113	34 586	21 568	4 27 873	10	13 109	123 606	106 734	13 annas	70 48 979	19	39
	Non Agriculturists	6 662	80 186	69,802	17 87,611	22	826	26 226	10 336	2,68,018	20	7 389	1,06,442	80 438		20 58 629	19	26
	TOTAL	17 659	2 07 506	1 54 678	44 12,717	21	2 941	62,842	32 294	6 91 891	10	20,498	2,70,348	1 86 972	13 annas	91,04,608	19	37

CHAPTER I, QUESTION 14

Statement of lands mortgaged and redeemed from mortgages in the Punjab, during 3 years commencing 1874-75 and ending 1876-77 (compiled from statements No 35 B appended to the Punjab Revenue Reports for those years)

Division	District	Class by which held.	For 40ks.					For agricultural improvements.					Total mortgages.					Mortgages redeemed.					Preliminary items (to be added to the total of the above).		Mortgages from mortgages.									
			Number of cases.	Area of land in acres.	Yearly jama.	Amount agreed on.	Average per acre.	Number of cases.	Area of land in acres.	Yearly jama.	Amount agreed on.	Average per acre.	Number of cases.	Area of land in acres.	Yearly jama.	Amount agreed on.	Average per acre.	Number of cases.	Area of land in acres.	Yearly jama.	Amount agreed on.	Average per acre.	In mortgages contracted.	In mortgages redeemed.										
DELHI	Delhi	Agriculturists	187	3,843	2,697	28,971	45	1,894	2,627	27,253	34	52	1,894	2,627	27,253	34	52	1,894	2,627	27,253	34	52	18	13	1,000	0	0	0	0	0	0			
		Non-Agriculturists	187	4,046	4,046	31,028	34	1,944	4,046	31,028	34	52	1,944	4,046	31,028	34	52	1,944	4,046	31,028	34	52	18	13	1,000	0	0	0	0	0	0			
		Total	374	7,889	6,743	59,999	79	3,838	6,673	58,081	68	104	3,838	6,673	58,081	68	104	3,838	6,673	58,081	68	104	36	26	2,000	0	0	0	0	0	0			
DELHI	Gurgaon	Agriculturists	65	485	415	8,881	10	687	412	8,137	18	40	687	412	8,137	18	40	687	412	8,137	18	40	17	6	0	0	0	0	0	0	0	0		
		Non-Agriculturists	65	515	515	10,028	10	545	515	10,028	10	40	545	515	10,028	10	40	545	515	10,028	10	40	17	6	0	0	0	0	0	0	0	0	0	
		Total	130	1,000	930	18,909	20	1,232	927	18,165	28	80	1,232	927	18,165	28	80	1,232	927	18,165	28	80	34	12	0	0	0	0	0	0	0	0	0	
DELHI	Karnal	Agriculturists	85	3,40	714	13,051	8	1,216	887	4,808	4	115	4,965	1,151	18,863	8	35	8,715	8,824	56,609	8	15	6	6	1,000	0	0	0	0	0	0	0		
		Non-Agriculturists	144	30,128	8,718	81,877	4	1,654	848	5,937	5	119	91,477	9,791	54,527	4	54	4,629	1,916	51,258	4	24	11	10	1,000	0	0	0	0	0	0	0		
		Total	229	33,528	9,432	94,928	12	2,870	1,735	24,745	9	234	100,144	10,942	73,390	12	89	15,344	10,740	107,867	12	39	17	20	2,000	0	0	0	0	0	0	0		
MISSAR	Hissar	Agriculturists	177	2,016	1,687	29,168	11	388	916	2,197	14	238	3,254	1,848	26,900	11	87	3,219	931	5,044	7	13	10	10	0	0	0	0	0	0	0	0		
		Non-Agriculturists	138	1,269	1,684	28,931	10	74	1,215	29	145	1,984	1,497	30,898	18	48	901	828	4,512	8	30	11	10	0	0	0	0	0	0	0	0	0	0	
		Total	315	3,285	3,371	58,099	21	462	2,131	2,216	33	135	5,238	3,345	57,800	29	135	4,120	2,365	9,556	15	21	21	20	0	0	0	0	0	0	0	0	0	
MISSAR	Sikri	Agriculturists	1,058	3,939	3,939	17,671	20	1,108	3,939	17,671	20	228	3,134	4,208	45,229	20	228	3,134	4,208	45,229	20	228	22	22	0	0	0	0	0	0	0	0	0	
		Non-Agriculturists	1,058	4,114	4,114	19,487	20	1,282	4,114	19,487	20	228	3,216	4,390	46,679	20	228	3,216	4,390	46,679	20	228	22	22	0	0	0	0	0	0	0	0	0	0
		Total	2,116	8,053	8,053	37,158	40	2,390	8,053	37,158	40	456	7,350	8,598	91,908	40	456	6,350	8,598	91,908	40	456	44	44	0	0	0	0	0	0	0	0	0	0
UMBALLA	Turbatta	Agriculturists	1,665	15,414	10,564	2,63,761	21	8,487	7,865	19,201	31	295	24,091	31	24,091	31	295	24,091	31	24,091	31	295	22	22	0	0	0	0	0	0	0	0	0	
		Non-Agriculturists	1,665	15,414	10,564	2,63,761	21	8,487	7,865	19,201	31	295	24,091	31	24,091	31	295	24,091	31	24,091	31	295	22	22	0	0	0	0	0	0	0	0	0	0
		Total	3,330	30,828	21,128	5,275,222	42	16,974	15,730	38,402	62	590	48,182	62	48,182	62	590	48,182	62	48,182	62	590	44	44	0	0	0	0	0	0	0	0	0	0
UMBALLA	Simla	Agriculturists	688	890	778	29,414	62	810	778	29,414	62	489	810	778	29,414	62	489	810	778	29,414	62	489	28	28	0	0	0	0	0	0	0	0	0	
		Non-Agriculturists	688	890	778	29,414	62	810	778	29,414	62	489	810	778	29,414	62	489	810	778	29,414	62	489	28	28	0	0	0	0	0	0	0	0	0	0
		Total	1,376	1,780	1,556	58,828	124	1,620	1,556	58,828	124	978	1,620	1,556	58,828	124	978	1,620	1,556	58,828	124	978	56	56	0	0	0	0	0	0	0	0	0	0
UMBALLA	Jalandhar	Agriculturists	2,554	41,828	69,450	4,28,428	18	82	4,284	4,284	26	1,284	10,446	37,164	14,646	115	115	644	1,412	14,646	115	115	14	14	0	0	0	0	0	0	0	0		
		Non-Agriculturists	2,554	41,828	69,450	4,28,428	18	82	4,284	4,284	26	1,284	10,446	37,164	14,646	115	115	644	1,412	14,646	115	115	14	14	0	0	0	0	0	0	0	0	0	
		Total	5,108	83,656	138,900	8,568,756	36	164	8,568	8,568	52	2,568	20,892	74,328	29,292	230	230	1,288	2,824	29,292	230	230	28	28	0	0	0	0	0	0	0	0	0	0
JULLUNDHUR	Zobhaspur	Agriculturists	5,116	19,746	18,101	9,76,011	91	8	2,500	189	8	1,119	19,189	9,760	383	1,773	2,500	48,797	2,500	48,797	2,500	383	383	18	18	0	0	0	0	0	0	0	0	
		Non-Agriculturists	5,116	19,746	18,101	9,76,011	91	8	2,500	189	8	1,119	19,189	9,760	383	1,773	2,500	48,797	2,500	48,797	2,500	383	383	18	18	0	0	0	0	0	0	0	0	
		Total	10,232	39,492	36,202	19,520,022	182	16	5,000	378	16	2,238	38,378	19,520	766	3,546	5,000	97,594	5,000	97,594	5,000	766	766	36	36	0	0	0	0	0	0	0	0	0
JULLUNDHUR	Sargur	Agriculturists	9,458	3,711	13,916	3,66,028	32	619	3,660	1,119	5,279	16	116	3,660	1,119	5,279	16	116	3,660	1,119	5,279	16	116	10	10	0	0	0	0	0	0	0	0	0
		Non-Agriculturists	9,458	3,711	13,916	3,66,028	32	619	3,660	1,119	5,279	16	116	3,660	1,119	5,279	16	116	3,660	1,119	5,279	16	116	10	10	0	0	0	0	0	0	0	0	0
		Total	18,916	7,422	27,832	7,320,556	64	1,238	7,320	2,238	10,558	32	232	7,320	2,238	10,558	32	232	7,320	2,238	10,558	32	232	20	20	0	0	0	0	0	0	0	0	0
JULLUNDHUR	Amritsar	Agriculturists	444	4,828	6,181	1,09,817	26	467	8,901	8,901	26	17	1,098	1,098	1,098	26	17	1,098	1,098	1,098	26	17	10	10	0	0	0	0	0	0	0	0	0	
		Non-Agriculturists	444	4,828	6,181	1,09,817	26	467	8,901	8,901	26	17	1,098	1,098	1,098	26	17	1,098	1,098	1,098	26	17	10	10	0	0	0	0	0	0	0	0	0	0
		Total	888	9,656	12,362	2,19,634	52	934	17,802	17,802	52	34	2,196	2,196	2,196	52	34	2,196	2,196	2,196	52	34	20	20	0	0	0	0	0	0	0	0	0	0
AMRITSAR	Sialkot	Agriculturists	517	6,885	9,825	1,73,742	101	1,906	1,549	28,054	56	1,028	5,541	11,768	8,541	2,573	8,541	48,648	18,541	48,648	18,541	2,573	30	30	0	0	0	0	0	0	0	0	0	
		Non-Agriculturists	517	6,885	9,825	1,73,742	101	1,906	1,549	28,054	56	1,028	5,541	11,768	8,541	2,573	8,541	48,648	18,541	48,648	18,541	2,573	30	30	0	0	0	0	0	0	0	0	0	0
		Total	1,034	13,770	19,650	3,474,984	202	3,812	3,098	56,108	107	2,056	11,092	23,536	17,082	5,146	17,082	97,296	37,082	97,296	37,082	5,146	60	60	0	0	0	0	0	0	0	0	0	0
AMRITSAR	Gurdaspur	Agriculturists	878	7,912	11,656	1,88,892	54	86	658	8,774	29	811	8,511	19,400	8,511	1,978	8,511	47,328	19,400	47,328	19,400	8,511	39	39	0	0	0	0	0	0	0	0	0	
		Non-Agriculturists	878	7,912	11,656	1,88,892	54	86	658	8,774	29	811	8,511	19,400	8,511	1,978	8,511	47,328	19,400	47,328	19,400	8,511	39	39	0	0	0	0	0	0	0	0	0	0
		Total	1,756	15,824																														

CHAPTER I, QUESTION 14
Statement of Lands mortgaged and redeemed.—continued

Director	Class by which held.	Per debt.				For agricultural improvements.				Oni mortgaged.				Mortgage redeemed.				Per cent on total area of lands.		
		Number of cases.	Area of land in acres.	Yield in lbs.	Amount agreed on.	Number of cases.	Area of land in acres.	Yield in lbs.	Amount agreed on.	Number of cases.	Area of land in acres.	Yield in lbs.	Amount agreed on.	Number of cases.	Area of land in acres.	Yield in lbs.	Amount agreed on.	Average per acre.	In mortgages outstanding.	In mortgages redeemed.
LAHORE	Agriculturists	508	10,262	6,726	1,80,605	84	1,361	606	10,261	822	11,488	6,642	1,90,816	369	8,292	6,556	44,117	11	48	17
	Non-Agriculturists	453	9,843	6,536	1,13,385					662	14,922	5,285	1,19,895	9	13	1,263	1,169	9	21	13
	Total	961	20,105	13,262	2,94,000					1,524	26,404	11,927	3,10,711	378	19,784	7,845	45,286	22	69	30
LAHORE	Agriculturists	1,323	26,103	20,504	2,24,011	535	5,135	4,038	92,411	1,453	20,239	15,292	45,292	40	608	4,819	4,131	7	6	6
	Non-Agriculturists	675	13,225	8,658	1,03,725	58	686	668	2,445	610	8,018	4,731	94,180	173	639	651	650	15	21	12
	Total	2,000	39,328	29,162	3,277,736	593	5,821	4,706	94,856	2,063	28,257	20,023	1,39,472	221	1,247	5,470	4,781	22	27	18
RAWALPINDI	Agriculturists	212	1,472	1,160	29,864	37	218	228	3,37	210	1,627	1,418	36,081	43	351	140	2,731	14	18	19
	Non-Agriculturists	265	8,208	2,471	43,856	124	1,765	806	20,931	467	6,154	2,377	56,056	15	35	158	253	2,129	4	25
	Total	477	9,680	3,631	73,720	161	1,983	1,034	24,302	677	7,781	3,795	92,137	58	386	298	2,880	18	43	44
RAWALPINDI	Agriculturists	188	7,944	1,271	87,448	11	437	100	3,844	331	1,805	1,100	36,081	104	6	635	14,913	28	46	26
	Non-Agriculturists	174	2,271	1,175	1,17,575	10	1,029	47	11,268	27	1,053	5,354	5,646	20	63	568	437	10	101	28
	Total	362	10,215	2,446	1,05,023	21	1,466	147	24,113	60	2,858	6,454	41,727	124	69	1,203	1,980	38	56	54
MOOLTAN	Agriculturists	333	5,545	2,329	73,010	11	23	39	887	33	338	7,263	73,897	11	56	1,005	657	736	10	31
	Non-Agriculturists	382	8,683	1,248	45,254	7	27	41	459	38	926	1,239	49,711	12	21	1,538	436	4,629	4	25
	Total	715	14,228	3,577	118,264	18	50	80	1,346	71	1,264	8,502	123,608	23	77	2,543	1,893	14	56	56
MOOLTAN	Agriculturists	989	8,470	6,018	1,11,237	13	66	344	4,489	13	267	7,734	6,688	11,264	18	51	434	110	2,654	18
	Non-Agriculturists	670	15,284	2,381	1,79,885	10	40	39	634	162	1,938	2,990	29,900	5	137	139	1,329	9	11	
	Total	1,659	23,754	8,399	2,91,122	23	106	443	5,123	29	2,600	10,724	36,588	13	190	573	2,463	27	30	29
DEERAAT	Agriculturists	1,070	25,402	6,483	1,92,038	9	77	106	770	42	1,678	29,430	9,889	9,708	10	2,760	649	15,900	6	29
	Non-Agriculturists	333	14,202	8,617	1,27,139	6	16	638	8,691	1,022	13,882	1,132	71,433	9	284	915	1,200	31	15	
	Total	1,403	39,604	15,100	3,19,177	15	93	1,696	17,581	2,024	27,764	12,014	1,90,321	19	368	2,110	2,609	35	44	
DEERAAT	Agriculturists	416	17,607	14,681	3,17,031	11	24	98	613	21	4,505	11,029	14,631	31,737	11	538	1,953	4,638	15	6
	Non-Agriculturists	112	44	27	2,108	46	130	196	8,729	21	1,324	17,670	6,942	1,00,043	7	178	716	468	10,234	14
	Total	528	18,051	16,708	3,19,137	57	264	394	14,558	42	5,829	29,340	21,573	31,740	18	716	2,669	5,106	25	20
PESHAWAR	Agriculturists	1,011	15,650	6,148	27,292	7	49	67	1,084	49	150	1,670	1,670	14	14	68	10,234	14	38	
	Non-Agriculturists	33	1,200	1,200	1,200	6	4	6	6	4	4	4	4	4	4	4	4	4	4	4
	Total	1,044	16,850	7,348	28,492	13	53	73	1,090	53	154	1,674	1,674	18	18	72	10,238	18	42	
PESHAWAR	Agriculturists	33	1,200	1,200	1,200	6	4	6	6	4	4	4	4	4	4	4	4	4	4	4
	Non-Agriculturists	33	1,200	1,200	1,200	6	4	6	6	4	4	4	4	4	4	4	4	4	4	4
	Total	66	2,400	2,400	2,400	12	8	12	12	8	8	8	8	8	8	8	8	8	8	8

DIVISIONAL TOTALS

DISTRICT	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000
Agri-culture	1,884	1,728	1,748	1,877	1,745	1,838	1,892	1,930	1,970	2,010	2,050	2,090	2,130	2,170	2,210	2,250	2,290	2,330	2,370	2,410	2,450	2,490	2,530	2,570	2,610	2,650	2,690	2,730	2,770	2,810	2,850	2,890	2,930	2,970	3,010	3,050	3,090	3,130	3,170	3,210	3,250	3,290	3,330	3,370	3,410	3,450	3,490	3,530	3,570	3,610	3,650	3,690	3,730	3,770	3,810	3,850	3,890	3,930	3,970	4,010	4,050	4,090	4,130	4,170	4,210	4,250	4,290	4,330	4,370	4,410	4,450	4,490	4,530	4,570	4,610	4,650	4,690	4,730	4,770	4,810	4,850	4,890	4,930	4,970	5,010	5,050	5,090	5,130	5,170	5,210	5,250	5,290	5,330	5,370	5,410	5,450	5,490	5,530	5,570	5,610	5,650	5,690	5,730	5,770	5,810	5,850	5,890	5,930	5,970	6,010	6,050	6,090	6,130	6,170	6,210	6,250	6,290	6,330	6,370	6,410	6,450	6,490	6,530	6,570	6,610	6,650	6,690	6,730	6,770	6,810	6,850	6,890	6,930	6,970	7,010	7,050	7,090	7,130	7,170	7,210	7,250	7,290	7,330	7,370	7,410	7,450	7,490	7,530	7,570	7,610	7,650	7,690	7,730	7,770	7,810	7,850	7,890	7,930	7,970	8,010	8,050																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

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CHAPTER I, QUESTION 14

D—Statement of lands held on mortgage in the Districts of the Punjab on the 31st March 1874 and 31st March 1877, compiled from Statements 35 A appended to the Revenue Report for 1874-75, and from the mortgage statements of subsequent years.

DIVISION	DISTRICT	Class by which held.	MORTGAGES ON 31ST MARCH 1874																Total Mortgages on 31st March 1877				Average mortgage money per acre more or less than the percentage of the yearly issue to total District revenue.	Proportion of lands mortgaged to total Revenue paying lands, reckoned by the percentage of their yearly issue to total District revenue.											
			With Possession.				Without Possession.				Total.				Total Mortgages on 31st March 1877																				
			Number of cases.	Area of land in acres.	Yearly issue.	Amount agreed on.	Average per acre.	Number of cases.	Area of land in acres.	Yearly issue.	Amount agreed on.	Average per acre.	Number of cases.	Area of land in acres.	Yearly issue.	Amount agreed on.	Number of cases.	Area of land in acres.	Amount agreed on.	Yearly issue.															
DELHI	Delhi	Agriculturists	2,221	15,268	10,302	3,54,468	95					2,221	15,268	10,302	3,54,468	2,315	12,747	8,176	17,894	9,40,166	30	27	30	27	4	0	4	0	0	0					
		Non-Agriculturists	1,281	12,631	17,868	3,02,131	239					1,281	12,631	17,868	3,02,131	1,697	16,480	4,44,765	22,145																
		Total	3,502	27,899	28,170	6,56,599	334	1	109	111	490	4	3,502	27,899	28,170	6,56,599	4,012	24,427	12,622	38,039	9,60,311	30	27	30	27	4	0	4	0	0	0				
GURGOON	Gurgoon	Agriculturists	3,489	26,871	27,961	4,10,768	16	1	109	111	490	4	3,489	26,871	27,961	4,10,768	3,664	34,437	8,10,403	33,889	10,59,288	30	16	30	16	6	0	6	0	0	0	0			
		Non-Agriculturists	1,688	6,832	6,527	67,896	9	48	479	888	1,768	4	1,688	6,832	6,527	67,896	1,646	6,838	67,896	8,484															
		Total	5,177	33,703	34,488	4,78,664	25	56	1,578	1,899	2,258	8	5,177	33,703	34,488	4,78,664	5,310	41,275	14,798	42,373	10,59,288	30	16	30	16	6	0	6	0	0	0	0	0		
KARUL	Karul	Agriculturists	729	7,816	6,659	65,912	8	48	479	888	1,768	4	729	7,816	6,659	65,912	7,410	74,392	8,318	8,484	5,40,622	8	9	8	9	3	0	3	0	3	0	3	0	3	0
		Non-Agriculturists	22	489	156	8,099	35						22	489	156	8,099	88	134	8,099	837															
		Total	751	8,305	6,815	74,011	40	1,118	12,244	19,886	2,258	8	751	8,305	6,815	74,011	7,500	8,138	16,118	9,325	5,40,622	8	9	8	9	3	0	3	0	3	0	3	0	3	0
HISSAR	Hisar	Agriculturists	1,780	18,608	18,749	1,81,461	10	29	284	308	4,914	10	1,780	18,608	18,749	1,81,461	1,811	18,820	18,749	1,81,461	8,82,084	15	9	15	9	2	0	2	0	2	0	2	0	2	0
		Non-Agriculturists	64	3,710	282	7,183	11	28	237	475	2,648	1	64	3,710	282	7,183	69	3,901	8,038	7,923	1,86,468	15	9	15	9	2	0	2	0	2	0	2	0	2	0
		Total	1,844	22,318	19,031	1,88,644	21	57	521	783	7,562	11	1,844	22,318	19,031	1,88,644	1,880	22,719	26,787	1,90,384	8,98,552	15	9	15	9	2	0	2	0	2	0	2	0	2	0
UMBALLA	Umballa	Agriculturists	5,062	30,818	20,836	5,44,664	17	284	856	1,165	17,429	10	5,062	30,818	20,836	5,44,664	5,798	34,986	8,72,085	35,614	10,00,000	27	22	27	22	8	0	8	0	8	0	8	0	8	0
		Non-Agriculturists	4,718	78,445	83,551	10,46,111	14	1,118	12,244	19,886	2,258	8	4,718	78,445	83,551	10,46,111	4,806	83,659	13,40,000	7,022	1,00,000	16,91,000	27	22	27	22	8	0	8	0	8	0	8	0	
		Total	9,780	109,263	104,387	15,907,775	31	1,402	15,488	24,141	3,423	18	9,780	109,263	104,387	15,907,775	10,604	118,645	20,120,000	32,636	20,000,000	33,511,000	27	22	27	22	8	0	8	0	8	0	8	0	
JALANDHAR	Jalandhar	Agriculturists	2,871	21,274	47,123	3,16,371	15	329	384	447	7,835	16	2,871	21,274	47,123	3,16,371	2,491	43,070	3,20,000	8,780	31,677	1,80,300	45	39	45	39	8	0	8	0	8	0	8	0	
		Non-Agriculturists	3,780	21,326	6,25,418	41	1,201	1,443	4,082	41	9,000	2	3,780	21,326	6,25,418	41	4,991	22,798	10,71,478	96,807															
		Total	6,651	42,600	5,30,791	42	1,530	1,827	4,529	42	9,021	4	6,651	42,600	5,30,791	42	7,482	44,068	14,41,878	1,03,587															
HOUSHARPUR	Hoshiarpur	Agriculturists	8,978	37,816	44,128	8,21,038	30	284	2,950	3,900	50,800	10	8,978	37,816	44,128	8,21,038	8,978	43,000	8,54,800	8,284	47,140	18,30,000	63	70	63	70	10	0	10	0	10	0	10	0	
		Non-Agriculturists	8,652	47,789	86,222	10,44,221	12	889	11,240	18,720	2,02,000	10	8,652	47,789	86,222	10,44,221	7,771	49,127	16,80,000	10,647	69,806	18,40,000	45	48	45	48	10	0	10	0	10	0	10	0	
		Total	17,630	85,605	130,350	18,65,259	42	1,173	14,190	22,620	51,000	20	17,630	85,605	130,350	18,65,259	16,749	92,127	35,200,000	19,331	1,16,946	36,800,000	108	118	108	118	20	0	20	0	20	0	20	0	
LADANGA	Ladanga	Agriculturists	4,170	30,700	39,480	3,79,485	13						4,170	30,700	39,480	3,79,485	4,170	30,700	39,480	3,79,485	8,400	38,292	4,61,801	40,387	1,01,888	18	16	18	16	6	0	6	0	6	0
		Non-Agriculturists	2,116	10,019	14,622	1,49,225	14						2,116	10,019	14,622	1,49,225	5,116	40,719	1,49,225	5,116															
		Total	6,286	40,719	54,102	5,28,710	27						6,286	40,719	54,102	5,28,710	9,292	71,419	5,28,710	9,292	8,400	78,912	6,11,001	80,774	18	16	18	16	6	0	6	0	6	0	

AMRTSAR	LAHORE	RAWALPINDI	RAWALPINDI	MOOLTAN	DEERAJAT	PESHAWAR	GRAND TOTAL												
Agriculture	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876	3 876
Non-Agriculture	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234
Total	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110	5 110
...
GRAND TOTAL	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567	1 234 567

CHAPTER I, QUESTION 14

D — Statement of lands held as mortgage in the Districts of the Punjab, — concluded.

Division	Class by which held	MORTGAGES ON 31ST MARCH 1914.										Total sums of Districts assigned and unassigned.	Amount of money actually received by mortgagees in the Punjab, and the amount of money paid by mortgagors in the Punjab.	Progression of money actually received by mortgagees in the Punjab, and the amount of money paid by mortgagors in the Punjab, as compared with the corresponding figures for the year ending on 31st March 1913.			
		With Possession					Without Possession								Total		
		With Possession			Without Possession			With Possession			Without Possession			Total			
		Number of cases.	Area of land in acres.	Amounts agreed on.	Average per acre.	Number of cases.	Area of land in acres.	Amounts agreed on.	Average per acre.	Number of cases.	Area of land in acres.	Amounts agreed on.	Average per acre.	Number of cases.	Area of land in acres.	Amounts agreed on.	Average per acre.
Delhi	Agriculturists	7,588	40,316	87,744	2,174	447	2,429	8,038	3,302	57,641	8,991	45,382	7,215	62,932	10,423	64,967	10,423
	Non-Agriculturists	5,699	45,458	81,275	1,786	1,648	40,028	2,439	25,901	33,911	49,501	87,901	10,423	62,932	10,423	64,967	10,423
Bihar	Agriculturists	1,936	31,604	181,908	5,748	3,443	1,869	35,981	19,811	16,318	1,646,525	1,964	35,174	7,973	1,727,111	1,638	15,134
	Non-Agriculturists	1,094	80,393	1,048,374	12,967	8,689	19,741	243,000	12,361	19,941	1,300,000	70,814	2,903	10,122,603	2	10,122,603	2
United Provinces	Agriculturists	11,292	45,997	66,665	1,450	5,277	7,148	156	1,167	48,671	11,264	60,392	1,327	68,315	10,423	70,338	10,423
	Non-Agriculturists	1,444	96,997	1,011,712	10,450	2,277	29,071	30,174	1,039	1,039	1,444,000	14,915	10,900	38,270,000	39	38,270,000	39
Punjab	Agriculturists	12,611	49,139	1,200,897	24,457	11,925	1,012	13,113	12,611	14,915	18,654	10,900	38,270	39	38,270	39	38,270
	Non-Agriculturists	12,611	49,139	1,200,897	24,457	11,925	1,012	13,113	12,611	14,915	18,654	10,900	38,270	39	38,270	39	38,270
Aitchison	Agriculturists	10,478	45,526	1,011,712	24,457	11,925	1,012	13,113	12,611	14,915	18,654	10,900	38,270	39	38,270	39	38,270
	Non-Agriculturists	10,478	45,526	1,011,712	24,457	11,925	1,012	13,113	12,611	14,915	18,654	10,900	38,270	39	38,270	39	38,270
Lahore	Agriculturists	3,706	48,609	37,164	4,457	2,409	30,157	3,40	61,977	722	6,920	4,810	10,797	45	10,797	45	10,797
	Non-Agriculturists	4,301	29,646	42,462	2,665	1,631	11,906	1,631	1,631	1,631	1,631	1,631	1,631	1,631	1,631	1,631	1,631
Bawalpind	Agriculturists	3,343	17,714	13,616	2,528	1,118	631	609	6,055	18,005	14,116	2,615	4,419	25,417	3,914	3,914	3,914
	Non-Agriculturists	8,068	89,169	67,797	6,064	2,669	29,771	10,300	130,611	10,463	19,374	16,119	16,119	16,119	16,119	16,119	16,119
Mooltan	Agriculturists	2,992	10,913	26,119	2,349	1,197	31,148	47	16	6,018	6,018	16,740	10,423	6,018	16,740	10,423	6,018
	Non-Agriculturists	3,911	19,708	20,027	5,069	11,925	104,411	64,477	69,155	4,991	140,106	12,012	8,912	163,998	8	163,998	8
Ferozpur	Agriculturists	1,481	17,718	6,000	3,404	2,154	1,642	429	2,329	7,658	1,616	6,24	5,86	34,652	5	34,652	5
	Non-Agriculturists	1,481	17,718	6,000	3,404	2,154	1,642	429	2,329	7,658	1,616	6,24	5,86	34,652	5	34,652	5
Faisalpur	Agriculturists	3,719	16,937	15,931	4,211	1,547	17,305	12,209	14,915	14,915	14,915	14,915	14,915	14,915	14,915	14,915	14,915
	Non-Agriculturists	3,719	16,937	15,931	4,211	1,547	17,305	12,209	14,915	14,915	14,915	14,915	14,915	14,915	14,915	14,915	14,915
Ghazipur	Agriculturists	70	652,777	479,417	8,077	14,325	65,277	74,488	615,321	6,110	81,144	36	375,82	135,714	6,073	6,073	6,073
	Non-Agriculturists	66,446	692,718	2,062,718	30,454,919	8,308	1,210,910	10,452,910	8,308	1,210,910	10,452,910	8,308	1,210,910	10,452,910	8,308	1,210,910	10,452,910	8,308
Total		128,570	1,114,341	10,650,640	22,650,101	18,609	1,099,100	9,107,000	20,185,000	139,072	1,144,146	13,100,400	11,907,300	64,247	1,102,870	20,623,944	18,109,844

DIVISIONAL TOTALS

CHAPTER I, QUESTION 15

What are the wages usually paid to hired field labourers? Are they paid in kind or money? Give the rates as far as you can for the chief kinds of labour in ordinary years. CH I

The replies of District Officers to this question are appended. In referring it to them for report, it was thought necessary also to inquire how far it is customary in each District to employ such labourers, the operations for which they are principally employed, to what castes they belong, and whether they form a class by themselves, or, when not employed in hired labour, earn their livelihood by handicrafts.

The replies seem to be in some instances written from diverse points of view. In every District two descriptions of field labourers are to be found, one who works under the tenant or proprietary cultivator by the season, and the other who does harvest work or occasional work. Owing to the smallness of the Punjab holdings the number of neither class is large.

The first, who works by the season, is usually an agriculturist by caste, who is in poor circumstances, or a member of a family with little land. His wages are most commonly either a stated share of the produce at harvest time, usually $\frac{1}{4}$ or $\frac{1}{5}$, or he will get his food, coarse clothing suited to the season of the year, and from 1 to 2 rupees cash a month. In so far as the appended replies state that the employment of such men is customary, they may perhaps slightly mislead. The great mass of the agriculturists, owing to the small size of their holdings, do not employ hired labourers of this sort, but as occasion and opportunity arises, it is customary to employ such men, for instance, they are employed by men with more land than they can themselves look after, or by widows, orphans, absentees, and others who are unable to till their own lands.

There remains occasional work and harvest work. The extent to which reapers are employed varies greatly from District to District. The ordinary small peasant owner can and does reap his own crops, his family helping him. But in every District there is a great deal to be earned by reaping at harvest time. This work is generally done by the poorer agriculturists, the petty village artisans (blacksmiths, carpenters, leather-workers, dyers and weavers) barbers, musicians, and sweepers. The wages are usually a share of what is reaped, in some Districts one sheaf in 40, in others (and more commonly) one in twenty-one.

For work not done at harvest time, the wages seem to average about 2 annas a day.

If the replies of District Officers appended be compared with the census returns, it will be seen how very little exact knowledge we have of the numbers of the persons employed on wages by agriculturists in their field work. In a statement appended I have consolidated the census return of "population according to occupation" under certain main heads, which gives the following distribution of the total population —

Occupation	Souls.	Percentage of total population
Agriculturists — 1 Proprietors	5,876,067	33
2 Tenants	3,245,588	19
3. Labourers, shepherds, graziers and herdsmen .	561,925	3
4 Total Agriculturists .	9,683,580	55
Carried over .	9,683,580	55

CH I

Occupation		Souls	Percentage of total population
<i>Brought over</i>		9,683,580	55
Non-agriculturists—5	Public servants, soldiers, priests, pandits, and other professions, pensioners, jâgurdârs, house-proprietors, and persons living on private means	1,065,869	6
6	Merchants, shop-keepers, bankers and money dealers' agents, brokers, contractors, and salt merchants	724,550	4
7	Grain and flour dealers, gram parchers, millers, bakers, confectioners, and dealers in sugar, grocers, and sellers of wine, pân, drugs, tobacco, and spices	387,572	2
8	Sellers of vegetables, fruits, and flowers, milk-men, butchers, painters, and fish-mongers	99,938	1
9	Wood and charcoal sellers, lime-burners and sellers, and saltpetre-makers	20,664	
10	Painters, jewellers, scent-makers, watch-makers, saddlers, and leather-dealers, printers, and book-sellers, and hook-binders	41,672	
11	Calico-printers, weavers, dyers, thread-sellers and spinners, embroiderers, woollen manufacturers, workers in bone and ivory, tailors, shoe-makers, and cotton-cleaners	1,585,721	9
12	Tanners, oil-makers, workers in cane and matting, rope and string makers, paper-makers, lak-workers	349,454	2
13	Turners, carpenters, masons, stone-masons, black-smiths and cutlers, copper-smiths, wire-workers, tin-men and tinkers, brass-workers and dealers, hooka-makers, gold and silver smiths, glass-workers, potters, and brick-makers	803,845	5
14	Inn-keepers, servants, water-carriers, barbers, washer-men, and sweepers	1,266,267	7
15	Carriers, letters-out of conveyances, and boat-men	223,350	1
16	Labourers, coolies, beggars, prostitutes, travellers, and others	1,359,839	8
17	Total non agriculturists	6,528,741	45
Grand Total .		17,612,321	100

If we could separate out from heads 11 to 17 of the above return the number of persons residing in towns and those residing in villages, we should obtain an estimate of the labourers and petty artisans who reside in agricultural villages, and whose prosperity is directly bound up with that of the agriculturists; but it is impossible to do this. It may be said roughly that, in unirrigated tracts, the class of agricultural labourers and of artisans, who work for agriculturists is very small, probably not more than 2 or 3 per cent of the population, whereas in irrigated tracts it is always larger. The canal excavation work annually recurring, the wells and their gear, and the cultivation of the more valuable staples, (sugar-cane, indigo, and such like) all contribute to the growth of a class of labourers and artisans, who are not, it is true, agriculturists, but who are closely connected with agriculture. It is doubtful, however, whether, as stated in some of the replies appended, the class ever reaches the large number of 9 or 10 per cent. of the whole population.

Is the hired labourer usually able to subsist with fair ease on the grain or other payment he receives at harvest, and at other periods during the interval between such payments, or is he frequently forced to borrow, and foreстал future payments?

This is a question which it is difficult to answer for the Province as a whole. The replies of District Officers appended do not indicate that these labourers have ordinarily any difficulty in obtaining a fair subsistence. Their condition is certainly very superior to what it was 30 years ago before the annexation. It is a common thing now to hear an agriculturist complain of the independence exhibited by the plough servants, as compared with their subservience in former days.

Whether a man in this class can have a small credit account with the village shop-keeper depends very much on whether he is an old and permanent resident of the village. Such old residents rarely lack a connection with the village shop-keeper.

CHAPTER I, QUESTION 15

Replies to Question 15, Chapter I, received from District Officers

DELHI DISTRICT

It is customary for the agriculturists to employ field labourers for (1) ploughing, (2) weeding, (3) guarding the ripening crops, (4) cutting them when ripe. They are generally paid in money, to a man 2 annas, a woman $1\frac{1}{2}$ annas, a child of 12 to 15, 1 anna, except in harvest time when they are paid in grain of about the same value. Sometimes a man gets Rs 2 a month and his food for ploughing or guarding the crops. The persons usually so employed are of the Chamár, Koli, Ajri, Dhanak, Lode, and sweeper castes, who have most of them no other means of sustenance than field labour. Some of them make shoes, mend harness, weave cloth, and otherwise supply the wants of the village population, but they are almost wholly dependent on what they receive from the cultivators as wages for field labour, or in return for those services, all to the same extent connected with field labour. Very few inhabitants of the city Delhi, work in the field. CH I.

I find little help in estimating the number of persons so employed from the census returns, but would put it at about 20,000, being 3 per cent on the total population, or 5 per cent, on the population outside the town of Delhi. Such field labourers are not so indebted as the poorer cultivating proprietors, for they can not easily borrow money, and for the same reason their subsistence between harvests in average years is more precarious. They do not generally get advances from the village traders, nor do they live long on grain or money previously earned, though that does keep them going for some time after the harvest, they work at the preparations for the next harvest, or get an advance from the cultivator who regularly employs them.

GURGAON DISTRICT

The custom of employing hired field labourers is not quite general in this District, as the Játas and Ahirs who own about one sixth of the District between them generally do their field work themselves. The other tribes of land-owners and cultivators however do employ Chamárs, Dhanaks, Kulis, Julahás and sweepers to weed and reap their crop at a money wage of 2 annas for a man, $1\frac{1}{2}$ anna for a woman, and 1 anna for a child per day. Sometimes the wage is given partly or wholly in kind, the value being about the same as the cash wage. When not employed in field labour, these classes earn their livelihood by weaving cloth, making shoes, mending harness, sweeping villages and otherwise providing for the wants of the villagers, who in this District generally pay them for these services in cash and not by an allowance of grain at harvest. The census papers of 1868 (Statement IV) give little aid in estimating the number so employed. I should put it down at 55,000, or about 8 per cent on the total population.

The condition of these field labourers is not inferior to that of the poorer agriculturists who cultivate holdings of their own. They are not so much indebted, as they have nothing to mortgage, they do not generally get credit from the village trader, but sometimes get wages in advance or borrow a little from each other. In an average year they subsist with ease from harvest to harvest on their earnings during the last harvest and their wages for odd jobs and the profit on their cloths, shoes, &c.

KARNAL DISTRICT

1 It is customary to take labourers in a kind of agricultural partnership, where they receive a fixed share of the produce, and bear the same share of the expenses of cultivation, and often of the revenue also. These men contribute their bodily labour only, and do much of the harvest work. The employer advances money varying in amount from Rs 15 to Rs 50 free of interest, and a further sum, as necessity arises, on interest at 3 pies per 1 rupee monthly. This debt is looked upon as a "body debt" (*Sarír lá karzák*), and land-owners often

CH I grumble at our refusal to enforce it as such by compelling the debtor to labour until it is discharged. If the employer is changed, the new employer repays the old one the sum so advanced. The advance is made by a credit with the banya, accounts are settled at harvest time. These people are as a rule very slightly, if at all, worse off than the very small owners and tenants so long as they are in full bodily vigour, but as their remuneration varies with the produce, they are wholly dependent upon the season, and when they get old they are unable to find employment. They belong to all sorts of castes, chiefly but not wholly menial, and are sometimes Játs, Brahmans, &c

2 The Chamárs often furnish to a given plough one man from a family, who works on much the same terms as above. One member of the family will work one day, and another the next. Most Chamár families furnish one such labourer. They follow at the same time their trade of leather curing and working, and are as a rule well off considering their position. In a famine year the number of cattle which die go far to compensate them for the diminished yield of the cultivation. They are paid at harvest time, and get one-fortieth of the whole yield of the plough on which they work in consideration of their labour, and in addition to what is given for boots, straps, whips &c. No money is advanced to these men.

3. There is a certain very small number of agricultural labourers hired by the year on fixed pay. They belong to no particular caste, and are chiefly found in the towns and in villages owned by Sayads and others who will not do manual labor. There are very few of them in other villages. They get 9 to 10 maunds of grain a year, and their morning meal or all their food and 0-8-0 a month, or two meals a day, and clothing and Re 1 a month, or Rs 3 a month, one meal a day and some old clothing and pair of boots every half year, or Rs 4 a month with or without one meal a day. They always get double pay in the two harvest months. They are of course very poor—more so than the poorest agriculturist.

4 Occasional labour is resorted to at certain seasons, chiefly at harvest time, when rice is being bedded out, and when sugar-cane is being cut and crushed. The labourers usually consist of the menials of the village, and of the villagers of the high lands, who reap their yearly grain crop and then go into the low villages to help in the harvest. The wages vary from 3 to 6 or 7 sers of grain a day, and I have known 0-8-0 a day paid at harvest when a sudden hot wind ripened all the crops at once. This class of labourer includes the poorest of the people, and also really well-to-do agriculturists and others, who are attracted by the high wages offered.

5 It is almost impossible to estimate the number of these respective classes of hired laborers. Judging from my settlement figures, I should say, class I from $3\frac{1}{2}$ to 4 per cent; class II 3 per cent, and class III $\frac{1}{2}$ to $\frac{2}{3}$ per cent. of the adult male population; class IV is altogether too fluctuating to allow of any estimate. But the above figures are little better than guesses. The adult male population of the District is about 188,000*.

HISSAR DISTRICT

It is customary for the agriculturists in the Districts to employ hired field labourers, they are generally employed in weeding and harvesting, and receive two annas a day, and one meal. The persons usually so employed are Chamárs, Dhanaks, Ahirs, and Kumhars, they do not form a class by themselves, and are not dependent on field labour only, but earn their livelihood by handicrafts as well. The estimated number of persons so employed is 7846, and the percentage they bear to the total population of the District is 1.61. The condition of such field labourers is not inferior in respect of their ability to subsist with fair ease from harvest to harvest in average years. They usually live on what they earn by field labour and handicraft, but in times of scarcity they look to the zamindár who is in the habit of employing them for assistance, besides what they earn by handicraft and field labour, they also get from the village their allowance of grain as "hakk kamíni" at the end of each harvest.

* The census returns say 106,166

(5)

ROHTAK DISTRICT

1 Employment of hired field labourers is not customary save with those who are CH I.
possessors of large holdings. The District is principally under bhayáchára tenures, and the holdings generally are so small that the people cannot afford to employ labourers

2 Principally employed for cutting the crops

3 Wages paid in kind, about 4 to 5 sers

4 Persons usually employed barbers, washermen, Chamárs, Dhanaks, and such-like

5 No, they do not form a class by themselves, when not employed in field labour they earn their livelihood by handicrafts

6 Estimated No of such persons, 20,000

7 Percentage they bear to total population, 3.6

8 Is the condition of such field labourers distinctly inferior to that of the poorer agriculturists who cultivate holding of their own in respect of indebtedness and ability to subsist with fair ease from harvest to harvest in average years? For the most part their condition is decidedly inferior as to ability to subsist from harvest to harvest, inasmuch as the poorer agriculturist can receive supplies from banás and others, and have a running account, whereas these unfortunates get no credit. When their supplies are exhausted, they have to leave their homes in search of labour. As to indebtedness, their condition is superior, as but few, very few, are in debt, simply because no one will supply them on credit.

SIRSA DISTRICT

It is customary for agriculturists to employ hired labour in ploughing, sowing, weeding and reaping

In some cases labourers are employed to do the whole work of cultivation, when they are taken by the proprietors as partners, and receive a stated share of the out-turn, after deducting an amount of grain equivalent to the seed used

In other cases they are employed as mere field labourers getting Rs 2 a month with their food and perhaps a suit of clothes. These labourers do not form a class by themselves, they are recruited from families with more men than can be employed on the family land, from masons, porters, &c, &c

Those labourers who belong to families owning land are, of course, in the same position as any other petty land holders

The others are of a lower status, and feel the pressure of seasons of scarcity first, they live on their daily earnings, and not on grain or money previously earned, or a credit account with the village traders

I estimate the number of men employed in the District as simple field labourers to be 1,000 or about $\frac{1}{3}$ per cent of the population

UMBALLA DISTRICT

In this District there are few well-to-do agriculturists, hence they never employ any permanent hired field labourers. It is only for weeding the kharíf crops of cotton and makki, and at the rabi for the sugar-cane, tobacco and poppy crops, that hired daily labourers are entertained for 2 or 3 days at the most. The rates of wages vary according to the amount of work the laborer is able to perform, the daily labor wages range from 2 annas to 4 annas. At reaping time hired labourers are also required, but they are not paid in money, they receive as wages a load or bundle of the crop they have cut, and which perhaps may yield 4 or 5 sers of grain. There is no special class employed in field labour, but generally Chamárs of the village or other indigent persons who have no particular means of livelihood. This kind of employment at the most never extends longer than one month at a time. At other times, when not engaged in field labour, these employées work in the town as coolies, or perhaps work leather, or weave. From the census papers (1868) about 10

CH I. per cent of the whole population of the District or 1,03,400 (47 per village on 2,200 villages) may be assumed to work at times at field labour. The condition of this class (field laborers) is no doubt very inferior to that of even the very poorest self-cultivating proprietors, and they never have any thing in hand, in short, live from hand to mouth, and in seasons of famine stream out of their villages into the towns, having nothing to fall back upon, and no credit with the village banias, and except here and there, where employed as permanent ploughmen or herdsmen perhaps, they get no assistance from the village agriculturists. In short, in times of distress and scarcity and high prices, these poor wretches are in very evil plight. They have no credit account with the village banker or money lender.

LUDHIANA DISTRICT

The field labourers are never exactly hired. They are paid by a share of the produce, usually one-fourth and they are employed by the season. They are generally of the menial classes, sweepers, Chamárs, weavers, blacksmiths, carpenters &c. When they cannot get field work, they exercise their handicrafts. They were in the 1868 census 10 per cent. of the non-cultivating population as defined in census statement IV. In the isolated instances in which men are hired by the month, they are paid Rs 3 per month.

Their condition is distinctly inferior to that of the self-cultivating poorer agriculturists. They usually get an advance from the Zamindárs, which is deducted in grain at the harvests. They get petty loans from the village banias, but as they have not the security of land to offer, the banias do not trust them with much.

SIMLA DISTRICT

The agriculturists in the hills employ hired field labourers, they receive food and 2 suits of clothes annually, also from Rs 12 to 18 per annum in cash. The persons so employed are a distinct class, either Chamárs, Kohi, or Dhúmna. When not employed in field labour, they work on the roads or on buildings. The total number of such persons in the District was in 1868—115, but now numbers 208. The percentage they bear to the agricultural population is $\frac{1}{4}$ per cent. This class of persons is inferior to that of the poorer agriculturists.

JULLUNDUR DISTRICT

The agriculturists of the District employ hired field labourers in weeding the fields, reaping crops, in threshing and storing grain. Such labourers are of 2 sorts (1) regular servants who receive 1 or 2 rupees per month and their daily victuals and clothes and, (2) hired men called *sepídárs*, who are paid in kind at the rate of a $\frac{1}{4}$ of a ser in the maund. The persons so employed are usually of the Chamár and sweeper castes, who, when not employed in the fields, earn their livelihood by other normal means.

The estimated number of persons so employed according to the census statement IV of 1868 is 44,996, bearing a proportion 6 per cent to the total population of the District. I do not think that the condition of these field labourers is much inferior to that of the poorer agriculturists who cultivate their own holdings, as regards indebtedness or inability to subsist from harvest to harvest. They usually live by a credit account with a village trader settled when the harvest is reaped.

HOSHARPUR DISTRICT

It is customary for the agriculturists of this District to employ paid field labourers.

They are principally employed for weeding and hoeing (*godá*) and for cutting the crop at harvest—employed in weeding and hoeing they are called "*godáh*", for cutting at harvest "*laweh*."

They receive at hoeing time 2 annas per diem, or 2 annas and food, or sometimes 2 $\frac{1}{2}$ annas without food, or sometimes they are paid in grain.

At harvest time a very common way of paying them is to give them one sheaf or half a sheaf of grain (the sheaf contains on an average about 8 sers pakka of grain) according to the price of grain at the time.

These labourers are principally of the Chura (sweeper) Chamár (courier) or Juláha (weaver), CR. I castes. But Zamindár classes themselves, such as Bhats, Ját, Saini, Gujar, also occasionally work for hire in the field.

They cannot be said to form a class by themselves in the character of field labourers. Most of them have other means of livelihood, e.g., the Chamár prepares skin and horns for the market, the Churas sweep the village houses, the Juláha has his loom, and weaves cloth. At the same time the people who take to labour in the field when opportunity offers are mostly of a very poor class, and have, as a class, difficulty in eking out their subsistence by manual labour of various kinds.

I do not think the number of such persons is less than 70,000, probably more, I estimate it at about 7 or 8 per cent of the total population of the District.

The above does not take account of ordinary field servants or "kámahs," who are employed by the Rájput land-owners generally, and by all the richer Zamindárs. These are employed all the year round, and engage in all field operations. They receive Rs 1-8 and Rs 2 per mensem and food and clothes.

I think this class, e, "kamah" may amount to about 10,000 persons, or 1 per cent of the population, probably not more.

The position of both whether "kámah," e, regular labourers, or "godáh" or laweh called in at harvest or weeding time, is distinctly inferior to that of the poorer agriculturists who cultivate holdings of their own, because their livelihood is somewhat more precarious and they have not security of land or occupancy right, on which money can be raised by those who cultivate holdings of their own.

They live as a rule from hand to mouth by the daily labour of their hands, and cannot get much credit with the village trader.

KANGRA DISTRICT

There are no hired field labourers in this District, vide Statement IV of census papers of 1868.

AMRITSAR DISTRICT

Yes. It is customary for the agriculturists of this District to employ hired field labourers. They are principally employed for ploughing, sowing, weeding, irrigating, reaping, threshing and cleaning. They receive the following wages in kind.

When employed in ploughing, sowing, weeding and irrigating, food 20 chittáks per diem.

When employed in reaping, one bharrí containing 16 sers of grain per diem.

When employed in cleaning the grain for the bhusa, 5 per cent. of the total produce.

The persons usually so employed are Churas and Changars, and they form a class by themselves, and when not employed in field labour they earn their livelihood by handicraft. They make baskets and sell them in the villages and towns.

After referring to the census paper of 1868 (Statement IV) and making the necessary inquiries, it appears that the number of persons so employed is about 44,000, so that the percentage they bear to the total population of the District is 5.

The condition of such field labourers in the District is better than that of the poor agriculturists who cultivate holdings of their own in respect of indebtedness and in respect of their ability to subsist with fair ease from harvest to harvest in average years. They usually live on grain and money previously earned by field labour and handicraft. Some times they borrow from money-lenders on the security of the Zamindár by whom they are employed, and pay the same with interest when the harvest is reaped.

A field servant is also entertained by the agriculturists, who is called "attrí." He is a general assistant for field labour throughout the year, and is supplied with food every day and 16 maunds of grain at time of harvest.

SIALKOT DISTRICT

CH I* It is customary for Zamíndárs and other land-owners of good position to hire labourers for the cultivation of their fields, the work in some instances being such as to require the permanent employment of labourers throughout the year, and in others they are employed for a time only just as necessity arises for their services. The permanent class of labourers are paid in kind, viz, 20 sers on every máni (= to about 12½ maunds kacha) of crop sown, besides food 3 times a day and clothing. The other class or temporary labourers are paid in cash at the rate of Re 1 per month and food and clothing in addition. The persons usually employed are of the Chura, Meo and Bhatwar castes, and principally resort to this sort of work for their sustenance, though, in case no such employment could be got, they follow their own special avocations elsewhere. The private servants of the land-owners, such as the washerman and water-carrier, also labour in the field, but receive no extra remuneration.

When the sowing and harvesting seasons arrive, extra labourers are hired, and are paid generally according to the crops they work at, those employed in the sowing of munji, a kind of rice, get 5 sers of grain daily each, and the harvesting labourers get 1 "bhari" or sheaf of whatever grain they cut, and the out-turn of which never exceeds 10 sers, and those employed in the weeding of sugar-cane, cotton and maize get food twice a day or in lieu 1 and 1½ ser of grain per diem each, or 2 annas in cash, whichever they choose to select, and those employed in ploughing get the same wages as the last mentioned. The total population of the District is 1,005,004, out of which 183,291* are employed as field labourers, or a little over 18 per cent of the total population. The condition of the field labourer in comparison to an agriculturist who cultivates himself is decidedly inferior in respect to affluency, he cannot subsist entirely on his labour in the field, and he is obliged to take some other work as an additional help. The laborers can generally obtain money from the village banker, when they need it, and they settle with him when the harvest is reaped or whenever they happen to have sufficient wherewith to do so.

GURDASPUR DISTRICT

Hired labour is only employed at the time of weeding and reaping the crops, generally Churas, Dumná, Juláhas and other labourers are employed on such work, they are paid in kind at the rate of 2 sers of grain a day at the weeding time, and one load of the crop cut on every 2nd day at the harvest time. These labourers also earn their livelihood by other means, such as handicrafts, and daily labour. They bear 8 per cent to the total population of the District. They are generally less indebted to the village mahájans than the poorer agriculturists, and are not in any way inferior to them, their earning prove sufficient for their maintenance in years of good harvests, and they have no occasion to resort to borrowing.

LABORS DISTRICT

Yes, it is customary for the agriculturists of this District to employ hired field labourers. There are 2 kinds of labourers employed by Zamíndárs

- (1) Called "káma" a permanent servant of a Zamíndár
- (2) "Láwa" or men temporarily employed

The former is employed for all agricultural operations, and the latter principally for reaping purposes. "Káma" receives fixed wages in cash and kind, but "láwa" receives only in kind.

There is no particular class of such persons, most of them are Churás and Changars.

When not employed in field labour they earn their livelihood by different ways, some by weaving and wood cutting, and mostly by daily labour.

They bear a percentage of about 5 or 6 to the total population of the District.

Their condition is certainly inferior to that of poor agriculturists.

They live differently, some on their previous earnings, and others by a credit account with their employers.

* This is clearly an excessive estimate. The total adult male agriculturists numbered only 1,43,819. There cannot be more than one labourer to every agriculturist.—E. WACK.

FEROZEPUR DISTRICT

Field labourers are employed for ploughing, sowing, reaping, threshing and winnowing CH I.
They are more employed in the high unirrigated tracts of the District, where holdings are large, than in the "Bhet" or "Khadir" lands near the river where holdings are small, and the agriculturists not so well-to-do, but as a rule throughout the whole District they are generally employed. They consist of the menial classes, chiefly Churás, &c, and are paid both in cash and in grain, more commonly in grain. When they are paid in cash they receive Rs 2 a month and their food. When in grain, they receive from one fourth to one-fifth of the produce of the fields on which they work. When field labour is not required, they work on canals, roads &c. A few of them are of the artizan classes, such as weavers, and fall back on their domestic trade, but as a rule the grain payment received by field labourers is enough to support them and their families for the whole year. They hold their grain in hand, and do not make it over to the village bania, who would be unwilling to give them credit, and in this District their condition is distinctly inferior to that of the poorer agriculturists. Estimated number 7,756, or about 1½ per cent of the population.

GUJRANWALA DISTRICT

It is not customary for the agriculturists of this District to employ hired field labourers, the majority of land-owners cultivating holdings of their own, and having no means to pay hired labourers

These field labourers are employed by —

- 1 Men who are large landlords
- 2 Men of wealth and honor, who do not themselves cultivate
- 3 Female land owners and wards

There are 2 classes of these labourers

- 1 For the whole year
- 2 For 9 months from 27th June to 10th April for rabi

Wages of those employed for 12 months—grain 23 maunds 20 seers, cash Rs 4, and daily food

Of those employed for 9 months—cash Rs 8, grain 14 maunds, no food. They are of 2 castes—

- 1 Zamindár Ját having no land
- 2 Sweepers

Those who are employed for 9 months earn their livelihood by handicraft during the remaining period of the year

Number of these labourers, Statement IV of census of 1868, total No 34,430, 6 per cent on population

These labourers (Ját and sweepers) are inferior to the poor agriculturists and those cultivating their own holdings, in respect of caste and indebtedness &c. Their earned grain or cash is hardly sufficient for a year's expenditure, and they take grain on credit from their masters or other bankers when the harvest is reaped

RAWALPINDI DISTRICT

It is not customary for the agriculturists of this District to employ hired labourers except in either of the two following ways —

The Zamindár requiring extra labour obtains it from his neighbours who have no work of their own to do, and in return supplies them with food once daily

This system is called the "lehtri," and recourse is had to it for carrying on the operations of ploughing, sowing and reaping. The other plan goes by the name of "lehar", under it the "kamun" or village menials, or hill men, or poor people from other ilákás are employed to reap the harvest, and are paid in kind at the rate of one twentieth part of

CH I what they gather during the day The men employed under the latter system do not form a class by themselves, and it is not practicable to ascertain their number, or decide their condition

JHELUM DISTRICT

The Jhelum agriculturists do not employ hired field labourers *

GUJRAT DISTRICT

It is not customary for the agriculturists of this District to employ hired field labourers for continuous service, should it so happen that a proprietor is unable to cultivate himself, he makes over his land to a cultivator at half produce rates or a money payment, or should the proprietor be in easy circumstances, he employs one or two servants known as "kámis" for field labour, giving them food and clothing and salary of Rs 1-8 a month, but at the threshing time Churas and Musallis are employed, who are paid at the rate of 6 topas (10½ sers) per máni (8½ maunds) of grain stored, of this description of labourers there are 3,095 in the District, when they are freed from this description of business, they maintain themselves by domestic service, handicrafts and ordinary labour, having no dealings with village bankers The percentage they bear to the total population of the District is 0.48

*The condition of such field labourers in this District is inferior to that of the poorer agriculturists who cultivate holdings of their own

SHAHPUR DISTRICT

It is customary in this District to employ hired field labourers for weeding, reaping, threshing, sifting and stacking They are paid in cash and kind as follows —

For weeding, Rs 2 per acre (in cash)

For reaping, 1 sheaf out of 21 (in kind)

For threshing and cleaning, 4 sers of corn per day, and a cake

These men are the sweepers, carpenters, ironsmiths, potters and shoe-makers, who, when not employed on field labour, work at their trade

The number employed in field labour in this District is estimated to be 15,614 or 4 per cent of the total population

These men are as well-to-do as the poorer agriculturists who cultivate their own lands, as regards indebtedness and their ability to subsist with fair ease from harvest to harvest in average years. They subsist on their earnings by working in the fields and at their handicrafts, and rarely open a credit account with a village trader

MOOLTAN DISTRICT

Hired labourers are employed by all the richer Zamindárs, who are above following the plough themselves, for their "khud káshi" † lands They are employed for all farming operations, and receive wages sometimes in kind, sometimes in money, sometimes in both, amounting to from Rs 3 to 5 a month They are of all classes except Sayads and Brahmans, they cannot be said to form a class apart, they are the outskirts of the tenant-at will class A tenant loses his bullocks or gets into trouble, and he works as a labourer till he can recover himself On the other hand a Zamindár takes a fancy to a labourer who has worked for him for some time, and he gives him some lands, advances him money for bullocks, and sets him up as a tenant Sometimes too a small proprietor meets with a temporary difficulty, in the Rawa, ‡ in long continued drought cultivation is impossible, the proprietor then sends his cattle to graze in the Bár and goes to work as a labourer until better times return These labourers generally live on their wages with ease, they may run up petty scores for food in their bazar, but they cannot get into serious debt But their

* This is not correct. The reply should have been to the same effect, as above stated for the Rawalpindi District — E. W. A. C.

† Their own home farm

‡ Dry lands, not irrigated nor alluvial

condition is inferior to that of the poorer tenants, inasmuch as it is generally when a tenant Ch I, is ruined that he becomes a day labourer, as long as a man is a tenant he has no want of the actual necessaries of life, nor has the labourer, as a rule, but he may have at any time,—at least there is the possibility of this, but I have never known it to occur practically. The demand for labour has always been in excess of the supply, and the agricultural labourers work on steadily all the year round

JHANG DISTRICT

It is *not* customary for the agriculturists of this District to employ hired field labourers. Such labourers are very few. The mass of cultivation is carried on by tenants-at-will paying grain rents of $\frac{1}{3}$ produce. Many of these tenants are given advances (known as *takávi*) of money, oxen, seed &c., when they first commence to cultivate their landlord's well. Cultivators of *sailáb* lands are not given advances. The wages of a hired labourer consist as a rule of the following items—His food daily, Rs 1-8 cash per month, 2 chaddars, 2 loin cloths, 2 pagris, 2 pairs of shoes and 1 blanket per annum. The material item is of course the food of the labourer, and this is sometimes very cheap and sometimes equally dear. These labourers are as a rule poor *Játs*. They do not practice any craft. They get their living entirely in this way. As there is usually a considerable demand for labour, there is no fear of their starving if they will work. I cannot give any estimate of the number of these labourers. They are very few—probably not more than 1 or 1.5 per cent. of the total population.

These labourers so long as they are in employ are well off, but the nature of their wages prevents their saving any thing. They live better *i e.*, have better food, than the poor agriculturists who cultivate their own lands or the tenants-at-will paying *batá*. They are generally unmarried and without any encumbrances.

MONTGOMERY DISTRICT.

Yes, it is customary for some of the agriculturists to employ hired field labourers, they are employed on all the operations connected with agriculture. They are paid in kind. These people have no other means of sustenance, they always do this work, they form a class in themselves. If they are not so employed, they go out as *kúris* (labourers), and when that is not available, they go about begging, and some of them take to stealing and dacoiting. About 3,477 persons are generally so employed in the District. The percentage they bear to the total cultivators, 1,53,401, in this district is 2 per cent.

Their condition is inferior to that of the poorer agriculturists. They usually live by a credit account with the village trader, and sometimes with their employers, which is settled when the harvest is reaped.

MUZAFFARGARH DISTRICT

It is customary for the agriculturists of this District to employ hired field labourers. They are usually hired by the year from the beginning of *Hár* to the end of *Jeth*, *i e.*, from 15th June to 14th June, and sometimes by the half year. They are employed in ploughing, working the well, feeding cattle. If their master or the tenant be responsible for supplying labour for work on the canals, the farm servant will generally be sent to do the work. Reaping is done by persons hired temporarily, who get one sheaf in every 40 as their wages. Cotton is picked every 8th day by the women and children of the neighbourhood, who get from one fourth to one-sixteenth as their wages. When the crop is abundant, the rate of wages is small, when it is scanty, and at the end of the season, the rate of wages is large. Winnowing is also done by persons hired for the occasion, who get $\frac{1}{2}$ of the grain as their wages, indigo churning is done by persons hired for the occasion, they get from Rs. 7 to Rs 10, per month.

CH I The wages of the farm servant hired for the year or for the 6 months consist of 4 parts

Khád	Diet	From 1 maund to 1½ maunds per month
Kishári	... Cash	8 annas per month
Byráh	Present at sowing byráh and harvest	8 seers per yoke of bullocks working on the estate
Varsa	(Varsa) Clothes	From 2½ to 3 maunds in a lump Clothes varying from 2 pairs of shoes and a blanket which every master gives, two shoes, blanket and a complete suit

Besides these regular payments the farm servant gets a plot of fodder or fodder for one animal if he has one, and a share in the greens cooked for the master's family, and if the family go on a pilgrimage, as they constantly do, he gets fed going and returning. The pay of a farm servant hired for the year cannot be less than Rs 7 or Rs 8 a month. At the prices prevailing this year it is much higher. The persons employed as farm servants do not belong to any particular class, where there is a family of several sons, some will stay at home and cultivate the family land, while the others go out as farm servants. People of all castes become labourers. The census papers supply no basis on which to make an estimate of the number of persons who become field labourers.

In a District like this, with a population almost entirely agricultural, the greater number of persons entered as "labourers," and all "engaged in pastoral pursuits" consist of field labourers, but many of the "proprietors" and "tenants" are also field labourers, "sweepers," "washermen" and "weavers" also supply a number of field labourers.

It cannot be said that field labourers are in a condition distinctly inferior to that of the poorer agriculturists who cultivate holdings of their own, those hired by the year or by the half year are paid monthly, and have no need of an account with a village trader. The poorer agriculturists often go out as field labourers merely to get rid of the recurring responsibility of paying the land revenue, and put a tenant who will pay it in possession of their land to cultivate for a time.

Those field labourers that are hired for the job, as winnowers, cotton pickers, reapers and indigo churners, are paid at once, and have no need to go to the village trader. I should say that on the whole the field labourer is better off than the poorer agriculturists.

DERA ISMAIL KHAN DISTRICT

Hired labourers are employed a great deal in the Thal, to a less extent in the Nasheb, and very little in the Dáman. In the Thal and Nasheb they generally get 1 maund of grain and 8 annas or rupee 1 cash per mensem. In the Thal they are employed all the year round. In the Nasheb a large number of labourers are engaged during the ploughing season and then discharged, but many of them have small holdings of their own, and plough the lands of their richer neighbours in addition. Labourers and their families make a great deal at reaping time. They do not form a class by themselves, and differ but little from the poorer classes of proprietors and tenants. When out of employ they make their livelihood by grazing cattle, doing miscellaneous jobs, making baskets, &c. In the Dáman there are few hired labourers. The cultivation is carried on by the proprietor and labourer jointly, the latter getting a larger or smaller share of the produce according as he supplies or does not supply his own oxen. The census classification of 1868 is unsatisfactory, and not I think of much value.

The field labourer class is decidedly well-to-do. In fact they are just as well off as the small tenants and cultivating proprietors. Land is cheap and labour dear, and during the late years of low prices there was a general complaint that labourers supported themselves so easily that they were quite out of hand. They generally live on their regular wages doled out to them from month to month.

DERA GHAZI KHAN DISTRICT

The agriculturists of this District consist of 3 classes of people —

Ch. I

- (1) The Hindu Zamindár
- (2) The well-to-do Muhammadan
- (3) The poor Muhammadan

The Hindu Zamindár is not an agriculturist proper. He invests his capital in land but does not himself cultivate, he employs "Mazerás" or Rahaks. Mazerás are labourers who pay rents in grain. The Rahak is a field labourer who gets wages on an average Rs 4 per month, a pair of shoes at each harvest, and a blanket every winter. The number of Rahaks is however few, Mazerás being about 80 per cent.

The well-to do Muhammadan land-owner, as a rule, has his lands cultivated by his relatives, but also employs Mazerás

The poor Muhammadan land-owner entirely cultivates himself

The Mazerás and poor Muhammadan cultivators are of one class, one or two members of a poor family invariably taking employment as Mazerás. The greater number of Rahaks are also of the same class. The Rahak cannot always get permanent employment, and when out of work takes on as a labourer on buildings being erected either in the cities or by the Public Works Department, or on canals when being cleared of silt. During the winter labour on canal clearance in this District is very popular, and attracts thousands of land-owners and Mazerás and Rahaks for 2 or 3 months of each year (January, February and March). I estimate the number of labourers to be about 8,000, not quite 3 per cent. of the entire population.

The condition of the Mazerá is about the same as that of the poor land-owner, perhaps a little better, as the Mazerá, as a rule, is not so much in debt as the poor Zamindár. The Rahak lives on his wages, and is not in debt, but his wages are barely sufficient for the subsistence of himself and his family. The Zamindár lives on the grain produced from his land as long as it lasts, but owing to the creditor invariably taking a great part of his grain in payment or part payment of outstanding advances, he has not sufficient grain for the support of himself and his family for the entire year, he has then to go into a credit account with the village trader. The life of the Mazerá is similar to that of the poor Zamindár in all respects

BANNU DISTRICT

Yes, in reaping time wages are paid in kind, generally 1-26th portion of crop reaped. Other field labourers get their food, a pair of shoes, a blanket and some very small share of the crop. All classes who have leisure assist in reaping. Others are generally of an agricultural class, but have lost their land or their oxen, or through other cause have been reduced to poverty. In some cases they work as weavers also.

Statement IV does not seem to refer to the census of 1868, and I have no returns by me, but by reckoning up each tahsil I come to the following conclusion. The domiciled* *mazdur* class in the district may number from 4000 to 6000. In this estimate I do not include village menials or men from the hills who flock down in search of work in the cold months. The condition of such labourers is in average years in respect of indebtedness better than that of the poor agriculturists, because having no credit they cannot easily borrow. So long as they continue able-bodied, a fair subsistence is assured to them in average years, they live on grain collected at harvest time, and after that from hand to mouth. The village banker does not let their credit account mount to more than Rs 10 or Rs 15, if he gives them credit at all.

PESHAWAR DISTRICT.

In this District hired field labourers of 3 descriptions are employed

(a) These who receive monthly wages which amount to Rs 4 or 5 in cash without food, or 1-8 or Rs 2 in cash along with food. They are employed in every description of agricultural work.

* The question only refers to field labourers, I expect that my estimate is high. The field labouring class of *mazdur* will no number 8,000.

CII I

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(b) Those locally known by the name of *charakar*, who are indebted to their masters for sums ranging from Rs 30 to 150, and are under engagement to give their services as agricultural labourers till such time as the debt is paid off. Plough bullocks, seed, &c., are furnished by the employer. These labourers are paid by a share of the crop in kind, which is usually from $\frac{1}{4}$ th to 1-10th. They feed themselves.

(c) The labourers who are specially employed as cattle herds or crop watchmen. The former are paid at harvest by receiving 15 sers of grain (barley or jowár) for every head of cattle grazed, or sometimes the payment is calculated not in the cattle but on the owners or their houses. The latter are also paid in kind at harvest, they receive 1 ser per maund of grain out of every crop.

There is no tribe specially devoted to these occupations. When not engaged in agricultural work, they are ready to do any sort of miscellaneous labour. Their numbers are about 2,854, which is a percentage of 0.55 per cent of the total population. There is no material difference in the condition of such labourers and that of the poorer agriculturists who cultivate holdings of their own. The *charakars* are generally in debt, they borrow money under promise of paying it back at harvest, but with that exception the labourers are well able to live upon their earnings. Those who watch crops are as a rule very well off.

KOHAT DISTRICT

It is not customary in this District for the agriculturists to employ hired field labourers.

HAZARA DISTRICT

Hired labourers are employed for ploughings, reaping, and harvesting, and receive 1-5th of the produce in kind.* These are agriculturists who have no land of their own, they have no other means of sustenance, nor do they earn their livelihood by handicrafts, their field occupation keeps them employed throughout the year. The percentage of these labourers to the whole population cannot be learnt from the census papers.

They are poorer than the cultivating agriculturists, and are also indebted to Zamindárs for their subsistence from harvest to harvest. They generally live by credit account with the Zamindár or village trader, and settle accounts when the harvest is reaped.

CHAPTER I, QUESTION 16

16 What is the normal rate of prices of each of the chief staples of food in certain typical Districts? What is the usual variation between the prices at harvest time and other times of the year? What rise in price would indicate the approach of alarming scarcity? In past times of severe scarcity what effect has been produced on prices, has the rise been sudden or gradual and has it affected one staple more than other? Or has the rise been of such a character as to tend to equalise the prices of all staples

What is the normal price of each of the chief staples of food in certain typical Districts?

In answering this question, I take as the chief staples of food—wheat, barley, *bajra*, and *joár*. Of the total average area of annual cultivation, 211 lakhs of acres,

Wheat occupies	63½ lakhs
Barley	17 "
Joár	22½ "
Báira	29 "

which together aggregate 63 per cent, or nearly two-thirds of the whole. And if the estimate of the food consumed in each District be compared with the statement of crops annually cultivated (both of which papers are appended to the reply to Question 3 of Chapter I) it will be seen that there are good grounds for stating that these 4 cereals contribute three-fourths of the food of the population.

There is a material difficulty in stating the normal price of these staples. The truth is that there is nothing of which the value is so unsettled. To illustrate this I append 2 diagrams showing the prices of these and other principal articles of agricultural produce from the year 1841 to date. The prices shown therein were obtained by striking an average on the prices which annually prevailed in each District. The diagrams will show conclusively that, in the sense of prices which have usually obtained with a fair amount of steadiness over a series of years, no normal prices can be stated. To understand the existing state of prices it is necessary to consider the history of the country for the past 40 years. Up to the year 1847 the country had no roads, and little or no external trade, such trade as existed was burdened with customs and transit dues at every town, and cultivation was in a most depressed state. From the year 1849 all these conditions began to alter, roads were rapidly made throughout the country, trade was freed of all duties, the charges on the land were greatly reduced, and cultivation extended rapidly. The first result of these changes was greatly to cheapen the price of food grains. They were not acting alone, but in combination with a great number of other political and economical changes brought in with British annexation. To explain this I take the following extract from the Punjab Administration Report for the 3 years ending 1855-56 (para 45) —

"The sudden pacification of the Province after annexation, the cessation of military and political employment, which occupied many thousand of persons, and caused money to circulate in the villages induced large numbers to devote themselves to agriculture. Formerly a proportion of the agricultural classes were engaged in war and service of various kinds, and thus they supported themselves, and contributed to the support of those who tilled the ground at home. But now the entire support of all these classes fell upon the land. Again, there came a cycle of seasons more favourable than the average of years under British rule. From all these causes the agriculture became unusually productive, flooded the markets with produce, and reduced prices nearly 50 per cent. This cheapness rendered it difficult for the agriculturists to obtain cash for their produce when they wanted it to pay their new money assessments. There was less money in the Punjab than previously, large sums, which would formerly have circulated in the Punjab, were remitted to other parts of the Empire by the soldiery and other Government employes. Again, the fact that nothing but cash was accepted in payment of the Government revenue enhanced the value of money. The agriculturist therefore with abundance of surplus produce on his hands, found difficulty in converting it into money, and this difficulty was perhaps aggravated by the unvarying nature of the Government demand (however low) with men accustomed to an annually fluctuating demand under Sikh rule."

Looking back on those years, we may perhaps not inappropriately summarise the facts of the time by saying that agriculture expanded with leaps and bounds, whereas there was

CH I no corresponding increase in other industries and in trade. And even if we could by any means have avoided levying our revenue in cash (which we certainly could not have avoided), the result on the price of agricultural produce might have been the same.

The report from which the above extract is quoted states that for 10 years preceding 1850 the price of wheat averaged 20 sers the rupee, the diagrams appended to this reply indicate a cheaper rate, perhaps 27 sers. But in 1851, owing to the causes above sketched, wheat had fallen to 42 sers and from that time to 1859, 40 sers per rupee remained the usual value of wheat. After the famine of 1860-61, wheat in the year 1863 averaged 31 sers per rupee, joár 42 sers and barley 49 sers. But prices thenceforward rose steadily. Of this the explanation, I believe, is, that during the famine of 1860-61 the grain stocks of the Punjab, previously very full, were reduced very low by exportation towards Delhi and the Provinces to the east. The subsequent seasons were not very good, and there was a steady export toward Sind owing to bad seasons there. The culminating point was reached in the famine of 1868-69, and prices falling immediately afterwards, continued to do so steadily, till again raised by the panic consequent on the failure of the autumn rains of 1877. They have since fallen, but as yet not to the level obtaining before the panic set in.

In the interval between the cessation of the famine of 1860-61, and the commencement of that of 1868-69, wheat after falling in 1863 to an average price of 31 sers, rose steadily, till in 1867, the year before the next famine, it averaged 22 sers. Similarly the average price of barley was 49 sers in 1863, and rose steadily to an average of 31 sers in 1867, joár in the same period rose steadily from 42 to 29 sers the rupee.

In order to examine more exactly the course of prices since the effects of the famine of 1868-69 passed off, I have compiled a statement, which will be found in the papers appended, showing for 10 Districts in different parts of the Province the prices which have prevailed from April 1873 to date. These years up to the autumn of 1877 were prosperous years, and include at their commencement both the drain caused by the Bengal famine of 1873-74, and at their close that caused by the usual export trade of wheat to Europe and by the famine of 1876-77 in Southern India.

Taking the 4 years commencing April 1873 and ending March 1877, the return indicates the following as the normal price of the principal food grains for those years —

	Delhi	Mooltan	Amritsar	Dera Ismail Khan.
Wheat	23	19	25	28
Barley	31	27	35	42
Bájra	25	24	26	40
Joár	27	25	32	43

The Mooltan prices are highest owing to the proximity of that city to Sind, and to the river export trade with that Province. The prices at Delhi, on the border of the N W Provinces, though lower than those of Mooltan, are higher than those prevailing at Amritsar in the centre of the Punjab. Dera Ismail Khan is an instance of a retired rural District in the west of the Province, its distance from the Sind markets exceeds that of Mooltan by barely 153 miles, and thus seems scarcely adequate to maintain permanently so great a difference in prices, as the above table exhibits.

It is extremely difficult to say whether the prices of the next 5 years will approximate to those of the years 1873-76.

The Bengal famine of 1873-74, the famine in Southern India of 1877, and the rising export trade of wheat from the Presidency Ports to Europe, have all drawn largely on the food grains of the Province. The railway connection of the Province is complete with Calcutta and Bombay, and now finally with Karachi. The cost of conveying a maund of wheat by rail to Calcutta is about Rs 1-8 0, and to Bombay Rs 1 12 0.

The distance from Amritsar to Karachi may be roughly stated at half that from Amritsar to Calcutta. Wheat is cheap in Bombay at 12 sers, and in Karachi at 14 sers. These are items of trade which will be in the future very closely watched by the traders of Upper India. But unless we assume as probable a very rapid growth of the wheat trade with Europe, there would appear to be no very strong reason why the prices of the years 1873 to 1876 should not shortly repeat themselves.

The prices of this period correspond fairly with those indicated in the diagram appended for the period 1863 to 1867, which I have above stated, and it seems highly improbable that we shall ever return to the cheap prices which prevailed in the ten years ending 1859, when we had no Railway system, no practicable trade connection with Eastern and Southern India, and no export of grain to Europe.

The prices of barley, bájra, and joár (though usually for barley 8 or 10 sers and for bájra and joár 5 sers cheaper than wheat) will always vary with the price of wheat. The diet of the people is not confined to one description of grain, therefore a rise in the price of one is certain to create a proportionately increased demand for the others, and so it is not possible that an excessive demand for, or failure in supply of, one grain should arise without the price of all the principal food grains being similarly affected.

I hope I have shown good grounds for my statement that there is nothing so little settled in the Punjab as the price of food grains. It has been continually changing for the past 30 years. And it is only now after the completion of Railway connection with the rest of India that we can hope to be approaching more settled prices. But this again depends on the future of India's export trade. All that is really certain is, that such extreme depressions of the value of food grains as took place after annexation are improbable in the future.

What is the usual variation between the prices at harvest time and at other times of the year?

There seems to be an assumption involved in this question, which the return of prices appended does not bear out. It is that prices at harvest time will usually be cheaper than at sowing time. Other things being equal, undoubtedly prices rise at sowing time and fall at harvest time, and the farther a district is removed from the main centres and channels of trade in the Province the more these seasons will affect prices. But the state of trade and the character of the harvest are much more powerful influences. If a poor harvest succeeds a year of plenty, or if a sudden drain by export arises between sowing time and harvest, the harvest prices will be as dear or often dearer than those of the sowing season, and conversely, if the harvest is plentiful, and the export demand small, the harvest prices will be lower. If the return of prices appended be examined, it will be seen that it is by no means the rule that prices are cheaper at harvest time than at sowing time.

If the Punjab during the past 20 years had been free of the disturbing influences of scarcity and of new developments of export trade, it would have been possible to frame an answer to this question. But on a full consideration of the history of prices during this period as described above, I see no way of framing a reply, which would not be merely a questionable generalization. There is no District which can be said to be outside the influences of external trade.

What rise in price would indicate the approach of alarming scarcity? In past times of severe scarcity what effect has been produced on prices, has the rise been sudden or gradual, and has it affected one staple more than others, or has the rise been such as to tend to equalise the price of all staples?

The reply to question 2 contains all the data needed to meet this inquiry. When scarcity is threatened, all prices rise equally in value, for the reason stated a few lines above. The rises which precede periods of scarcity are usually sudden, being commonly caused by the failure of the autumn rains, a failure which in the present state of the people's knowledge it is not possible for them to foresee. In the nature of the case the rise in prices will take effect during the 2 months following the kharif sowing time, and will become aggravated when it is clear that not only the kharif harvest but also the rabi sowing have been lost. I am not able to quote the monthly prices of the years 1860-61 and 1868-69,

CH I but in the following table I give the extent of rise which took place in the two months of August and September 1877—

	Prices at Delhi		Prices at Amritsar	
	End of July	End of Sept	End of July	End of Sept
Wheat	21	12	27	14
Barley	33	17	46	18
Joár	24	15	32	19
Báya	21	13	25	16

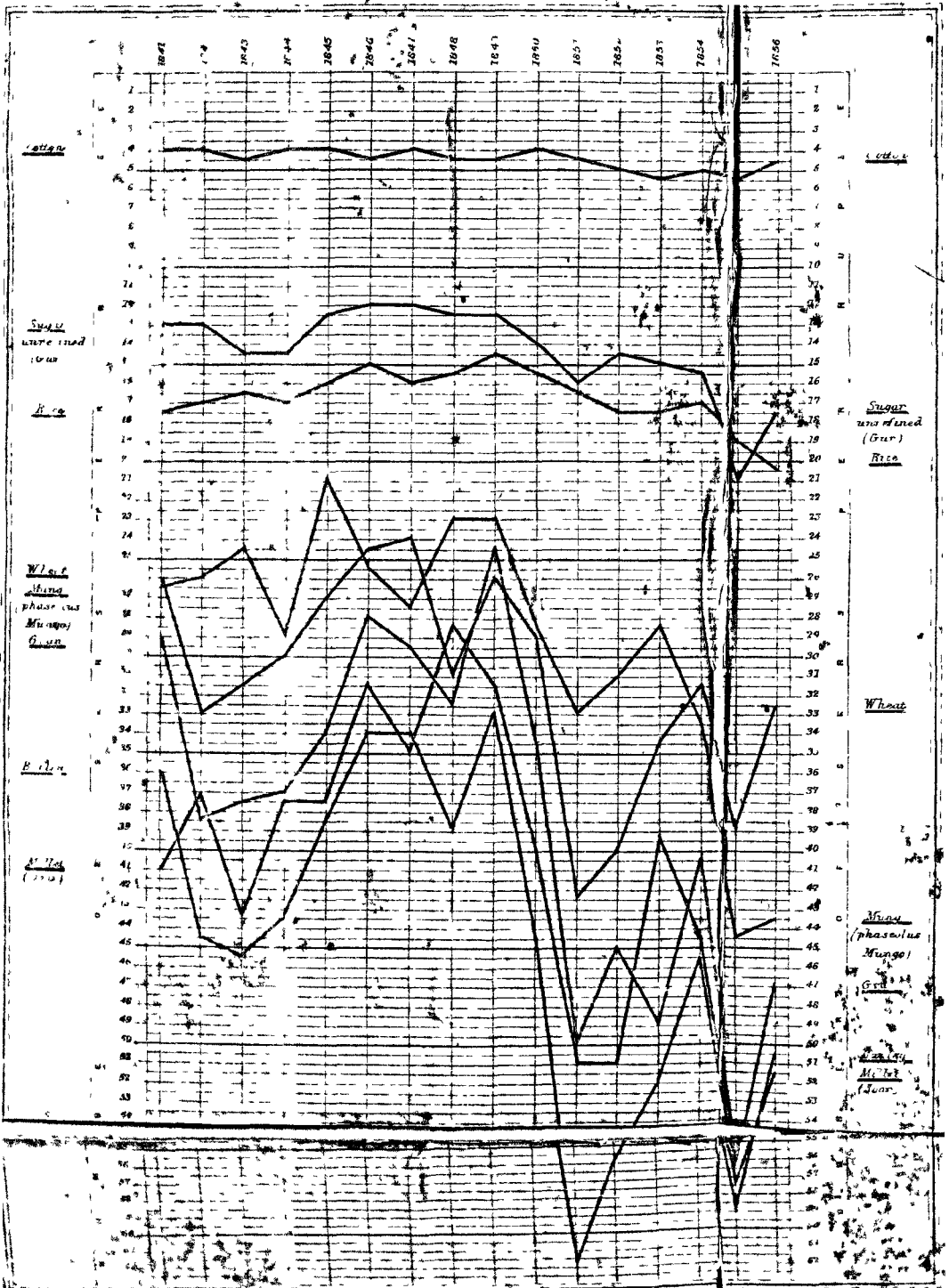
When wheat rises suddenly in this way to 12 or 14 sers the rupee, and the other staples rise in price at the same time, and in the same degree, it is certain that severe scarcity is impending. Such scarcity may not follow, for instance, it did not last year but everything depended on the rabi sowings, and at the last moment timely rain secured them. If those rains had not fallen, we should certainly have seen wheat selling by December at from 8 to 10 sers the rupee over the greater part of the Province.

Returns appended—

2 diagrams showing rise and fall in prices of principal articles of agricultural produce in the Punjab from 1841 to 1877

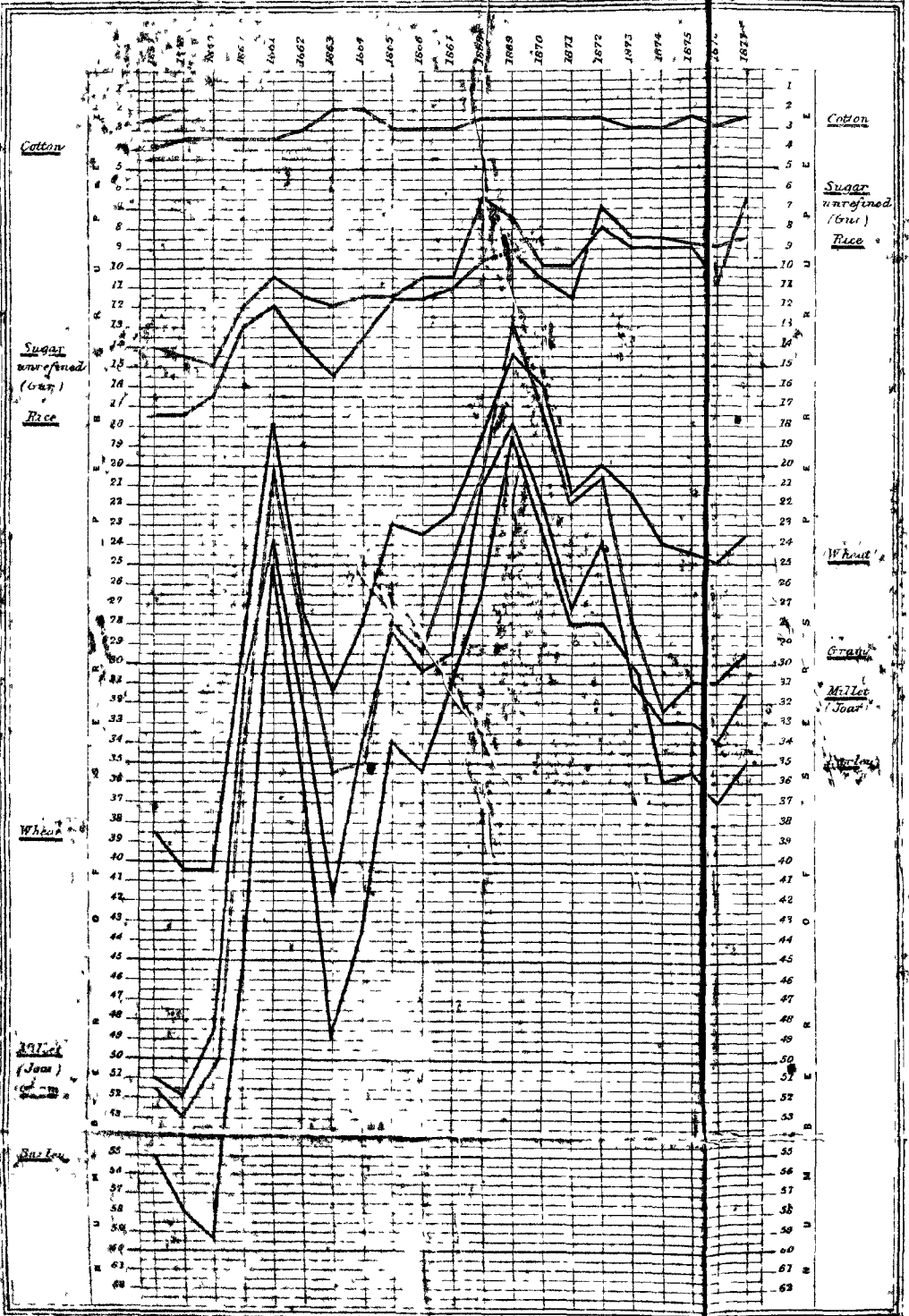
Statement showing monthly variations in the retail prices of food in selected Districts of the Punjab April 1873 to September 1878

AND FALL IN PRICES OF PRINCIPAL ARTICLES OF AGRICULTURAL PRODUCE IN THE PUNJAB, FROM 1841 TO 1856.



This Diagram is calculated on the average of 26 Prices per Acre...
 regarding the four months not being available for the years in question.

DIAGRAM SHOWING THE RISE AND FALL IN PRICES OF PRINCIPAL ARTICLES OF AGRICULTURAL PRODUCE IN THE PUNJAB, FROM 1857 TO 1877.



CHAPTER I, QUESTION 17.

What is the state of your Province as to the activity of commerce? Has it an energetic and enterprising trading class? Do any of the Districts subsist mainly on their own resources, and export and import little? Or is there an active and constant ebb and flow of trade?

There is no part of the Province which does not possess an active and enterprising trading class, and throughout the Province there is an active and constant ebb and flow of trade. The trading classes are not confined to the larger towns, but are to be found in almost every village in the Province. There is no District shut up to its own resources, even the mountainous parts of Hazára and Kángra possessing their local trade. Some idea of the character of the internal trade of the Province will be formed from the appended account of the trade of the 19 chief trading towns, which is extracted from the Trade Report for 1873-74.

Extract from the Punjab Trade Report for 1873-74, showing the trade of the 19 principal trading towns

II—INTERNAL TRADE

21 The amount of the internal trade of the Punjab, as shown by the traffic carried on at the principal trading centres, fell from 684 lakhs of rupees in 1872-73 to 668 lakhs in 1873-74. In 1871-72 it was 926 lakhs. It is not likely that these returns give an adequate representation of the state of trade in the Province. They take no account of the trade of any of the towns except the 19 which have been selected to give some idea of the transactions. And even in the case of these 19, no articles are entered which skirt the towns in transit without paying octroi duty, nor of those which are conveyed by Rail without entering them. Still, as regards these nineteen towns, they convey some idea of their internal transactions, and they must accordingly be accepted as demonstrating a considerable decline in such transactions. This decline has been accounted for in some cases by general trade having been sacrificed to demand for grain for the famine in Bengal, the effect of which is only partially shown in the Returns.

In the case of the towns of the Gurgson and Hissar Districts, the trade is said to have been diverted by the opening of the Rájputána State Railway.

22 The relative importance of the nineteen towns for the last four years is shown by the annexed Table —

Order of importance

	1870-71	1871-72	1872-73	1873-74
Delhi	2	2	1	1
Rewári	16	15	14	14
Hissar	13	13	15	13
Bhiwáni	4	4	3	3
Umballa	5	5	5	8
Ludhiána	7	7	9	7
Simla	17	18	18	18
Jullundur	9	11	12	11
Kángra	12	10	8	9
Amritsar	3	3	2	2
Lahore	6	9	7	5
Ferozepore	11	6	11	12
Jhalum	19	17	19	17
Pind Dádan Khan	15	16	16	15
Gujrát	18	19	17	19
Mooltan	1	1	4	4
Jhang	17	12	13	16
Dera Ismal Khan	10	14	6	6
Pesháwar	8	8	10	10

CH I The most notable descents in this scale are Umballa, Ferozepore, Mooltan, Jhang, Pesháwar, while Lahore and Dera Ismail Khan show the greatest rise

23 The internal trade of Umballa fell from 56 lakhs of rupees in 1872-73 to 21 lakhs in 1873-74. The Deputy Commissioner can only account for this remarkable decrease by supposing that the merchants of the city confined their speculations exclusively to dealings in grain on account of the Bengal demand. The greater portion of the grain collected at Umballa was despatched by Rail without entering the town, to avoid all chance of dispute with the octroi contractors.

24 The decrease in Ferozepore is from 18 lakhs to 14 lakhs, but in 1871-72 the value of the trade reached 40 lakhs. No explanation has been given but the returns of the bridge traffic, a few miles from Ferozepore, show an increase from 27 lakhs in 1871-72 to 41 lakhs in 1872-73, and 75 lakhs in 1873-74, so the decrease does not appear to be substantiated. The goods which pass the bridge, however, are to a great extent conveyed down the river by boat.

25 The falling off in the Mooltan trade was alluded to in last year's Report. There has been a further decrease this year from 58 lakhs to 51 lakhs. A special report, received from the Commissioner of Mooltan, shows that this decrease is partly real, partly nominal. The cotton and indigo, which used to come from Muzaffargarh and Dera Ghazi Khan to Mooltan for local sale before export, is now exported direct to Karáchi. Boat-building is on the increase in these two Districts, and the traders find it more profitable to locate themselves across the river and export direct.

On the other hand, octroi duty on cotton and indigo has been abolished in Mooltan, and the contractors are not interested in recording the import and export of these staples. The traffic is therefore under-estimated.

In Jhang the decrease has been from 15 lakhs in 1872-73 to 10 lakhs in 1873-74. The falling off is due to dullness in the Povindah trade, owing, it is said, to a glut in the Kábul market.

26 The falling off of the Pesháwar trade is under investigation special enquiry having been made by Government. Since last year there has been a further decrease from 22 lakhs to 18 lakhs, which is accounted for by the exclusion from the returns of this year of transit goods entered in the bonded warehouse, which were shown in the returns for 1872-73.

27 The Lahore trade increased from 29 lakhs in 1872-73 to 36 lakhs in 1873-74. The causes assigned are—improved registration, and the active demand for grain resulting from the Bengal famine.

28 Dera Ismail Khan forms an emporium for the Povindah trade, which passes on to Okára, and is conveyed thence by rail. The rise in this trade was noticed last year. There has been a further increase this year from 30 lakhs to 33 lakhs of rupees. The construction of a bridge of boats over the Indus at Dera Ismail Khan during the year is an event worthy of being chronicled. The facilities of communication between Bhakkar and Deraját thus afforded are great, and much appreciated by the people of the country and the Povindahs.

PAPER APPENDED

Return of the internal trade of 19 principal trading towns for 1873-74, above referred to

INTERNAL TRADE—STATEMENT SHOWING DESCRIPTION OF

1		2		3		4		5	
		DIVISION A—							
NAMES OF TOWNS		DRUGS							
		Bhusa		Bhang		Charas		Opium	
		Maunds	Value.	Maunds.	Value.	Maunds	Value	Maunds.	Value
Delhi	Imports	24 958	12,478	1,157	12,470	120	38 000		
	Exports	866	178	42	420	8	1,800	4	3,200
Bewāri (Gurgaon District)	Imports								
	Exports								
Hisar	Imports	1,288	1 668				38		
	Exports	1,886	2,786						
Bhiwāni (Hisar District)	Imports					54	4,000		420
	Exports								
Umballa	Imports							6	4 000
	Exports					72	28,800	13	10,000
Ludhiāna	Imports			159	656	25	2 010	21	9 800
	Exports					4	320	3	1,400
Suzla	Imports					98	2,988	256	86,427
	Exports								
Jullandur	Imports	888	109			2	200		
	Exports								
Kāngra	Imports					253	26,678	148	45 340
	Exports								
Amritsar	Imports					2	400	67	26 400
	Exports							23	13 840
Lahore	Imports	47,290	14,097	60	70	6	608	28	10 293
	Exports								
Ferozapore	Imports							3	2,400
	Exports								
Jhelum	Imports	6,300	2,400						
	Exports								
Fird Dādan Khan (Jaham District)	Imports								
	Exports								
Gurdās	Imports								
	Exports								
Mooltan	Imports	861	182	21	112				
	Exports					68	8,820	2	640
Jhang	Imports			7	66			3	2,350
	Exports								
Dera Ismail Khan	Imports								
	Exports								
Peshāwar	Imports					17	9,120	6	11 620
	Exports								
TOTAL	Imports	80,498	80,629	1,424	13,344	224	51 973	128	77 183
	Exports	2,241	2,968	42	420	858	69,106	449	1,60,847

STATISTICS

CH I

V

GOODS, THEIR QUANTITIES, AND VALUE, FOR THE YEAR 1873 74

6		7		8		9		10	
RAW PRODUCTS									
DYES				CHEMICALS.					
Indigo.		Other		Sulphur.		Saltpetre		Other	
Maunds.	Value.	Maunds.	Value.	Maunds.	Value.	Maunds.	Value.	Maunds.	Value.
1 130	1,01 680	1 157	16 783			10,142	20,286	27 990	3 92 224
485	41,800	11,707	1,07,384					27,608	3,86,612
48	2 588	31	446					7 289	89 679
30	2,680							1,312	12,717
35	3,160	2 146	25 555					4 683	53 705
46	4 140	2 341	40,477					4,024	52,370
155	8,245	7,769	89 279			416	624	6 344	2 78 475
		189	2,270					3 833	60,172
764	26,615	1 440	57 126					8 331	1 89,178
		1 718	23,009			845	1,876	1,282	1,61,695
40	4,000	1,059	19 173					4 510	67 650
		631	8,472					3 612	52,921
		16	125					12	805
								96	607
458	18 320	1,427	24 958	23	250	26	180	11 411	2,28 230
19	760	219	4,082					2 970	79,600
261	10 180	286	3 945					3 448	50 665
12	1,500	62	676					7,662	77,217
1,363	1,07 688	4 901	65,188	151	3 275	948	3,866	43 169	3 69 667
106	6 079	1,982	31,361	38	1,870	8	82	13,215	1,63,195
290	16 800	976	9 788	20	184			10 849	1,08 378
		4	82					761	7,610
20	1,240	83	520					2,122	21 820
		811	7,385					4,149	41,480
214	2 760	40	575					3 338	31 880
								1 077	8,750
14	1,240	8 062	20,870					1,470	42 440
17	1 700	"						193	2,739
		237	5,409						
184	15 150	1,851	23 564	90	650			3 776	41 054
6 580	4 75,198	8 129	94,248	43	490	120	840	4,623	50,653
27	3,102	2,559	31 790					959	7,866
		204	1,895						
428	85,215	4	700					3 955	28 800
8	800	12,673	1,80,046					3 069	12,652
1,270	1,27 000	115	1,795					6 620	1,32 400
805	3,024			270	4,010			833	16,860
6 266	4 78 113	39 168	3 89 912	284	4 679	11 295	24 622	1 45 875	21,34 302
8,149	5 47,381	40,670	5,61,318	361	5,810	769	2,532	80 700	11,72,110

NAMES OF TOWNS.	11		12		13		14	
	DIVISION A—							
	FIBRES.							
	Cotton		Wool		Pashas		Silk	
	Maunds.	Value	Maunds	Value	Maunds	Value	Maunds	Value
Dehli	{ Imports	52,837	3,79,190	1,540	23,987		4	200
	{ Exports	473	5,111	1,810	20,907		495	24,700
Bawāri (Gurgaon District)	{ Imports	1,278	10,759	54	1,221		73	4,948
	{ Exports	748	7,048	108	1,296			
Hisar	{ Imports	761	9,617	1,672	16,649			
	{ Exports	886	11,340	605	4,970			
Bhawānī (Hisar District)	{ Imports	4,886	38,678	102	2,300		186	14,880
	{ Exports	177	2,021				13	1,040
Umballa	{ Imports	26	338	11	146		101	23,640
	{ Exports	332	3,765	10	160			
Ludhiana	{ Imports	124	1,608	861	43,045	12	600	23,400
	{ Exports	230	2,840	46	685	18	900	1,300
Famla	{ Imports	16	335	39	747			
	{ Exports			39	1,005	630	89,564	
Jullundur	{ Imports	3,299	34,397	5	50		112	56,000
	{ Exports	263	5,430				159	79,600
Kāngra	{ Imports	3,081	34,403	110	5,400		2	160
	{ Exports	80	180	444	7,619	300	20,366	
Amritsar	{ Imports	1,432	10,961	529	20,435		773	3,64,605
	{ Exports	1,306	16,209	105	5,388		767	3,81,010
Lahore	{ Imports	5,252	18,946	163	1,233	98	6,370	1,18,220
	{ Exports	5,609	17,760				6	3,976
Ferozapore	{ Imports	2,227	29,708					
	{ Exports	3,601	47,147					
Jhelum	{ Imports	429	5,880					6,720
	{ Exports							
Pind Dādan Khan (Jhelum District)	{ Imports	1,120	31,270	575	9,920			
	{ Exports	1,105	15,660					
Gujrat	{ Imports	99	1,897				33	
	{ Exports							
Mooltan	{ Imports	4,270	77,018	4,462	68,292		268	1,69,520
	{ Exports	648	9,039	67	920	679	5,012	1,28,710
Jhang	{ Imports	869	10,864				20	6,987
	{ Exports	2	29	1,116	16,474			
Dera Ismail Khan	{ Imports	1,276	26,860	4,686	42,277			
	{ Exports	36	700	132	1,916			
Peshāwar	{ Imports	2,060	49,235	26	818		60	25,950
	{ Exports							
TOTAL	{ Imports	69,142	7,54,270	14,803	2,26,292	110	7,003	1,911
	{ Exports	15,544	1,49,160	3,910	61,608	1,627	85,832	1,635

V—Continued

CH. I

15		16		17		18		19	
RAW PRODUCTS—Continued									
Sen.		Other		FLOUR.		FRUITS AND NUTS		FURS AND FEATHERS	
Maunds.	Value.	Maunds.	Value.	Maunds.	Value.	Maunds.	Value.	Maunds.	Value.
192	386	1,684	18,627	176	380	906	15,032		
1,201	2,402	4,239	87,401	3,281	6,662	1,632	22,487		
283	747	970	2,411	379	1,188	499	6,09*		3,651
						1	18		13
1,631	18,907								
1,168	7,487								
370	1,850	25	65	213	606	5,611	77,638		5,014
		394	501			16	249		36
613	2,329	3,133	5,471			2,497	30,023		
86	126	10	13	495	1,099	226	3,411		
219	1,095	290	1,770			1,005	12,640		
1,152	4,023	735	1,470			427	5,280		
				192	363	88	432		
						3	26		
869	3,504	1,654	5,800	128	252	2,208	44,160		
16	48	253	5,734						
		38	1,352			167	1,331		
2,056	4,112	2,197	3,288	140	280	18	120		1,405
2,892	15,797	9,118	61,277	320	330	32,509	3,07,344		
706	3,748	1,696	19,103	320	640	15,949	1,63,071		
933	4,653	7,884	28,309	49,164	96,308	2,601	19,034		800
45	225	112	529			88	397		
4,726	20,265	128	496			51	1,368		
210	576					1,286	16,556		
104	1,401	1,316	4,973			2,122	6,037		
340	1,970	668	12,670			1,695	17,615		
						57	1,640		
435	1,515	25	60			720	2,770		
8	14	1,970	59,290	1,385	4,636	1,709	13,729		
		66	5,780			10,890	1,32,222		
53	224	611	1,368	1	2	670	3,665		
268	1,344	163	310			44	478		
		110	400			688	5,717		
374	3,033					12	180		
		19,094	60,082			16,204	2,46,789		
14,156	78,146	29,571	2,04,630	61,845	1,05,920		5,57,857		10,870
6,585	23,017	29,736	1,84,195	4,236	8,681		5,93,027		48

		20		21		22		23	
		DIVISION A-							
NAMES OF TOWNS.		GRAINS		GHI		GUMS AND RESINS		HIDES AND HORNS	
		Maunds.	Value.	Maunds.	Value.	Maunds.	Value.	Maunds.	Value.
Delhi	{ Imports	11,09,973	19,63,073	13,659	3,37,957	70	1,400		1,50,800
	{ Exports	5,638	9,948	184	4,232	18	360		30,019
Bowári (Gurgaon District)	{ Imports	2,14,468	3,47,666	779	16,387	191	1,922		13,186
	{ Exports	11,187	16,984						4,476
Hissar	{ Imports	64,488	98,176	592	11,240	108	1,980		1,40,945
	{ Exports	69,298	80,068	617	9,740	640	6,060		1,66,083
Bhūwān (Hissar District)	{ Imports	68,182	1,08,317	233	4,748	429	4,282		4,144
	{ Exports	35,018	48,946	164	3,088	18	189		468
Umballa	{ Imports	16,760	26,918	2,931	60,723	1,195	9,845		20,601
	{ Exports	23,044	32,630	801	6,323	86	774		15,211
Ladhāna	{ Imports	413	826	1,273	68,691	78	1,148		1,398
	{ Exports	4,06,960	5,81,669	378	6,989				2,910
Sumla	{ Imports	891	1,374	54	794				25
	{ Exports	4	8						1,639
Jullundur	{ Imports	32,591	44,165	3,328	68,200	33	190		1,800
	{ Exports	31,663	30,676						6,320
Kāngra	{ Imports	69,266	1,49,367	20	400				2,635
	{ Exports	794	1,200	480	9,880				14,330
Amritsar	{ Imports	72,653	1,35,969	15,727	3,28,002	660	5,600		17,220
	{ Exports	66,838	89,005	1,626	39,551	263	3,146		
Lahore	{ Imports	4,65,666	8,49,778	14,882	3,42,432	20	176		7,865
	{ Exports	6,636	9,391	533	11,892				3,746
Ferozepore	{ Imports	16,133	28,080	148	3,901				360
	{ Exports	89,446	89,169						4,600
Jhelum	{ Imports	11,981	22,326	1,722	26,950				
	{ Exports	459	1,310						910
Pind Dādan Khan (Jhelum District)	{ Imports	42,870	1,04,360	1,720	37,805				
	{ Exports								
Gujrāt	{ Imports	16,386	27,185						
	{ Exports	200	600						
Mooltan	{ Imports	1,96,658	4,16,205	8,607	1,91,668	260	5,083		12,967
	{ Exports	946	2,065	110	2,460	67	1,689		46,711
Jhang	{ Imports	32,591	68,621	3	62				4,786
	{ Exports			2	44				16,000
Dera Ismāil Khan	{ Imports	1,22,672	3,34,995	1,196	28,398				4,347
	{ Exports	13,035	22,449						13,170
Peshāwar	{ Imports	24,049	68,768	1,906	47,364				49,950
	{ Exports								8,200
TOTAL	{ Imports	25,68,479	47,71,664	68,685	16,40,030	3,085	31,625		4,14,649
	{ Exports	6,99,009	9,66,113	4,185	94,699	966	10,091		3,02,308

F—Continued

CH I

24		25		26		27		28	
R A W P R O D U C T S—Continued									
METALS		OILS		OIL SEEDS		RICE		SALT	
Maunds	Value	Maunds	Value	Maunds	Value	Maunds	Value	Maunds	Value
2,340	24,873	1,491	29,820	92,802	2,87,702	9,108	12,432	2,38,444	11,97,220
16,117	2,56,879	1,388	24,760	8,436	12,907	50,687	3,03,648	915	4,078
1,538	22,660	488	5,549	7,790	21,384	20,888	81,464	698	1,384
19	674	12	84	88	105	7,164	29,284	22,523	46,083
1,143	10,999	284	1,960	1,929	3,894	8,201	24,814	925	4,550
769	5,860	616	5,081	5,870	7,660	5,232	22,290	995	4,695
7,636	2,00,987	178	1,379	5,782	15,094	19,049	1,71,903	41	51
173	4,945	64	446	2,765	7,245	244	976	1,11,948	2,67,160
8,351	1,07,767	471	5,012	1,662	3,175	1,381	8,767	19,608	86,638
2,487	20,228			2,641	4,925	1,440	4,612	5,766	16,402
938	6,989	201	1,173	352	724	20,180	60,840	19,173	76,692
635	5,540	2,387	14,994	24,960	51,530	27,025	81,125	88,970	1,94,800
13	814	867	2,557			852	842	919	8,939
3,988	18,787			6	36				
8,870	37,205	417	2,502	10,288	20,566	13,966	41,898	5,426	21,704
875	4,210			209	418	527	1,681	634	2,686
987	17,030			2,561	7,591	409	628	12,653	52,635
2,670	21,296	10	82	20	68	1,14,312	2,65,674	688	1,973
23,765	2,38,248			9,026	4,581	90,516	1,51,674	49,243	1,96,916
4,461	97,001			8,028	80,481	1,02,165	2,39,617	12,669	49,699
8,826	60,042	12,442	88,021	16,420	54,660	1,00,926	2,99,148	35,389	1,40,671
212	3,803	303	1,941	200	600	38,466	1,14,062	10,668	39,314
564	5,345			1,244	2,720	21	63		
64,828	4,61,764			8,884	19,179			13,791	84,347
4,249	23,358			2,605	12,267	3,953	10,602		
13,216	1,36,825			5,545	19,990			19,036	89,108
9,992	86,880					840	3,300		
644	1,663			262	1,000	1,820	8,900	3,925	15,630
707	2,806	2,171	18,763	16,411	44,465	12,825	48,641	1,80,094	6,87,847
1,640	31,897	273	2,163	24	60	835	3,053	1,34,705	6,04,625
627	15,436	1,809	14,686	2,067	6,911	1,971	5,990	5,200	18,819
		43	365	406	1,690				
877	29,658	106	1,155			4,421	29,742	500	478
877	8,369	825	3,195	616	2,081			120	120
1,475	47,495	5,697	68,296	2,127	16,261	1	5	64,053	64,053
76,302	9,84,688	26,851	2,28,801	1,77,278	5,57,894	3,01,464	9,95,998	6,36,926	26,68,167
96,987	10,00,030	5,652	86,003	55,943	1,38,409	3,49,088	9,65,187	3,59,143	11,84,765

		29	30	31	32				
		DIVISION A.—							
NAMES OF TOWNS.		SUGAR.		SPICES		TEA		TOBACCO	
		Mounds	Value	Mounds	Value	Mounds	Value	Mounds	Value
Delha	{ Imports	5 161	2 1081	2 016	56,884			4,680	42,481
	{ Exports	3,19,607	28 76 162	78	2,344	192	7,660	17,820	1,46,331
Rowári (Gurgaon District)	{ Imports	48 244	25 8167	1 116	12 216			1,211	5,309
	{ Exports	5,499	28 694	745	8 084			17	81
Hissar	{ Imports	5 572	21,308	2 059	20 890			1,198	6,575
	{ Exports	6,681	33,745	1,932	19,920			1,075	6,990
Bhiswán (Hissar District)	{ Imports	5,24,401	29 32 852	96	1 623	1	65	846	4,393
	{ Exports	818	7,104					20	100
Umhalla	{ Imports	4 659	38 626	5 417	68 807	97	5,620	1,728	20,858
	{ Exports	3 213	29 708	7,675	1,02,178			7	49
Ludhiana	{ Imports	10 606	61 274	4 260	8 520	116	3 330	211	460
	{ Exports	13 749	83,960	9,084	19,348	65	2,760	1,380	4,160
Simla	{ Imports	1,823	4,495	53	1,079			389	1,098
	{ Exports	1	3	29	191			5	40
Jalandur	{ Imports	958	8 787	452	9 040	2	80	44	111
	{ Exports	9,677	1,19,347					8,624	23,888
Kangra	{ Imports	22,820	68 663	1,197	11 265			20,518	48,418
	{ Exports	779	8 789	839	2,109	3 619	2,95,840	163	795
Amritsar	{ Imports	68 180	3 98 266	10,331	82 889	4 286	3 53 701	2,692	25,467
	{ Exports	88,721	5,88 889	5,123	59,125	1,388	1,47,625	107	850
Lahore	{ Imports	87 416	3,43,870	126	3,432	16	250	571	4,885
	{ Exports	2,520	9,839					494	3,735
Ferozapore	{ Imports	63 831	5,31 408	54	1,692			251	1,086
	{ Exports	902	5,929	12	12			94	604
Jhelum	{ Imports	13,169	59,820	638	5,777			805	1,010
	{ Exports								
Pand Dádan Khan (Jhelum District)	{ Imports	45 468	2,21 068					772	3,690
	{ Exports	11,880	47,427						
Guyrá	{ Imports	6,768	80,410						
	{ Exports								
Mooltan	{ Imports	89 812	5,42 628	2 606	19 698	60	7,200	201	2,199
	{ Exports	5,711	45,603	850	8,808	5	600	2,181	15,451
Jhang	{ Imports	10,973	53,462	821	4,632			57	218
	{ Exports	165	682						
Dera Ismail Khan	{ Imports	25 816	2,74 626			75	600	244	1,435
	{ Exports	280	4,948					139	983
Pesháwar	{ Imports	9,739	1,60 139	61	1,650	58	6,600	741	5,928
	{ Exports	274	2,626	19	486				
TOTAL	{ Imports	10 06 054	58 71,745	31 011	3 09 504	4 635	8 77 366	35,866	1 50 749
	{ Exports	4,59 632	86,89,628	26 286	2,21,009	8,259	4,25,395	32,804	2,08 993

V—Continued

Ch I

33		34		35		36		37	
RAW PRODUCTS— <i>Continued</i>				DIVISION B—MANUFACTURES					
WOOD		OTHER PRODUCTS		COTTON CLOTH				LEATHER	
				<i>Indian</i>		<i>European.</i>			
Maunds	Value.	Maunds	Value	Maunds	Value.	Maunds	Value	Maunds	Value.
20 017	7 504	4 358		841	42 050	287	28 700		24 773
19 718	6,725	3,360		864	43,200	27,954	28,36,400		49,583
3,483				897	80,120	1,175	1,46,875		
2	86	27		1,337	46,195	29	3,668		826
56 850	259	2,770		313	15 650	518	75,450		
34 803	191	1,890		268	12,400	226	86,900		
140	3 922	39,691		170	5,120	24,972	25,08 450		5,425
	8,473	11,206		865	14,500	620	* 62,045		600
2,07 289	16,255	43 905		773	27,180	4,345	3,74 945		8,880
6,291	267	1,603		1,398	66,043	859	41,125		
12,712	3 464	5,820		571	14 275	3,288	3,28,700		2,250
2,360				3,372	82,000	272	27,200		
	6	48		1,043	43 129	111	23,657		48
	22,391	43,031		20	640				
18,970	16,225	11 639		273	6 825	2 239	1 79,120		830
	13,266	13,251		904	22,600	2,837	2,26,950		
	2 552	17 526		4,874	2,10 421	--			19,008
	8,279	14,019		34	5,400				
5,608	77	5 645		922	43 479	90	10 048		150
278	21	1,900		3,264	1,42,474	14,290	15,40 756		1,475
1,42,168	28,057	30,972		923	47,285	2,295	4,69,670		5,255
	169	338		28	1,400	34	5,750		300
6,480	334	3,510				1,518	2,03,250		90
333						168	19,950		
3,200	765	2,885		95	2,110	322	1,39,698		630
15,280									
	26 260	40,486		5,180	1,27 200	470	75,940		250
	2,440	6,990		1,464	54,550				
	1,395	2,087				453	41,021		
6,751	80,146	60,051		5,406	3,31,879	1,514	1 61 400		26 039
	6,128	21,130		285	11,009	2,202	2,30,191		
4,864	5,292	945		62	2,941	575	71,681		841
	1,427	8,562		10,168	4,91,000				
26 215	869	2,423			7,51,115		11 65 000		10 622
842					75,400		1,67 000		1,280
				1,161	73,870	5,761	4,43 160		520
		5				5	400		
5,14 747	1,60 358	2 74 760		24 804	17 75 649	60,028	64 37 544		1,54 311
60,517	69,834	1,37,302		35,651	10 67,921	48,996	63,46,314		54,058

NAMES OF TOWNS	38		39		40		41	
	DIVISION B—MANUFACTURES—concluded							
	LIQUOR		PASHMINA.		SPECIE AND BULLION		WOOLLEN	
	Maunds	Value	Maunds	Value	Maunds	Value	Maunds	Value
Delhi	{ Imports			9,000		24,000	467	9 962
	{ Exports	399	51,920				18	830
Rewari (Gurgaon District)	{ Imports							
	{ Exports	40	3,586					
Hissar	{ Imports			15,598	1,27,735		54	2 150
	{ Exports						56	2,340
Bhiwani (Hissar District)	{ Imports							
	{ Exports			44,154				
Umballa	{ Imports							
	{ Exports	50	1,500	2 000			364	28,620
Ludhiana	{ Imports	15	460	2 05,000				
	{ Exports						2	83
Sirsa	{ Imports							
	{ Exports			1,400			43	1,720
Jullundur	{ Imports						2	80
	{ Exports			12 900	1 098			
Kangra	{ Imports			42,993	10,970		48	3 040
	{ Exports			1 15 959	6 979		169	12 239
Amritsar	{ Imports			33,583	75,000		584	45,666
	{ Exports							
Lahore	{ Imports	22	449	400			218	10 480
	{ Exports			2,800			155	6,240
Ferozepore	{ Imports					451		
	{ Exports							
Jhelum	{ Imports	486	22,378					
	{ Exports							
Hind Dahan Khan (Jhelum District)	{ Imports							
	{ Exports							
Gujrat	{ Imports			16,520				
	{ Exports							
Moolan	{ Imports	140	9 056				514	15,558
	{ Exports	609	23,230				1	120
Zhang	{ Imports					1,85,279	14	500
	{ Exports							
Dera Ismail Khan	{ Imports		25 553					2,090
	{ Exports		4,400					
Peshawar	{ Imports			53,000			444	17 830
	{ Exports							
TOTAL	{ Imports	798	82 829	1 57 257		2 95 091	1 215	72 612
	{ Exports	1,063	80,000	3,75,350		86,431	1,019	64,336

V—Concluded

42		43		44		45		46		
TOTALS										
OTHER MANU FACTURES		DIVISION A				DIVISION B		GRAND TOTAL		REMARKS
Maunds	Value	Maunds	Value	Maunds	Value	Maunds	Value	Maunds	Value	
1 550	36,135	15 85 732	61 64 587	2 915	1,74,618	15 88 637	53 89 205			
9,638	2,26,526	4,76,544	43,52,773	58,879	33,45,364	6,14,417	75,98,737			
482	17 977	2 07 661	2,23 063	2 524	1,94 932	8,10 185	10 77 995			
886	16 641	49,429	1,57,262	1,762	66,329	61 281	2,23,681			
1 320	22 321	97 348	6 86 950	2 186	1,18 007	99 634	7 08 967			
697	14 854	92,964	6,36,233	1 191	64,159	94,165	5,99 898			
2,658	1 33 422	6 56 381	40 71 374	27,354	27,36,300	5 84 235	68 63,274			
888	8 420	1,57 947	4,12 179	1,423	87,905	1,58 476	6,06,064			
584	16 581	91 410	10,25 033	2,702	4,27 687	97,119	14 62 880			
44	1 270	49,997	5,33,418	1,801	1,54,592	51,798	5,85,010			
959	50 495	69 795	4 77 002	4 876	3,99 220	74 671	8,76 223			
		5 26,827	10,51,776	4 013	3,43,270	6,30 640	15,96,046			
83	2,057	2 189	18,858	1,239	68,849	6,401	87,707			
1	84	27,483	2,13,561	21	674	27,694	2,14,225			
1 764	76 045	1 08 287	7 14,447	4 319	2 64,940	1,12,576	2 78 587			
729	40 627	59,993	2,76,473	4,472	2,50,187	64,455	6,56,640			
2 533	68 650	1 40 323	4 86 040	9 833	5 63 488	1,10,155	10 48 473			
78	2 770	4,40 406	8,18,110	160	63,178	1,40,666	8,61,283			
301	80 488	4 46 060	23,26 219	1,572	2,69,342	4 46 632	38 65 551			
310	38 236	2,25,503	10,17,234	18,246	1,76,188	3 43,751	37,92,422			
597	54 641	2,50 223	28,08 282	4 456	5,79 180	6,54 679	33 87 462			
116	6 136	64,553	2,28,058	359	22,556	64,686	2,50,714			
665	47,165	82 760	4 81,971	2 183	2,50,505	84 933	7 02 477			
		1,38,007	7,19,212	168	20 411	1,38,175	7,39,623			
529	14 066	54 822	2 30 189	1 432	1,78 879	56 254	4,09 048			
		14,572	60,368			14,672	60,368			
88	2 080	1 48,776	6,92 518	3 736	2 06 480	1,49 516	8 97 998			
		26 024	1,66,296	1,384	54 500	27,388	2 20,886			
		32 752	99 939	453	41,021	33 205	1,34 950			
		200	500		16,620	200	17,120			
4,968	1 09 825	5 68 143	24 90 544	16 692	6,58,317	5 83 776	31 44,361			
2,857	90 168	1,84,266	16,94,062	6 014	3,44,648	1,90,269	19,38,710			
263	5 186	64 832	2 43 668	915	2 16,028	65 747	4 64,696			
9	559	3 463	46 911	10 167	4,91,559	13 6-0	5,37,470			
	19 249	1,67 087	8,63 567		19 67,639	1,67 087	28,31 198			
	1 500	70,687	2,65 490		2 50 680	30,887	5,17,070			
518	33,590	1 19 648	8 70 646	7,884	5 69 470	1,27,532	14 40,116			
		89,168	3 49,932	5	33,400	39,178	3,92,332			
20 102	7 82 991	55,35,154	2 53 72 937	99 713	90 97 838	55,92 867	3 65 09 775			
16,252	5 44,635	24 06,312	1,38,03,534	90,011	75,23 856	36,96,333	2,13,27,589			

QUESTION 18, CHAPTER I

What are the facts in your Province as regards the means of communication? Do bridged and metalled roads connect all the important centres of trade that should be thus connected?

REPLY

I append a return of the roads in the Province, completed to 31st March 1878, which has been furnished by the Public Works Department. It shows that the total length of these roads was on that date—

	<i>Miles</i>
Metalled and bridged	1,255
Partially do do	664
Unmetalled	20,030
Total	21,747

The principal lines of road are shown in a skeleton map (scale 32 miles to an inch) which faces this report. It would not be practicable to show every road on so small a map.

Metalled roads The principal one commences at Delhi, and thence runs in a north-westerly direction through Lahore to Peshawar, traversing in its course the richest and most populous tracts of the Province. Before the Railways were constructed, this road was of the greatest value. And though the Railways now relieve it of its heaviest traffic, it is still desirable to keep it up. Its total length is 579 miles. The next in importance are the road from Delhi to Sirsa, as yet only partially metalled, 165 miles, that from Delhi towards Mathra 46 miles, from Amballa to Simla 92 miles, from Ludhiana *via* Ferozepur to Lahore 141 miles, from Amritsar to Pathankot 68 miles, and from Wazirabad to Sealkot 30 miles. These roads are usually made of rammed kankai,* width and cost as noted at the end of this reply.

Unmetalled roads Each district is thoroughly intersected with roads of this class, and so far as the funds of District Committees permit, they are bridged. The cost of construction and maintenance is small, and from the first years of our administration in the Punjab great attention has been paid to the connection of all places of importance in each district by roads of this character. Besides the roads thus returned, which are principally roads constructed and improved since annexation, there are great numbers of village roads all more or less suited to the local traffic. In short, so far as rough roads are concerned, those existing in every District much more than meet present local requirements.

Bridges and Ferries The main rivers of the Punjab are of such width and volume, and their channels so shifting, as to make the erection of permanent bridges over them for the ordinary traffic of the country a task far beyond the present financial resources of the province. The place of such bridges is however efficiently supplied by temporary boat bridges on the main lines of traffic and by ferries at the less important lines. The boat bridges are erected in September and usually stand till April, May or June, when they are dismantled. The rivers swell so greatly with the summer melting of the Himalayan snows, and the floods of the autumn rains are so high, that it is not practicable to maintain such bridges on the larger rivers between June and September. The traffic is slack in these months, and so much as there is, is ferried across in boats. As regards the bridging of the minor drainage channels of the country, it may be stated generally that great progress has been made and that the shortcomings still existing are not such as to cause any material hindrance to trade, nor can they be very rapidly supplied in the existing state of the local revenues.

* Kankar is usually described as nodular limestone and is a calcareous deposit plentifully found in beds some 4 or 5 feet below the surface of the land in loamy soils in most of the submontane districts. It forms a description of limepan and the soil is greatly benefited by its removal. It is usually composed $\frac{2}{3}$ of carbonate of lime, and $\frac{1}{3}$ of silica and alumina in nearly equal proportions. (Ansted's Elementary Geology, p. 249)

CH I *Are the roads in good working order and sufficient for the traffic on them or not? Are they open throughout the year or closed for traffic in the rains?*

The first of these 2 clauses may be briefly answered in the affirmative. It is not thereby meant that there is no room for improvement nor desire to improve existing communications. On the contrary, both the Government and the District Committees pay continuous attention to the matter. But there is no part of the Province, in which any crying want exists, or which is not, roughly speaking, very well supplied with all necessary roads.

As regards the 2nd clause, the roads may be stated roughly to be open throughout the year. The Punjab rains are not so heavy as those of Eastern and Southern India. Carts can work on the metalled roads all the year round, on the unmetalled roads also they can work except for a few days after a heavy rainfall. Camels cannot work in rainy weather, their feet being unsuited for wet ground, they are also out of condition during the autumn rains, and it is consequently unusual to load them then.

Tolls. The roads of the country are free of all tolls, except at the ferries and boat bridges on the larger rivers. Small dues are levied at these points, of the rates of which I append a statement. The proceeds yield a surplus over and above the cost of maintaining the boat bridges and ferries, which is added to the local rates paid by the land-owners of each District and aids in the maintenance of the roads. The only road toll-bars in the province are one on the hill-road to Murree, and two on the hill-road to Simla and its prolongation towards Tibet, all three entirely exceptional cases, justified by the great cost of these roads and by the exceptional benefits they confer on those who use them.

Is the ordinary means of conveyance by wheeled carriage or by pack bullocks, and if by wheeled carriage, is there a sufficient number of carts in each District for all wants?

The ordinary means of conveyance is by bullock hackeries in the Districts east of Lahore and by camel in those west of Lahore.*

In the 4 western Divisions of the Province, (Rawalpindi, Peshawar, Multan and Derajat), there is hardly any wheeled carriage, of 97,909 carts, only 2,789 belong to these Divisions. On the other hand, the 3 Divisions of Rawalpindi, Multan and Derajat contain 120,117 out of the total estimated number (165,567) of camels belonging to the province. Camels are also largely used in the Hussar Division, which possesses 25,589 of these useful animals.

There are no indications that the supply of carriage is insufficient. On the contrary, the camel drivers complain that they cannot get so much work as before, and attribute this to the development of the Railways. Though reared, owned and usually pastured in the dry western tracts of the province, they work much in the eastern Districts, and no doubt as regards these Districts the Railways have largely supplanted them. In the hill Districts of Hazara and Kangra the carriage is mostly by pack bullocks and mules. The statement appended, showing the carriage of each District, is taken from the Punjab Administration Report for 1876-7.

What is the ordinary cost per mile of conveying one ton of merchandise, either by wheeled or pack carriage?

The only wheeled carriage in the Province of importance to trade are bullock-hackeries, and the only pack-carriage camels. I therefore confine my reply to these 2 descriptions of carriage. In a statement appended I have collected the rates charged on the most important roads in the Province, but the rates charged by carriers depend so much on the dullness or briskness of local trade, that some discrimination is needed in applying the results shown in this statement. There does not seem to be any material difference between the cost of carriage by camels and by carts. The rates appear to vary generally between $1\frac{1}{2}$ and $2\frac{1}{2}$ annas per ton per mile. The higher rate and rates exceeding $2\frac{1}{2}$ annas are more frequent on unmetalled roads than on metalled roads, but the schedule does not show so much difference between the charges on these 2 classes of roads as would have been expected. Some of the cheapest rates occur on roads which are Railway feeders, where no doubt the demand for carriage is steady.

* To this statement I should note one exception. Carts, owned most of them by natives of Districts east of the Ravi, work in great numbers on the metalled grand trunk road between Lahore and Peshawar.

(3)

It is worthy of note, that the rates for carriage supplied by civil officers to troops (which were purposely fixed some years ago after considerable inquiry at rates more liberal than those usually paid by private employers), worked out to a rate per ton per mile, yield a rate of $3\frac{1}{2}$ annas for bullock hackeries, and $2\frac{1}{2}$ annas for camels. I mention this as these rates are the outcome of an investigation entirely independent of that under report, and allowance being made for the higher rates necessarily paid for carriage supplied to troops, as well as for the fact that food grains are usually carried at the cheapest rates practicable, the results of the 2 inquiries fairly correspond.

Cost of roads. The following details concerning the sums annually spent on roads in the Province will be interesting in connection with this subject. During the 3 years ending 1877-8, the average sums spent each year on roads were,

On construction of new lines	Rs 5 08 526
On repairs and maintenance of new lines	„ 11,02,269
Total	„ 16,10,795

Of this total sum Rs 6,60,266 was spent directly from District Funds by the District Committees, and the balance, Rs 9,50,529, was contributed from the general Local Fund and Provincial Revenue.

Metalled roads. The road surface varies from 30 to 40 feet, of which from 10 to 16 feet are metalled, the most common width of metalling is 16 feet. The cost of construction varies largely according to circumstances. The roads with the heaviest traffic, constructed by the Engineers of the Public Works Department, cost (omitting the larger bridges) Rs. 10,000 per mile.

The smaller roads and roads with less traffic constructed by District Committees and Civil Officers cost from half to three-fourths of this sum. Repairs and maintenance cost on the former class of roads from 500 to 800 rupees per mile, on the latter they are usually less than Rs 300 per mile.

Unmetalled roads. The cost of construction varies according to the amount of bridging required and the nature of the traffic.

The rough country road, which is ordinarily sufficient for the interior traffic of a District, can be well made for Rs 300 a mile, and maintained for Rs 30 a mile per annum. The better class of unmetalled roads carrying much traffic cost from Rs 60 to Rs 300 a mile to maintain, the average annual charges on 15 such roads gives Rs 120 per mile.

Papers appended

- 1 Statement showing length and descriptions of roads in each District
- 2 Skeleton map of the Punjab, showing roads, railways, and telegraph lines (facing this Report)
- 3 Statement of tolls levied at boat-bridges and ferries
- 4 Statement of wheeled and pack carriage in each District
- 5 Abstract of prevailing rates of carriage of food grains on roads.

CHAPTER I, QUESTION 18

CH I Statement showing length of metalled and bridged, partially metalled and bridged, and unmetalled roads in the Punjab in 1877-78

DISTRICT	Name of road	No of miles metalled and bridged road	Partially metalled and bridged road	No of miles of un-metalled road	Total No of miles of road
DELHI	G T road, Delhi to Rai	21			
	Delhi and Mooltan road	12			
	Delhi and Sirsa road		18		
	Delhi and Kutub road	17			
GURGAON	District roads	13	11	356	448
	Delhi and Mathra road	46			
KARNAL	District roads	18		541	605
	G T road, Rai to Pipli	74			
SIRSA	District roads	7		547	628
	Delhi and Sirsa road		109		
HESSAR	District roads		3	480	494
	Delhi and Sirsa road		72		
ROHTAK	District roads	40		511	580
	Delhi and Sirsa road		58		
UMBALLA	District roads	55		486	547
	G T road, Pipli to Khanna-ki-serai	70			
	Umballa and Jagadhri road		34		
	Umballa and Kalka road	35		457	612
LUDHIANA	District roads	16			
	G T road, Khanna-ki-serai to Phillour	37			
	Ludhiana and Ferozepore road	35			
SIMLA	District roads	40	50	191	353
	Simla and Kalka road		57	41	268
	Hindustan and Tibet road			170	
	G T road, Phillour to Raya	53			
JULLUNDUR	Jullundur and Hoshiarpur road	11			
	Jullundur and Kapurthala road	5			
	Kartarpur and Kapurthala road	5			
	District roads	28		380	482
HOSHIARPUR	Hoshiarpur and Jullundur road	14		40	
	Hoshiarpur to Dera		4	710	768
KANGRA	District roads			40	
	Dera to Dharmasala			85	
	Pathankot to Palampur			621	746
GURDASPUR	District roads	44			
	Amritsar and Pathankot road			50	
	Pathankot to Dalhousie			30	
	Gurdaspur and Sialkot road		30	474	632
SIALKOT	District roads	4		30	
	Gurdaspur and Sialkot road				
	Wazirabad and Sialkot road	27		708	777
AMRITSAR	District roads	12			
	G T road, Raya to Lahore	55			
	Amritsar and Pathankot road	24			
	District roads	1		290	370
LAHORE	G T road, Lahore to Kamoke	25			
	Lahore and Ferozepore road	40			
	Lahore and Pindi Bhuttian road			22	
GUJRANWALA	District roads	10		671	771
	G T road, Kamoke to Kuthala	37			
	Lahore and Pindi Bhuttian road			48	
	District roads	3		1,169	1,257
FEROZEPORE	Ludhiana and Ferozepore road	48			
	Lahore and Ferozepore road	18			
	District roads	19		710	795
<i>Carried over</i>		1 022	446	9 867	14 123

CHAPTER I, QUESTION 18

Statement showing length of metalled and bridged, partially metalled and bridged, and unmetalled roads in the Punjab in 1877-78 —Concluded CH I.

DISTRICT	Name of road	No of miles metalled and bridged road	Partially metalled and bridged road	No of miles of un-metalled road	Total No of miles of road.
	<i>Brought forward</i>	1,022	446	9,867	11,133
MONTGOMERY	District roads			1,008	1,008
JHANG	Jhang and D I Khan road, Chchawatni to Chak Badri		91		
	District roads	1		953	1,045
MOOLTAN	Mooltan and D G Khan road, Mooltan to Sher Shah	9			
	District roads	8		894	911
MUZAFFARGAREH	Mooltan and D G Khan road, Chenab to Indus		28		
	District roads	4		415	447
SHAHPUR	Branch roads in Shahpur District			116	
	District roads			578	694
GUJRAT	G T road, Kuthala to Jhelum	38			
	Roads leading to Salt Range (?)				
	District roads	5		538	581
JHELUM	G T road, Jhelum to Gujar Khan	36			
	P D Khan to Chakwal			40	
	District roads			844	920
	G T road, Gujar Khan to Attock	86			
RAWALPINDI	Rawalpindi and Murree road		39		
	Murree and Kashmir road			17	
	Attock and Makhad road			75	
	District roads	2		1,123	1,342
HAZARA	Hazara Trunk road			97	
	Haripur to Oghi			94	
	Murree and Abbott-abad road			40	
	Abbott-abad to Thandiáni			10	
	District roads			462	703
PESHAWAR	G T road, Attock to Pesháwar	44			
	Nanshabra and Mardan road			15	
	Pesháwar and Kohát road, Pesháwar to Ahmad-ki-Chabutra			22	
	District roads		4	450	535
	Pesháwar and Kohát road, Kohát Kotal to Kohát			5	
KOHAT	Kohát and Rawalpindi road, Kohát to Khushalgarh		28		
	Attock and Gumbat road			20	
	Kohát and Hangu road			24	
	Kohát and Bannu road			84	
	District roads			102	263
BANNU	Bannu and Peyzu roads			50	
	District roads			485	535
	Dera Ismail Khan to Tank and Kulchi			46	
	Deraját road			155	
D I KHAN	Jhang and Dera Ismail Khan road, Chah Berni to Dera Ismail Khan		28		
	District roads			823	1,032
D G KHAN	Deraját road, Rájanpur to Dera Gház Khan			78	
	District roads			500	578
	TOTAL	1,255	664	20,030	21,747

CHAPTER I, QUESTION 18

Tolls levied at boat-bridges and ferries in the Punjab

CH I

	Rs	A	P
On every cart and hackery not on springs drawn by eight bullocks buffaloes, horses, ponies, asses or mules if laden	1	8	0
Do if not laden	0	8	0
Do drawn by six bullocks do do if laden	0	12	0
Do do if not laden	0	6	0
On every cart or hackery drawn by four bullocks do do if laden,	0	8	0
Do if not laden	0	4	0
On every Do drawn by two do do if laden	0	4	0
Do do do do if not laden	0	2	0
Buffaloes or bullocks, per head if laden	0	1	0
Do if not laden	0	0	6
On every Elephant	1	8	0
Do Camel if laden	0	4	0
Do do if not laden	0	2	0
Do Horse if laden or ridden	0	1	6
Do do unladen or led	0	0	9
On every Pony or mule if laden or ridden	0	0	9
Do unladen or led	0	0	6
On every ass, if laden or ridden	0	0	6
Do unladen or led	0	0	3
On every sheep, or goat, or pig	0	0	1
On every foot passenger	0	0	3

N B—Animals drawing any vehicle for which toll can be demanded are not to be also charged with toll.

(7)

QUESTION 18, CHAPTER I

Statement of wheeled and pack-carriage in each District of the Punjab, (vide Stock Return appended to CH I. Punjab Administration Report for 1876-77)

DIVISION	DISTRICT	Carts	Camels	Horses and mules	Pack bullocks	Donkeys	REMARKS
DELHI	Delhi	5,250	600	950	1,058	4,350	
	Gurgaon	7,402	866	2,157	198	16,477	
	Karnal	6,289	750	1,108	375	11,456	
HISAR	Hisar	2,437	13,581	950	?	6,860	
	Rohtak	8,561	2,128	1,420	?	9,170	
	Shees	300	9,900	487	?	5,180	
UMBALLA	Umballa	12,789	621	3,077	791	12,002	
	Ludhiana	11,299	1,810	1,182	300	8,280	
	Simla			50		40	
JULLANDHUR	Jullandhar	15,899	735	1,449	200	12,647	
	Hoshiarpur	7,683	607	1,554	700	9,425	
	Kangra	32	108	2,681	8,183	700	
AMRITSAR	Amritsar	2,455	1,024	8,456	171	12,716	
	Sialkot	1,181	154	4,499	1,653	8,812	
	Gurdaspur	3,367	96	3,018	9,600	6,855	
LAHORE	Lahore	5,206	1,745	1,950	?	11,129	
	Ferozepore	4,648	2,993	1,905	38,725	5,787	
	Gujranwala	340	4,177	1,254	1,301	8,549	
RAWALPINDI	Rawalpindi	37	7,629	1,339	420	24,978	
	Jhelum	66	7,196	1,180	10,686	7,965	
	Gujrat	812	1,737	2,031	1,905	7,414	
	Shabpur	1,614	15,448				
MOOLTAN	Mooltan	124	15,050	1,187	?	9,465	
	Jhang	2	19,918	617	?	4,680	
	Montgomery	33	11,748	4,125	200	4,995	
	MussHargash	46	6,046				
DERAJAT	D I Khan	21	14,672	455	?	8,668	
	D G Khan	18	12,289	461	?	7,914	
	Banna	4	7,496	470	?	51,444	
PESHAWAR	Peshawar	98	1,115	678	1,844	7,058	
	Rohtat	10	2,105	109	?	5,225	
	Hasdra	12	395	1,721	8,143	4,351	
DIVISIONAL TOTALS.							
Delhi		18,991	2,216	4,196	1,125	32,283	
Hisar		11,298	25,588	2,857	16,400	19,210	
Umballa		24,126	2,431	4,309	19,95	20,323	
Jullandhar		23,608	1,445	5,634	3,392	22,772	
Amritsar		7,008	1,274	10,973	759	28,893	
Lahore		10,194	8,915	5,106	7,074	25,455	
Rawalpindi		2,428	81,996	7,043	21,545	49,779	
Mooltan		208	33,662	7,352	30,843	25,215	
Derajat		36	34,458	1,396	22,529	48,034	
Peshawar		120	8,574	2,467	2,731	15,655	
TOTAL		97,908	165,551	51,395	106,428	288,118	

! Number of pack bullocks cannot be given for every District.

CHAPTER I, QUESTION 1b

Abstract of prevailing rates of carriage of food grains on roads in the Punjab reported by District Officers in reply to Question 18 of Chapter I of the Famine Commission's enquiries

Division from which reported.	TRADE			Rate per maund of 40 sers for the whole distance	DEDUCTED COST OF CARRIAGE PER TON PER MILE				REMARKS
	From	To	Distance in miles		By Bullock carts			By Camels.	
					On metalled roads.	On unmetalled roads.			
				Rs. A P.	Rs. A P.	Rs. A P.	Rs. A P.		
DELHI	Delhi	Ballaigarh	21	0 2 0	0 2 7				
	Ballaigarh	Bewari	40	0 3 0			0 2 0		
	Chandam	Ballaigarh	100	0 8 0		0 2 2			
	Soonepat	Bhawani	80	0 4 0			0 1 9		
	Do.	Sissa	125	0 8 0			0 1 9 miles		
	Do.	Bhartpur	110	0 10 0	0 2 6				
GUDRAON	Neih	Koa	30	0 3 0		0 1 2			
	Do	Alwar	60	0 6 0		0 2 3			
	Firozpur	Do	27	0 2 0		0 3 6			
	Bewari	Jhajjar	80	0 2 0		0 3 8			
KARNAL	Karnal	Delhi	75	0 4 0	0 1 5				
	Do	Mirat	64	0 6 0		0 2 6			
	Kanthal	Patidla	40	0 4 0		0 2 8			
	Do	Shamil	75	0 4 0			0 1 5		
	Panipat	Bhawani	37	0 6 0			0 4 8		
HISAR	Hisar	Delhi	105	0 10 0		0 3 7			
	Bhawani	Do	74	0 6 0		0 2 2			
	Do	Do	74	0 5 0			0 1 10		
ROHTAK	Rohtak	Mann	40	0 2 0		0 2 4			
	Do	Delhi	45	0 3 0	0 1 0				
	Jhajjar	Bewari	30	0 2 0			0 1 9		
	Do	Delhi	36	0 2 0		0 1 7			
SISSA	Sissa	Panika	80	0 8 0		0 0 11			
	Do	Delhi	158	0 7 0		0 1 2			
UMBALLA	Umballa	Ferozapore	143	0 8 0	0 1 6				
	Do	Jagadhiri	36	0 6 0	0 4 6				
	Do	Kainai	60	0 12 0	0 6 0				
LUDHIANA	Ludhiana	Umballa	63	0 2 0	0 1 1				
JULLUNDUR	Failour	Jullundur	27	0 2 3	0 2 3		0 5 4 miles		
	Nawashahar	Failour	22	0 2 2		0 3 8	Camels 0 3 1 miles 0 3 8		

(8)

HOSHARPUR	Hosharpur	Jullundur	25	0 1 8	0 1 8			
	Do	Rápar	53	0 10 0		0 5 1		
	Do	Amritsar	50	0 4 0			0 2 3	
	Do	Jullundur	35	0 5 3		0 2 6		
KANGRA	Kángra	Ludhiána	119	* 1 0 0	0 3 7			Partly a hill road.
AMRITSAR	Amritsar	Pathánkot	54	0 4 0	0 1 8			
	Do	Sri Har Govindpur	40	0 4 6		0 3 0		
	Do	Do	40	0 3 5			0 2 2	
SIALKOT	Jammu	Sialkot	27	0 3 0	0 3 0			Grass
	Do	Do	27	0 4 0	0 4 0			Oil, cotton, wool
	Warrabad	Do	28	0 2 0	0 3 1			
	Gurdaspur	Do	67	0 8 0		0 3 2		
	Pasér	Jammu	40	0 4 0		0 2 8		
	Do	Amritsar	38	0 3 8		0 2 0		
	Do	Lahore	40	0 2 8		0 1 9		
	Do	Shahpur and Jhang	150	0 6 0		0 1 3		
GURDASPUR	Raya	Lahore	40	0 3 0		0 2 0		
	Amritsar	Lahore	48	0 4 0			0 2 5 mules and ponies	
	Do	Zafarwál	46	0 8 0			0 4 8	Mules and ponies
	Do	Do	46	0 8 0				
GURDASPUR	Amritsar	Gurdaspur	44	0 2 0	0 1 2½			
	Do	shakargarh	42	0 5 0		0 3 2½		
	Do	Dalhouse	70	0 4 0		0 9 0		Hill road
LARORE	Ferozepore	Lahore	50	0 4 0	0 2 2			Kood grass
FEROZEPORÉ	Do	Do	50	0 6 0	0 3 3			Other merchandise.
	Do	Ludhiána	76	0 5 0	0 1 9			
	Do	Lahore	60	0 7 6	0 3 8		0 2 8	
GUJRANWALA	Do	Sialkot	22	0 2 5	0 3 0			
	Do	Do	40	0 5 0		0 3 4		
	Do	Hánsabad	40	0 5 1		0 4 0		
	Do	Pind Dádan Khan	70	0 7 0			0 2 8	
	Do	Hánsabad	90	0 9 0			0 2 8	
RAWALPINDI	Do	Jhang	66	0 5 0	0 2 5			
	Do	Rawalpindi	46	0 6 0			0 3 7	
	Do	Ludhigeb	46	0 6 0			0 2 0½	
JHELUM	Do	Rawalpindi	66	0 2 6	0 1 0			
	Do	Jhelum	32	0 3 0	0 2 6			
	Do	Pind Dádan Khan	66	0 4 0		0 1 7½		
GUJRAT	Do	Sialkot	21	- 0 3 0		0 2 7		
	Do	Do	50	0 6 0		0 2 8		
	Do	Ludhiána	50	0 6 0				
MEOLTAH	Jhang	Pind Dádan Khan	134	0 6 0 to 0 10 0		0 1 3½ to 0 2 2		The carriage is confined to camels which are engaged @ Rs. 6 or 7 per mensem.
JHANG	Do	Khusab	77	0 5 0 to 0 8 0		0 1 9 to 0 2 9½		
	Do	Warrabad	148	0 8 0 to 0 12 0		0 1 6 to 0 3 2		
	Do	Do	94	0 5 0 to 0 6 0		0 1 5 to 0 1 9		
	Do	Do	29	0 2 6		0 3 4		
MONTGOMERY	Montgomery	Pákpattan	40	0 2 0				
	Do	Kamála	60	0 4 0			0 1 4	
	Do	Do	60	0 4 3			0 2 2 and pack bullocks	
	Do	Lahore	60	0 4 3			0 1 1½ Datto	
DERA GHÁZI KHAN	Do	Dera Gházi Khan	128	0 9 0 to 0 10 0		0 1 1½ to 0 2 1		
RAVVI	Do	Do	72	0 8 0		0 3 0		
	Do	Do	50	0 5 0		0 2 0		
	Do	D I Khan via Paysu	45	0 3 3	0 1 11		0 2 5	
TESHAWAR	Láki	Attock	45	0 3 3				
HAZARA	Harpur	Abbott-abad & Garhi	48	0 8 0			0 4 6	Hill road.

(9)

QUESTION 19, CHAPTER I

To what extent are Railways developed in your Province? What Districts are not traversed by them, and what distances have to be gone to reach the Railways from the Districts furthest from them? Are any Districts so much isolated as to make it desirable to extend Railways to them to facilitate the introduction of food in time of famine

CH I.

If the map quoted in the reply to the last question be referred to, it will be seen that a railway traverses the submontane Districts of the Province, commencing with Gurgaon at its south-east end, and ending at Jhelum, near its north-west end. This railway will shortly be completed to Rawalpindi, and perhaps to Attock, which stations are respectively 100 and 44 miles from the frontier city of Pesháwar. Another line branching off from the first at Lahore, runs in a south-westerly direction to Mooltan, and thence to Karráchi, down the Indus valley. The first 30 miles of railway in the Province, that between Lahore and Amritsar, was opened in March 1862 the line from Lahore to Mooltan was opened in April 1865 by October 1870, the Lahore and Amritsar line was extended to Gházíabad, near Delhi, thus joining the terminus of the East Indian Railway, and placing the trade of the Province, for the first time, in direct and unbroken railway communication with Calcutta and Bombay. The extension from Lahore to Jhelum was opened in 1876. The Indus Valley line, joining Mooltan with the Kotree and Kurrachee line in Sind, has only just been opened. The total railway mileage open in the Punjab now is —

Name of Railway		Miles
Punjab Northern State Railway	Lahore to Jhelum	103
Sind Punjab and Delhi Railway	" to the river Jumna, en route to Delhi (1)	224
	" to Mooltan and Sher Shah	218
Indus Valley State Railway	Mooltan to the river Sutlej, en route to Karachee (2)	57
Rájputána State Railway	Delhi to Rawári, en route to Ajmur (3)	55
	Total	657

(1) The remaining line to Delhi, 124 miles, runs through the Saháranpur, Muzesfarnaggar, and Meerut Districts of the North Western Provinces

(2) The remaining portion of the line is now open to Kotri, and thence by the Sind Punjab and Delhi Company's line to Karráchi

(3) This line will, when completed, connect Delhi with Baroda and Bombay

Lines under construction—The only considerable line under construction is the extension of the Punjab Northern State Railway from Jhelum viá Rawalpindi to the Indus river at Attock. The distance is about 120 miles. The portion to Rawalpindi will be opened, perhaps, 12 months hence, the probable date of completion of the remaining 56 miles cannot yet be stated. It is also in contemplation to construct a light narrow gauge line from Lálla Músa, near Gujráat, to Miáni on the Jhelum, a distance of about 50 miles. Miáni is opposite the salt mines of Pind Dádán Khan, and the salt traffic on the line would of itself yield a handsome return. The country which the line would pass over is perfectly flat, and the material lately used on the narrow gauge line between Lahore and Jhelum being utilized for this line, the cost of construction will be very small.

What Districts are not traversed by Railways, and what distances have to be gone to reach the Railways from the Districts furthest from them?

Assuming that the line of railway which already extends from Delhi to Jhelum will shortly be completed to the Indus, of which there is practically no doubt, and that a

Ca I District of which the major portion lies within 50 miles of a railway, is for all practical purposes, served by it, the only districts to which we need direct our attention are —

(1)—Gurdáspur and Kángra, lying north of the railway system

(2)—The Hissar Division, lying south of it, and

(3)—The Jhang District and Deraját Division, which may be roughly described as the country south of the Salt Range, and west of the Chenab.

To take each of these tracts in turn —

(1) From the Amritsar station to Pathámkot, at the northern end of the Gurdáspur District is 72 miles, and the road is metalled. From Jullundur to Kángra is a distance of 88 miles, the road is not metalled, but is otherwise an excellent one. It is not unlikely that a light railroad may be constructed joining Amritsar with Pathámkot, but the matter is not urgent.

(2) From Delhi to Hissar is 104 miles, and from Delhi to Sursa is 157 miles. Thence via Fázilka to Montgomery, on the Mooltan line, is 158 miles. The road from Delhi to Sursa is partly metalled.

(3) This tract may be considered as having Miánwáli and Bannu (Edwardes-abad) as the points most removed from the railway system, with Jhelum and Mooltan as the nearest convenient points on the railway. These several points are connected by excellent unmetalled roads, they are not bridged, but as the entire carriage of the country is camel carriage, and the rain-fall very small, bridges are little needed. The distance by road from Miánwáli to Mooltan is 194 miles, and to Jhelum 115 miles. That from Bannu, down the west bank of the Indus to Mithankot, is 307 miles. Mithankot is on the Indus, just below its confluence with the Chenab, and is some 25 miles from the Indus valley railway.

Are any Districts so much isolated as to make it desirable to extend Railways to them, to facilitate the introduction of food in time of famine?

The answer to this question is briefly, no. The only part of the Province concerning which any discussion can arise is the tract numbered 3 above, the country west of the Chenab and south of the Salt Range. The population and irrigation in this tract are —

District.	Population, souls.	Percent of area cultivated which is —	
		Irrigated.	Sailáb, & c., protected by river floods.
Bannu	287,547	15	13
Dera Ismail Khan	394,846	32	35
Dera Gházi Khan	308,840	57	10
Jhang	348,027	69	30
Total	1,339,260		

Taking into account the extent of irrigation and sailáb cultivation, the large amount of camel carriage existing in this tract, (see reply to Question 18) the great facilities for river carriage on the Indus and Jhelum, and the fact that no severe distress occurred in this tract during 1860-61, and 1868-69, there would appear to be no urgent reasons of famine protection for extending railways to it.

Has the effect of existing Railways been to equalise prices, and stimulate trade to any important extent? Give any facts that support this view.

The opening of railways in the Province has certainly both equalised prices and stimulated trade.

(3)

As instances of the stimulation of trade by the railways, we have the large exports of grain during the Bengal famine and again during the late Madras famine, and to Bombay for the trade with Europe. During the Bengal famine, between the 15th November 1873 and 31st March 1874, there left the Province, eastwards by railway —

Wheat	.. . . *	594,788 maunds,
Barley	.. . .	647,375 "
Gram	... .	646,725 "
Jowár	. . . .	670,959 "
Rice, maize, and other grains and pulses,	. . . .	736,936 "

Total . 3,296,783 maunds,

equal to 117,742½ tons. Subsequently, as shown in the statements appended to the reply to question 3 of this chapter, the net exports of food grains (exports minus imports) across the east boundary of the province have been —

	By native land carriage	By Railway	Total
1874-75	876,079	2,840,548	3,716,627
1876-77	— 293,611	420,021	126,410
1877-78	688,408	6,835,709	7,524,117

These are broad instances of extensive movements of grain to meet trade demands at a distance, which would certainly have been impossible except in a much smaller degree but for the Railways. Similarly, in the reply to question 20, it will be seen that the trade which the Ravi used to carry has been transferred to the Lahore and Mooltan Railway, and that the extension of the line to Sind is likely to have a similar effect on the Sutlej trade.

It is not so easy to give facts showing how the Railways have operated to equalise prices, because prices in every District depend on many influences, of which that of the Railways is only one. But no one who has watched the operations of trade in the Punjab towns will have any doubt of the fact. The grain dealers receive immediate advice of the fluctuations of prices in the large marts with which they usually trade, advice conveyed as frequently by telegraph as by the post, and no chance of a successful transaction is missed by them. These are not the sort of men to be ignorant of the relative cost of road, river, and Railway carriage,* nor of the fact that the Railway is not only the cheapest, but also by very much the most expeditious of the three.

The following statement, if examined, will show some of the difficulty that there is in tracing by existing prices the influence of the Railways. The prices of Districts off the Railways follow very closely those of towns on the Railway. And it is by the provincial exports and imports rather than by bare prices of adjacent Districts that the influence of the Railways is most easily traced.

* See the last paragraphs of my replies to questions 18 and 20

CH I.

Average price of wheat in the Punjab, during the 4 years 1873 to 1876, stated in sers of 80 tolahs each per Rupee

At some of the principal marts of Districts, south of the Sind, Punjab, and Delhi Railway				At the principal marts on the Sind Punjab and Delhi Railway between Delhi and Mooltan.				At some of the principal marts of Districts north of the Sind Punjab and Delhi line of Railway			
	SERS PER RUPEE		Distance from Sind Punjab and Delhi Railway in miles.		SERS PER RUPEE			SERS PER RUPEE		Distance from Sind Punjab and Delhi Railway in miles.	
	Wheat.	Bajra.			Wheat.	Bajra.		Wheat.	Bajra.		
Karnal	23	23	47	Delhi	21½	26	Gurdaspur	25	20	42	
Hissar	21	29½	104	Ludhiana	24½	27½	Sialkot	22	25	87	
Ferozepore	26½	33	51	Amritsar	23	26	Jhalum	25	30½	103	
D G Khan	21	29½	33	Mooltan	19	23	Rawalpindi	26	33	170	
							D I Khan	29	40½	136	
							Jhang	23½	27	60	

CHAPTER I, QUESTION 20

Give an account of the water communications in the Province, what kind of boats are used, what their number is and what the nature is, of the traffic they convey. State whether the navigation is capable of any improvement, and whether it is conducted in natural channels, or by canals, and if by the latter under what regulations? What is the ordinary cost per mile of boat carriage per ton?

REPLY

River traffic—The Punjab rivers are navigable from the point where they leave the Himalayas. And (omitting the Jumna on the east boundary of the Province which is a tributary of the Ganges) they all unite in the stream of the Indus at the south-west corner of the Province. The navigable length of each, the number of boats used for trade, the nature of traffic conveyed, and the usual charge per ton per mile, is given below—

River	Length of navigable course roughly estimated	Principal marts on each river	No and size of boats	Nature of traffic	Usual charge per ton per mile
JUMNA	MILES 100 miles.	Chaprani, Baghat, Delhi	200 of an average size of 370 maunds (134 tons) each aggregate capacity 2,700 tons.	Grain and fire wood	9 to 12 pies
SUTLEJ	460 miles from Rānā to junction with Chenab.	Ferozepore and Bahawalpur	60, of about 1,500 maunds each (55 tons) aggregate capacity 2,750 tons.	Trade from Ferozepore to Sukkar (400 maunds) and Kotri (600 maunds) in grain, oil-seeds, and wool, with a small return traffic of iron and saji (carbonate of soda)	Down stream 6 pies Up stream 6 pies
BEAS	40 miles from border of Kangra District to junction with Sutlej	No	No river traffic worth	mentioning	
RAVI	300 miles from Kashmir border to junction with Chenab	No	No river traffic worth	mentioning	
CHENAB	460 miles from Kashmir border to junction with Indus at Mithankot.	Akner, Wazirabad, Jhang, Mooltan	1,000 boats varying in size usually from 500 to 1,000 maunds (18 to 38 tons), and with an estimated aggregate tonnage of 20,500 tons.	Down stream Grain and oil-seeds of all kinds also sugar, ghee cotton, country cloth wood &c Up stream Iron dates spices saji &c. a very small return trade	7 pies.
JHELUM	200 miles from Kashmir border to junction with Chenab near Jhang	Jhelum, Pind Dādan Khan, Khushāb	200 boats sizes from 100 to 1,000 maunds each, average size 600 maunds (18 tons). Estimated aggregate tonnage 3,700 tons.	Down stream Grain and oil seeds Up stream From Pind Dādan Khan, salt.	4 pies.
INDUS	500 miles from Attock to Sind border and thence 90 miles to Sukkar, or to Kotri 360 miles. [The mouth of the Indus is about 130 miles below Kotri, or some 480 miles beyond the Punjab border.]	Attock, Kalahgh, Dera Ismail Khan, Dera Ghasi Khan, Mithankot &c	700 boats with an estimated aggregate carrying capacity of 18,000 tons, or an average of 26 tons per boat.	Down stream Grain seeds, cotton, wool, gñ salt &c Up stream Dates indigo cotton goods, metals &c.	8 pies

The traffic on these rivers has been greatly diminished by the opening of Railways, and will diminish still more, as soon as through communication by Railway from Mooltan to Karrāchi has been well established. The Deputy Commissioner of Lahore writes that the traffic on the Ravi has practically ceased since the Railway was opened to Mooltan in 1855. The Deputy Commissioner of Ferozepore makes a similar report concerning the Sutlej, and

Ca I adds that what little boat traffic still survives on that river will probably almost disappear with the opening of the through line of Railway to Karrach.

The boats used on the Punjab rivers are flat-bottomed boats with square ends. They draw very little water, and are in this respect extremely well suited to the Punjab rivers, of which the beds are wide and shallow, the stream sluggish, and the navigable courses shift continually owing to the rapidity with which banks of alluvial deposit are formed. The principal boat-building marts are at Attock, Jhelum, and other towns near the foot of the Himalayas, the pine and cedar, of which the boats are built, being cut in these mountains, and easily floated down to the towns at their base. It is a common practice on all the rivers to build a boat, freight it to Sukkar or Kotri, and there sell it.

The cause which more than any other will increasingly contribute to the decline of the boat traffic is the great difficulty of obtaining return cargoes up stream. Even floating down stream in the flood season with few demands on the energies of the boatmen at an average rate of perhaps 25 miles a day, the boats do not carry as cheaply as the Railway, and the time taken is 7 days for 1 day by Railway. But in the return journeys up stream the boats do not average ten miles a day. Moreover, the rates of freightage charged on the return journey usually are not remunerative rates, but are accepted, because at higher rates the boats would get no freight. If these circumstances are considered, it will be seen that it is impossible for such river carriage to contend successfully with Railways carrying direct to Kurracli or back at 5½ pie per ton per mile.

From 1862 to 1871 the Punjab Government maintained a small flotilla of 3 or 4 light draught steam boats and barges on the Indus between Makhad and Sukkar, but the boats never even approximately paid their expenses. Similarly up to the present date the Sind, Punjab, and Delhi Railway have kept up a steam flotilla between the termini of their Sind and Punjab lines (Kotri and Mooltan). But they are not usually able to carry grain and seeds even down stream by this flotilla at a cheaper rate than from 8 to 12 pies per ton per mile. (This statement is based on information supplied by the Company's Agent.)

It is of course possible that Engineers may succeed in building very light draft powerful steamers, able to work at a much cheaper rate than those yet employed.

But speaking from the experience of the past it is clear that on the Punjab rivers neither native boats nor steamers can even approximately compete in cheapness of carriage with the Broad Gauge Railways.

The aggregate tonnage of the native craft on the Indus and rivers confluent with it as above estimated is a fraction less 45,000 tons, of which the Chenab and the Indus together supply 33,500 tons. We have no reliable data of the work done by each boat. If we assume 3 freights down and two freight up per annum, the total tonnage carried would be 2,25,000 tons a year. The goods traffic on the Sind, Punjab, and Delhi Railway for 3 years past, has been —

Year	No of vehicles running	TONS CARRIED			Tons carried per vehicle
		Up to Mooltan	Down to Delhi	Total	
1875	1,978	2,44,732	1,96,439	4,41,171	223
1876	1,938	4,20,207	2,50,633	6,70,840	346
1877	1,997	4,69,521	4,93,119	10,62,640	532

(Average size of vehicles 6—6½ tons)

The Sind, Punjab, and Delhi Company's Indus Steam flotilla* carried between Mooltan (up) and Sukkar and Kotri (down) during the same period —

In 1875	80 000 tons
„ 1876	1 35 000 tons
„ 1877	1 50 000 tons

* Consisting of 11 steamers aggregating horse power

1 166

And registered tonnage

2 473

Also 25 data with aggregate registered tonnage

6 876

Total tonnage

9 349

(3)

It is superfluous to comment on the bearing of these statistics To a Province in Ch. I which the existing river carriage was only able twenty years ago to carry at the outside 3,00,000 tons a year, we have added in the interval a new flotilla carrying 1,50,000 tons, and a Trunk Railway carrying over a million tons a year, and this last means of traffic is as yet far from its full development, for the line from Lahore north-wards is only half finished, and the extension south-ward from Mooltan to Karráchi, though lately finished, has yet to develop its traffic

Canal navigation.—The canal navigation of the Province is as yet entirely undeveloped The Sutlej, Chenab, and Indus inundation canals are not navigable, nor are they capable of being made so The Bári Doáb canal was designed for navigation, but experience has shown that its slope is too great, and it could not now be made properly navigable without incurring very heavy expenditure The Western Jumna Canal is navigable from its head to Delhi,* and is used mainly for transporting fuel and timber to Delhi, the dues levied are fixed by Government under the Canal Act, and vary from 9 to 2 pie per mile per 100 cubic feet of raft, the major portion of the traffic pays 4 pie The Sind Canal under construction will be navigable from Ferozepore on the Sutlej eastwards to Patála, and a project has been sanctioned for a navigable branch joining Patála with the Western Jumna Canal at Karnál The Agra Canal from Delhi to Agra (which is administered by the North-west Provinces Government) is navigable, and carries a small grain traffic downwards to Agra, with a return traffic in building stone

What is the ordinary cost per mile of boat carriage for one ton ?

The statement at the commencement of this reply, as well as the more detailed statement appended, shows that the ordinary cost of boat carriage per ton per mile by native boats on the Punjab rivers varies from 4 to 8 pie On the Indus and Chenab rivers, which carry 85 per cent of the boats, the charge is 7 and 8 pie per ton per mile The small traffic on the Delhi and Agra Canal is carried at 3 and 4 pie per ton per mile The Sind, Punjab, and Delhi steam flotilla have charged during the past 2 years rates averaging per ton per mile 11½ pie for the shorter distance from Mooltan to Sukkar, and 8 pie for the larger distance to Kotri It is interesting to compare these rates with those charged for food grains on the Railway between Delhi and Mooltan, and these as stated by the Railway Company's Agent are —

	Per maund per mile.	Per ton per mile
Ordinary rate for local booking	Pies 0 25	Pies. 6 8
Special rate for grain and seeds consigned to Sind, being taken on from Mooltan by the Company's Flotilla.	0 20	5 44
Special rate charged in 1876 for grain booked through to Calcutta or Bombay	0 18	4 89

The East Indian Railway Company are now charging at Delhi and other stations on their line for consignments of grains or seeds to Calcutta and Bombay 16 6 per 100 maunds per mile, which is 4½ pie per ton per mile Thus to the far superior rapidity and punctuality of Railway traffic, we must also add that in the Punjab it is cheaper than the native boat traffic of the country

STATEMENT APPENDED

River traffic in the Punjab by native boats, rates, distances and freights.

* When the reconstruction of this canal has been completed, a total length of 127 miles will be navigable for boats, and 58 miles more for rafts.—E WACE

River Traffic in the Punjab, Rates, Distances and Freight

I-20
4

1	2	3		4	5		6		7		8
		TRADE			AVERAGE DURATION OF VOYAGE IN DAYS		DISTANCE IN MILES		Usual charge per maund of 40 sers		
		From	To		Principal merchandise carried	Summer or flood season	Winter season (low water)	Up stream	Down stream	Rs A P		Rs A P
Dy Commissioner Ferozepore	Satlej (including the Beas)	Sukkar	Ferozepore	Iron and saji	90	120	400		0 6 0	0 0 5	
		Ferozepore	Sukkar	Wheat, gram, til, rape and wool	80	48	400		0 8 0	0 0 6½	
Dy Commissioner Mooltan	Chenab	ditto	Kotri	Ditto	40	80	600		0 12 0	0 0 6½	
		Aknur	Mithankot	Gram of all kinds, sugar, salt, spices, ghi, country cloth, silks and wool.	20	80	450		0 10 0	0 0 7	
Dy Commissioner Gujranwala.	Mithankot	Mooltan	Mooltan	Dhán rice, dhanya, peas, string, saji, sira sjwain, methua.	80	60	120		0 2 6	0 0 6½	
		Wasirabad	Jhang	Wheat gur gh, country cloth wool cotton, kupás horns, halela, balela, awla, sarun, timber	10	15	120	0 8 0 to 0 4 6		0 0 8½	
		Rám Nagar	ditto	Ditto	8	12	100	0 8 0 to 0 4 6		0 0 10½	
		Pindi Bhattáin	ditto	Ditto	6	11	70	0 8 0 to 0 4 6		0 1 2½	
		Wasirabad	Mooltan	Ditto	20	80	280	0 4 0 to 0 6 0		0 0 5½	
		Rám Nagar	ditto	Ditto	18	28	210	0 4 0 to 0 6 0		0 0 6½	
		Pindi Bhattáin	ditto	Ditto	14	20	180	0 4 0 to 0 6 0		0 0 7½	
		Wasirabad	Mithankot	Ditto	26	40	380	0 6 0 to 0 9 0		0 0 5½	
		Rám Nagar	ditto	Ditto	22	38	330	0 6 0 to 0 9 0		0 0 6½	
		Pindi Bhattáin	ditto	Ditto	18	30	300	0 6 0 to 0 9 0		0 0 6½	
		Mooltan	Wasirabad	Iron cocoanats, dates, black pepper, zung saji	80	48	280		0 4 6		0 0 5½
		ditto	Rám Nagar	Ditto	24	40	210		0 4 6		0 0 6½
		ditto	Pindi Bhattáin	Ditto	21	35	180		0 4 6		0 0 7½
		Mithankot	Wasirabad	Ditto	80	60	350		0 6 9		0 0 5½

(4)

By Commissioner Jhelum	Jhelum	Mithankot	Ramnagar	Ditto	45	52	380			0	6	9	0	0	6	1			
		ditto	Pindi Bhattian	Ditto	40	45	300			0	6	9	0	0	6	6			
		Jhelum	P D Khan	Grain and oil seeds	3	8		60		5	0	0	0	0	0	0	0		
		ditto	Khasbáb	Ditto	5	15		300		10	0	0	0	0	0	0	5		
		ditto	Moolan	Ditto	20	35		250		20	0	0	0	0	0	0	4		
By Commissioner D G Khan	Indus	ditto	Sukkar	Ditto	45	60	500		60	0	0	0	0	0	0	4			
		ditto	Kotra	Ditto	60	90	750		60	0	0	0	0	0	0	0	4		
		P D Khan	Jhelum	Salt	15	15	50		15	0	0	0	0	0	0	0	4		
		Attock	Sukkar	Ghi, snuff, hand fans rice vinegar, baskets	20	45		250	0	12	0	1	0	0	0	0	7	0	9
		Kakabágh	ditto	Rock salt, alum baskets, mumsj &c	15	30		400	0	10	0	0	12	0	0	0	6	0	7
		ditto	ditto	Dates, indigo, cotton &c	15	30	500		0	10	0	0	12	0	0	0	6	0	7
		ditto	D G Khan	Salt, alum &c	10	20		290	0	7	0	0	8	0	0	0	7	0	0
		ditto	ditto	Dates, indigo cotton and haberdashery	10	30		290	0	7	0	0	8	0	0	0	7	0	0
		Isa Khel	Sukkar	Wheat, gram barley and alum	15	30		470	0	8	0	0	12	0	0	0	5	0	0
		ditto	ditto	Indigo, cotton goods, iron, cocanut, dates zinc copper &c	15	30	470		0	8	0	0	12	0	0	0	5	0	0
		ditto	D G Khan	Wheat gram, barley tobacco, mung and máh	8	15		250	0	6	0	0	8	0	0	0	8	0	0
		ditto	ditto	Dates indigo cotton &c	8	15		250	0	6	0	0	8	0	0	0	8	0	0
		D I Khan	Sukkar	Wheat gram, wool, cotton, manjith, fruit carraway seed &c	10 to 15	25 to 30		340	0	7	0	0	8	0	0	0	6	0	0
		ditto	ditto	Dates haberdashery	10 to 15	25 to 30		340	0	7	0	0	8	0	0	0	6	0	0
		ditto	D G Khan	Wheat, gram, wool, cotton, carraway seed Cabul fruit &c	4 to 7	10 to 12		130	0	4	0	0	6	0	0	0	10	0	0
ditto	ditto	Dates indigo cotton pickles	4 to 7	10 to 12		130	0	4	0	0	6	0	0	0	10	0	0		
D Patoh Khan	Sukkar	Wheat gram barley, bájra kharra and cloth	10 to 15	25 to 30		280	0	6	0	0	7	0	0	0	7	0	0		
ditto	ditto	Wheat, gram barley &c	2 to 4	5 to 10		280	0	5	0	0	7	0	0	0	7	0	0		
ditto	D G Khan	Dates, cotton &c	2 to 4	5 to 10		70													
ditto	ditto	sukkar	10 to 15	25		285	0	6	0	0	7	0	0	0	7	0	0		
ditto	ditto	Dates and haberdashery	10 to 15	25		285	0	6	0	0	7	0	0	0	7	0	0		
ditto	D G Khan	Wheat and wool	2 to 4	7 to 8		60													
ditto	ditto	Dates, rice &c	2 to 4	7 to 8		60													
Sanghar	Sukkar	Wheat jowár bájra mustard, cotton, &c	8 to 10	20 to 25		250	2	0	0	0	0	0	0	0	0	0	0		
ditto	ditto	Dates and haberdashery	8 to 10	20 to 25		250	40	0	3	0	0	4	0	0	2	0	0		
ditto	D G Khan	Wheat, jowár bájra, mustard cotton, wool	2	8		40	0	3	0	0	4	0	0	0	2	0	0		
ditto	Sukkar	Cotton wool indigo, wheat, jowár, til mustard, cotton &c	8 to 10	20		210	0	4	0	0	6	0	0	0	8	0	0		
ditto	ditto	Date haberdashery Bombay sugar &c	8 to 10	20	210		0	4	0	0	6	0	0	0	8	0	0		
ditto	Kotra	Cotton wool indigo saltpetre hides wheat, jowár bájra	10 to 12	25		350	0	10	0	0	12	0	0	0	9	0	0		
Mithankot	Sukkar	Wheat, jowár bájra, indigo	4 to 6	10 to 12		150	150	0	3	0	0	4	0	0	6	0	0		
ditto	ditto	Dates and haberdashery	4 to 6	10 to 12		150	120	0	3	0	0	4	0	0	6	0	0		
Rohan	ditto	Wheat jowár bájra wool, ghi, máh	4	10		120	20	0	3	0	0	4	0	0	8	0	0		
ditto	ditto	Dates and haberdashery	4	10		120	20	0	3	0	0	4	0	0	8	0	0		
By Commissioner Delhi	Jomna	Bágnat, stláb	Delhi	Wheat	2	5		20		0	1	0	0	0	1	5			
		Meerut opposite																	
		Jhandpur Talab																	
		Sone at																	
	Delhi	Agra	Wheat, gram, barley and mung	4 or 5 days	through the Agra Canal		150		0	1	6			0	0	3			
	Agra	Delhi	Slabs and grinding stones	10 or 11 days	through the Agra Canal		150		0	2	0			0	0	4			

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CHAPTER I, QUESTION 21

Is there any portion of your Province, into which by reason of the want or the badness of the roads or other means of access, or of local or temporary disturbing causes of weather &c., it might be impossible or difficult for unassisted trade in time of scarcity to throw enough grain to feed (say) one quarter of the population for six months? If there is such a part, state where it is, what is its area and population, and what are the special difficulties to be overcome, and how they might best be removed? CH I

REPLY

The principal difficulty in answering this question for the Punjab is, that the records of the years 1860-61 and 1868-69 (the years of famine in the Punjab) go to show that, partly owing to the movements of people towards the centres of trade and towards the tracts least famine-stricken, and partly owing to the activity of trade and carriage, a failure of food supplies, such as the question contemplates, is unlikely in any part of this Province

It is clearly unnecessary to consider the question in respect of the Districts traversed by and immediately adjoining the Railway lines. But it may be of use to give the data which justify the assumption of the sufficiency of trade to import a half year's food for a quarter of the population in the tracts more distant from the Railway, viz., (1) the Hissar Division, and (2) the Derajat Division and Jhang District.

- (1) —Of the Hissar Division the population is 1,232,435 souls. A fourth of this population, consuming, at famine rations, say $\frac{1}{4}$ ser per head per diem, would require a daily supply of say 4,000 maunds per diem. Delhi is 10 marches from Hissar, and Sirsa is a similar distance from Ferozapore and the Sutlej. On an average we may assume that a camel would deliver at the various points in the Division, where grain was wanted, 2 loads in a month, 4,000 maunds equal 800 camel loads, or say 1,000. So we should need 15,000 camels. The Hissar Division alone possesses over 25,000 camels, and over 11,000 carts. The latter will carry on the worst road twice as much as a camel.
- (2) —The aggregate population of the Derajat Division and Jhang District is 1,339,278. A fourth of the population would consume (at the same rate as above), say 4,200 maunds per diem. As Dera Ismail Khan is 12 marches from Mooltan, the amount of carriage required would be a little more than in the previous case, say 20,000 camels. The Derajat and Mooltan Divisions together possess 88,000 camels, and besides these, river carriage by native boats would certainly be largely used.
- (3) —A third possible case can be suggested, viz., such a very unusual failure of autumn crops as occurred in 1877 in the hill tracts of Hazara. The population of these tracts (tahsils Abbottabad and Mansahra) is 227,561, a fourth of this population would consume at above rate say 750 maunds per diem. With camels delivering from Rawalpindi 2 loads a month about 2,850 camels would be needed to keep up the required supply. The adjacent District of Rawalpindi alone possesses 7,600 camels. Camels can work on the main roads of Hazara.

It seems unnecessary to enter into further calculations on this subject.

CHAPTER I, QUESTION 22.

To what extent has telegraph communication been established between the chief towns of your Province? Having in view the value of rapid communication in time of distress, are there any important lines which it might be desirable to construct. Ch. I.

The map which illustrates the reply to Question 18, shows the existing lines of telegraph. The Punjab is in telegraphic communication with the rest of India by 2 lines, of which one leaves the Province at Delhi, and the other at Mooltan. The former directly connects the Punjab with the North-Western Provinces and Calcutta, the latter with Sind and Bombay. In the interior of the Province the telegraph system consists of three principal lines. The first follows the Railway line from Delhi to Lahore and Jhelum, and then by the Trunk road to Pesháwar. The second follows the Railway line from Lahore to Mooltan and Sakkar in Sind. The 3rd, starting from Sakkar (Rohri) in Sind connects all the frontier stations on the west bank of the Indus, northward to Kohát, where it is again connected with the first line at Rawalpindi, adding in the branch lines, viz, the branch connections with Rewári, Simla, Pattáá, Ferozepore, Dalhousie, Siálkot, Murree, and Abbottabad, the total mileage of telegraph lines in the Province is —

	Miles
(1) Main line Delhi to Pesháwar	628
Branches—Delhi to Rewári (Rájputána State Railway)	51
Umballa to Pattáá	37
Do Simla	79
Ludhiána to Ferozepore	77
Amritsar to Dalhousie	117
Wazírabad to Siálkot	25
Rawalpindi to Murree	39 5
Kala-ke-Serai near Rawalpindi to Abbottabad	44
(2) Main line, Lahore viá Mooltan to Sakkar in Sind	492 5
(3) Main line, Sakkar to Kohát up the West Bank of the Indus, and thence to Rawalpindi	404
Total miles.	1,994

All this is permanent line. I have not reckoned a few purely temporary lines, now working mainly for military purposes.

By this system 23 out of 32 Districts are in direct telegraphic communication, both with Government and with the Commissioners of Divisions. The 9 Districts lacking such communication are —

- (1) Karnál in the Delhi Division, distant by metalled road 74 miles from Delhi and 47 miles from Umballa. The Postal communication is by horsed carts and metalled road, which run in 13 hours from Delhi to Karnál, and in 8 hours from Karnál to Umballa.
- (2) The 3 Districts which compose the Hissar Division, the head-quarters of each being connected with Delhi by a partly metalled road, and the distances from Delhi being,

Rohtak	45 miles, or by post	7½ hours
Hissar	104 " "	19 "
Sírsa	53 " "	30 "

 The post is carried by horsed carts.
- (3) Hoshúrpur and Kángra, the head-quarters of the former being distant 24 miles, and that of the latter (at Dharmasála) 103 miles from the divisional head-quarters at Jullundur. The post is carried by foot runners on a unmetalled road.

(2)

- C# I
- (4). Shahpur, of which the head-quarter is 99 miles distant from Jhelum on the telegraph line between Rawalpindi and Lahore. The post is carried on an unmetalled road by foot runners, time 20 hours.
 - (5) Muzaffargarh and Jhang in the Mooltan Division, of which the former is 16 miles distant from Mooltan and the latter 60 miles from the Chicháwatu station on the Mooltan and Lahore Railway. From Chicháwatu to Jhang the post is carried on an unmetalled road by horsed cart.

The Financial Commissioner is of opinion that there is no special urgency of the nature indicated in the question under reply for the completion of telegraphic communication with these 9 Districts. None of the distances are such, as might not, if occasion required, be rapidly connected by temporary lines, and meantime the postal communications are reliable, and are never interrupted or delayed except by heavy rain or floods.

CHAPTER I, QUESTION 23

Has there been within the historic period any sensible denudation of the forest in, or CH I
bordering on, your Province? Can it be tested by statistics showing over how much area forest or scrub jungle has been cut down? Can you state any specific facts which lead you to think that such deforestation has caused injurious effects in any way, either in respect to the fall of rain, or the abundance or permanence of water in streams, or wells, or the sub-soil, or the denudation of the surface soil, so as to render it unfit for cultivation? And what injury has been produced, and to what extent? Can you adduce any direct evidence that such injury as you think has been caused by the clearing of forest, has been remedied by its reproduction? If you think the clearing has been injurious, what steps would you propose to take towards reboisement? Should it be done by artificial planting, or by conservation of the tract, so as to keep out cattle-grazing and fires? Can such conservation be effected without interfering with any vested rights of the people, or with their consent, if interference is necessary? Which of the two methods would be easiest, cheapest, quickest of operation, and most effectual? To what extent and on how large an area could either method be followed?

REPLY

The reply to this question is furnished by Mr Baden Powell, C S, Conservator of Forests in the Punjab. It is annexed in full. The Financial Commissioner desires me to remark thereon that, in his opinion, the question whether there has been in the Punjab deforestation of the injurious nature described above must be answered in the negative, or left in doubt, except as regards the lower hills of the Hoshiarpur District, where mischief to the adjacent lands below has no doubt occurred from the excessive denudation of the hills, caused by the increased population and manufactures of the District, and by Public Works on a scale of magnitude previously unknown in that part of the country.

Also as regards the concluding paragraphs of the Conservator's reply, the Financial Commissioner observes that, though in the abstract the Conservator's arguments are correct, the facts, as implied in head 2 of the arguments, are likely to give a wrong impression. The conflict is not between vast public interests and the private interests of 10 or 12 cattle-owners, but between public interests of a very limited description, which it is proposed to benefit by measures of forest conservancy of doubtful efficacy, and the harrying and discontenting of a whole country side which those measures involve.

CONSERVATOR OF FORESTS' REPLY

There is only one general remark I have to make on the following answers. The questions set me are very properly directed to ascertain actual facts and results, and not to evoke theories. Forest facts and forest results can only be produced in a series of years when therefore it is remembered that forest conservancy has only been in existence in the Punjab for about 12 years, the actual results can only be few, but it would be the grossest fallacy to allege that we have no sufficient ground to urge the importance of conservancy and reboisement works, because the conditions in which we are placed do not enable us to point to fully successful remedies.

Accomplished evils are only too common, their remedy has as yet only commenced

CH I We must rely on the known facts of science, on the experience of other countries, on analogy, and on influence from works as yet only beginning to show results. It may be urged that in such a case there is only a *probability* of success if measures are undertaken; that may be so but at any rate there is a great deal more than a probability of mischief if they are neglected.

The 23rd Question of Chapter I, consists in fact of a series of questions and it is only possible to exhibit answers to each paragraph separately —

(a) *Has there been within the historic period any sensible denudation of the forest in, or bordering on, your Province? Can it be tested by statistics showing over how much area forest or scrub jungle has been cut down?*

In the present state of the country it is not likely that *statistics* will be available though, if any useful purpose could be secured by it, with a great deal of labour a sort of estimate of the area of hill ranges more or less denuded might be made.

The facts (or otherwise) of denudation may be tested in the following ways —

(1) By the tradition of the country and evidence of old people who recollect a former state of things.

(2) By a study of localities now denuded, and comparing them with similar localities which from situation or other cause have escaped denudation.

(3) Supplemented as to (2) by the fact that there has been an enormous increase in the demand for wood both for fuel and for construction, which supply is known or certainly inferred to have been drawn from places now denuded.

I have no doubt whatever that throughout the Punjab the denudations of forests has been great and continuous. We have only since 1864 endeavoured to combat it, and that with very imperfect means, and in the face of an opposition which has been and is constant and unrelenting. This is always the case, especially in the beginning of any attempt to conserve, because the great bulk of a population (whether Indian or European) are sensible only to the pressure of immediate wants, and have no idea of individual restraint for the benefit of the whole, or of the present for the sake of a continuous supply for the future.

There is ample tradition to show that the outer Himalaya, the Salt Range, the Pabli Range in Gujrat, the outer hills of the Siwalik,* and many other places, were better wooded than they are now.

This tradition is amply confirmed by the fact that these localities bear all the signs of its truth, while we know that practices of burning and indiscriminate grazing (practised increasingly with an increasing population) are adequate to produce the disastrous change.

Moreover, the constant wars which before our rule desolated the country cannot have been without effect on the forest. And the immense increase of the population, the demands for railways, for workshops, for cantonments, and for towns that now number thousands instead of tens of inhabitants, and are supplied with fuel and wood from somev here, must necessarily tend to denude the country *unless measures for reproduction are adopted*. These measures have been, and are still, wholly inadequate to replace the drain on the material.

Within my own time enormous areas in the plains have been cleared of fuel to supply the railways, not the least part of whose demand is for the burning of millions of bricks used in first construction.

* See remarks at the close of this reply by Mr Coldstream, Deputy Commissioner of Hoshiarpur.

(3)

Mr Coldstream, Deputy Commissioner of Hoshiarpur, has proved that the same effect has taken place in the Siwaliks. The destruction (chiefly from similar causes in the Hills, notably in Hazara and Ráwalpindi, has been great. The denudation has, no doubt, been greater in our own time than at any other, because population before was scantier, there were none of the present great centres of demand and it needs no argument to establish that the scantier the population and its cattle, the less are the obstacles to the natural reproduction of material taken from the forests.

(b) *Can you state any specific facts which lead you to think that such deforestation has caused injurious effects in any way, either in respects to the fall of rain, or the abundance or permanance of water in stores or wells, or the sub soil, so as to render it unfit for cultivation ?*

This subject must be approached apart from the known fact that such evil results are produced by forest denudation both in tropical and temperate climates, but it is impossible to exclude the absolute evidence of facts, the state of the Department des Hautes Alpes, the valley of Devolny and the Region of Embrun, to say nothing of the numerous instances cited in various authors, in which the effects of forest denudation are known and recorded. In tropical countries, so far from there being any feature which renders it possible that results would be otherwise, the increased violence and duration of our rain fall can only tend to intensify and make more alarming the results which follow.

Every part of our hill districts where there is any population (i.e., out of the truly Alpine region) is more or less ravaged by torrents. Near Chumba (to take only one instance) and on the route from there up the Sítl Valley torrents after torrent may be noticed, dry in the summer, but in the rains coming down with fury, bearing down masses of stone and debris which spread out at last into a vast cone or fan-shaped mass of debris, this increasing in breadth year by year destroys fields on either side. The same may be observed all over Hazára, valleys that might be fertile and cultivated being filled with stones as far as the eye can reach.

Some of the disasters are of course due to landslips and to peculiarities of geological structure, and to accidental closures of the course of a stream, where, after the water has accumulated for a time, the barrier is violently burst and a destructive flood follows.

But making the fullest allowance for these cases, the number of instances that have come under my own observation certainly due to, or subsequently aggravated by, forest denudation [and even denudation of herbage and turf by burning and over pasturing—a matter also of the highest importance], are very numerous.

A familiar instance may be quoted in the Tirth valley or that part of country traversed by the road from Simla to Sultanpur, between say Menglaor and Lárgie.

The state of the "chohs" or sand torrents of Hoshiarpur ought not to be entirely unnoticed as another instance. I have specially reported on these curious torrents. The extremely soft nature of the soil of the hills would always render it liable to some detrition, and the streams would always exhibit sandy beds, but their present extent and their constant increase in length and breadth is certainly due to denudation, the evidence of which is conclusive.

The torrents that intersect the Salt Range and bring down masses of stone and sand may also be alluded to. The torrents called "Uj," "Rawal," and "Leh," which cross the road between Murree and Ráwalpindi, are also mainly, if not entirely, due to denudation. And I have directed a further more minute enquiry into the "basins of origin," so as to get permission to enclose these as forest lands. The destruction caused by the torrents is only too well known. A recent exploration of the sources of the well known Chakki torrent near Gujrat showed that the main branches contributing stones and waste material came from hills utterly denuded, in Kashmir territory.

The Gaggar is another familiar torrent flowing from denuded hills. There are evidences in Baháwalpur (detailed in the introduction to the Government of India Forest Report, 1872-73) to show that permanent rice cultivation, *not* derived from the Sutlej, was once there practised), and there is little doubt that the Gaggar was once a steady flowing river carrying fertility far south.

We have of course no statistics to show the area of land rendered unculturable by these streams, whose principal effects are seen to day in the demand they make on public funds for repairs of roads and bridges, &c.

A great many of them have been so long in action that we can only point to lands now covered with stones without our being able to recall a day when they were otherwise.

As regards that part of the question which relates to rain-fall I would briefly observe that while experiments carried on in Europe show a probability (and a strong one) that forests may have an influence in actually increasing the rain-fall, we are as yet (even in Europe) unable to speak confidently, and in India data are wanting. To suppose that forests can create a monsoon is unreasonable to suppose that they can attract and help in the condensation of clouds is by no means opposed to a sound judgment. But the practical conclusion is, that while we are waiting for confirmation of the effects of forests in this direction, we are amply justified in taking action regarding forest conservancy and reboisement by the other facts which no one disputes, *viz*, those concerning the supply of water in streams and wells, the safety of the surface soil on the hills, the prevention of destruction of lands, river banks, and what they support, as well as of bridges and public works, all of which can to some extent be secured by taking care of the slopes from whence the water (which does so much mischief or so much good as the case may be) first takes its start.

The effect of forests in breaking the force of the fall of rain, absorbing a large proportion of the water and acting as a filter and as a sponge, both to cleanse and slowly discharge the surplus, are too well known to be remarked on, but in connection with this I should like to say that I believe (with Mr Medlicott) that the production of "Reh" which we call "Kalar," so deleterious to culturable land, is in no slight measure connected with the interference with the general system of sub-soil drainage which *must* result, when the outer hill ranges of a country are denuded, and when the rain that falls abundantly on them every monsoon is not enabled to soak into the soil and to feed permanent springs and streams, but is allowed rapidly to run off the surface, carrying stones and sand into various torrent beds, which rushing with great violence for a time (which might be calculated at a few hours out of the whole season) pass away and leave nothing behind. In a word, the effect is to substitute a *surface* drainage, violent and as well as useless in its action, for a deeper percolation of water affecting gradually and permanently the sub soil.

(5)

I can do no more than allude to the numerous remains of old villages and wells long deserted and dry which are found in parts of the Punjab plains. No certain information can be given while the desiccation may be due to the deprivation of subsoil moisture, there is also the probability that changes in the course of the great rivers, and their recession from the vicinity, may be a more immediate cause. As regards the area rendered unfit for cultivation, the area in Hivara alone of torrents' beds amounts to something like 80,000 acres, but the area covered with sand in Hoshiarpur and otherwise injured all over the country cannot of course be stated in figures.

(c) *Can you adduce any direct evidence that such injury as you think has been caused by the clearing of forests has been remedied by its reproduction?*

In a province where (beyond enacting a few tentative and general rules to save standing trees in certain places) little or nothing had been done previous to 1864, and whereas since then a small forest staff has been employed which had everything to learn, and to make its way slowly against every kind of difficulty, both from within and from without, it is not possible that extensive results can as yet be quoted. We have as yet made one large artificial plantation covering about 12 square miles, and no doubt this has produced locally an increased dew fall and some change in the local temperature. As to the effect of measures of natural conservancy, *i e.*, giving protection (without artificial planting), all that I can say is, that the natural reproduction (when we have been permitted to protect areas) has been such as conclusively to show the good effects of mere protection. A small but interesting experiment (not under the Forest Administration) may be seen at Rawalpindi, where a piece of hard clayey soil with a few shrubs or bushes (of about 500 acres in extent) is now a public park full of verdure, and that solely by* the effects of careful protection for 15 years. And there are many individual tracts of forest, wherever there have been constituted forests, all over the Punjab, which show the same results. While water in the streams may be found in many of these all the year round, similar water courses in denuded places will be found dry.

Numerous instances may be met with in the hills, of ravines closed up and cured by the spontaneous growth of bushes, &c., where from some accidental circumstance they have had the chance of growing up again.

(d) *If you think the clearing has been injurious, what steps would you propose to take towards reboisement? Should it be done by artificial planting or by conservation of the tract * * * * Which of the two methods would be easiest, cheapest, quickest of operation, and most effectual? [I leave the omitted words regarding "vested rights" to a separate answer]*

The difficulty of course is the magnitude of the work. But this should not cause despair. We cannot close the whole extent of vast ranges at once, or supply an enormous Forest Staff to supervise it, we must do the work gradually. We must attack successively and slowly one by one the points where the denudation has produced the worst effects. We must be content to take (in each Forest Division) a few only of the principal points and assure ourselves of success. Prejudice may be removed best (as directed in the case of the vast work to be done in the Alps under the French law) by attacking places where the results will be

* Of course roads have now been made and avenue trees, &c., planted, but the bulk of the growth of *Acacia Madecassa* which covers the slopes is entirely natural growth.

(6)

seen at an early date. We should take, for instance, certain parts of the Salt Range, the sources of one or two definite and destructive torrents in Hosharpur, in Rawalpindi and so forth, and be content to treat these. If we accomplish so much, and leave succeeding generations of officials to carry on the work, we shall have nevertheless done a great work and saved thousands of rupees.

The first and most essential step is, having selected a definite boundary line along a range of hills selected for operation,—or a definite “perimeter,” that is the area from which the ultimate branches and sources of a torrent take their rise,—most carefully and completely to close and protect it, so as to give every possible chance to its natural restoration. All experience shows us that this (in a climate like that of India, where growth of vegetation, once allowed a fair chance, is rapid) is the most promising method of proceeding.

Whether we adopt artificial planting or rely on natural growth this is the first thing, and (an absolutely *sine qua non*) to be done.

This leads me to the next point there is no hard and fast rule to be laid down in any case, whether natural or artificial reproduction is to be adopted. The result of natural growth has to be watched. In most cases it will require—

(1) —Closing and rest

(2) —Certain mechanical aids known as “barrage” or series of rough dams made of rough stone (or what else may be available), built in a series one above the other to aid the closing up of ravines,—as fascines pegged or staked on to the soil—as rows of live stakes driven firmly into the ground and made of willow, poplar or other species that strike root readily, so that each stake becomes a tree,—cutting of gently sloping gutters or drains to lead off the water and prevent it concentrating its flow into a dangerous ravine, thus also dispersing moisture and rendering the hillside soft and damp, so that sowings may be made or cuttings planted along the edges of such drains or channels.

(3) —Sowing, or filling by transplants, of beds silted up, or other suitable places at the heads of streamlets and natural points of drainage collection.

Of course natural production is the cheapest, and, when aided as above, may be just as quick and effectual, if not more so than purely artificial work, but most ordinarily both will be used in combination, and the precise form to be adopted must entirely depend on the physical conditions of the place dealt with.

(e). *Can the conservation be effected without interfering with any vested rights of the people or with their consent if necessary?* [These words occur in the middle of the last quoted question, but are conveniently separated.]

As far as “consent” is concerned, experience can alone show. In the Alps it has been found that when Government commenced the works on areas which it took up compulsorily, as soon as people saw the success attained, they began (especially the more rational communal councils &c.), to do the work in their own neighbourhood themselves, and the Government aided in such cases by money grants or grants of seeds and plants. The areas or “perimeters” necessary to be dealt with were declared by Forest Experts, and the work was carried on by the State or by the “reboisements—*facultatifs*” alluded to.

(7)

In talking with people in Hoshiarpur, I found that those whose lands were affected by the sand were eager that Government should take steps, but the people in the hills who had cattle said it was very true that the case was bad, but that their cattle would die. I said, "You can feed your cattle on fodder, and you can take your cattle elsewhere, if the worst comes to the worst, but we cannot make the land safe, or reproduce grass and wood (which will ultimately after a little space of self denial benefit you), except by closing the hills."

The idea that any peasantry will ever consent *at first* to anything, the benefit of which is future, while the pressure or discomfort is immediate, is contradicted by the experience of all forest countries. By rewards and by compensation you may reconcile people, and that is all Government must judge what is right and fair to do, irrespective of popular clamour, and their orders must be carried out. The natural love of keeping things quiet, almost at any price, renders officials very unwilling to do this.

But next as to amount of restraint necessary. The practical difficulty is that the worse the denudation, the larger is the area over which cattle are spread, searching out the last blades of grass and the last sprouts of shrubs and plants for their scanty subsistence. Generally speaking, however, the locality is of so little use to the people that the actual hardship can be very little if they are deprived of the right to devastate it for a time. Liberality must be shown and compensation paid where needed, and effort should be made, in all reboisement works, to grow quickly not only trees and shrubs, but above all, grass, plants of fodder and so forth, such as the *medicago* and other species, which, after some months, may be cut, of course without up-rooting, as fodder and given gratis to people that have been excluded. But I beg to call attention to two prominent points, the justice of which is undeniable, but which are apt to be overlooked.

1. However much A and B may have "vested rights" of grazing, they are not the proprietors of the soil*. Consequently they can never claim to exercise their rights to such an extent as to destroy the servient estate, or render it useless to the proprietor. All rights are inherently limited to this extent. Hence the soil owner has the natural right to say, "The land is incapable in its present condition (without total destruction) of supporting more than such and such a number of cattle. I require that the cattle admitted should be limited to that number which it will fairly support, and I require that places which are in such a state that they cannot support any cattle at all should be closed, so that my property may be restored and not rendered alike useless to me and a source of injury to others." Such a principle is admitted by every civilized law, and I could quote ample authorities (if for anything so obvious it were needed) alike from English, French and German sources.

2. But if there is an absolute conflict between the private and the public interest, the private must give way. It is more reasonable that ten or twelve cattle owners should be obliged to take their cattle away and grow fodder for them and feed them in stalls, or even sell them, than that miles and miles of country shall be destroyed by the denudation of the "perimeter" or basin of origin of a hill stream.

The closure, it may be remembered, is only temporary after a few years (may be under favourable circumstances 4 or 5 only, but of course no fixed estimate can be made) partial reopening may be allowed, care has then to be taken not to allow a greater number of cattle on to the site than can really be pastured there without risk of over grazing for the future.

The existing forest law gives ample powers, in my opinion, for carrying out the procedure necessary, but nothing can be done without a firm grasp of the principles of forest conservancy, a clear understanding of what is fair and just, and a determination to work on these lines for the public benefit firmly and with a whole heart, not to be moved by a little clamour or an outcry which is sure to be raised if listened to, no matter how unreasonably just and wholesome the restrictions imposed are.

* Of course if the dangerous places are really private land then unless some special application of the Forest Act can be made the land has to be expropriated, but here we are dealing with wastes which are in theory Government as all waste is, but which is bordered with private.

Ca I To the above report by the Conservator of Forests, I subjoin the following account of what has occurred in the Siwaliks of the Hoshiárpur District, written by the Deputy Commissioner, Mr Coldstream

There has been within the last two generations a most extensive denudation of forest area on the outer Siwaliks, the chain which runs from north west to south east right through the whole District in the direction of its greatest length

I cannot give complete statistics as to the area of denudation, but have been at some pains to ascertain generally its extent within each hill vilage

The result is that it appears that miles upon miles, I might say tens of miles, of hill side have been cleared more or less completely of their timber and brushwood

Where formerly the nílgaí, the tiger, and even elephant were found, there is now no forest, not even in some places a scanty brushwood.

This deforestation has had the most disastrous effects, for I think I may safely attribute to it, if not the existence, at least the increase of the sandy beds called "chohs," which seam the whole breadth of country from the water-shed to the south west boundary of the District These are very numerous, occurring at almost every mile, and are sometimes themselves half a mile broad These "chohs" are plains of arid barren land for most of the year, but for a few days each rainy season, and occasionally throughout the year, they are filled with wide rushing torrents sweeping everything before them, and carrying in a few short hours the whole drainage of the Lower Siwaliks into the fertile plains of the Doáb

Loss of area in the hill villeges from detrition,—loss of potential forest income to the villegers,—diluvion in the villeges in the plains below,—destruction of road bridges and railways,—perpetual wastes of sand in the midst of a most fertile country,—growing expanses of sand-hills on neighbouring land formed by the action of the winds,—these are some of the evils which the "chohs" have caused or help to perpetrate, and which are probably intimately connected with the denudation of the forest on the outer Siwaliks

I have ascertained that in the Hoshiárpur Parganah above 55 square miles (35,000 acres) are wastes of "choh" land

During the period of Settlement 8000 acres of assessed land alone have been diluviated or deteriorated by the action of "chohs" To give an instance of which I know the particulars, the township of Dasuya has lost land worth Rs. 5,000 in two years from this cause

In the Jullundur District the complaints of the Hoshiárpur drainage appear to be yearly increasing, and the floods* from these hills have just caused enormous damage in the line of railway

The subject was noted in the Revenue Report of this District for 1876-77, and after special enquiry a full report on the subject has been submitted to the Commissioner—(Deputy Commissioner Hoshiarpur's No 695 and No 696 to Commissioner Jullundur, dated 17th December 1877)

In these letters I made specific proposals for reboisement

I believe that the people would generally consent to Government interference The land is mostly the people's, and not Government land, but I think they could easily be persuaded to submit to conservancy in their own interests

Nature would soon reboise the tract, helped by sowings and plantings, which could be very cheaply done through the agency of the villegers

I need not further enter into particulars, as the subject has been fully treated in my letters above quoted

I consider the subject as one of vital and pressing importance, and I am only waiting for establishment for which I have applied, and a general sanction to commence operations

* Yes. But the floods did not go over the chohs but along the courses of regular rivers, and the damage caused to the country and to the railway was owing to the railway embankment acting as a dam from its being deficient in water-way—GOVERNOR Financial Commissioner

CHAPTER I, QUESTION 23.

Addendum to the preceding reply

The Conservator of Forests has written a further reply (which is appended), under the impression that the Financial Commissioner's remarks with which his previous reply is prefaced will be understood as asserting, that no deforestation has occurred in the Punjab. I am therefore directed to point out, that the remark objected to was confined to "deforestation of the injurious nature described" in the question, that is to say, deforestation carried to such an extent, as to affect the rain-fall or water supply in streams and in the subsoil, or to denude the soil and render it unfit for cultivation.

The letter now received from the Conservator shows, what the Financial Commissioner never denied, that a great deal of timber has been cut down in the Forests of the Punjab and of Kashmir. It would have been impossible to build civil stations and Cantonments, and to carry on the Public Works which the Government has undertaken, without a large consumption of wood both for building purposes and for fuel. And the increase of population, and the security obtained under the British rule for life and property, together with the fostering influences produced by limiting the Government land revenue demand, have caused an immense area of waste and forest land to be brought under cultivation. But the Conservator does not even in his present letter give figures showing that the deforestation caused by these circumstances has produced the injurious effects described in the question.

Further reply to question 23, Chapter I, by the Conservator of Forests, Punjab

I have received a copy of my answer to the 23rd question of the famine questions, Chapter I. This answer is, I observe, directly disallowed by the brief remarks which precede it.

2 Were this merely an expression of opinion, I could not of course trouble you with any remarks. The answer to questions must necessarily evoke many differences, but my answer is denied in such a form that the Famine Commission must conclude that it need not be read, since it is entirely contradicted by the direction of the highest revenue authority.

3 And the point is one of great importance. For the only conclusion to be drawn is, that there is no need for any measures of forest conservancy in the Punjab. But in fact I cannot help suspecting that there must be some mistake in the text as it stands. I read with astonishment (if the expression may be pardoned) the statement that, within historic times, no extensive clearing of forest has taken place in the Punjab. It is not, you observe, the question (in the first instance at least) whether the clearance of forest has been beneficial, or necessary, or excusable even, but whether it has occurred as a fact? Now the answer to this can only be that forest has disappeared from one end of the province to the other,—not by hundreds but by thousands of acres, and it would be hardly an exaggeration to say in some parts by hundreds of thousands of acres, and that except in the limited area under conservancy a great deal of what remains is steadily deteriorating.

4 I take the case of the hill ranges only. In Hazára, your own settlement report proves the enormous increase of population and extension of cultivation that has taken place, not merely in the plains, but in the hills, where it may safely be estimated that fifty per cent. of the primeval forest has disappeared, while in many considerable hill ranges, the whole of the forest has been cut down, or reduced to mere scrub. In Rawalpindi, I have not the first settlement report to refer to and give the exact passage, but it is stated there by Col Cracroft, that the cultivation in Murree and Kahuta did not amount to anything more than a small per-centage, of the whole. At present the demarcation of the remaining forest is so difficult that you will find that you can hardly obtain any continuous or fair sized block of forest at all. It is a sanguine estimate now to hope that the forest may prove to be 15 per cent. of the whole!

Ch. I. In Kulu and the Kángra hills, I need hardly remind you of the wholesale disappearance of forest, consequent on the extension of agriculture and the spread of tea cultivation. All around Simla, the same is true—the establishment of hill cantonments has everywhere carried with it heavy demands for land for increased potato and cereal crops, and large clearances for fuel and timber supplies, all of which have made great havoc in the forest, and little or no replacement of the forest thus destroyed has taken place. It is only quite of late years that forest conservancy has received attention. In proof of this, I beg to call your attentions to the Board of Administration letter to the Government of India, 1852 para. 8 &c (*Barkley's Non-Regulation law, page 355*)

The same is true in the Salt Range as of all the outer and lower ranges of the Himalaya.

5 Then also consider the enormous quantity of deodar and pine timber that has been taken to the plains during the last 30 years for civil stations, public offices and buildings, Railway bridges and for sleepers and other objects. All this has been persistently extracted, without method or system and without any sort of control, from the hill forests overhanging our river valleys, the principle of the easiest work being alone looked to. The consequence has been in Kashmir, that the deodar forests are fast disappearing, no measures of reproduction being taken. In the hills of Chumba and Basahr (like those of Kulu in our own territory) it is only the remnants of forest that were, some 12 years ago, leased by the British Government, and which we have commenced to replant and to conserve.

6 That a portion of this destruction was necessary is not disputed. Cultivation must advance of course, but it has advanced without due control and often in a very wrong direction. It is not only to be considered how much land is kept as forest, but how that forest is distributed and where placed.

Nor does this alter the fact that continuous and very extensive clearing of forest has gone on, and is still in progress even within our own times.

7 I altogether put aside the indirect evidence afforded by the torrents, like the Gaggar, the Hurro, the Sohán, the Bhumbar, La, Uj, Rawul &c. The hills from which every one of these or their feeders rise have certainly been denuded within 'historic times,' but I prefer to rely simply on the plain facts of the great increase of cultivation and the enormous supply of lumber to the plains as utterly subversive of the opinion, that it is doubtful whether forest has disappeared.

PAPERS APPENDED

Brief account of the Punjab Forests, extracted from Forest Administration Report for 1872-73.

The following brief account of the Punjab Forests and of the climate in connection therewith, was written by the Conservator, Mr Baden Powell, when officiating as Inspector General of Forests in India, see Report on the Administration of the Forest Department under the Government of India for 1872-73.

VOL I, CHAPTER II

In all the central high and lands of the Punjab rukhs, and that in the worst places, as Mooltan and the Rachna Doáb, are found traces of ancient cultivation, river beds that are now dry, and remains of villages. And even in the parts of the rukhs which are outside the arid region, and nearly in the dry as in Gujránwála and parts of Lahore, we find streams which were once perennial and now only flow as torrents in the rains. It is impossible to account for this by any theory of the gradual upheaval of the vast alluvial plains.

To return to the Baháwalpur country the Sutley river flows through a defined valley of its own, with high alluvial land many feet above the level of the river. This high land or Bángar never could have been watered by the Sutley, yet "every part of this central tract," says Mr Burns, "bears proof on its surface that at some former period there must have been large areas flooded with fresh water for a long succession of years," and that not by fitful floods or sudden inundation, but in a steady quiet manner, as where there is rice cultivation on a large scale the presence of testaceous molluscs, similar

to those of tropical fresh-water lakes, seems to prove the fact. This tract is traversed by remains of the new dry bed or rather series of beds, of the Ghaggar river. This stream comes from the hills below Simla, running as a torrent during the rainy season, and having a very small supply of water at other seasons, which is swallowed up in the sand before it reaches Bahawalpur. This phenomenon, so commonly observed in all the Punjab streams coming from the now denuded lower hills, points inevitably to the conclusion that forest denudation has deprived these rivers of their steady water-supply, and hence ruined the rainless countries that were dependent on them.

CH I.

The next zone is described as the "dry zone," here the rain-fall is over 15 inches. It will be observed that this zone skirts round the eastern bend of the "arid zone," and that there is a second dry zone occupying a portion of Southern India between the Eastern and Western Ghāts. Some remarks may be offered on each portion of the zone. The northern portion includes all the northern wood lands of the Punjab some of which are in the plains, and differ only from those of the arid region by a slight improvement in their vegetation, but the rest, in the vicinity of the Gujrat and Jhelum Districts, north of Lahore, are mostly situated on low hills of soft sandstone and marl, very liable to be washed away, and, as in the Punjab range and in the salt range hills, exhibiting a considerable range of geological formation, from eocene nummulitic limestone, and fossiliferous sandstones similar to the Siwalik series, down to sandstones of the "new red" or Permian group. In character they are similar to other rocks, being sparsely covered with stunted vegetation, but the species change. *Acacia modesta* (phulāhi) being characteristic in company with *Gymnosporia* and *Sageretia*. The treatment and artificial reproduction of the forest when denuded, is a matter of almost as great difficulty as in the case of the truly arid regions, seeing that the rain-fall is capricious, apt to come down with a heavy flood at one moment, with long intervals of drought at other seasons. There is scarcely any herbaceous covering to the ground except during the brief season of the rain, and the water falling with unchecked violence on the soft strata, causes deep and marl-mud, which is, in its turn, cut up in every direction by subsequent rain channels. The forest treatment of these areas is a matter of great difficulty. Denudation of forest here has the most lamentable results. A good instance of this is afforded by the little British States of Ajmur and Mharwāra, situated in the centre of the native territories and States of Rājputāna. These States have their plains cultivated chiefly through the agency of tanks for water storage which are fed by streamlets, that run only during the brief season of rain-fall that the countries enjoy. The portions that once were forest, consist of ranges of indurated sandstone belonging to the Aravalli hill series, which are connected with the great Vindhya range north of the Narbādda. The hills were formerly densely covered with thorny jungle, and with *Boswellia acacia* sp., and *Anogeissus*. They were so densely covered in fact that the wood was cut down, because it gave shelter to bands of robbers. Charcoal-burners and others did the rest and now nothing remains but bare hills. The stocks that still remain in the crevices and where a little soil yet survives, send out shoots, but as goats and cattle over-run the hills, these shoots are nibbled off and tramped down, and the exhausted plants are unable to survive the unequal contest.

As regards the Himalayas of the Punjab, Mr Powell proceeds to remark as follows —

To the extreme north-west there is no moist zone, but the hills are in the medium zone. The lower ranges are marked by a comparative bareness, but still contain many of the species that the hills do about Simla, there being of course a tendency toward Trans-Indus species (e.g., *Ballota umbata*) on the former, and to the eastern series in the other.

The lowest hills generally have small trees, but this is often the result of ill treatment, as many of the species are not necessarily small. The "Toon" (*Cedrela Toona*), *Pistacia Integerrima*, *Phyllanthus emblica*, *Grislea*, *Terminalia*, both *chebula* and *belerica*, *Cassia fistula*, *Sapindus emarginata*, *Diospyros tomentosa*, *Bauhinia*, *Grewia*, *Acacia stipulata*, *Bombax*, *Cassia diffusa*, *Pyrus variegata*, *Celtis*, and many others being characteristic, and going east ward we get also *Glochidion*, *Conocarpus*, *Terminalia tomentosa*, *Dalbergia ongenensis*, and *Lagerstræmia parviflora*, with *Nauclea* and *Ficus Roxburghii*. Above these we have the forests of *Pinus longifolia*, and above that again oaks (*Q. incana*) and *Anaromeda ovalifolia* often with the lower hill species. Then in order we have deodar, with *P. excelsa* and other pines, with deciduous vegetation, as *Cotoneaster*, *Acer* species, *Cornus macrophylla*, *Rhododendron*, *Cedrela serrata*, *Taxus baccata*, *Viburnum* sp., *Cerasus corunita* (Royle), *Quercus dilatata*, *Morus serrata*, *Juglans regia*, *Pavia Indica*, *Ulmus* sp., and the wild apricot.

Above this we have usually the forests of the high growing or Alpine oak (*Q. semecarpifolia*), known by the rusty color of the under side of the leaves, and the deep black forests of the *Picea Webbiana*. Last of all we have birch and one or two small *Rhododendrons* and creeping *juncipers* below the snow. It is the outer hills of the Himalaya, away from the snow both the low ranges close to the plains and the first groups of higher peaks that indicate the dangers of denudation, or rather, that having been denuded, have caused the cessation of perennial streams and that, becoming liable to huge landslips and to the formation of rocky ravines charged with boulders, are the sources of so much danger. Any one who has traversed the cart road from Simla to Kalka, or indeed almost any one of our north-western hill roads, will readily acknowledge this. The wood has been cut down, and owing to a practice of burning the dead grass to produce a new crop of tender shoots, all chance of self-sown seedlings growing up is at an end.

The expenditure on yearly repair of these roads large portions of which are carried away, and on the reconstruction of bridges across ravines which are season after season swept away, must be very considerable.

The force of the torrents that come down during the rains is something almost inconceivable. The Kulu valley (Beas valley) in its upper portion is one of the loveliest spots imaginable. In 1869, when

CH I I first visited it, beautiful plots of green soft turf studded with alder trees not unfrequently skirted the river banks. In 1871 there were great floods, and on my second visit I found in many places, that the grass was completely covered with a mass of pebbles and boulders, the trees all torn away, and their place occupied by huge masses of granite and gneiss—many tons in weight—that had been brought down by the action of torrents from the hills which close in the valley. At the time of my visit, the rains being over, nothing remained of the streams that had produced such devastation but perhaps a tiny rill of water trickling through the stones.

The plan recommended in France of turving the slopes (*regainnement*) would be perfectly inefficacious in India, partly owing to the greater violence of the rain-fall, but chiefly owing to the fact that while the close growing European and Alpine species of *Poa* and other grasses produce a soft elastic turf, the Indian grasses at such elevations as I speak of are of different families, that do not produce a close-growing herbaceous covering, but are rank and open grasses, which, however abundant, are quite powerless to resist the abrading effects of the rain.

Let us again return to the forest to vegetation that distinguishes the several belts of the Himalayan area.

All classes of forests rapidly cease in passing beyond the moist belt into the rainless Himalaya, the *Pinus Gerardiana* and the *Juniperus excelsa* growing up beyond other trees. Forests of birch and *Picea Webbia* still follow the hill sides, where a certain moisture is obtained from the gradually melting snow of the heights above. Over the Baralacha pass, for instance, and in Spiti and Lahul, there is no arboreous vegetation except a few trees near streams.

CHAPTER I, QUESTIONS 24 & 25

The Sanitary Commissioner reports that he is unable to furnish replies to these questions, as there are no statistics on record. See his reply appended to Question 2 of this Chapter. CH I

QUESTION 26

The instructions received reserve this for reply by the Local Government

CHAPTERS II, III, AND IV

ANSWERS BY CIVIL OFFICERS IN THE ORDER NOTED BELOW

CHS II AND III

MR A H BENTON
 " T ROBERTS
 " W COLDSTREAM
 " E NICHOLL
 MR MUHAMMAD HYAT KHAN
 COLONEL J E B PARSONS
 CAPTAIN H WOOD

CHAPTER IV

MAJOR GENL MACLAGAN, *Secy P W D*
 MR J B LYALL
 " J D TREMLETT
 " E O'BRIEN
 " C ROE
 MAJOR H GREY
 " E C CORBYN
 " HOME, *Secretary P W Department,*
Irrigation Branch
 CAPTAIN J OTTLEY, *Asst Secy, D P W,*
Irrigation Branch, reply and papers
appended on method of distributing
canal water among holdings
 FINANCIAL COMMISSIONER
 LIEUTENANT GOVERNOR

Answers by MUHAMMAD HAYAT KHAN, C S I, Judicial Assistant Commissioner, Gurdáspur.

PRELIMINARY REMARKS

Replies to questions framed by the Famine Commission, by the above officer, who had charge of the relief works at Gurdáspur in 1877 His residence in this District has been one year and 7 months The distress in this District was temporary. The answers generally refer to the distress in the Gurdáspur District

CHAPTER II

Answer to question 1.

The distress first makes itself felt among the people when food grain becomes scarce in the District, and the village bankers refuse to lend them grain either for food or seed, and the Zamindárs are compelled through sheer necessity to sell or mortgage their lands more largely The District Officer comes to know the distress from his preconceived knowledge of the country, the frequent occurrences of crimes, the information derived from conversation with people with whom he daily comes in contact, and from reports of Tahsildárs, Thanádárs and village officials, who keep him informed of all occurrences in the District, and the general state of the country The severity of the distress, and as to its being due to temporary or local scarcity, is ascertained from the stock of grain in the country If there be sufficient grain in the District, and the demand for it is kept supplied from the neighbouring Districts, and the scarcity is felt soon after the reaping of the harvest, the distress must be considered to be temporary If, on the other hand, the stock of grain in the District be very small, and merchants come in from other places to buy it, while the yield of the harvest be less than $\frac{2}{3}$ ds of an average crop, or the crop has entirely failed, and the scarcity is felt in July or August, the surmise will be that there would be a very severe general distress ending in famine It is believed that a scarcity depends on the out-turn of the kharif crop The reason is this (1) The kharif is sown extensively, and more than one kind of crop is

grown on one field, so that if one crop fails, the produce of the other compensates the loss (2) The produce of the kharif is mostly consumed by the working class and lower order of population, and its failure affects a larger body of people (3) It grows quickly, and the distress which may have been prevailing at the time is removed as soon as the harvest is reaped (4) The rains in July and August, which ensure the growth of the kharif, enable the Zamindárs to plough and prepare the land for the rabi, the moisture retained in the soil generally proving sufficient for the sowing of the winter crop Thus, if there be sufficient rain after the distress is felt, two crops can be grown, and all apprehension of famine is dispelled The Tahsildárs and village officials, such as Zaldárs, Patwárs, and Lambardárs, are bound to submit occasional reports, and keep the District Officer informed of the state of the country, as already stated The existing District establishment is sufficient to ensure the submission of early and trustworthy reports With a view to test the accuracy of the reports and take early measures to prevent the distress reaching its climax it is necessary that the Assistant and Extra Assistant Commissioners should be put in charge of the afflicted portion of the District They should be required to be always in camp in their respective jurisdiction,

making inquiries about the condition of the people of each village, the stock of grain in the country, and other matters connected with the distress, and send daily reports to District Officer, and try their best to mitigate the calamity They should not be attended with a large retinue, as it will only tend to increase the distress, but should ride about alone They should above all try to prevail upon the village bankers to continue to lend grain to the Zamindárs, and not to abandon them in their distress If they succeed in this, they will no doubt confer a great blessing on the afflicted people, and in a great measure mitigate their distress I found from my experience of last year, when the District was afflicted with temporary distress, that the District Officer

And should be relieved of the fear of the Chief Court. H P

Note.—The sole note in this report, signed by H P, and by Mr. Perkins, C. S., the Commissioner of the Division.

Ca II. and his subordinates could do a great deal of good by exerting themselves in the manner indicated above. The village bankers were easily induced to lend seed and food grain to the cultivators, and the result was, that they were not only saved from starvation, but the seed enabled them to sow the rabi, and with the out-turn they repaid a portion of their debts to their bankers, who were surprised to find that the assistance rendered by them at the instance of the District Officers proved so very advantageous to them. The Assistant and Extra Assistant Commissioners in charge of Sub Divisions can prove themselves very useful, and render great assistance to the District Officer in time of distress if properly employed, but in every case the Deputy Commissioner, who is alone responsible for the welfare of the District, should have supreme authority over them.

Answer to questions 2 and 3

The distress is first felt among the poorer classes of agriculturists who own little or no land, and have a large family to support, and who are already indebted to the village bankers, and always pay their revenue by borrowing money from them, and who, at the harvest time, make over their grain to the village bankers in payment of their debt. These people suffer on the first approach of scarcity, they cannot obtain any loan of money for the purchase of food, seed, or cattle, and are obliged, when pressed by hunger, to sell their household goods, not even excepting the timber of the roof of their house. When all resources are exhausted, they leave their home with their family in search of employment. The able bodied among them obtain their livelihood by working as labourers, while the infirm and children go to large towns for the purpose of begging. They do not, as a rule, move in a body, but get themselves dispersed in the country. Besides the poorer classes

These men suffer first of all. of agriculturists, the lower orders of the working population, such as H P Churás, Dumnas, Jollahá, Mochí, also suffer on the first outbreak of the distress. These people entirely depend on the cultivators for their maintenance, and it is natural that when the latter are unable to provide for themselves, the menial laborers and atizans must, as a matter of course, suffer. In last year's scarcity, when the price of food grain rose very high, they left their villages in large numbers. The sweepers generally took to thieving, and satisfied their hunger by eating stolen cattle. Relief works on a small scale were opened for them in different localities, and they with their women and children were employed in them, while those who were unable to work received gratuitous relief. In this manner a considerable number of them were relieved of their distress. The effect of distress manifested by the different classes of rural population was not always the same. The lower order of working men, who generally obtained their livelihood from the tillers of the soil, left their village with their wives and children on the first appearance of the distress, but the cultivators were slow in applying for relief, they stood manfully till their last resource had been exhausted, when no work was left to them in their fields, and when they could not obtain any loan of money or grain from their bankers, in short, when reduced to the last extremity, they (only the male sex) left the village in search of employment. They supported themselves and their family with their earnings, but when the distress became severe, their women and children also left their homes. They did not go out in a body, but dispersed themselves in different directions, each seeking for his or her bread. In time of distress the owners of land, with a view of economy, dispense with the necessity of hired labour and work for themselves. This is another reason why the poorer classes of cultivators and laborers are thrown out of employment on the first approach of scarcity. When they do not find any work at home, they roam about in the country in search of employment. These men can be most profitably employed on earth-work.

Answer to question 4

The following comprise the different classes of habitual mendicants. (1) Ordinary beggars. (2) Persons who hang about charitable institutions (mosques and temples) for their support. (3) High caste people, such as Brahmans, Syads and persons of other religious sects. (4) Mirásis (village bards) and Bharás (village musicians). There are no statistics extant, from which it can be ascertained what proportion they bear to the total population. As an approximate estimate they cannot be more than 5 per cent. In time of scarcity they fail to obtain alms, even the charitably disposed persons fasten the sting of their purse. As the severity of the distress increases, the chance of getting alms becomes more precarious. When all hopes of obtaining relief from private individuals become extinct, they turn towards Government for subsistence. Amongst the mendicants there are few who

feel disposed to work,—in fact from long habits of idleness they become quite unfit for work. Ch. II.
 Finding themselves unable to earn their livelihood either by working or begging, they naturally become dependent upon Government for support. I am, however, of opinion that those who are able to work must obtain their bread by the sweat of their brow, and should on no account receive gratuitous relief. Poor and infirm persons, who, in ordinary years, are supported by their richer relations and friends, are fed as long as their relations and friends can afford to do so, but when the distress assumes a severer aspect, they are cast adrift, and they too look upon Government for support.

Answer to question 5.

No doubt it would be meeting the danger half way if an accurate forecast of the condition of the people during the approaching season following any more or less serious failure of the ordinary harvest is made by the District Officer. To do this, it would be necessary first to ascertain the amount of loss of the last food crop, and the distress prevailing in the country, the estimated produce of the present harvest, and the existing food stocks in the country, and the power of trade to bring in more, and then calculate how far the resources will suffice to meet the requirements of the District. In years of distress the Assistant and Extra Assistant Commissioners should take a round in their Sub-Divisions, and personally ascertain the food stocks in the country, and the amount of produce of the present harvest. It is not possible to form an accurate estimate of the amount of grain that would likely be imported into the District. It all depends on the urgency and the amount of requirement of the District. The merchants, as a rule, take their grain to the market where it would likely obtain a ready sale, and fetch the largest amount of profit. Thus, if grain be selling in the Gurdáspúr District at a very high price, the tide of commerce will turn to this District, but if on the other hand, the demand for grain be urgent in other Districts, it will take its course to those places, and instead of receiving any supply we shall lose what we already possess. A correct estimate of the out-turn of the kharif can easily be made in September, and that of rabbi in March, nor would it be difficult to assess the grain stocks in the District. A correct account is kept by every Maháján of the grain stored by him, and on asking for the information it will be immediately obtained. But it will not be easy to form a conjecture what number of persons in the District, in the event of an outbreak of famine, would be able to purchase grain and what number not. It all depends upon the nature of the distress. If one-fourth of an average food crop is lost, no one, it is believed, would ask for help, the same may be said if even half is lost, but if $\frac{3}{4}$ is lost and for two successive years, then 1-10th of the population would be in need of help, but of this 9-10ths would earn their livelihood by working as labourers, and only 1 10th, that is, one hundredth part of the whole population would require gratuitous relief. If, however, the crop fails continuously for more than two years, the distress would indeed be very severe, and, excepting only the well-to-do class, the whole population will have to be fed.

Answer to question 6

If the distress be temporary, it would only be necessary to provide the people with employment in the Public Works that may be going on at the time in the District, be they under Civil or Public Works Officers, but if the distress assumes a severer aspect, special works would have to be opened. All important works that require engineering skill should, as a rule, be entrusted to the Officers of the Public Works Department, but in respect to forming gangs and making payments to them, the work should devolve upon Civil Officers. It would be difficult to give the people work in the vicinity of their home, as the advantages thereby secured to them will be comparatively much less than the loss which Government will suffer by the arrangement. Moreover, it will tempt the people who can afford to support themselves somehow or other to try to get themselves admitted into the relief works. Relief works should, as a rule, always be opened in places where works of public utility are needed, and which will be of permanent benefit to the people in general, but they need not necessarily be very far from the home of those who will be employed in them, and should, if possible, be within the tahsil in which they live.

Answer to question 7

Poor-houses should be opened only when the distress assumes a gloomier aspect, and the people are driven from home by hunger. Such persons should be admitted into them as cannot, on account of old age or infirmity, work. They should not only be provided with

Qz. II food, but should also be housed and clothed. These poor-houses may be supported from three sources: (1) Imperial Funds, (2) Subscriptions raised from private individuals, (3) District and Municipal Funds

Answer to question 8

When the distress has spread throughout the District, private charity might intervene and afford relief to the needy. Charitably disposed persons would, no doubt, be glad, if they are saved the trouble of giving alms to individual persons, to subscribe a certain sum which will go in forming a Relief Fund. From last year's experience I am of opinion that it would conduce to the public good if a Committee of management composed of official and non-official persons is formed at the head-quarters of the District. Persons subscribing to the Relief Fund might be invited to become members of it. The Committee may be put in charge of poor-houses. Their duty will consist of (1) to regulate the scale of diet, (2) fix the time and manner of distribution of food, (3) determine whether cooked or raw food should be distributed, (4) make arrangement for lodging &c. Sub-Committees may also be formed in large towns. They will be guided by the rules framed by the Sadar Committee and take instructions from them. The President of the Sadar Committee will be the head Civil Officer of the District. The Committee will, besides other works, examine the accounts of the poor-houses. As this Committee will comprise a large number of non-official members, they would be able to raise and collect subscriptions. The members of the Committee will divide the work amongst themselves, and two or three of them will in turns supervise the distribution of food. The arrangements herein proposed proved very successful in this District last year.

Answer to question 9

All Municipal and Local Funds Committees might be invited to contribute to the Relief Fund to the extent of their means. Ordinarily the Local Funds in this District can subscribe Rs. 1,500 a year for famine works, but in years of distress the contribution can be raised to Rs. 35,000. Non-official persons would, it is believed, gladly subscribe. To secure their confidence and good will, it will be necessary to admit only persons of the highest respectability into the Relief Committee. The amount of subscription likely to be collected will depend on the nature of the distress. The largest amount that can be collected in this District will not exceed more than Rs. 10,000. Private subscription may be best collected through the agency of the Relief Committee.

Answer to question 11.

A list of charitable institutions in which food is distributed to the people of this District is given below. These institutions are however not open to all classes of people,—only disciples and followers of a certain religion are fed here. The income and expenditure have been approximately given, it is believed that in time of famine no material help can be derived from these institutions. The income is barely sufficient to bear the expenses of the institutions.

List of places in which people are fed in the Gurdáspur District.

No	District.	Annual income	Annual expenditure	No of persons fed.
1	Pindori Mahantán	7,000	5,000	2,333
2	Rattar Chattar	3,000	3,000	1,000
3	Dera Nának	4,000	4,000	1,666
4	Dhánpur	3,000	3,000	1,000
5	Lel	1,000	1,000	333
6	Sum	500	500	200
7	Kot Mián Sábáb	1,000	1,000	333
8	Rám Tirath	500	500	200
9	Gurdáspur	3,000	3,000	1,000
10	Batála	3,000	3,000	1,000
11	Fatahgarh	1,500	1,500	500
12	Tybbi	500	500	200
13	Ghore wáh	2,000	2,000	1,500
14	Kartápur	1,000	1,000	400
15	Nana Kot	1,000	1,000	400

Answer to question 12

Besides the points for inquiry suggested in this question, there are other indications Ch. II.
& III which cannot be mistaken that the distress is imminent. The District Officer, who always takes care to ascertain the state of the crops in March and September, will not fail to observe if the prospects of the present and next harvests appear gloomy. If in addition to these and the other facts noted in the question, he finds that the people have been selling their goods, not excepting the timber of the roof of their house, and are leaving their homes in search of employment, it must be considered that the danger is at hand, and that the District Officer had been mistaken in his appreciation of the facts he at first observed. All these signs cannot escape the notice of the District Officer. His source of information is vast. In the first place, a District Officer is supposed to be thoroughly acquainted with the country, he receives daily reports from his subordinates, has occasion to talk with the village officials, and the people in general, who would certainly bring to his notice if distress is apprehended, or prevailing in any part of the District. The Deputy Commissioner should in time of distress mix freely with the people, and ascertain the actual state of affairs. The existing District organization is sufficient to supply him with accurate information, but he should not be wholly guided by the reports of his subordinates, however trustworthy they may appear to be, but should test the reports by occasional visits to the District localities.

Answer to question 13

If, after the District Officer had formed an opinion that the distress would be a severe one, there be a timely fall of rain for the sowing of the next crop, or if it be discovered that the stock of grain in the country had been under-estimated, or that there has since been an increase in the import of food grains, it must be considered that the distress is temporary. When the people have returned to their home, it will not be necessary to afford them further relief. The relief works and poor houses should not be closed all at once, for fear that by taking precipitate measures harm may be done to those who may require relief. They should be closed one by one as their necessity seems no longer to exist. All subordinate and village officials should be held responsible that no person dies from hunger through their inattention. If it be discovered at any time that a person has been suffering from want of food, he should at once be provided with some employment, and, if unable to work, must receive gratuitous relief.

CHAPTER III

Answer to question 2

On the first appearance of distress in the District, earth-works, which do not require any skilled labour, may be opened under the supervision of Civil Officers. Such works will consist of raising and improving District roads, excavating kacha tanks. Other simple works within the boundaries of Municipalities may be also opened to afford work to the people. But when the distress becomes serious, and the number of applicants for aid be very large, works of the following description, which require engineering skill, may be devised, and taken in hand under the supervision of Officer of the Public Works Department: (1) New roads and canals (2) Cutting drains for the conveyance of the surface drainage of the country to unirrigated fields (3) Rail roads where required, water supply for conservancy purposes in Municipal towns (4) Works in connection with reclamation of marshes caused by floods and accumulation of rain water, and other drainage works. But in regard to forming gangs, making payment of wages and distributing food, the work will devolve upon Civil Officers, as already said. Able-bodied men should be employed in works which require hard labour, and a little skill, and weak and infirm persons on easy and light works, such as spreading earth on roads &c. No distinction of caste or creed should be made in giving employment to the distressed. Exception will only be made in favor of artisans, who will be employed on works in which they are proficient. Care should however be taken that the food is distributed to the different classes of persons separately, so that no unnecessary interference may be made with their caste prejudice.

Answer to question 3

CH III. Small works requiring engineering skill may also be made over to Officers of Public Works Department. The reason for making the suggestion is that an experienced Engineer would be able to execute the work, though small, more efficiently than a Civil Officer, while on the other hand a Civil Officer, from his knowledge of the customs and manners of the people, will be better fitted for the work of forming gangs, distributing food &c. The latter kind of work cannot be undertaken by the Officers of Public Works Department without the co-operation of Civil Officers, especially when the famine is wide-spread, and frequent applications are made for relief.

Answer to question 4

Of the three tests mentioned in the question, the one, "distance test," is not so good that it can be relied upon, although by not enforcing this test attempts will be occasionally made by persons who have means of subsistence to get themselves admitted into the relief works. In regard to the 2nd and 3rd tests it may be said that those who will submit to them must be considered as eligible for state relief. But, apart from these tests, an experienced officer would at a glance of the general appearance of the applicant be able to declare if he is actually in need of relief. Ordinary Zamindárs and village artizans would not go a long distance in search of employment so long as there is work for them at home. Generally Relief Committees will comprise persons who will possess some knowledge of the country, and will most probably be acquainted with several of the applicants for relief, and will therefore be able to give an opinion as to their eligibility for admission into the relief works. The tahsil and village officials may, with advantage be consulted in the matter. Certainly those persons whose clothing and ornaments would proclaim them to be in easy circumstances will not be admitted into relief works, and this refusal to admittance will last throughout the distress until it shall have been proved satisfactorily that the applicant is actually in need of relief.

Answer to question 5

In this District relief works were opened only near large towns. I do not think that the distance test would prove to be very effectual. By adopting this test it will cause complication, and will, to a certain extent, cause unnecessary hardship. This point has already been fully treated in answer to question No 4.

Answer to question 6

From last year's experience I am of opinion that, for a grown-up man 12 chittaks of grain is sufficient to support life, and for a grown-up woman 8 chittaks, while for children from 6 to 10 years of age 6 chittaks. In cases where relief was given in the form of money wages, 2 annas for a grown-up man, 1½ anna for a woman, and one anna for children fit to work were allowed. This rate of money wages was sufficient with reference to the selling price of food grain which prevailed at the time of the distress, including cost of condiments. Little children were allowed from 6 to 9 pies a day. The scale of food mentioned above was for weak and infirm persons, who were unfit for work, and received gratuitous relief. The rate of money wages allowed to persons employed on relief works was barely sufficient for their support, and they could not save anything out of it. The selling price of food grains in last year when distress prevailed in this District was from 13 to 15 sers per rupee, viz., wheat 13 sers, gram 15 sers, barley and wheat mixed 14 sers. The wages were fixed with reference to the selling price of food grains.

Answer to question 7.

The best way of paying wages will be daily, in the evening, when the day's work is finished, by calling out nominal rolls. Only tickets for admission are required to be issued. It will serve as a passport for admission into the work daily. Payment of wages by means of tickets was tried in this District last year, but the system did not work well. Tickets for admission into the work should be on paper of different colors. One kind of ticket for able-bodied persons, another for those who are not so strong, and for women, a third for infirm and weak men and women, and for children above 8 years of age, and a fourth for children under 8 years of age, who are fit to work. The rate of wages should be fixed by Civil Officers, and alterations made in them fortnightly by the Relief Committee or District Officer if considered necessary. This arrangement will do away with the necessity for the

disbursing officer having to fix the rate of wages. If the disbursing officer finds anything amiss in the ticket, he will at once bring the matter, with a view to prevent fraud, to the notice of the Committee. Besides the work of making payment of wages being entrusted to a Civil Officer there should be a Civil Officer placed over every large gang in addition to the Officer of the Public Works Department. Under the Civil Officer there will be a number of subordinate officials, who will inspect the work daily. Over every 25 workmen should be placed a mate, who will see that every man does his work. In the evening the muster rolls will be called out, and payment made in presence of a trustworthy Civil Officer. When the values of the different kinds of tickets have become known to the coolies, there will be less chance of practising frauds. In this District money wages were paid to the people. I am of opinion that payment in grain to the amount of the wage due to each person may, with advantage, be substituted for money wages as soon as the distress becomes very severe, and a scarcity of food grain is felt. I have no experience of food being issued on ticket. There should be no restriction in regard to the number of shops for the vend of grain. The people may have the option left to them to make their purchases from any shop they would like. The distribution of food should be presided over by a Civil Officer and a member of the Relief Committee. After the distribution is over, the account of grain issued to the workmen should be checked with the tickets, and the account signed by the above mentioned Civil Officer, and a member of the Committee.

Answer to question 8

In answer to question No 7 I have explained what I considered the best way of making payment of wages. I think that if those suggestions are acted upon, there will be little chance left for the practice of fraud. When any person will not answer to the call of the muster roll, he will forfeit his wage. A person working a part of the day will receive so much wage as he will be entitled to. With a view to prevent fraud, I would also suggest that a person accidentally absenting himself will not be entitled to any wages.

Answer to question 9

Persons prevented from working by sickness will receive their food according to the scale laid down for the poor-house. If there be a hospital attached to the relief works, he will be admitted in it, otherwise put in the poor-house. From last year's experience I am of opinion that for a non-working man 12 chittaks of food will be sufficient, for a woman 8 chittaks, and for children 6 chittaks.

Answer to question 10.

In this District there were no works on which fixed daily tasks were made applicable. Ordinarily the work of digging and spreading earth was assigned to the afflicted people. The amount of work performed was regulated according to the physique of the labourer. In my opinion a gang should consist of more than a hundred men. The duty of measuring works should, as far as possible, be entrusted to the Officers of the Public Works Department. When any person is found not to perform the full amount of work assigned to him, his wage should be cut. The report of the officer entrusted with the work of measurement will be compared with the entries in the Civil Officer's register of works. The officer in charge of a gang should occasionally examine the work. I cannot recommend any other punishment for not doing the day's work than that of "short diet," which will no doubt compel the labourer to perform the full amount of work. Care should however be taken that the people are not pressed to do more work than they can be expected to perform, and which will not prove prejudicial to their health. The duty of fixing task work according to the physique of each person is indeed a delicate one, and Civil Officers should pay particular attention to this, otherwise it will complicate matters.

Answer to question 12

In my opinion, when the number of workmen in any large work exceed one hundred in number, and the work is far away from the town or village, huts should be constructed for their accommodation. The sites selected should be on raised ground, and the huts detached from one another, so that in the event of any of them catching fire it may not communicate to the rest. Professional thatchers should only be employed in constructing the huts. They must not receive any payment for the same. The cost of materials should be defrayed from Relief Fund. The huts should be sufficiently large to accommodate 12 persons

CH III In each The cost of materials will, it is believed, not exceed 8 annas per head When the workmen are encamped at a distance from habitation, that is, in open country, or near jungle, latrines need not be constructed, but they will be necessary when the encampment will be near large towns On every hundred workmen 2 sweepers at a pay of Rs 4 each will be required It will be necessary to appoint one chaukidar on Rs 3 per mensem over hundred men to preserve order and prevent robberies On every 5 chaukidars one dafadār on Rs 6 per mensem should be appointed. The cost of this establishment should be met in moieties by the Police Department and Famine Fund.

Answer to question 13

If the encampment be near a large village or town, the necessity for a bazar will not exist, but if it be at a long distance from habitations, a bazar should be established Arrangements for supply of food should not be made with one man Every person will be at liberty to open a shop within the encampment If the shop-keepers are unable to supply food to the required quantity, assistance in the shape of an advance might be given from the Relief Fund, which should be repaid as soon as the grain is sold Security should be taken for advances made As far as I know, there will not be any difficulty in inducing people to open shops The bazar should be located at a little distance from the encampment, and if possible within a village or near a Police Chauki, but if there be no village or Police Chauki close by, it must be within an enclosed place so as to prevent "loot" If shops are required to be built outside a town, the cost of constructing them should be defrayed by Government The shop-keepers must be warned against selling any intoxicating drug or unwholesome food to the people Any breach of this order will be dealt with according to law The shop-keepers must obtain an attested price current from the Tahsildar and sell grain at the rates therein fixed No interference should be made in fixing the rates by Judicial Officers It is believed that several persons will come forward to open shops near the encampment and sell grain at the prescribed rates If the officer in charge of the encampment knows his duty, there will not be any difficulty in making shop-keepers sell grain according to the price current No restriction need be enforced in regard to the time at which the shops should be kept open They may be permitted to keep the shop open at all hours from sun-rise to sun-set

Answer to question 14

There are several points in this question of which I have no experience, but so far I can say that, when the number of workmen exceed 500, a hospital may be opened for their benefit. The building can be a thatched one, and constructed at a little distance from the encampment.

Both Hindū and Muhammadan cooks should be employed in cooking food for the patients Where the number of workmen is not very large, a hospital need not be opened, and persons falling sick may be sent to the nearest Government dispensary, but if the number of patients be very large, a temporary hospital may be opened for them

Answer to question 15

Civil Officers with the aid of a few members of the Relief Committee, will admit people into the relief works They will be classed according to their physique and capability for work, and provided with tickets of the class to which they will belong Care should be taken that the people of one village are kept together and in one place If proper care is taken, there will be no fear of any hindrance being placed in the way of their coming, or any bribe taken for their admission No advance should be made to workmen Persons presenting themselves after 10 o'clock in the morning will receive a half day's wage, and before 10 o'clock full wage

Answer to question 16

If the gang works in one place, one mohairir can keep a register showing the work and attendance of 500 men, but if they work at different places, separate registers should be kept up with reference to the distance of the place where they are engaged These registers should be filled up daily, and according to the class of the persons on the work, in which they may be divided, with regard to strength &c Separate tickets should be given to each class, and the rates of their wages would also be different For instance, the men who are strong and work well, and get 2 annas per diem, would have their tickets of one kind, and others who

are not strong enough (men, women, and children of more than 8 years age) would be put in the 2nd class, and get wages less than the 1st class, the 3rd class would consist of boys, old and weak men, whose wages would be still less than that of the 2nd class, and all these classes would have their tickets of different kinds. Their admission and leaving the work would be shown in the register, and so the amount of fine imposed would be entered against each name in the column of remarks. If the work was done by contract, a column to show the quantity of such work should be made in the register, but if no such contract was given, there seems to be no necessity of showing the quantity of work done by each of them. When the wages are distributed at evening, the officer in charge of the workmen should send daily reports, attested by the officer before whom the wages were given, to the officer who may have charge of the works and was to examine the accounts. These daily reports would show date, number of persons on the work under each class, the daily wages paid, the amount of fine imposed, and the quantity of work done. The superior officer should compare these reports now and then with the registers to satisfy himself of their entries, and should be present at times when the wages are distributed.

Answer to question 17

I have not seen any large relief works, but I consider that a gang of 25 labourers should have a *mate*, a jemadár should be appointed for every one hundred, an overseer and a registering clerk for every five hundred, and two such overseers with a cashier (*khazánchi*) should be kept under a supervising Civil Officer.

Answer to question 18

When the famine is declining, or rain falls, many of the labourers leaving the relief works return to their ploughs, or when the Civil Officers are satisfied of the famine being over, they gradually close the works. No money was given in this District to the persons discharged, and the persons who on account of sickness &c were unable to work in last year's calamity, got food from the poor house. There were no such persons who to the end on account of continuous physical state were unable to support themselves.

Answer to question 19

No such instances ever occurred.

Answer to question 20

I have already said what part of the work and supervision should be under the control of Civil and Public Works Officers respectively, but if they meet and associate daily, no difficulties would arise in the management.

Answer to question 21

The skilled and unskilled labourers who were generally employed by the Public Works Department should be employed in the same to the extent they are usually required, after the relief works are closed. But if they are still dependent for their livelihood on the receipt of such wages, they should all be employed on certain works, and paid from the Relief Fund, and would be considered entitled to it until they are no longer in want of such relief.

Answer to question 22

Has no such experience.

Answer to question 23

The first part of this question can be properly answered by the Medical Officers, but as far as possible Hindu and Muhamadans should be accommodated separately. The inmates of one family should be kept together, and those who do not belong to any family should be separately accommodated with regard to religion, sex &c, i.e. male Muhamadans and Hindus, and so the females of both classes, and the inmates of inferior classes such as sweepers, domms, &c.

Answer to question 24

The conditions for admission to relief in a poor house, as stated in the question, are good. In regard to food, the following points should be observed — Brahmans or any of the superior caste Hindus should cook food for Hindus, and the cooked food should be given to Hindu

CH III and Muhammadans in separate places, no food should be given without residence in poor-house. The women (pardadár) who cannot come out of their homes, should be admitted by a Civil Officer, and members of the Relief Committee, in which there should be at least a respectable Government official, but the conditions stated in the question should also be observed in these cases

Answer to question 25

The paupers could not possibly decline to enter the poor-houses except on religious grounds, and in this case to compel them to enter the poor-houses would create bad results. It is of course desirable that entry into a poor-house and taking food for preservation of their lives should be made compulsory, and if they are satisfied that the food is cooked and distributed by the persons of their own religion, they would probably have no objection. I think there is no necessity to obtain legislative authority for such action, for it would make the more ignorant classes suppose that it was a device intended to destroy their religion, as in recent cases where in famine times the Missionaries have accompanied their distribution of food with preaching, and sometimes have thus converted persons to Christianity.

Answer to question 26

By my last year's experience 12 chittaks seems to be sufficient for a day's food for a man of full age who does no work, and for women and children of more than 8 years 8 chittaks per diem, and for the children of less than 8 years only 6 chittaks each, when they have no work to do, half a seer food for a man of full age is not sufficient for 24 hours, but is more than one time's food, and the persons receiving may perhaps sell, three pies per diem for each person is sufficient for other necessities.

Answer to question 27

A stock of food for each poor-house should be purchased and stored in a secure place under the charge of a Civil Officer, and a register of its daily receipt and expenditure should be kept by the man in charge of the store and signed by the Civil Officer at the close of every day. The cheques issued by the officers and members of the Relief Committee under him should be compared as far as possible with the real expenditure. By the last year's experience of this District, it has been proved that, instead of distributing food which requires to be ground and cooked, it is better to distribute boiled gram mixed with salt and pepper, the mess being prepared for Hindus by superior caste Hindus, and for the Muhammadans by the men of that class. The cooks should distribute the mess by measures made of different sizes, so that there may be a separate measuring vessel for each grade of rations. One or two members of the Relief Committee (appointed in rotation) with a Civil Officer should manage the cooking and distribution of the food every day, and after distribution inform the other members, who would have charge of such management for the next day, of the quantity of food distributed, and number of paupers under each class, i.e., adults, children, sick &c so that they, i.e., the members next for duty, may take the same quantity from the stock by a cheque which the store-keeper would enter in his register and file.

The store-keeper would make over grain, &c, to his superior officer or the members of the Committee aforesaid, who under their supervision would make arrangements for its cooking in two different places, for Hindus by the superior caste Hindu, and for Muhammadans by the men of that class. The grinding work should be done by the women, who do the same work at relief works, if they are insufficient to do the whole, the members of the Committee or the Civil Officer should make arrangements for its being carefully done by other means, for instance at water mills. The food for Hindus should be cooked in brass vessels, and that for Muhammadans in earthen or copper ones, the quantity of water and fuel required would be according to the number of paupers, but if wild timber tracts and water are near, there may be some of them who would be able to collect. The weight of cooked food is generally a quarter more than the uncooked it would be the duty of Civil Officer or members on duty to test and serve it out to the people. It should be distributed to Hindus in one place, and to Muhammadans and others in the other. When the food is served out to the people, they should eat it within the compound, and in this case it would be possible to make sure that the children's portions are not taken from them by their parents or other adults. Warm clothing should be given to the paupers if they feel much cold, and such clothing would generally be a coarse woollen blanket, black or white, which would

cost about Rs. 18 The rules for preservation of health can be framed by the Medical Officers. A large gang would be required to inform the paupers of the hours of distributing food &c. The paupers should be employed on the works according to their strength under the advice of the Medical Officers Two cooking men, one bhishti and a sweeper would be sufficient for one hundred paupers, and these would generally be obtained from among the paupers, and would need no wages beyond their ration, if they may not be obtained from among them, the servants appointed for the work should be paid out of the Relief Funds A cash book, roznámchá, khátah, and cheque book should be kept for the money expenditure, and the stock accounts for each kind of grain should be made daily, and daily amount of food issued on cheques should be entered in the expenditure register, which would be signed by the superior Civil Officer in charge of the stock, and the store-keeper.

Answer to question 29

Medical Officers can answer this question best.

Answer to question 29

When Medical Officers certify that a pauper of a poor-house is strong enough to work, the Civil Officers on receiving the lists of such persons or person would give tickets of the class under which he or they are to be put, and employ such person or persons on some relief works.

Answer to question 30

It is quite necessary to support the pardahnáshin women and the men quite unable to work, and attention to such persons would create good ideas in the minds of people The pardahnáshin women would seldom come to the relief works, and but few of them would really need assistance, but an inquiry of their necessities had better be made through non official respectable men, or in the case of there being none, it should be made through Tahsildárs and members of the Relief Committee, who would submit it to the Civil Officer The men on whom they were previously dependent for their support could not be held responsible for it in famine times There are two ways of relief for such women, (1) if they are able and know the work, cotton, wool or sewing work should be given them on daily wages, and those who are accustomed to grind should be employed on the sarre, (2) if they are old and unfit to work, they should receive gratuitous relief The pargannah Tahsildárs, after full and satisfactory inquiries, should send a list of such women to the superior Civil Officer, who would send 8 or 15 days' food and work to such women to their homes through a respectable member of the Committee or Tahsildár, and the latter or any other officer should at least twice in a month go to the villages (presumably they would few in number) where they live, and satisfy himself that the last supply was duly received by them, and the work done by them was duly received back The Lambardárs should have a register of such paupers, in which the Patwári, under the attestation of the Zaildar and Lambardár, should enter the date of receipt of supply, its quantity, number of days for which it was supplied, and the amount of work done by them in the week, and others would sign it at their inspection The officer should satisfy himself, through other women, that the food supplied was duly received by such pardahnáshins.

Answer to question 31

The paupers of the class consisting of sick, infirm, cripple, &c, in the large towns of the Punjab would generally have no objection to enter a poor-house if there was one, nor would residents of such towns have any hesitation to take them to such poor-houses Such being the case, they should be kept in a part of the poor-house, or at the head-quarters of each tahsil, and be supported under the rules of poor-house until the famine is over

Answer to question 32

It is the duty of Government to support orphans or deserted children The people say that Civil Officers in famine times make over orphans or deserted children to Missionaries, with the result that Hindú and Muhammadan children, without the knowledge of their parents, and while they themselves are unable to express their intentions, are made into Christians, and thus the ignorant people have suspicious ideas of the generosity of the Government. The best way of supporting such orphans, &c, would be to make them over to the persons of the religion to which the orphans or deserted children are found to belong to be supported through them until the famine is over, when the famine is over, they should

Ca. III be made over to such of their relatives or family connections as can be found, or if none can be found, then to any persons of their own class or caste who are willing to support them. In the last year's calamity there were only two orphan deserted children, who were sent to the Amritsar Mission with a little money from the District Local Funds for their support, but such a measure is opposed to the wishes of the people.

Answer to question 33

The form of relief described in this question is good and pleasing, and if resorted to, would establish the Government's benevolence in the minds of the Indian population. The great reputation of the emperor Shahjahan in a famine calamity of his time was caused by the same measure, i. e., he bought grain from that part of the country where there was no famine, and sold it cheaper than the market rates in the famished part of the country. Although no such measure was resorted to in this District, and though Government is under no obligation to have recourse to such a step, I yet think that the measure, if adopted, is pleasing to the people, and would create good ideas in their minds, and, moreover, the grain dealers who in famine times frequently reduce the rate, and do not sell it in hope of a further rise in price, would thus be prevented from such a bad practice, and the men who have money to buy the supplies, but not so large as to support them on the dearer rates, would greatly benefit by this measure.

CHAPTER II

Answer to question 1

The only parts of this District that have suffered severely from last year's drought are the hilly and submontane tahsils of Murree and Kahuta

In the former the distress was particularly severe. The small patches of cultivation completely failed from want of water, and the grass became completely parched and unfit for fodder

The Zamindars in most cases had enough land to support them comfortably in favorable seasons, but no more

The rabbi crop was in the first instance spoiled by excessive rain in the spring, and the kharif (of maize and rice) failed utterly from the autumn drought

In consequence a large portion of the pastoral population left their villages for the low lying lands towards the river Jhelum with what cattle they had left

This temporary emigration was brought to my notice by one or two of the leading head-men of the Sub-Division, as well as by the tahsil officials

I believe that the official reports of the present tahsil agency, together with intercourse with the leading men of the Sub-Division, were sufficient to furnish me with reliable information with regard to the state of the Sub-Division

With regard to the Kahuta tahsil, the reports received officially showed that considerable distress existed there as well as at Murree, but in neither case has the distress led to actual destitution except in a very few cases

Answer to question 2

The resources of the District have not however been taxed by the temporary distress I have noticed. We have had, and have still to deal with, a much more numerous and difficult class, viz., immigrants from Kashmir and Poonch

It is unnecessary here to describe the deplorable state of the people of these territories, for this is already well known to Government

Notwithstanding the prohibition of emigration by the Kashmir and Poonch authorities, numbers of famine-stricken Kashmiris have found their way into this District, and these are the people to whom my remarks will specially refer

These refugees are for the most part of the labouring class, who in favourable seasons earn sufficient for their sustenance, but who owned little or no land in their own country. The complete failure of the last kharif (chiefly maize and rice) threw these unfortunates out of employment, and in the early part of this year they were found in hundreds in and about Murree in a state of the most utter destitution. These were mostly women and children, lads under 15, and infirm old men

I am informed that the present kharif is favorable, but that so many of the labouring hands have died and disappeared, that the rice crop will probably be only $\frac{1}{4}$ th of what it ought to be, from want of hands to weed and tend it.

Answer to questions 3 and 4

The temporary scarcity in this District has not sensibly affected the urban population beyond the inconvenience attendant on high prices

Answer to question 7

Relief kitchens were opened at several points on the road between Kashmir and Rawalpindi and Murree most of the refugees who were able to travel after resting, came on to this District, a few to obtain work, if practicable, at harvesting the rabbi, but the greater part to beg in the villages and towns. No other means but contributions from Municipal and District Funds and private subscriptions were employed for their relief *

* Since the above was written, Government have sanctioned Rs 1,000 for the relief of Kashmiris in the Rawalpindi Division

Ch II.
& III

Answer to question 8
Charitable subscriptions were applied as far as they would go to the relief of those who were absolutely unable to work for themselves and begging was discouraged to the very utmost in Murree and in the city of Rawalpindi

At Murree a camp was formed at some distance from the station, and every person unable to work was located at the camp, and fed gratuitously

Private charity however was insufficient for the purpose, and contributions were made from District Fuhd.

Answer to question 9

In the Murree Sub-Division personal supervision by the local authorities was the only means at hand, the leading natives being unable to devote much attention to the subject

CHAPTER III.

SECTION I

Answer to question 2

The Kashmiris are for the most part unfitted for any labour except of the simplest and easiest description, and earthwork for the weaker, stone breaking for the stronger, would be the utmost that can be expected of them. The few capable of labour shewed themselves utterly averse to it in any form

Answer to question 3

At the present moment there is the number mentioned in this question, viz, 300 to 500, who will probably be employed for not more than a month or 6 weeks, for these there is easy earthwork already in hand,—approaches to a large bridge *

This will be performed under the direction of the District authorities with the advice of the Executive Engineer. For a greater number work of a similar nature can be had on the railway, sufficient to employ a large number of people

Answer to question 5

The distance travelled by the Kashmiri emigrants is sufficient proof of the severity of the famine in Kashmir

Answer to question 7

A daily payment should be made, according to a nominal roll, at the end of the day's work. This would show the daily increase or decrease of the number employed.

Answer to question 12.

Two huts were erected at a cost of Rs 200. These were erected by the District authorities, the Kashmiris being incapable of assisting in the slightest degree

SECTION 2

Answer to question 23

The present poor-house is situate about 4 miles from Rawalpindi city. It is a sarai, quite separate from any other building, close to the road and admirably suited to its present use.

- *1 Bhist
- 1 Cook
- 1 Kahar

1 Hospital Assistant until lately, who has been removed by the medical authorities.

There is an establishment as per margin* for the supervision and conservancy of the place

Each small family group keeps together, and it has not been thought fit to separate these there are very few persons separate from families except a few infirm old men

* This experiment has since been tried and equally failed notwithstanding that every arrangement was made for the comfort of the people and their supervision. They simply wanted not to work.

Answer to question 26

The present rations consist of dāl and chapāta for the ordinary inmates, and rice, Ch, III, milk &c, for the very emaciated and weakly

Answer to question 32

In a few cases orphans have been made over to the care of respectable people willing to accept the responsibility, but in nearly every other case the children have moved off with their parents if they had any left, or followed in the train of some friend, and have left the District

In making the above remarks I have abstained from giving any opinion on the theoretical questions put by the Commission

The effects of famine in this District have affected only the Kashmiri and other immigrants and has in no sensible way affected the rural or urban population of the District itself I have had therefore no experience of the effects of famine such as would afford me data for adding any suggestions or opinions to the bare statement of facts which I have above recorded.

Answers by *LIEUT-COLONEL J E B PARSONS, Deputy Commissioner, Gujrat.*

CH. II.

PRELIMINARY REMARKS

(The Districts referred in the following replies are Karnal and Gujrat Undersigned
was 6 years in Karnal, and engaged in famine relief operations in 1868-69 He has been
4 years in Gujrat, in which there has been lately some distress)

CHAPTER II

Answer to question 1

(a)—Distress consequent on drought first makes itself felt among the people in increase of price of necessaries of life, the poorer classes, village menials and labourers, being unable to provide sufficient food for themselves and families, itinerate in quest of charity. In Gujrat the distress has been chiefly among immigrants from the famine-stricken Jummo territory, and its indications, the daily arrival of paupers seeking employment and charities at the larger towns and villages, principally in the Gujrat tahsil (b)—Earliest indications are afforded to the District Officer by reports of tahsil and police officials

(c)—In this Province all instances of distress are owing to temporary or local scarcity, the probable extent of distress being estimated by severity of the drought, and condition of the people with reference to immediate preceding harvests (d)—The existing District organization has, in the writer's experience, been practically sufficient for obtaining early information in regard to distress, reports being made by tahsil and police officials, but it would seem advisable that distinct specific instructions should be circulated for general adoption to secure early reports at sadr head-quarters, and also to Government. To exemplify this, I might mention that in January last when distress showed itself in this District, rumours of distress in other Divisions were abroad, the matter was alluded to in this office letter No 95, dated 30th January 1878, a copy of which was forwarded to Government, whereas it was a considerable time afterwards that the severe nature of the distress elsewhere prevailing appeared to have been realized and provided for, mortality having in the meantime occurred. It would seem a good expedient to require that the weekly rain-fall reports from Districts should be required to contain, in the column of remarks, mention of any appearance of distress or abnormal condition of the people. These returns receive prominent notice by publication in the Government Gazette

Answer to question 2

(a)—The village menial classes are first affected by a serious failure of crops owing to their being the poorest, and living a hand-to-mouth existence, next to these the cultivators and petty landholders

(b)—Applicants for relief are usually accompanied with their families (c)—Women and children somewhat preponderate in quest of relief (d)—When there is failure of crops, there is no work for the field labourers, nor wages to pay them, as the wages are paid in kind out of the reaped harvests

Answer to question 3

(a)—Of the urban population, weavers, sweepers, moohis and other artizans, (b) Earth-works performable by persons of any occupation opened as near as practicable for their employment

Answer to question 4

(a)—Dependence on relatives who have means or employment exists among others to some extent besides poor and infirm persons, including habitual mendicants

(b)—The proportion who live by support of others would be approximately $\frac{3}{4}$ ds The springs of private charity begun to dry up on the approach of exhaustion of the means of the individuals respectively affording support,

CH II.

Answer to question 5

(a)—Periodical inquiries into the means and condition of the people would supply the data for approximate estimates as to the provision likely to be necessary to thwart distress and famine in the event of any material failure of crops for a season, or consecutively, the proportion of the helpless to be fed would, in a great measure, depend on the means of those from whom they ordinarily derive maintenance (b)—In this District the failure of $\frac{1}{3}$ rd or even $\frac{1}{4}$ for a single harvest would cause some distress, but not necessarily for extensive relief measures The last kharif crop was a failure, and large amount of cattle were lost, but famine did not ensue. In the spring the influx of Ashmunis and the high exhaustion of food supplies before the rabbi harvest came on caused distress in a portion of the District Two successive extensive failures of crops would doubtless bring much distress, but inquiry would be necessary, as above mentioned, for data to show the extent of relief that would be necessary In the bangar tract of the Karnal District, where constant drought keeps the people in a state of impoverishment, and more especially in the Hissa Division, unusual failures of crops are likely to require very early relief measures

Answer to question 6

(a)—Ordinary works in progress, if within the capacity of all comers, are well adapted for relief purposes, otherwise special useful works should be started, more especially earth-work

(b)—Works should be opened to all comers, as, if tests of apparent distress be applied, it is difficult to know that an applicant may not be on the verge of distress

(c)—The locality of the works would depend in a measure on their necessity as relief works. (d)—If famine be extensive, it is difficult to arrange a sufficiency of small works, but an extreme of the distance test is not advocated (e)—For the larger works, the supervision of Public Works Officer is best on account of their professional qualifications and time at their disposal, but when works are not of an extensive nature, Civil supervision is sufficient, and best suited to the peculiar requirements at such times (f)—Public Works Officers would be placed in communication with the District Officers at such time as they received departmental orders authorizing the required measures, and would consult District Officers in their selection of works for relief (g)—As the refusal to admit labourers in any case is not recommended, the responsibility for keeping the works in progress would rest with the supervising officer It is not quite understood to what reference is made in the words "needful steps" at the close of question 6

Answer to question 7

(a)—Gratuitous relief is admissible when the proportion of incapables has increased to an extent that renders it unreasonable and inexpedient that they should continue to be a burden on the miscellaneous charity of the community (b) In aid of private charity a grant from the District Funds disbursed under District supervision is a practical and appropriate mode of affording relief

Answer to question 8

The field specially appropriate for private charity is the relief of distress among persons wholly unable to labour (b) Charity can be invoked by means of Committees of notables, and appeals by circular or otherwise

Answer to question 9

(a)—Municipal and Local Fund Committees can be utilized in voting, as far as funds at their disposal conveniently admit, provision for special and useful relief works, and grants towards kitchens for relief of distressed people unable to work (b)—When no Committees exist, village headmen and Zaldais, where they have been appointed, may be invited to interest themselves in relief operations, and afford assistance in organization (c) In the Guprat District, meetings with which the District authorities would be associated, would be suitable for organizing private charity relief measures In the Karnal District the villages enjoying canal-irrigation largely benefitted in times of scarceness in barami villages. The former willingly responded to an invitation Deputy Commissioner made to them to aid their less favored brother farmers in the District, and distressed in general, and as the canal irrigated village proprietors agreed to a "pro rata" contribution, a very large sum was raised, which, with the Government equivalent, enabled the Deputy Commissioner to grapple effectually with the severe distress prevailing in the District at the period in question

Ch III a little less (e) — The price is ascertained by local inquiry, or by estimating same in villages as slightly cheaper than the well known tahsil rates (f) — Wages to provide food as above appear expedient

Answer to question 7

Deputy Commissioner has usually caused wages for relief works to be paid daily at evening when work is over, this method he considers the best. The ticket system is not adopted, as a list of workmen is maintained from which the roll call is made in the evenings

(b) — Payment of wages is entrusted to road Superintendent or Naib Superintendent, or Tahsildar or Naib, or other official entrusted with the supervision of the work, a Moharir, who prepares the register of workmen, assisting in the same

(c) — Further supervision is exercised by the District Officers visiting the works, and ascertaining by personal inquiries whether payments are regularly made (d) — Payment has not been made in grain but always in money

Answer to question 8

(a) — The daily preparation of the register of labourers

(b) — Cases of absence from roll call have not come under observation, for such cases the local officials might be authorized to make summary inquiry as to cause of absence, and act accordingly, making a note of the same in the register

Answer to question 9

In instances in which a workman is prevented from sickness from continuing work, he would be provided for with $\frac{1}{2}$ wage, as he would not require so much food as when well. There have been no hospitals attached to works in Deputy Commissioner's charge, but there are several hospitals in the District, where distressed paupers can be admitted

Answer to question 10

Road and other earth work provide employment suitable for fixed daily tasks, in road work labourers of diminished strength are required to do top dressing and ramming, which are less labourious than digging and throwing earth (b) — Two classes only are formed, — laborers equal to ordinary work, and those of reduced or inferior capabilities (c) — When the working powers of any of the labourers are improved sufficiently to enable them to work fully, they commence doing piece-work, at which they can earn more than at fixed wage, the classes being in fact workers on fixed wage, and at piece work respectively (d), — the gangs are not of fixed numbers, but according to circumstances, with reference to number of men at the works (e) — Work is measured up in the evening (f), — Laborers wilfully shirking work get reduced wage (g) — The official superintending the work is required to secure, that abuses in this matter are not practised (h) — The only steps to compel work of capables is to refuse relief, otherwise in this matter care is necessary to see that there is no misunderstanding prevailing, as all persons put down as recusant may not be so in reality, particularly in the case of distressed strangers (i) — In works where task test is impracticable, close supervision is necessary to ensure that wages are earned

Answer to question 11

(a) — Piece-work is practicable in all relief works to a considerable extent (b) — Deputy Commissioner is not aware of its having any disadvantages, provided the rates are not such as to render the earning of a fair wage (i.e., sufficient for daily food) by unskilled and fairly strong men impracticable (c) — With a view to provide relief to a large number from any given work of special relief nature, the payments to individuals can be limited by fixing a maximum daily limit of work and wage for individuals or petty gangs

Answer to question 12

Deputy Commissioner has not had sufficient experience in the hutting of labourers on relief works to enable him to suggest the best form of hut and hutting arrangements

Answer to questions 13—14

Ditto

ditto

ditto.

Answer to question 15

The best securities against abuses referred to in this question are the appointments of the most trustworthy men for immediate superintendence of the works, and the constant supervision of the same C 1 III

Daily payments are recommended, where the work is done piecemeal there is no difficulty about payment for broken periods

Practically there has been no difficulty when daily wage is paid, but arrivals at noon or thereabouts might receive $\frac{1}{2}$ wage.

Answer to question 16

A single register of each work has been found sufficient, fresh entries throughout being made daily, and weekly returns therefrom being sent to the sadar office

Answer to question 17.

The question probably refers to the works on large scale in Southern India

Answer to questions 18, 19, 20, 21.

Ditto ditto ditto

Answer to question 22

Deputy Commissioner has had no experience of other kind of relief work than earth-works

SECTION 2

Gratuitous Relief

Deputy Commissioner has not been in any District in which in times of distress or famine there have been regularly organized poor houses, to which institutions this section refers, the questions therefore are not answered in detail, but the following remarks on kindred matters are recorded

Deputy Commissioner has always endeavoured locally to relieve the distress as far as practicable. In the matter of gratuitous relief, lists are prepared at the distressed localities of persons unable to work and to feed themselves, they receive a ticket each for daily supply, or ration, which is supplied by a local baniah, who keeps his accounts of the same, the list is made out by one of the District Officers, or by Tahsildars, and checked by superior officers. Ticket holders who become fit for work, are required to do so, the mode of compulsion being removed from the gratuitous relief list. Cooked food is supplied in gratuitous relief, the cooking being under official superintendence. The experiment of 1 lb only of raw flour has not been tried, $\frac{3}{4}$ of a sér with $\frac{1}{4}$ of a sér of condiments is the allowance for a male adult, and $\frac{1}{2}$ a sér or 1 lb of raw flour with condiments for a woman, and $\frac{1}{4}$ of a lb for a child. There have been some instances of deserted children or orphan children coming under notice, occasionally a child is sent to one of the Mission Asylums, or local arrangements made for its support. In no occasion in Deputy Commissioner's District has gram been officially purchased for retail sale. Viewing the rising of prices, Deputy Commissioner on one occasion at Karnal officially purchased a considerable store of grain for gradual distribution to the famine-stricken, the result was satisfactory in a financial point of view, however, this is not the kind of matter referred to in the closing question (33)

Answers by Mr W. COLDSTREAM, C S, Deputy Commissioner, Hoshiarpur

PRELIMINARY REMARKS

I write as Deputy Commissioner of the District of Hoshiarpur, in the Punjab, in which I have performed the duties of Collector for nearly three years without interruption Ch. II

My experience of famine, so far as I have been able to make it available for these replies, is confined to the period of scarcity and high prices, which this district, like others, passed through from September 1877 to April 1878.

During this period the question of relief in various forms frequently arose, and some amount of relief was provided in earth-work, and also to a small extent by gratuitous distribution of food through the poor-house and otherwise.

There was no *famine*, but considerable distress consequent on scarcity.

CHAPTER II

Answer to question 1

Reports by Tahsildárs and Police Station Officers, and unrestricted intercourse with the people, inform the District Officer of anything approaching to severe distress, but when drought has occurred, I have found it a desirable precaution to direct the Tahsildárs to make special mention of the state of the people, as regards food supply, either in the weekly weather reports, or in separate reports. I would also direct Zaildars to report weekly, direct to the District Officer, should serious distress shew itself.

The daily and weekly police reports are most useful in this respect. One of the first indications of scarcity is an increase in petty crime, this affects the police working, and police officials have a close interest in watching narrowly the condition of the food supply, and in practice *do* immediately report a state of things which is likely seriously to affect their returns.

Beyond the special reports from native Sub-Collectors and Zaildárs, above suggested, no additional security for early and trustworthy reports is under present circumstances required.

Answer to question 2

The classes of the rural population which are first affected by serious failure of crops are the numerous village menials and handicraftsmen, such as weavers, sweepers, tanners, potters and carpenters. These classes in villages of North India are dependent for their subsistence upon the cultivating proprietors of the village, and that subsistence is usually paid to them in grain, and not in cash. When drought has occurred, and stocks of grain run low in the houses of proprietors, the means of subsistence of these classes is wholly or partially withdrawn.

All sexes and ages suffer equally, and the first suffering is not because there is nothing to do in the fields but because the proprietors have little or no grain in which to make the usual payments to the village menials (kamíns).

Answer to question 3

The classes of the urban population which are the first to feel the effects of famine are the town mendicants. The usual doles of grain are restricted when scarcity begins, and the beggars feel the pinch immediately. They betake themselves to the poor-house if they are allowed a dole there. The increase of applications at the poor-house, if under reliable superintendence, is one of the earliest tests of scarcity in a town and its neighbourhood, and indeed I am inclined to think that the number and urgency of applications for relief at the poor-house is, throughout a period of scarcity, one of the most reliable means of gauging the condition of the people. But, in order that this test may be properly applied, the superintendence of the poor-house must be careful, intelligent and independent.

* The side notes on this report, signed A B are by Mr. Arthur Brandreth C S Commissioner of the Division.

CH II

The poor-house at Hoshárpur, which is under superintendence of the Revd Mr Chatterji of the American Presbyterian Mission, receives Rs 100 per mensem from Municipal funds, and, since the scarcity began last autumn, Rs. 50 per mensem extra have been granted from District funds

It has been a most valuable agency, and itself constitutes an efficient test of the pressure of high prices

In the milder forms and earlier stages of scarcity I consider that increasing the grants to existing poor-houses and starting fresh ones is the best way to meet it

Answer to question 4

My opinion is that the proportion to the total population of poor and infirm persons who in ordinary years are supported by their friends, and of habitual mendicants, is not less than 5 per cent. All very old persons, all the blind and sickly, and nearly all the lame and leprous, come under this class

The springs of private charity necessarily dry up quickly, because they are not deep, purses are not long, and when a real pinch comes, most of these persons are assuredly in a more or less precarious and dangerous position.

Answer to question 5

If in the same year both harvests failed to the extent of $\frac{1}{3}$, I should expect to have on my hands about one per cent of the population, or about 10,000 souls

If in the same year both harvests failed to the extent of $\frac{2}{3}$, I should expect to have on my hands 5 per cent of the population, or nearly 50,000 souls

If in the same year both harvests failed to the extent of $\frac{3}{4}$, I should expect to have on my hands nearly $\frac{1}{4}$ of the population, or about 90,000 souls

This is a purely agricultural district but it is very thickly populated

A special inquiry into the food supply was made this year, and submitted to Commissioner with this office No 290, dated 30th May last

The result was that about $\frac{1}{4}$ of the produce of the district is to spare for export or storage in a year of average crops, which proportion, however, is somewhat increased by imports of cheap grain from Trans Sutlej. One-ninth produce is calculated to represent about 26,000 tons of grain. Perhaps on an average year about half of this is exported and half stored permanently in the district

It was also discovered that the stores in the district were all but exhausted when the present spring harvest was gathered

Answer to question 6

As soon as serious distress manifests itself it is necessary to provide works,—earth-work, such as construction of railways, roads, canals, or the excavation of tanks. If such works are not going on they must be speedily devised. A list of such large pieces of earth-work which can be opened at once without spending much time in preliminary arrangements should be kept up in each district

Whether such are going on, or have to be started as new works, the ordinary market rate of wage must at once be lowered considerably, say 25 per cent, and provision made for taking on women and children at suitable rates. This is necessary, because funds must be husbanded and made to go as far as possible. No one can ordinarily foresee whether distress commencing will develop itself into famine or not,—all depends probably on the issue of the next harvest

The failure of one crop will not in many parts of the Punjab produce absolute famine. When distress arises, therefore, from the failure of one crop, there is every reason to hope that absolute famine will not arise

In these circumstances, it is proper to relieve distress by measures of a more ordinary and general character than would be admissible in time of famine. Earth-works, as above said, should be provided, and the application of the wage test, by fixing the wage for men

at 25 per cent below the ordinary wage of labourers in the district, and of the labour test, which will be sufficient, provision being made for the admission of women and children, CH II

The distance test need not be applied and it will be desirable to open works in many places over the affected tracts. The more liberally this is done, the longer will the necessity for gratuitous relief, and relieving at home, be stayed off.

In all stages and kinds of earth work I consider the employment of a trained European officer most desirable. The general direction of the work, the measurement of work done, and the proper application of the labour test are matters of such importance, that, whenever possible, trained European supervision should be employed.

After all our development of education and large expenditure on this head we have at last always to fall back on the European or some old native official of the days before our rule began. They seem to have the energy though not the education.—A B

But where there is a District Engineer, as in Hoshiárpur, it will not in the first stage of distress be necessary to employ special agency. Up to a certain point, and while district funds are employed, it will be sufficient and appropriate that the works are supervised by the District Engineer.

I know of no arguments to support the opinion that works should be directly supervised by Civil Officers when trained agency is available.

But the District Officer or a special Civil Officer should be responsible that the general aim of the work as regards relief is accomplished, that deserving cases are not turned away, that labourers are properly classified and that wages are properly paid.

The agent in charge on the part of the owner of the property should have a full right of control over the labourer it employs.—A B

The Public Works Officer or District Engineer should be subordinate to the Civil Officer, who should make his own arrangements for periodical inspection independently of the Public Works Officers. The selection of relief works is a matter which should be entirely with the Civil Officers.

Answer to question 7

This illustrates the great danger of the British rule. It is better to let children fall sometimes when trying to walk than always to hold their hand. It is better to allow a few accidents arising from children running about than always to send out a nurse or tutor with them to keep them out of mischief.

See the remarks on the effect of Government by a barana in *Mull on Literature*. Would that all Indian Administrators took heed to his warning.—A B

The experience of distress I have had convinces me that gratuitous relief is desirable, as soon as works for the relief of distress are necessary. But to the introduction of gratuitous relief by a special agency and at new centres at this early stage, there are insuperable objections. It is disproportionately expensive, for it requires careful and complete organization and superintendence.

There are always poor, blind, bed-ridden persons in villages, whom even commencing scarcity must seriously affect. Perhaps there are 5 in a village, perhaps 10, perhaps 50.

How Government is to ensure the preservation of the lives of such without expense enormously disproportionate, especially at the commencement of distress, is a difficult problem.

That such poor creatures have begun to die in abnormal numbers is, though it is shocking to say it, almost the only sure test that gratuitous relief at home is needed.*

But such good may be done, *scilicet*, lives may be saved, by putting small sums of money at the disposal of selected Zaldars and Lambardárs, and holding them responsible that deaths from sheer want are prevented in their villages and circles. Now that a famine fund is at the disposal of Government, I recommend that this plan be adopted in cases where the necessity for relief at home has not yet become quite clear.

* What I mean is this. Those weakly and aged persons are those who will be first affected by an insufficiency of food—just as they are first affected by the cold weather of winter. They have been long existing say on $\frac{1}{2}$ of a ser of grain daily begged from rich sows. They now can procure by begging say only $\frac{1}{3}$ of a ser. This may support life for a time but the reduced amount of food makes them weaker, and they may eventually succumb if not to hunger yet to some malady to the wounds of which their reduced condition rendered them more liable perhaps to the mere cold of a night in January or February. Now we may be sure that whenever a bad crop occurs these poor people feel it in some degree. The pittance on which they support life, although there is no famine in the land, is in some degree, with some of them at least, diminished and therefore some are in some degree of peril. But how can Government help this? Absolute security against any deaths occurring from any degree of want appears to me almost impossible to obtain. A similar condition of things appears periodically in all large towns at home. Even in good times some people in a village, as some people daily are in London are on "short commons." Let the amounts of grain ordinarily on hand with the villagers be diminished by a poor harvest and some degree of danger to life must be apprehended. Yet no sensible man would affirm that as soon as and whenever that danger had shown its face, Government must thereupon undertake the task of home relief and gratuitous distribution.

Ca II

It was the plan* I adopted when distress threatened Dasuya parganah last year and when, after visiting the tract and full deliberation, I did not see clearly the necessity of opening a new poor house, or organizing a system of relief at home

Answer to question 8

I am strongly of opinion that it is most useful to stimulate private charity at the commencement of distress. Private charity cannot be expected to last long, or to be far reaching but its exercise towards the poor and perishing is entirely consonant to the religious feelings of the people, both Hindú and Mussulmán, and I have seen it applied most beneficially. So much did I feel that much might be done in this direction, that, after I had seen its spontaneous working in some directions, I told the Tahsildárs to speak to the richer members of the communities in towns, and urge them, without the show of official authority, but, as it were, privately, to the liberal exercise of charity.

A good deal was done to relieve distress in parganah Dasuya by this means last year.

Such private charity, it is true, is often ill judged and misdirected. It could not be much interfered with by officials without risking the crushing of it, but much may be done by the District Officers and Tahsildárs advising in a friendly way those who exercise it. It almost always assumes the form of a daily dole of bread or dry grain and the point for advice is that it be given to the very poor only.

The imposition of the new famine cesses by the legislature will perhaps diminish the amount given in private charity, as it will certainly prevent the Collector or other official being able to press an appeal to it with the same urgency, though doubtless the amount of relief will be greater in the end, for the annual amount of the cess will greatly over-balance the amount which could be expected from private charity bestowed upon the proper objects, in any one year.

Answer to question 9

Members of Municipal Committees are most useful in distributing charity to the deserving poor. The members in Hoshiárpur have each a circle allotted to them, and with the condition of its inhabitants they are specially acquainted.

The system of allotting funds at meetings of Committees and calling each member to give an account of what he has spent, in more or less detail, is quite understood, and has been found to work well.

The corresponding agency in rural tracts should be the Zaldárs, who are the representatives of Government in their respective circles. They are more certainly men of influence and position than members of the District Committee, and being paid for their work by a small per-centage on the revenue of the villages of their circles, have the more inducement to co-operate cordially in any relief efforts, and can be more appropriately asked to do so.

The Zaldári agency in this as in other matters is a reliable source of administrative strength to the District Officer. Most of them might well be trusted with small sums to be spent in the distribution of charity.

They would distribute it through the Lambardárs, from whom they would take an account, and they themselves would in their turn render one to the Tahsildár.

Answer to question 10

The case described had very nearly occurred in one part of Dasuya parganah last year, but after visiting the tract I did not see a full and pressing necessity. I gave the Tahsildár authority to open a kitchen at once near the distressed villages, should matters

* This was subsequently done. At first Deputy Commissioner wisely avoided interference and Shírlar Bír Singh a man of note before our rule, opened relief arrangements himself with the aid of the towns people, whom he called on to assist.—A. B.

become worse Perhaps if there had been a special fund for the purpose available, I might have carried out the plan for a week or two As it was, I deemed the distribution of a little money to Zaildars and others sufficient CH II.

I believe that when the necessity for relief-work arrives, there comes, *pari passu*, a necessity for village inspection, or, if not an absolute necessity, village inspection, if then applied, would do some good, and probably prolong some lives, but it is always a difficult question whether, with ordinary regard to economy and common sense, the point to begin has arrived

Answer to question 11

Besides the poor-house at Hosharpur, which is maintained by the Municipal and District Committees, and spends at present Rs 1,800 per annum, there are a number of Dharmshālas and Shrines (*Khankah, Tukkiā*) where food is disbursed to mendicants, to travellers, and more sparingly to the general poor

Many of them are supported partly by assignments of land revenue (grants for charitable purposes) The area of these assignments amounts in the aggregate to 5204 acres I have endeavoured to ascertain the total incomes of these charities, including as well the contributions and offerings voluntarily made by disciples and the public, as the income of the revenue-free lands attached to them I estimate the total income of these institutions as Rs 22,823, and of this sum it is calculated that about Rs 6,800, or more than one-fourth, is expended on charity A good deal of this is no doubt misplaced charity, and much of it is given to faqirs or travellers, or the poor of particular persuasions

In two of the 4 parganahs, however, it is reported that these institutions bestow charity on travellers without distinction

These institutions would be greatly increased in usefulness if they were managed or

Yes they strongly require arch diocesan visits or proper systems or inspectors now that the officers of Government are of another religion We require a Committee like that in London by the Rel. End Act for each religion in each district.—A. B.

supervised by visitors or local trustees appointed by Government Zaildars and members of the District Committees would be glad to undertake this duty, and a managing or inspecting committee of 3 or 4 persons could easily be arranged for for each institution They would inspect from time to time, and aim at securing that a proper proportion of the revenues of the institutions was really spent on the relief of the poor and on entertaining travellers

Rules for management and for account might be beneficially prescribed.

Not only do I think that this degree of interference would not be unpopular with the majority of the people, but I even think it would increase the prestige of these institutions, as it would certainly result in benefit to the poor of the district Some of these charities, if thus brought under regular management, might, in time of scarcity or famine, form most appropriate centres for gratuitous relief

Answer to question 12

I have in answer to question 1 sufficiently indicated the sources of information available to the District Officer, and they are amply sufficient if he avails himself of them

A very common indication of distress is the people betaking themselves to eat wild herbs, and the leaves of certain trees, the degree of scarcity may be pretty well measured by the particular kind of wild produce to which they are driven to have recourse A list of these with specimen was compiled last cold weather but it seems unnecessary to give details here

Among the more common indications, I should also include the numbers of sales and mortgages of land, which can easily be ascertained at the tahsil and registration offices When serious distress is impending, a weekly return of these from each registration office might well be called for by the District Officer

CHAPTER III

SECTION 1

Answer to question 2

CR III Fully admitting the evils of divided authority, I still think that earth work should always be carried out under the supervision of Public Works Officers, or others who have had training on Public Works (i.e., our District Engineer is well qualified, but he is not a Public Works Officer), but that the Public Works Officer should be subordinate to the District Officer in matters affecting the relief character of the work. There ought to be no clashing.

In technical matters the responsibility will be with the Public Works Officer, for instance, with him of course would lie the determination of the proper height or configuration of an embankment.

On the other hand, the responsibility for admission and rejection of labourers, and for classifying them, would be more appropriately discharged by the Civil Officers.

To avoid expense, both classes of work must be to a great extent actually carried out by the Public Works Officer, but the Civil Officers must be strictly responsible that the work maintains its character as a relief-work, and therefore in all but the technical direction of the work the Public Works Officer should be distinctly subordinate to the Civil Officer.

Answer to question 6

A relief work was opened near the town of Hoshinapur during the recent times of scarcity it was opened from 22nd February to 11th April, when the pressure ceased. The numbers averaged about 1200. The numbers reached as many as 2100 but work could not be provided for all. The work was filling in a dirty pond close to the walls of the town.

The surrounding ground was mostly under crops, and more than 1200 persons could not conveniently be employed. There was no distance test applied, nor was the plan of payment by piece work adopted.

The wages were 1½ ana for men generally, 1 ana for women generally and old and infirm men, 9 pies children under 12 years of age.

The work was under the direct charge of Mr Hughes, Assistant Commissioner.

Answer to question 7

Nominal rolls were found insufficient, and a system of tallies or tickets was superadded. Wages were paid daily in the evening.

The organization and working were as described below —

Over each gang of 50 there were 2 overseers or mates, who got 2 annas each. One of these could read and write, and kept a nominal roll of his gang, one was overseer of work. The educated mate looked after his gang, and saw that they were present. The other mate acted as task-master or overseer of work.

Of each gang of 50, five were appointed as mattock men to dig up the earth, and prepare it for those who carried it in baskets and threw it into the pond. These 5 got 2 annas each, as the labor was severe, and able-bodied labourers were required.

The men, women and children were ranked in separate gangs according to age and sex.

To the childrens' gangs were allotted 3 or 4 mattock men instead of 5.

Over the whole were 4 munsifs on Rs 8 or 10 per mensem, and a mistri on Rs 15, who measured up, and a Superintendent on Rs 40 per mensem.

The work was a municipal one, and the distribution of daily wages was usually superintended by one or more members of the Committee, who with the Tahsildar took the duty of general supervision in turn.

As the labourers assembled in the morning they sat down according to gangs, each mate marshalling his gang, new hands were added to fill vacancies. The mate arranged

(7)

to have 5 muttock men in his 50 The gangs were complete between 7 and 8 A M, and Cu III. then tickets were distribute.d The mate had by that time made a nominal roll

The post of educated mate on 2 anas was much coveted, and there were numerous applicants When the tickets had been distributed, the gang was marched off to its work

The work was exacted by the work mate

Attendance was watched by the educated mate

The munshi and mistri tested the mates' nominal rolls, and saw that all labourers were kept busy

At the sound of the mid day gun, work was stopped for dinner, for which 1 hour was allowed

At 6 P M work was stopped, and wages were distributed The mate marshalled his gang and stood beside them

3 divisions were formed in each, of which payments went on simultaneously The work of payment was supervised by the Superintendent of the work, or by one of the members of Committee

The munshi took up each man's ticket, read out the amount of wage, and the proper amount was disbursed by the supervising official

Answer to question 10

The security for wages being properly earned lay, for most of the period, entirely in effective supervision, not in measurement

Lazy persons were punished by their tickets being taken from them, or having bad marks recorded on their tickets, which resulted in their having something deducted from their day's wage at the evening payment Speaking roughly, the result was that between 20 and 30 cubic feet of earth-work per head with a lead of 100 to 400 yards was obtained as a day's work. This would no doubt be very small, if it were not that a large proportion were women and children

Answer to question 20

I have answered this question in answer to question No 2

Answer to question 22

During the recent scarcity a system of relief work for women in cotton spinning was organized, and carried out through the members of the Municipal Committee

A certain sum was allotted to each member, and he purchased clean cotton and gave it out to spin to the poor women of his district or ward

Wages were paid for the amount spun at about double the bazar rate, as the relief was intended for the more respectable class of women, who could not, from shame, appear at the relief work The plan was successful, and a considerable amount of relief was in this way afforded

In 1869 a much more serious scarcity visited this district, when a system of relief to women through a spinning class was carried out on a large scale I have been furnished by the Rev K U Chatterji, American Missionary here, with a description of the arrangements then made, he was in charge of the spinning class, and I cannot do better than here quote his account of it in his own words —

I had charge of the spinning class and gratuitous relief during the famine of 1869 The famine of that year was severely felt in this district For four or five months wheat was sold at the rate of 13 or 14 sars for the rupee, and for one month at 10 and 9 sars for the same

I—THE SPINNING CLASS

This was opened for the relief of such women as were not pardnashin but from their social position and habits of life, or on account of the infirmities of age, were not prepared to carry earth on their head It was at first opened in the mission premises with 30 women on roll But the number soon increased, and the class was removed partly to the new serai and partly to the old school-house, both enclosed places at the west end of the town The highest number attending the class was 1800 When the number became so large the registration of names and the calling of roll were dispensed with, and a system of tickets was introduced Each woman received a ticket in the morning, which she had to present in the evening along with her thread before she could receive her day's wages The women brought their own spinning wheels, and were admitted into the enclosures at 8 A M

CH III They either ate their breakfast before they came or brought it with them. On their arrival they were served with $1\frac{1}{2}$ chittacks of cotton each. This they turned into thread by 5 P.M., when the thread was taken back, the wages, one *ana* to each woman, was paid, and the women were dismissed.

The establishment necessary to carry on this work were 4 *muushis*, 4 constables and two water-carriers. The *muushis* sat at the four entrances of the enclosures and weighed out the cotton to each woman as she came in. In the evening they received the thread, also weighing it, and made payments to each woman as she went out. The payments were made in the presence of one of the members of the Municipal Committee or of any other person of recognized position and honesty. The payments were not made on the principle of paying "the difference of price between the raw and worked up material," but on the principle of daily wages. The former would have been too little to enable them to live upon. The payments were a little more than double the usual amount for their work.

The system described above was carried on for three months, and was found to be most satisfactory and successful.

SECTION 2

GRATUITOUS RELIEF

Answers to questions 23—31

A poor house was organized here in the famine of 1869. I annex an account of it by Mr Chatterji, who superintended it.

The poor-house then started still continues, supported by a monthly grant from Municipal and District funds.

This grant has during the recent scarcity been augmented, and as I have found a simple extension of relief through the poor-house to be a most valuable and efficient aid in time of scarcity, involving little extra expense for superintendence, and proceeding smoothly upon lines laid down and approved by long experience, I will make no apology for adding to Mr Chatterji's account of the famine poor-house of 1869, his description of the Hoshiarpur poor-house as at present organized.

II—GRATUITOUS RELIEF

This was administered in 1869 by means of a poor-house. The poor-house was situated at one end of the town enclosed on three sides by a brick wall, and on one side by a fence. An open place in the Committee Ganj was tried at first, but was found most inconvenient and unsuitable for the preservation of order and discipline. The conditions of admission into this institution were two—

- 1 Inability to work on a relief work
- 2 Willingness to accept cooked food

The third condition generally enforced—willingness to reside within the enclosures—was not insisted on. It was considered more convenient to allow people to go to and live in their own homes when these were near. The smallest number in 1869 on the poor-house list was 50, and the highest 700. They were admitted at the recommendations of the members of the Municipal Committee of the town, or of the *Lambardars* of villages, full discretion being allowed me to use my own judgment and personal information in the acceptance or rejection of candidates. These were divided into two classes—

- 1 Out-door paupers.
- 2 In-door paupers.

1 Out-door paupers. Under this head were included such as lived in the town or in the villages in its immediate neighbourhood. They formed the majority of those relieved by the poor-house and were supplied with food once a day. The amount of food given to each was $\frac{1}{2}$ *ser* of cooked bread *i. e.*, bread made out of 6 chittacks of raw flour, and a little *dal*. They were mostly made to eat their bread in the poor-house enclosure to prevent their selling it off or being deprived of it forcibly by others. They lived in their own houses, and did what work they could for the supply of their other meal and clothing &c.

2 In-door paupers.—Under this were included such as came from a distance and were lame, blind, or infirm through age, sickness or starvation. The highest number of these in the poor-house was 50. They were accommodated in the poor-house enclosure in huts put up for the purpose, these were made of straw and grass screens enclosed on three sides.

The in-door inmates were fed twice a day at the same rate as the out-door paupers exception being made in the case of the sick. They were also supplied with clothes, and medicine and medical

attendance in sickness. Those of them who were capable of doing light work, such as twisting ropes, &c, CH III were made to do so.

Members of the same family were put together, and those who had no families were put on one side. Young and able-bodied men and women were not admitted, so there was no necessity of making arrangements for the preservation of morality. The only rule observed in reference to caste was that Hindus were put as far as possible on one side and Muhammadans on another. No lepers were admitted and, as far as I remember, no sweepers either. We had no need of putting up latrines, as the public latrines of the town were within an easy distance, and could be most conveniently used.

The establishment of the poor-house consisted of a munshi, two cooks, two assistants, a water bearer and a sweeper.

III—THE CITY POOR-HOUSE.

The famine of 1869 was over but the poor-house continued. It was kept up by private subscription and a grant from the Municipal Committee. It is located inside the town in a *pakhā* building erected for the purpose. The shape of the building is rectangular with dwelling rooms on three sides, and a large court-yard in the centre. The rooms have a door and a window in each for light and ventilation, and are protected by a broad and open verandah which is used for purpose of sleeping in warm weather, sleeping space allowed in the cold weather is 320 cubic feet for each individual. The latrines are situated at the back of the house and are used only by the sick and the very feeble. Those who are able to go out make use of the public latrines of the town. The principle of management continues the same. There are now 80 out-door paupers and 40 in-door paupers on the roll. One and a half pound of raw flour with condiments is allowed to each in-door pauper and three-fourths of a pound to each out-door. I have never tried "the ration of one pound of raw flour with condiments for each adult." I believe it is sufficient to preserve life but not strength. A pound and a half is necessary to keep up both. Those of the inmates of the poor-house who are able to do any work are sent to the School of Industry, where they learn to make durries and carpets. The cripples twist ropes and the women spin. Milk and rice and in some cases meat are given to those who are sick, or greatly reduced through want of nutrition.

We keep no store of grain, but get our supplies of flour, *dāl* fuel, &c, from one of the merchants of the town by means of weekly contracts. This has been found by trial to be the best system, the simplest, the most convenient, and attended with least trouble and expense. The system of keeping grain in store and getting it ground is the most complicated, attended with unnecessary trouble and often loss and should be as much as possible avoided. Our flour is weighed out every morning to the cook in the presence of the munshi, who also examines the quality of the flour, and sees it mixed with water to prevent theft.

In the evening every now and then he gets the cooked bread weighed before distribution, to satisfy himself whether the whole amount of flour received has been cooked or not, allowing one and half seer of bread for every seer of flour received. The munshi and very often I myself are present every day at the distribution of bread. The former keeps accounts. Three books are kept, a register of all the incumbents, a journal of receipts and expenditure, and a ledger. The accounts are checked by me every month, and at the end of the year by auditors appointed by the Municipal Committee.

Our establishment consists of —

A cook for	Rs. 6 a month.
An assistant cook	" 5 "
A water bearer	" 2 "
A sweeper	" 2 "
A barber	" 1 "
A munshi	" 5 "
Total	" 21

All the work connected with the poor-house is most thoroughly and conveniently attended to by these. The sick are generally sent to the hospital, which is close to the poor-house. The organization thus described has been found successful and satisfactory, and may be efficiently applied to any case, the necessary changes being made to suit the new circumstances of time and place.

Answer to question 30

Here also I quote from Mr Chatterji, who has had long and varied experience in the relief of the poor, and whose judgment in the matter may be trusted —

In reference to this question, I have to say that I consider it very desirable and necessary to help *pardanaashin* women in times of scarcity. The necessity of helping them can be only ascertained from the representations of the members of the Municipal Committee, *mohalladars* or other respectable men of position and known integrity. Their cases ought to be inquired into, and help given to them also through their means. The best way of helping them would be by giving them work, such as spinning cotton or grinding corn. The former would be more acceptable to them, being more easily performed. The cotton should

An excellent plan.—A. B.

CH. III be distributed weekly at the rate of 2 chittáks a day. It should be sent to their houses by the mohalladárs through a trustworthy man or through some of their relations. The payments should be at the rate of one ana per day, *i. e.*, one ana for spinning two chittáks of cotton. I would demand just a little more work from them than from women attending the spinning class, as they have more time at their command. I would admit them to the benefit of this relief only when they have no near relations well-to-do and able to support them. Exception however may be made even on this point. A great deal of judgement ought to be used, and close personal inquiry ought to be made in every case of doubtful nature before help is afforded.

The system described above for helping pardámshin women was carried on very satisfactorily during a portion of the present scarcity and high prices in this town.

PRELIMINARY REMARKS

I have the honor to enclose replies to such of the questions in Chapter II of Mr C A Elliott's memorandum as relate to matters in which I have had any experience. Chapter III relates to famine relief, that is, as I take it, to relief which becomes necessary when the actual supply of food in a District is insufficient for the wants of its inhabitants, and grain must be imported from abroad. That stage happily has not been reached in this neighbourhood, but the distress has arisen solely from the want of means to purchase food at the high prices which have prevailed. I have therefore no personal knowledge of the subjects treated of in the third Chapter, and can give no substantial evidence.

CHAPTER II

Answer to question 1

Distress consequent on drought first makes itself felt by the rise of prices which always takes place in anticipation of the failure of the ensuing harvest, and in this District last year it was first brought to my notice by petitions pouring in from all parts for grants of money for the employment of agricultural labourers and other village servants upon village tanks. This was soon followed by a remarkable increase in offences against property, and by migration from the villages in search of employment, or of pasture for cattle. It is impossible at the beginning of a bad season to judge from the circumstances of any one District whether the famine is likely to be partial or general, as everything depends on the extent of country over which the drought prevails, and on the rain-fall of succeeding months, which cannot be estimated before hand. The failure of one crop, though it will cause a rise of prices, and consequent privation to the poorer classes, will not produce an actual deficiency of food grains, but the failure of 2 or 3 harvests in succession, or the total failure of one followed by deficient out-turn in several, will necessitate imports, and absolutely deprive many thousands of the poorer agriculturists, proprietors as well as tenants and labourers, of the means of purchasing, unless they are saved from destitution by timely suspensions or remissions of the land tax. The District Officer can best form a forecast of the future by noting the meteorological reports and crop returns of other Districts and Provinces of India. The Zaldár system, introduced with the new settlement, is well adapted for securing the necessary information of the condition of a District, and when it comes into regular working, will, if properly utilized, ensure an early supply of trustworthy information.

Answer to question 2

The classes who first feel the pressure are village servants and agricultural labourers, who are never able to make provision for the future, but are paid by a per centage of grain at harvest time, or else are supplied by the proprietors through the dull season of each year, on condition of giving their labour when required. Distress next falls upon small land-holders, whose crops are generally mortgaged to the banáh for advances, and who are supplied by him with food at bazar rates to support them while the crop is coming on. As soon as the banáh perceives that the crop is likely to fail, he stops his supplies, or gives them on progressively harder terms, and he is able at any moment to reduce his customers to the point of starvation. Such small proprietors, living in this precarious way, are very numerous, especially throughout the country, while agriculturists who have a stock in hand for future contingencies are quite the exception. Able-bodied labourers, without children, generally leave the villages of their own accord, and get employment wherever large earth-works are in progress, but proprietors are always anxious to retain them at home as long as possible, so as not to lose their services when required, and to this end they supply them

CH. II. with food as far as their means go Those having wives and children cannot easily be induced to leave their villages even when the pressure of famine has been severe, and these soon become too weak and emaciated for any sort of labour Among the applicants for relief, women, children and aged men largely preponderate Distress among field labourers results partly from the impoverishment of their employers, who, as I have said, oppose emigration, and support their labourers as long as they can, and partly from the failure of field work

Answer to question 3

Distress arising from drought does not so soon make itself felt in towns, where the trading classes are not so directly dependent on the produce of land, and have no fixed rent to pay, whether the crop is good or bad The poorer classes of artisans are first affected For instance, last year there was a dearth of cotton, the raw material rose in price enormously, and the cleaners, spinners and weavers lost their employment and means of livelihood In the same way an unaccountable stagnation in the shoe trade at Delhi affected the Mochis, Chamárs and Khatiks throughout the District, and reduced great numbers of them to extreme destitution These classes emigrate, and turn to other employments, or else subsist by begging They have no one to represent their condition, and in large towns it is not easy to ascertain the extent of their distress The Zaldár system does not apply here, and some special organization is necessary Where Municipal Committees exist, they might be utilized for the purpose

Answer to question 4

As far as dependent relatives and caste-fellows are concerned, charity is co-extensive with the means of the givers, and, as long as people have anything to subsist on, they generally, to their honor be it said, share it with their belongings, but habitual mendicants, that is, blind, lame and helpless people, but excluding religious beggars, feel the pressure of scarcity almost from the very beginning and become claimants for State relief Many wealthy banáhs and shop-keepers, it is true, continue to make daily distributions of grain, but the charity of these is quite insufficient to cope with the daily increase of pauperism In the town of Rewáli I estimate this class at about 3 or 4 per cent. of the population In other places where relief has been organized I am unable to form any estimate owing to the large numbers of applicants who have come from native states and surrounding villages.

Answer to question 5

I have had no experience of an actual deficiency of food, and therefore could only answer this question from conjecture

Answer to question 6

If liberal and timely suspensions of the land tax were made or promised, I do not think any special relief measures would be called for among the village population in any case of merely temporary distress, but that the proprietors, in comparatively easy circumstances, would, when relieved from this burden, readily undertake to provide for the poor of their own villages In towns gratuitous relief should after a while be provided for the blind, lame and helpless, and work for artisans thrown out of employment At the very outset, and before hunger had had its effect in reducing the strength, I do not see any reason why applicants for relief should not be employed on works already in progress, whether under Engineer or Civil Officers, in the same way as ordinary coolies, without any distinction In that case no test would be needed When, owing to the progress of famine, it becomes necessary to pay subsistence allowance to persons who cannot do a full day's work, special works must be started, and to avoid the demoralization of voluntary labourers, the two classes should not be employed on the same works Classified gangs should be formed, and, as a test of necessity, a minimum subsistence allowance given for tasks graduated according to the strength of labourers of different classes Large works are preferable to small ones, because less difficult to supervise, and the agency of Public Works Engineers better than that of Civil Officers, because they can devote more time and care to the management The District Officer must be responsible for seeking out the needy and sending them to the works, and for securing efficient aid from his subordinate establishment, and he should be in direct communication with the Engineers in charge of the

works. When large works affecting the interests of several Districts are projected, the Local Government should select the schemes to be carried out, but, in the case of District roads and local irrigation works, the District Officer and Commissioner will be the best judges of their expediency. I cannot say how far Department Public Works projects, on the existing footing, would succeed in the later stages of a famine, but my experience of the past year shows me that in the earlier stages they are not calculated to attract the famine-stricken population*. Single men willing to work, emigrated, as I have said, at the outset, and got work as voluntary labourers, but those having wives and children have steadily refused to go abroad for work, either taking their families or leaving them behind. Proclamation of work being available was made throughout the District, and in November the Zaldárs reported that 3,000 persons were willing to go to the Western Jumna Canal for work, but when they were summoned to the tahsils to be formed into companies, only 110 were found ready to go, of whom 50 deserted on the road, and the rest on arrival were declared by the Engineers to be unfit for the work, 26 persons despatched afterwards went as far as Delhi, and then deserted to a man. The rain which fell in October no doubt improved the prospects, and provided field labour, but still the distress was by no means at an end, and during my tour in January and February, when I gathered together the kamfús and other poor in villages, to explain where work and wages were to be had, I was invariably met by the same reply, that they could not leave their wives and children, and if they must die, they would die with them at their home. The road works which I started in the District were hardly more successful, but I think the tahsil officials sometimes discouraged the applicants on account of the extra labour which their employment entailed. Village works near the homes of the people are difficult and expensive to superintend, and wages are often given for a day's labour little more than nominal, but my experience is that in the early stages of a famine, work must be provided near the homes of the labourers, or else many must be left to grow weaker and weaker, and eventually die of starvation.

Answer to question 7

A labour test is desirable in all cases of poor-house relief, and is essential except for people absolutely incapable of any kind of light labour, but most of the recipients of relief are hardly able to crawl to and from the distributing house, much less to work. At first however many professional beggars obtained admittance, able to work but unwilling, and the introduction of a rule requiring them to grind corn for their own use reduced the number at the Gurgaon poor-house in one day from 120 to 40.

Answer to question 8

In the earlier stages of scarcity which is likely to be temporary, the support of the helpless poor may be left almost entirely to private charity. In this District, up to the present, no help has been given from provincial or imperial sources. The poor-houses were started and for some weeks maintained with funds subscribed privately, and these contributions formed an important addition to the local resources. They were not however administered separately, but formed into one fund with the grants made by Municipal and District Committees. In times of severe famine the case would be different, as the private subscriptions would be completely swamped. If organized independently, the relief of paidanashin women would be a suitable field for the employment of private funds. So would the distribution of funds to aid farmers and shop-keepers in starting business afresh when the famine was abating.

Answer to question 9

As to the supply of funds by Local Committees, see last question. The Committees of Rewári and Farukhnagar have undertaken the whole management of pauper relief operations, and much credit is due to the Rewári Committee for the interest they have displayed in the matter. I do not think District Committees can be usefully employed in the same way, as the members are all isolated. Any funds raised within their own circles might be entrusted to Zaldárs for distribution, but with these exceptions I would not organize relief establishments anywhere, except at the head quarters of tahsils, where

* *Note by Commissioner.* The only work of this kind here was the remodeling of the Western Jumna Canal, and this did not succeed in attracting famine labour, because the starving people know that they would not be employed unless they could do a full day's work, and this was to them obviously impossible. Paid for their work at the rates at which able bodied laborers were paid, they could not live, and the estimates did not allow of their being paid at a higher rate.

Ch. II. there would be some hope of effective supervision. As soon as distress became common, I distributed small sums of money to all thanás and police out posts, with instructions to give a meal to any traveller who was poor and hungry, and then pass him on to the nearest tahsil for further relief, but to provide absolutely against the occurrence of deaths from starvation, and particularly roadside deaths, a much more elaborate and expensive establishment and organization would be needed.

Answer to question 10

Yes, in towns but not in villages. Inspection and inquiry into such cases have been made by individual members of Municipal Committees, and on their reports the names have been registered. Relief is given to them in cooked food distributed to some child or relative who can come for it, or, if this is not possible, it is conveyed by the Committee through their own servants.

Answer to question 11

There is one such institution at Bhárawas connected with a temple in charge of a Bairági. It has an income of Rs 1,850 a year from maáfi lands, and about Rs 2,000 from offerings. Fifty or 60 Bairágis are fed every day, but nothing is done towards relieving general distress, nor can any control be exercised over the administration except by inserting conditions in the grants, and if this has already been made in perpetuity, it may not be possible to impose fresh conditions now, but this is a question which the Settlement Officers may determine.

Answer to question 12

Existing agencies, such as village Chaukidárs, Zaidárs, and Police and tahsil establishments, are sufficient for securing accurate and early information on all the points noted, except sales of ornaments and jewels, and stocks of food grains on hand, and these are not easy to ascertain, as pawnbrokers and grain dealers consider secrecy essential to the success of their dealings, and are always jealous of any inquiry.

In Districts where trade is active, from all parts of which a railway is accessible, the quantity of grain in store will always depend very much on the prices ruling in other parts of India, and the course of traffic in grain will always be a good index of the condition of the District. So large a proportion of the cultivated area also is dependent on rain, that a general idea of the quality of any coming harvest may always be formed by watching the rain-fall.

Answer to question 13

Under the circumstances described, relief works, if started, should be closed, and gratuitous distributions of food should cease. If care be taken not to make the works too attractive, and to give only a bare subsistence allowance in poor-houses, and to exact even from the old and infirm such light labour as they may be capable of, the people will not be slow to abandon the works, and leave the poor houses, as soon as easier times admit of their getting a living otherwise. When this occurs, and petty offences against property diminish, and emigrants begin to return to their houses, it may fairly be assumed that the distress, which seemed likely to be serious, is disappearing.

Answers by Mr E NICHOLL, Secretary Municipal Committee, Amritsar

PRELIMINARY REMARKS

I propose to write of the Amritsar District, more particularly the Amritsar city I ^{Ch II}. have been connected with Amritsar for 13 years, and during the past 4 years I have been intimately connected with the city and its people in my capacity of Secretary to the Municipal Committee

During the scarcity of 1868-69 I had charge of a relief-work in the vicinity of the city, on which upwards of 1500 people were employed. During March and April of the current year I had charge of Municipal relief-works in the city, on which at one time so many as 6631 people were employed

CHAPTER II

Answer to question 1

Distress consequent on drought first makes itself felt by the rise in prices and the difficulty of obtaining food from the ordinary income of the individual.

Answer to question 2

Agricultural labourers, village servants and petty farmers are the first affected. Among this class the effect is not immediately felt, they have generally sufficient grain laid by to last them till the next harvest, which, having failed, they find that at the time when it would have been gathered, their supplies are exhausted, and the prospect of employment also gone, they are then driven to seek work wherever obtainable.

Early applicants do as a rule consist of whole families, isolated individuals are in the minority, with the former the distress is first felt owing to the number of mouths to feed.

The adult male applicants preponderate, the proportion of women and children to men is about five sevenths.

The non-employment of field labourers is due principally to there being nothing to do in the fields.

Answer to question 3

The classes of the urban population first affected are the ordinary labourers, menials, petty artisans and sweepers. The effects are first felt in the rise of prices of food, and the scarcity of labour, and are manifested by a resort to begging.

The signs of distress are so apparent to people acquainted with the town in ordinary times, that there is no necessity for watching the distress in its first stage by a special agency.

Answer to question 4

In Amritsar the proportion of habitual mendicants, poor and infirm people, to the total population of the city, is about 14 per cent.

The springs of private charity begin to dry up at the commencement of the second stage.

Answer to question 6.

Applicants should, as far as possible, be first employed on ordinary works under local officers, no special tests should be applied.

Officers in charge of works can always satisfy themselves by inquiry and from appearances, whether applicants are really in want, and whether they should be employed or not.

CH II Special works should only be opened when ordinary works do not give sufficient employment to all who apply

If the distress in its first stage is general throughout a Province, or large tract of country, the employment of small bodies at many places in the distressed region, and in the vicinity of their homes, is, in my opinion, the better plan

The employment of large bodies at 3 or 4 localities in each District would only become necessary when the distress began to assume the features of a famine, or at the commencement of the second stage. At this stage the numbers requiring employment would be enormous, and the agency required to superintend them in small scattered groups would require to be in proportion

Works requiring skilled labour would be best placed under officers of the Public Works Department, but works requiring unskilled labour might with advantage be placed under Civil Officers. My reason for offering this opinion is because the employment of professional men on large salaries to superintend earth-work, such as making roads, the lines of which have already been laid out, would be a waste of power and money. Men competent to superintend such works can always be obtained by Civil Officers for small salaries

A Deputy Commissioner has always under his orders, in some department or other, men acquainted with his District and the people, whom he could make available to exercise a general superintendence over works placed under him, so that the extra men would only be employed to augment his existing resources, and look to details.

Public Works Officers could best be brought into close communication with District Officers by being placed directly under them. This would be desirable in every way. The District Officer is not only the principal Civil Officer in the District, but he is supposed to be better acquainted with the wants of the District and people than any other official. He is the man to whom the people would naturally look in time of trouble, and men working under his orders would receive willing obediences from the people

Answer to question 7

Poor-houses should be opened to give relief to the blind, the infirm, and those people who are, from whatever cause, unable to work.

Poor-houses and private charity for these people are sufficient at this stage

Answer to question 8

At this stage private charity should be allowed full scope, without interference of any kind having for its object the organization and direction of this source of help

Answer to question 9

Municipalities might be very largely utilized at this stage, most Municipalities in large towns would give material assistance in money so far as the funds at their disposal would admit, and the members might with advantage be employed in superintending the distribution of relief, and in various other ways

During the recent distress the members of the Amritsar Municipality contributed largely to the amelioration of the condition of the poor of the town, by distributing private charity, superintending the distribution of food at the poor house, and in paying gangs of labourers

Answer to question 10

Cases such as those referred to in para 31, Chapter III, have not occurred within my experience

Answer to question 11

Besides the Municipal poor-house there are many local charities in Amritsar, which being an important religious centre, contains many Dharmshālas and other places where charity is dispensed in a liberal way. The principal place is the "Dera Bāba," where, on an average, 150 people receive food daily in ordinary times. In times of distress these institutions would be available for feeding people of all classes

Time does not admit the preparation of estimates of their annual value, or of the number of people benefitted, they may, however, be counted by thousands. These institutions are managed by Brahmans, Mahants, &c. The usefulness of these charities could be made much more effectual in times of famines.

CHAPTER III

SECTION I

Answer to question 2

Of the two kinds of relief work, that requiring the employment of unskilled labour is, in my opinion, preferable, for the reason that unskilled labourers who apply for relief, at whatever stage of distress or famine, will largely preponderate over artisans.

To field labourers and some others the use of the spade is in the line of their ordinary occupations.

Men who have been employed in towns and cities at the ordinary handicrafts and as menials are only fit to carry baskets.

During the first period or during a temporary distress the employment of small gangs in many localities and in the vicinity of their homes, is, as already stated, preferable. The advantages of this plan are —

- (1) — That you save the people the expense and hardship of leaving their homes for a short time.
- (2) — You allow some of the members of a family to attend to their ordinary affairs, while the other members are earning on the works sufficient to support the whole family.

Every one knows that a meal provided for 3 persons will, on a pinch, suffice for 4, and that 3 persons who club together can live cheaper proportionately than each could separately.

I will relate two instances that came under my own observation. A husband and wife and their son were employed, they got $1\frac{1}{2}$ anna, 1 anna and 9 pies respectively = 3 annas 3 pies per day, from this they supported themselves and two aged and sick relatives rather than allow the latter to be taken to hospital. In the other case there were 1 man, 2 women and 3 boys belonging to one family, who were paid in the aggregate 5 annas per day. In 14 days they saved one rupee and four annas.

SECTION II

Answer to question 4

I would reject applicants whose clothing or the wearing of ornaments indicated that they were not in penurious circumstances. I would do this at any stage.

A man who was robust, but in rags, I would not reject.

Answer to question 5

The distance test. Of the 3 tests, this is the most crucial, people who are not in real distress will not travel long distances from their homes in search of work, on which they only hope to receive a bare subsistence. I have known whole families to travel 150 miles to works that I have had charge of, because no work was to be had nearer to their homes.

It is not enough that the labourers have to go some distance to and from the work.

The application of this test in the sense implied in the question, has never been attempted by me.

Answer to question 9

Persons in hospital receive cooked food and no cash wage

Where there is no hospital the sick are provided with cooked food in the same way

Answer to question 10

The labour test Fixed daily tasks are applicable on earth-work, the labourers are formed into two classes, the able bodied to dig, and the less robust, women and children, to carry baskets For hard soil, gangs of able-bodied picked men, are employed separately Each gang has a piece of work marked off daily, and if this is not completed the mate is fined, or the labourers receive a reduced wage for that day

Persons may be compelled to work by reducing their wages to the lowest possible limit At the beginning of a famine it is hard to compel people to do what they have no inclination to do When punishment is resorted to, they leave and seek work elsewhere When famine is at its height, and other work is not procurable, labourers are then more tractable, for those who persist in not fulfilling their task, confinement on a low diet might, with advantage, be resorted to

Answer to question 11

Piece-work is very good, where a given piece of work has to be completed within a given time, and a fair rate is given, but if famine wage rates are applied to the quantity of work done, there is no advantage in adopting this system, e.g., it has been ascertained that an ordinary labourer can dig 100 cubic feet per day, and the rate for earth-work prevailing in the District is 3 annas per %, if this rate were given the work would be done quickly, but if say $\frac{1}{2}$ that rate only were given, or $1\frac{1}{2}$ anna, the same amount of work would not be done If the object be to employ a certain number of people over a given period on a particular work exacting a fair day's labour from each, then the piece work system is of no advantage, what a fair day's labour is can be decided in each case, on the work

I have tried the system, but the people would not do a bit more than their ordinary share of work unless I raised the rate on the quantity of work ascertained to have been done They said they did not care to over-exert themselves without an inducement, as under any circumstances the Government were bound to maintain them till better times come round

Answer to question 14

If the works are situated a long distance from medical aid, a hospital should be provided A Native Doctor should inspect the gangs daily, and those persons suffering from simple ailments should be treated on the work

The hospitals that I have constructed have been long sheds 14' broad, made of *sirks* and *kāna* or ordinary thatch Each patient was allowed 6' x 6' of space, and was provided with a *char pa*, a small mat and a *darr* or *sattran* to lie upon, and in winter a blanket, in summer a sheet, 4 or 6 yards of coarse cloth (*dusootie*) is sufficient clothing for each patient

Where the number of sick do not exceed 40 (Hindus and, Muhammadans), one cook for each sect is sufficient An ordinary ward coolie will nurse and attend to this number of sick

Where a Civil Surgeon is at hand, he would exercise supervision over the Hospital Assistant

When the hospital is far removed from a station, the officer in charge of the work would be able to see that the patients were properly cared for, but in professional matters the Hospital Assistant would be very much his own master Where there were several works with hospitals attached within short distances of each other in a District, one Assistant Surgeon might with advantage be appointed to supervise the whole

Answer to question 16.

One register of admissions is sufficient It should show

1	2	3	4	5	6	7	8
No.	Name.	Parcentage	Age.	Residence	Trade or profession	Whether hired labourer tenant, or proprietor of land	Rate of wage.

CH III. A separate register of fines is hardly necessary For work done each overseer and supervisor should keep a register showing —

1	2	3	4	5	6	7
No of gang	Locality employed	Date	Measurement of work done in cubic feet	Total	Average per labourer in cubic feet	Cost.

Answer to question 17

See answer to para 7 above Weekly reports of the numbers employed are sent to Government through Commissioner The account of expenditure is sent monthly to the Examiner Public Works Accounts

Answer to question 18

The departure of the people *suo motu* is generally the first sign of the decline of a famine that I have observed There is seldom any necessity for discharging them Some of course will linger till the work is closed, which happens when it is known that work may be had in the fields or elsewhere

No money has ever been given to enable people to reach their homes, or to start again in life, nor has any been asked for

Answer to question 23

The situation of a poor house should be inside, or as close as possible to a town, and should not be in close proximity to buildings which would prevent a free circulation of air It should be within an enclosure wall of at least 10 feet high, the wall might be made of mud This wall would assist in supporting the roof of the huts, which might be made of *siki* and *kána*, or thatch, with inner walls of the same materials The best form would be a square with one gate, 6 x 6 is sufficient superficial space for each inmate The latrines should be outside the enclosure One might be made inside for the use of the sick or decrepit The outside latrine need not be permanent,—a trench and a movable screen would suffice, a fresh trench could be dug daily, and the old one filled in with earth The inside latrine should be provided with iron or glazed receptacles, which would admit of frequent removal, 1 sweeper to 100 inmates would answer Each poor-house should provide for the accommodation of 200 to 300 persons For families parts of the enclosure should be partitioned off People of different castes, except sweepers, do not, as a rule, object to sleep in the same building

Answer to question 24

The condition of admission stated should not be relaxed Uncooked food might be given to those only who are able to cook it themselves *within the poor-house* The duty of selection should be assigned to a Government official, or a respectable citizen

Answer to question 25

A person in a starving condition should be taken to the poor house, unless some friend or relation came forward and engaged to support him, but once in the poor-house he should not be allowed to leave till restored to strength, then he might be allowed to leave for a relief work, or discharged and allowed to shift for himself It is a very easy matter to keep a starving man in an enclosure With healthy vagrants and persons on relief works or mendicants the matter is different, these it is difficult to keep on works if they incline to leave I do not think, however, that legislation is necessary

Answer to question 26

Persons reduced by innutrition should be treated exceptionally on a diet of milk, rice and dál till their strength is restored One lb of raw flour with 2 or 3 ounces of dál or vegetable and $\frac{1}{2}$ ounce salt is, in my opinion, ample to support such persons as would seek the shelter of the poor house, who would have little or no labour to perform My experience tells me that a native will live for a considerable time on from 8 to 10 ounces parched gram

Answer to question 27

For a poor house containing 800 inmates, the following establishment would be necessary, a *Dungá* as store-keeper, and a *Naib* to assist him in details, a weighman and 4 *chaukidá* :

7 cooks, 3 bhustis and three sweepers, total 20 servants or 7 per cent. The food should be purchased by the Government official in charge and given out daily by him, through the Darogha, to the people to be ground. Each person should be able to grind on an average 8 to 10 seers. Ch III.

The Náb Darogha should each day prepare rolls of the inmates according to age and sex, and of the amount of food required, this should go to the Dárogha (through the officer in charge), who would issue the food required to the cooks through the Náb Darogha. 2 chaukidars should look after the cooks to see that there was no misappropriation.

The cooked food should be weighed and served out to the inmates in the presence of the Government official in charge or the Dárogha. Placing the people in rows and keeping them in that position while the food is being served out and eaten is not a difficult matter, and requires but little discipline. During the winter a blanket, costing about Rs 2-4, and 6 yards of cloth costing 1 rupee, and in summer the same quantity of cloth and a small darrí costing Rs 1-4 is all that would be necessary.

In winter the people should rise at 7, and be put to light work at once, the roll should then be called. At 11 they should bathe, and after that receive their morning meal, and at 1 commence work again till 5 P. M., when they should receive their evening meal, and at 8-30 retire for the night.

A masonry trough made at the closest well would answer for ablution, and then for washing clothes. This could be filled and emptied at pleasure.

A Native Doctor should be appointed to look after the health of the inmates.

The inmates of both sexes might be put to grinding corn, combing wool, cleaning cotton, and spinning, and other light duties. In addition to these the male inmates could make ropes.

The establishment detailed above would be ample for the ordinary work of the house, they would be assisted by such of the stronger paupers as could with regard to their caste be employed.

Answer to question 28

The establishment &c required for the hospital attached to a relief work (*vide* para 14 above) would be applicable here.

Answer to question 29

Upon the report of a medical officer that certain of the inmates were fit to do ordinary labour, they should be despatched to the nearest relief-work in charge of a chaukidár, and informed that they will not be readmitted into the poor-house.

Answer to question 30

Proof that pardanashins are in want would be difficult to obtain indeed. In time of famine many would say that women of this class required relief, but to guard against fraud and ensure that the relief reached those for whom it was intended, is the admitted difficulty. In a large Municipal town the members of the Committee would be the best agency to employ. These members are acquainted more intimately with the wants of the towns-people, their constituents, than officials, and they have greater facilities for acquiring information.

Relatives of women of this class, who are able to support them, should be required to do so. But women who have no relatives or friends willing to support them should be admitted to relief, which might be afforded in the shape of food, in no case should money be given. In return for the food they should be required to do a certain amount of work, grinding corn or spinning cotton, the latter kind would be the most popular. Women of this kind are unaccustomed to hard work, and owing to the conditions under which they live, it should not be expected from them. They could and probably with advantage be employed in sewing the clothes required for the inmates of poor-house and hospital.

Relief should be distributed once a day, and the quantity should be the same as that allowed to inmates of poor-house, and it should cease with the return of better times, or at the same time as the relief works.

Answer to question 31

For the bed ridden and others who cannot leave their homes, I would adopt the same system as for pardanashins, and in addition to the agency above suggested, Hakim would

CH III. be available either to furnish information or to convey relief which should be in the form of food, and in quality according to the condition of the recipient.

This relief should be stopped on the cessation of operations, or, in the case of the sick, on their recovery

Answer to question 32

In respect to orphans and deserted children, my opinion is that Government should provide for them. In most parts of the country there are Missionaries ready and willing to assist the Government in this matter, their assistance should be availed of, and grants of money should be made for the support of the children during the famine. After that, Provincial, Municipal and Local Funds should be made liable for their support.

Answer to question 33

There is only one condition that I can think of under which it would be necessary for Government to sell grain at rates below those current, and that condition is the encouragement of private charity. In all large towns there are citizens and institutions willing to spend a certain sum of money in the distribution of charity to the poor in times of distress. If men so disposed could obtain grain at rates cheaper than those current in their District, they would purchase it, and by doing so would continue their charity for a longer period than if they had to purchase the grain locally.

For Government to sell at cheap rates to baniahs would be of no benefit to the poor, and if the sale of grain to the poor alone were permitted, how would it be possible to prevent that grain finding its way to the baniahs, whose object it would be to have this monopoly?

The mass of the population that require Government relief have not the money to purchase grain at any price

PRELIMINARY REMARKS.

Before attempting to answer the questions proposed in accordance with the last of the preliminary observations to the series, I beg to state that I have had no experience of famine, but I have had experience of scarcity in two districts, in this district, which I joined just at the beginning of the present year, and in the Gurgaon district during the year 1869, I having joined there at the same season.

I will first state what my experience has been in this district. For an account of the state of the district up to the time when I joined, I am happily able to refer to printed correspondence of the Punjab Government Department of Revenue, Agriculture, and Commerce, January 1878, No 12, distress in Karnál. I will describe the sequel up to date.

By means of the rains which fell about the 10th of December a very considerable area had been sown throughout the district, almost entirely with barley. Owing to the failure of the kharif the area sown in many cases exceeded the average area sown for the rain crop. People recovered from the dismay with which they had seen, as they supposed, the almost entire failure of two crops in succession, relief works, which had been commenced, were stopped before I joined, and it was hoped that all apprehensions of famine were at an end. Rain again fell in the end of January, which did great benefit to all crops, but it was not universally abundant throughout the distressed tract.

In the end of January and during February and March I made tours in the distressed parts to ascertain their condition and to make arrangements for the remission or suspension of the revenue.

I found the people very ready to make complaints that they were starving, and that many had died of starvation, but everywhere I observed them to be to all appearance in as good condition as usual, and I was not able to attest a single case of starvation.

I do not doubt that there was distress, and that many were on short rations. I observed that in Karnál tahsil a great many carrots as well as radishes and turnips had been sown, and I could see large numbers of people eating them in the fields, and carrying them in baskets to their homes, or away to sell them in other villages.

In the western parts of the district, where the water is at too great a distance to permit of irrigation from wells, I observed the people had recourse to an edible weed called in vernacular *ghewara*, which springs up everywhere. Large numbers of people might be seen collecting it, and it was sold everywhere in the bazárs.

The cattle were very much worse off for food I think than the people. Large numbers had been driven away to the Dun earlier in the season, where it was said the greater number died owing to the change of fodder.

Throughout the distressed part of the district, during the months of January and February, grass was non-existent, and while in camp I was obliged to carry grass with me for my horses from Karnál.

The nominal price of *bhusa* was a maund a rupee, but it could scarcely be procured anywhere at that. Accordingly, in every village large heaps of skeletons of cattle were to be seen, the mortality being very great.

Statement No I in the appendix will give some idea of its extent in those villages in which enquiry was made with a view to suspension of the revenue, and the destruction was only a degree less elsewhere—many villages had not a single plough bullock left. In the Karnál tahsil the cattle chiefly subsisted on the leaves of the *dhák** trees, which grows everywhere in great abundance, but had nearly all been consumed before the spring. In Kuthal this was not available, and there was not a green branch to be seen anywhere, so that the cattle appeared in much worse condition there.

Throughout the distress, relief works were open on the Western Jumna Canal, but they were attended by only a very few people, almost all belonging to other districts. Statement No II in the appendix shows the monthly attendance at those works. I am

* *Butea Frondosa*

Ch II sorry that it did not occur to me to pay a visit to those works, for I suspect that the Canal Officers do not trouble themselves to remove difficulties, else they would have been more largely attended

The large works for the new Main Line Division were in progress all the time, and must have done a great deal to mitigate the distress throughout the district. In the printed correspondence doubts are expressed whether the Rangars would not rather starve than leave their villages to work elsewhere, but I found many Rangar villages almost empty of people, some of the Rangars had left and nearly all the kamins, and I understand the Rangars make a habit of roaming away from their homes in search of labour, but that they object to digging

In many parts of the district the people were clamorous for relief works. They would have preferred digging tanks at the public expense in their own villages for their own future benefit, but, it being decided that they could not be gratified with this, and it being considered desirable that relief works should be opened to mitigate the distress and to test its intensity in the portion of the distressed tract most remote from the canal works, six works were accordingly opened in different directions in the Kathal tahsil. The work in every case was earth-work for constructing or improving district roads. I visited all these works myself when commenced in February 1878, and the Honorary Assistant Commissioner at Kathal, and an Extra Assistant Commissioner, visited them afterwards. The rate of wages fixed was 2 annas for a man, 1½ for a woman, and 1 anna for boys and girls not under 11 or 12 years of age. These wages are more than subsistence rates, and were so fixed because it was known that able-bodied people would not come to work at the rates first fixed, viz., 1½ for men, 1 anna for woman and boy above 14, and 9 pie for children. Mere children were excluded with a view to render the works more easily manageable, and because with the higher rate of wages allowed to the parents, it was considered unnecessary to admit them. There was no piece work. An order was received from Government that all relief work should be piece work, but by the time it was received, an early closing of the works was contemplated, and it was considered unnecessary to change the system. All these works were closed on the 7th July 1878, as the numbers had been dwindling down, and there had been a heavy fall of rain (6 inches) throughout the Kathal tahsil. Statement No. III in the appendix is intended to shew the results on these works taken collectively.

The only gratuitous relief given in the district was at the Karnal poor-house. The Municipal Committee in ordinary seasons maintain a poor-house for relieving a number of old and infirm people by a daily dole. The business was managed by a sub-committee of the Municipal Committee, one of whom personally saw the relief given in accordance with a list previously prepared in concert, and who also disposed of the wayfairs.

Other measures of relief were a suspension of the kharif revenue in 118 villages to the amount of Rs 29,734-8-0* out of a total revenue of Rs 63,231 for various periods up to two years, the first instalments to be paid out of the coming kharif, a proposed suspension of the rabi revenue in 67 villages for two years beyond the time when the kharif revenue suspended would become payable, to the extent of Rs 13,138-4-5* out of a total revenue of Rs 40,303, and a distribution of Rs 40,000 to the poorest zamindars in the more distressed villages, security being taken for the repayment with interest at six per cent. in 3½ years

I may here mention, with regard to the harvests, that the rabi preceding the distress was supposed to have reached only ⅔ of an average crop, it having suffered much from unseasonable rain in the months of April and May, that the last year's kharif was a total failure in the distressed parts, and, taking the whole district, was supposed to reach ¼th of an average crop, that the past rabi was about ¼th of an average crop in Kathal, and ⅓ in Karnal, and, taking the whole district, would be about ½ an average crop. The hopes of a moderate crop that were entertained in the month of February were not fulfilled later on, there having been scarcely any more rain, and scorching winds having prevailed throughout the month of March.

So much for experience of distress in Karnal

I might have almost omitted to say anything of Gurgaon. It is so long ago that I have nearly forgotten all about it, and the distress was so slight. There was no question of any one dying of starvation. Numbers of wanderers from Rājputāna found maintenance in

* Excluding jagir, which is Rs. 16,981 7 6.

* Excluding jagir, which is Rs. 2,848-11-3.

every other village, some money was spent on relief works, excavation of tanks and the like, Ch II at Gurgaon, and gratuitous relief in money, grain, and latterly cooked food, was given to a small number of people in that neighbourhood, and also at Rewari through the Municipal Committee, the money being obtained by private subscription increased by Government

I had no part in the administration of gratuitous relief I superintended the raising of a road—the road from Gurgaon to Sohna. The work was done by piece work, so many annas being given for excavating a trench of certain cubic content. The people worked in families at those trenches, but the work was carried on like any ordinary work

I think that it is very likely that if no gratuitous relief had been administered and no relief works opened, nothing serious would have occurred, because nothing happened in other parts of the district where nothing was done

It will be seen that I have had small experience in the matters which form the subject of the questions, and this will explain the meagreness of the appended replies.

I was desired by you to consult Muhammad Sultan Khan, Honorary Assistant Commissioner of Kaithal. I gave him the questions and instructions, and he has prepared replies to them. In many cases I think he would have done better to have declined answering, as I have generally done myself with regard to Chapter III, on the ground that the experience he had did not justify an attempt to answer. His answers are submitted in original,* and also a translation accompanies of such as I think have some bases of experience. I have myself occasionally referred to his answers in my reply

CHAPTER II

RELIEF DURING EARLIEST STAGES OF DISTRESS.

Answer to question 1

It has so happened that I have not been in any district when distress was first making itself felt, so that I cannot speak from personal experience. It is very obvious however that the failure or abundance of rain at all times affects the price of provisions, consequently when a serious failure has occurred, provisions must become very dear, and people who at all times live from hand to mouth, as large numbers in this country do, must have difficulty in obtaining their usual supplies. The difficulty is very much increased by severe drought, inasmuch as a large number of the poorest are engaged in agriculture, or depend more or less on land-holders and others engaged in agriculture, while severe drought generally brings agricultural operations almost to a stand-still. The usual employment is gone, and the employer has often not the means to pay wages, as so many are dependent on the money-lender, who immediately strikes when a serious failure of the crops has occurred, or imposes terms so hard that it is all but impossible to deal with him. District Officers are being continually called on for reports regarding the state of the crops, and they have at any rate to submit periodical reports on this and kindred subjects. They must accordingly find it to be their interest to use all the means available for keeping themselves *au fait* with it. They usually make tours in their districts when they may see the state of affairs with their own eyes. In any case they must see and converse with a great many people from the interior of their districts who are well qualified to give them information, which, however, must not be implicitly relied on, the subject is discussed every week by the Police Officer in his diary, and the Police Officer has a great many means of obtaining information. Weekly rain returns have to be submitted with remarks regarding the state of the crops and the condition of the people. The District Officer always takes a principal share in the criminal administration, and must be cognisant of any increase of crime which distress, generally speaking, leads to

Annual reports have to be submitted of the out-turn of the crops, and there are also special reports for some crops. The District Officer is supposed to have the means of preparing these returns correctly in the tahsil establishments and the Patwari, and if reliable

* This officer's replies have not been printed, as the Commissioner considered they were not valuable.

CH II returns could only be prepared they would be of the utmost value for famines and many other purposes. It is evident that if several crops in succession wholly or partially fail there must be distress or famine.

Consequent on the extension of railways and the improvement of other means of communication, the condition of the people in one district is rendered more or less dependent on the state of the crops in other districts, and perhaps even in other provinces. In order therefore to determine whether there will be only a temporary or local scarcity or a famine, it would be necessary for the District Officer, or whoever would venture to decide the question, to consider the condition of the crops, past and present, not only in his own district, but in as many other districts and provinces as with the existing means of communication would sensibly affect the district in question, whether for good or evil. I will assume that this influence can be determined. For the rest I would assume that what has occurred heretofore will again occur, allowance being made for any special cause that may appear to be present, such as increased general prosperity, a new assessment of land revenue, whether lighter or heavier, the existence of a fodder famine along with grain famine, and I would refer to the records of the past in order to find a state of affairs, from which, by comparison with the present, the future might with some certainty be deduced. For instance, in the Karnal District there have been three famines (such famines, I mean, as we have experience of in the Punjab) within the last twenty years, viz, in 1860, 1869, and 1878. The failure of rain and crops which produced the two former, together with the results in destitute persons relieved, loss of cattle, suspension and remission of revenue, are succinctly given in the Settlement Officer's Assessment Report for Karnal, paras 230, 231, copies of which will be found in appendix No IV, and might be found in fuller detail elsewhere. Similar facts with regard to 1878 are given in the introduction to these replies. It would, it appears to me, not be difficult to say whether the state of affairs under consideration were intermediate to, or less or more serious than, any of them, and with due allowance for other considerations, to predict what maximum number of persons would require relief until the next harvest.

I do not see that any steps are necessary to bring the indications of famine to the notice of the District Officer. He should himself be trained to be on the *qui vive* looking out for them, and to ensure this there should doubtless be a chapter on famine in the *Directions for Collectors*, or some similar work.

From what I have said above it will appear that I consider something altogether beyond district organization necessary to secure the information requisite for dealing with distress or famine, inasmuch as local distress is nowadays so much influenced by scarcity or plenty elsewhere. To speak, however, of district organization, I think that the utmost attention should be given to securing correct information as to the out-turn of each crop, by determining the exact area under each crop, and the proper average produce to be employed for bringing out the out-turn. This is a laborious work, and the Patwari is the chief agent for performing it. During settlement he has no time or opportunity of attending to it. One-half of this district will be 7 years under settlement, and the other half may be as long in addition. During all this time this important work must be more or less neglected under present arrangements. I think that provision ought to be made for its performance at all times. Further, distress adds to mortality, and the present mortuary returns, except perhaps for the towns, are so untrustworthy as to be useless except for the sake of making a guess by comparing the untrustworthy returns of one period with those of another. I think in the Punjab the Chaukidars' rules should be altered so as to enable a Chaukidar who could read and write to be appointed for the purpose of reporting vital statistics for a circle of villages. This would secure accurate returns at small cost. At present the returns are not submitted through the Deputy Commissioner, but he might obtain perusal of them from the police before they are sent in. A yearly return shewing results for each week or month for each locality should be published by the Sanitary Commissioner, to enable comparisons to be made if it were suspected that mortality was due to distress.

Answer to question 2

I have nowhere seen the beginning of distress, but I can nevertheless corroborate what the Honorary Assistant Commissioner of Kaithal says, that low caste people, such as Churas and Chamars are the first to feel the pinch. During the latter part of the month of July last, I observed whole families of these people moving along the grand trunk road in

the direction of Umballa, a great many of them much emaciated by want of food. I put questions to numbers of them, and found that they had come from Gurgaon, Najwára, i. e., Rájputána, Agra, &c, and were going towards the Punjab, because they had heard there had been rain there. The Chúras preponderated. These people live, a great many of them, by doing jobs for land-holders or taking service with them. When famine comes there is no work to be done, and no service to be had, and they must leave for some other part where they can get work, or starve. The case of these people, the common serfs of the village, is different from that of the agricultural castes. Only lately I observed that a good many Játs and other agriculturists from Rohtak and neighbouring districts, on account of the distress, had taken refuge in the canal villages by working for some one of their own caste for subsistence only. A Chamár or Chúra would not meet with similar assistance from his caste people.

The wanderers I have spoken of consisted of whole families, people old and infirm, able-bodied, and infants in arms.

As regards people employed in field labour, the employers have little or no work to do on the fields in consequence of the drought. They have no money to spend on wages when there is no prospect of any return, or they have absolutely no money, and can get none from the money-lender, who very soon strikes work when he sees his customers may not be able to repay him.

Answer to question 3

In Karnál we can scarcely be said to have any urban population as distinguished from agricultural, because the three largest towns, Karnál, Pánipat and Kaithal, are, strictly speaking, little else than very large village homesteads. The people affected by the distress in Karnál and Kaithal were mostly of the same classes as were to be found in the villages. The persons in Karnál who received gratuitous relief were in addition to those who at all times receive it on account of age and infirmity, and casual travellers, persons who lived by cutting grass, or selling vegetables, or their dependants, and low caste persons who in ordinary times lived by menial service, jobbing, field watching, and the like. We have thus no experience of urban distress among the higher classes, or of the difficulty of getting at it.

Answer to question 4

I think habitual mendicants meet with a refusal of alms at a very early stage of the distress, for they immediately begin to push their operations in quarters they had entirely neglected before, but I have no experience of distress so great as to compel the neglect of poor and infirm persons by those who formerly supported them. I have no idea what the numbers of either class may be, but I think Muhammad Sultán's estimate of 3 per cent very high, seeing that in 1860 the highest number relieved did not reach 8 per cent of the population, and that the highest per-centage relieved in 1869 was not much over half that. As gratuitous relief was given abundantly on both occasions, and the great bulk of the beggars must have been gratuitously relieved, there would be too little room left for the needy portion of the rest of the population. At a time of distress very few would relieve beggars when they could go to a public kitchen and get relief.

Answer to question 5

In a time of scarcity the number of persons who will be able to purchase food without assistance will depend on the extent of the scarcity, or, in other words, on the price of food. We can easily suppose famine to be so severe and so long continued that the whole population almost would become helpless paupers.

The price of food at any time previous to the gathering of a harvest is liable to be very much affected by the varying prospects of the harvest. To forecast the prospects of a harvest at the time of sowing, or before it, is for the present beyond human intelligence. With regard to this factor of the problem, therefore, the only resource would be to make the most reasonable assumption possible, and that I think would be that the prospects at any particular time promised an average crop.

If the District Officer could ascertain what prices would most likely rule at a particular date throughout the period to which his estimate of famine prospects extended, he would, if he were thoroughly acquainted with his district, be in a position to estimate what would be its condition at that date, or, in other words, to estimate the number of

Ch II destitute persons at any given time The problem therefore is to determine what prices will rule in a particular locality from six to twelve months beforehand

The following would be factors in the problem —

- 1st The stocks on hand
- 2nd The production of food within the period
- 3^d The consumption of the people within the period
- 4th The effect of trade in increasing or reducing the price, which means a knowledge of the surplus produce in every other district sufficiently near to admit of grain being brought from it at a profit

The stocks in hand might theoretically be determined by actual inspection, or by collecting information regarding them, but in this country I despair of obtaining much satisfaction in this way I suppose therefore that dependence must be chiefly placed on an exact knowledge of previous harvest, and on information as to the course of trades, together with a knowledge of the consumption of the people This brings us back to preparation of correct returns of the out turn of crops, which I have already discussed. If this were satisfactorily provided for, it would dispose also of factor No 2.

As regards the consumption of food, this might be determined by actual inquiry in the locality, and the result should be verified by the import and export returns of Municipalities The decrease of consumption consequent on the rise of price would have to be duly taken into account The 4th factor would be the most difficult to deal with satisfactorily of any, and I do not think that the District Officer has at present the means at his disposal

I would propose to deal with it in this way Before a crop has reached maturity, when the out-turn can be accurately estimated, barring calamities, each District Officer should submit a return of the out-turn of crops prepared, with all possible accuracy, along with a statement of the existing stocks, and of the amount required for the consumption of the population until the next corresponding harvest, so as to show what surplus would be available for export, or what deficit required to be supplied. If the result were materially altered by calamities in harvesting, a supplementary statement could be submitted showing the effect These statements should be checked and compared by a central authority, and should then be published without any delay, together with a note by an expert, which would compare them all together and endeavour to determine what would be the prevailing prices at different dates throughout the year at all the ruling marts throughout the province.

The task would be similar in character to that which may be seen occasionally attempted in articles in the *Saturday Review*, and perhaps in other periodicals, when the writer, taking stock of the resources of all the corn-producing countries of the globe which export, of the home crops and stocks on hand, and of other competing countries, such as France, concludes by deciding whether bread is to be cheap or dear throughout the year, whether the quarter loaf is to cost 6d, 7d, or 8d With this assistance the District Officer who apprehended distress in his district, taking into account the cost of transport from these principal marts or from the localities where a surplus for export was shown to exist, and all other circumstances of which his local knowledge enabled him to take cognizance, might, with some hope at approximating to a correct result, forecast the prices that would rule in his district, and estimate the extent to which distress might prevail, which was the problem to be solved.

With regard to the classes indicated in questions 2, 3, and 4, they have not been hitherto discriminated in the records prepared of the distress that has occurred at different times in the district, and I have no means of making an estimate Such estimate I think could not be prepared by analysis of the population, however elaborate The Honorary Assistant of Karthal, who possesses the most intimate knowledge of the people of his jurisdiction, estimated in the printed correspondence for Karthal the probable number of destitute persons dependent on the State if the last year had entirely failed, at 25 per cent. of the population, but experience of former famines, and, I may add, of the past year when the crop generally failed in that part to the extent of more than $\frac{2}{3}$, has shown that this estimate was immensely in excess Experience I consider to be the only safe guide in a matter like this; and, judging by the light of it, I should say that if the crops failed to the extent of $\frac{1}{2}$ in

two consecutive years, the country would be impoverished, there would be great difficulty in realizing the revenue, but that distress would not be very apparent. My reason for saying this is, that during the past year we had a failure of $2\frac{1}{2}$ crops out of 4, and the largest number relieved on relief works was 2,419, in November last. If the rain before the last had not been a partial failure, I think no relief would have been called for. If, however, the crops failed to the extent of $\frac{2}{3}$ in two consecutive years, we should have as nearly as possible towards the end of the period the state of affairs in the famine of 1869, when first two crops completely failed, then the third was scanty, and the fourth entirely failed. The maximum number receiving relief in any month was 12,120 relieved gratuitously, and 1,814 on relief works, out of a population for the distressed tract of 2,96,070, giving a per centage of 4.7 instead of 12.5 as given by the Honorary Assistant. The distress ought to be somewhat less than this, as the only crop out of 4 was scanty or below average.

Answer to question 6

If it be believed that the distress is only temporary, I think that the District Officer should arrange to provide for relief by commencing works of an ordinary character in the distressed tract, suspending other works elsewhere in order to provide the necessary funds, whether from District or Municipal sources. These works would be carried on under the ordinary agencies, and not under the Public Works Department. The wages given should, I think, not be subsistence wages, but only slightly under the ordinary i.e. so as to test the demand for work.

There would be no loss in this, as the ordinary tasks would be demanded, and inefficient persons would not be admitted on the works, which would be carried on with much greater ease. Full wages being paid, or nearly so, the able bodied would be able to support their inefficient relations as in ordinary times. This system would be pursued until labour could be procured at rates considerably below the ordinary rates. This would be a sure sign that the distress was intensifying, and that a change of the system from payment for labour at full rates, to the exclusion of inefficient persons, to subsistence wages with admission of all persons who could perform any labour. If there were very serious distress, the District or Municipal Funds would not long bear the strain, and it would be necessary to apply to Government for assistance, and this would probably be the most suitable time to open special works. Government might be willing to expend money on works of an imperial character, while it would not be willing to spend imperial or provincial funds on ordinary local works. These special works would of course, as far as possible, be works of a useful or even remunerative character, and this condition would probably leave little choice as to whether the applicants for relief should be collected in large bodies at a few places, or at many places in the vicinity of their homes. In any case the works would be near the homes of a number of the applicants for relief, which is no doubt an advantage, provided care be taken that the relief works are not abused, and I would not be deterred by any fear of breaking up homes from calling on the others to move for a time to works at some distance.

I think that generally these works ought to be under the Public Works Department, as they would probably be works of importance demanding engineering skill, but in any case, as they would by the supposition be attended by crowds of people who were too numerous to be relieved on petty district works, keeping order among them, exacting sufficient tasks, and executing the work in a proper manner, would no doubt be very difficult tasks for even professional officers with well framed subordinates. The want of trained subordinates for this purpose was severely felt on the works undertaken in Karnal last year, as the work was badly done, and the exertions of the labourers were not by any means turned to the best account.

I should think that tests for admission to works, whether ordinary or special, conducted on the system described above, were scarcely necessary. On the former works the applicants for relief would be required to give a fair day's work for something less than an ordinary day's wages, and in the latter they would be required to perform a reasonable task according to ability for a subsistence allowance.

I think the Public Works Officers should carry on these works, just as other works, under the direction of their departmental superiors, it being well understood, however, that the immediate object in executing the works was to provide relief for the distress. It would, however, be competent to the District Officer to give any order in writing concerning the admission or treatment of distressed persons to the Public Works Officers;

CH II and the Public Works Officers should be bound to carry out the same whether they approved or not, pending a reference to departmental superiors, who would immediately be furnished with copies of the same, together with the objections of the Public Works Officers if there were any. If departmental superiors could not agree, a reference to Government would be necessary. This procedure would be similar to that provided for the interference of the Magistrate of the District in jail management.

With this provision the District Officer might properly be held responsible for the entire management of relief operations, so far as they affected the treatment of the distress as apart from the execution of the works, which would be carried out in accordance with plans and estimates sanctioned by the proper authority. In this way the officers of the Civil and the Public Works Departments might be restricted to matters within their respective provinces, but it is unnecessary to add that, without an earnest desire on the part of both to work in concord as far as possible, continual jarring and cross purposes might be anticipated.

Answer to question 7.

I think that during the earliest stages of distress poor-houses are not required. I have never seen the poor and infirm abandoned by their richer relations, and although mendicants may perhaps not obtain alms so readily from those who formerly supported them, what they receive may perhaps be supplemented by the charity of others, who may open their hands in consequence of severity of the season. Moreover, if they should be on shorted rations for a time, no damage would probably be done, and their case is not likely to continue long concealed from the authorities, whatever may become of others. I think however that a poor-house opened at the head quarters of the District at this stage may serve a very useful purpose in informing the District Officer of the intensity of distress rather than for the relief it affords. During the last year we had such an institution in the Karnal Municipality's poor-house, which is maintained on a small scale at all times. It extended its operations in consequence of the scarcity, and was ready to give a day's meals to any needy resident or stranger who might apply until his case was inquired into.

It is an important matter that, when famine is impending, the people in the affected tract who may be likely to be thrown on Government, should be encouraged to migrate to more favoured localities. It would be very difficult no doubt to set to work and move people from their villages. This has not been attempted, but perhaps it would be possible. When starving people however are on the move, there is no difficulty in the matter. For instance, with regard to the emaciated people I saw moving northward through Karnal in July, and who were all begging for assistance, on the supposition that a serious famine was impending in districts to the south, I think that some money might have been very advantageously expended at stages along the road in helping these poor people to their destination. Their appearance left no doubt as to their real condition. I think that possibly great relief might have been administered in this way very cheaply.

I have observed above in para 7 that, while on tour in the distressed parts of the district, I found the people deriving great relief from eating roots, carrots, radishes and turnips. These crops had been sown in greater abundance than usual, but I think that as distress always commences in the districts by the failure of the rains causing failure of the kharif and rabi crops, the District Officer might, if he apprehended distress, do a great deal towards alleviating it by using all his influence to secure these crops being sown as widely as possible, wherever in or near the distressed tracts there were means for irrigating.

These are the means of affording relief which it occurs to me might be made use of at this stage.

Answer to question 8.

I am unable to indicate any field specially appropriate for private charity, nor do I know of any persons apart from officials suitable for administering it.

Answer to question 9.

Any relief works that would be opened would, at least in the first instance, be works from Municipal or District funds, and they would be executed, so far as possible, by the Municipal and District Fund establishments. The execution of small works is frequently made over to members of the Municipal Committees, and the arrangement answers. In a time of distress the same thing might be done for relief works, but I think it would be

very necessary for the District Officer, or some of his subordinates, to inspect the works frequently. The execution of District fund works has never been committed to non-official members of the District Committee. Cu II

During the past year the payment of labourers on some of the relief works was entrusted to members, but they did not give satisfaction. It is possible however that if the execution of the works were once properly organized, and if the members were supervised and assisted for some time by the District Officers, they might give valuable assistance in this way. It must be remembered, however, that they are all, or nearly all, illiterate, and are incapable of doing anything by themselves without the assistance of a writer.

If it were necessary to make a house-to-house visitation in order to reach persons who would rather starve than apply for relief to the District Officers, or to prepare a list of distressed persons in any locality with a view to their being admitted to poor-houses or to relief works, the assistance of members of these committees would be very valuable. The Zaildars, where appointed, would render similar service, and where no Zaildars are appointed, any other rural notable of the same class. In each zail or Patwari's circle the Zaildar or other person in the same station, or a member of the District Committee, and in towns members of the Municipal Committees, assisted by a writer of the Committee establishment, might be desired to prepare lists of persons who were in want of relief, whether at a poor-house or outside of it, or on relief works. The list would then be checked by a Tahsildar or District Officer to ascertain that they had been prepared correctly. If it were necessary to establish numerous poor houses, it might be advisable to appoint some of these persons to the charge of some of them but close supervision would be necessary, especially considering that these persons are illiterate and very liable to be imposed on. If it were necessary to convey relief to the sick, cripples, or bed-ridden, these persons might be required to give the relief in presence of the Lambardars of the village. In the case of pariah women, usually some relative or person of the same caste might be appointed to receive it.

Answer to question 10

A commencement was made of preparing lists of distressed people in villages in November last year in the manner indicated above, but no use was made of them, as rain fell immediately after and entirely changed the state of affairs. This was before I joined the district. Possibly in any case the measure was premature, and should only be resorted to when famine has been established for some time.

Answer to question 11

The Bhaits of Arnauli and Budlāda have established alms-houses distributing about Rs 175 monthly. There are no other local charities. But in times of distress, the municipalities, several of the richer Mahājans in the town, and some of the more prosperous canal villages, distribute alms to a greater or less extent. The monasteries, too, (*asthals*) always expend a good deal in charity. I suppose from all these sources some Rs 1,000 a month may have been distributed during the late distress. There is, as a rule, no restriction as to the class of recipient, save that relief is sometimes confined to travellers, to the exclusion of local paupers. Any attempt at Government interference would probably result in stopping these charities at once.

Answer to question 12

If distress or famine occur in any district, it is probable that it is not the first time ever since it was under British administration. It is probable, therefore, that there may be among the district records more or less complete information as to what led to the distress, as to how it was dealt with, and as to the results in persons relieved, cost to Government, loss of revenue, mortality, and the like. In order therefore that the District Officer may correctly appreciate any indications of distress he may observe, it seems essential that he should interpret them in the light of by-gone famines, so far as obtainable. It appears to me that it would be no difficult matter to collect for each district, and have ready for reference, all the information available regarding former famines with reference to the points enumerated in the question, and any others that might suggest themselves to the compiler as important. The District Officer who apprehended distress in his district would then have a gauge of facts to measure the effect of the facts which came under his observation portending distress. His conclusions would be calculations from facts, and would be capable of being checked by his superiors, and they would be of far more value

than the shrewdest guesses. Of course there would still be abundance of room for human error in comparing the facts of one time with those of another in circumstances in many respects changed, and much care would be required to arrive at reliable results. Most of the facts observed may be due to many other causes besides greater intensity of distress. It would be well to remember that in the intensity of famine there is always a speculative element in addition to the deficiency of the means of subsistence. This was well illustrated by the distress in Karnál last year. In the month of November the people came on to the relief works in thousands. Rain fell in December and entirely changed the prospects, and the attendance at the relief works immediately decreased.

Four months later the wages were raised from subsistence rates to nearly ordinary wages, yet the attendance was far short of that for November, although in the meantime there had been no addition to the food supplies of the country. To the list of indications given in the question might be added sales and mortgages of landed property, ascertainable from the Registration Department, the larger attendance at relief or ordinary works which to a small extent might be kept open in suitable places, chiefly for the sake of observation, and likewise larger attendance at a poor house, which might also at no great cost be kept open in an unobtrusive manner with the same object. We had the benefit of observation by the two last methods during the distress in Karnál.

All necessary information can easily be obtained by the District Officer if he only chooses to call for it, and he is not likely to be remiss in this at such a time. In reply to No 1, I have made special proposals with respect to mortuary returns. I would here observe that they are extremely fallacious, and quote an instance. In 1877, which was a year of distress, the deaths in Karnál municipality were only 1,001 as against 1,442 of the preceding year. The reason for this curious result was that the former year was one of drought, causing distress, and that the ravages of fever, which at ordinary times is the chief cause of mortality in Karnál, were much slighter than usual.

Answer to question 13

I have scarcely anything to add to what I have said in reply to the preceding question. The case proposed is exactly the one we have had to deal with in Karnál during the past year. When rain fell in December the relief works were gradually closed, but as the crops that were sown in December, being very late, were not very promising, rain was still wanted, the works were re-opened in the worst-off parts of the district, but on a slightly different system. The wages were raised to a figure slightly short of that prevailing at ordinary times, and children and very infirm persons were excluded.

Under these circumstances the attendance at the works gradually declined until they were closed in July on the fall of seasonable rain. They thus afforded certain information of the declining intensity of distress. We could form the same conclusions from the poor-house at Karnál. I think similar measures might be adopted under similar circumstances.

With regard to precaution requisite to guard against an erroneous estimate of the necessity for offering relief, I would propose a comparison with previous famines, but I have discussed this at length in the preceding reply.

CHAPTER III

Answer to question 7

The method which I directed should be adopted on the relief works which were opened in the Kathal tahsil in the month of March was as follows—

Wages were to be paid bi-weekly by the Tahsildár or Nab Tahsildár. Daily payment by those officials would have been impossible, as work was going on in 6 or 7 different places at considerable distances apart, and it would have been difficult to find trustworthy persons to assist them. It is the custom to recommend and to order daily payment, but I think that if those who do so had the personal trouble of it, they would soon change their opinion. I have myself seen two to three working hours in addition to several hours more after working time wasted on it. In some cases it may be absolutely necessary, at least for a time, but whenever it is possible it should be avoided.

The work was road construction, two to four hundred labourers were employed in each **Chs. III** gang. With each gang there was a writer with a register to keep accounts. The gang was divided into companies of 15 to 25 persons, who were under a mate acquainted with earth-work. The companies worked separately on pieces of work measured off to them. The individuals who formed the companies were supposed to have some relation to each other, to neighbours, acquaintances, or of the same caste. The register was similar to a school register with daily columns prepared for a week. There were two additional columns, one in the middle of the day columns, and one at the margin, for shewing payments and making remarks as to absence, non-payment, retrenchment, &c. The companies were numbered and the individuals composing them were entered together. A considerable blank space was left between each company for entering fresh names if necessary. When payment of wages was made the instructions were that the register should be ready totalled for each person, that one company at a time should stop work for 10 or 15 minutes until the payment was effected. When one company was disposed of, the disbursing officer would go on to the next, and so on. Payment of wages was ordered to commence sufficiently early to finish it before night-fall.

The work done was ordered to be weekly measured by the Tahsildár or Naib-Tahsildár. A copy of the register, together with an abstract shewing the total number of labourers of each sort, the total payments, and the work done as measured, together with the cost per 1 000 cubic feet as compared with the estimate rate, was weekly submitted to the Deputy Commissioner.

SECTION 2

Gratuitous relief

The quantity of food given at the Karnál Municipality poor-house is as follows —

	<i>Chs</i>		
Per Man	8	Atta	}
" Woman	6	"	
" Child	4	"	

together with a little salt.

As the recipients take it away and consume it at their own homes, it is impossible to speak as to its sufficiency or otherwise.

APPENDIX I

Return of cattle lost by starvation in the season 1877-8

Tahsil.	No of villages to which enquiry extended	Total ploughed cattle	Total dead	Remaining	Total other cattle	Total dead.	Total Remaining	Remarks
Kathal	354	31,491	13,998	17,493	Information not available for Kathal			
Karnal	87	7,093	4,833	2,260	44,716	30,612	14,104	
	441		18,831					

APPENDIX II

Attendance at Relief works, Western Jamna canal

Name of months	Daily average number of labourers	Remarks
December 1877	430	
January 1878	306	
February "	25	
March "	36	
April "	57	
May "	31	
June "	91	

APPENDIX III
Relief works, Karnal District

Name of months	Daily average number of labourers	Daily average amount paid		Remarks
		Rs	A/P	
October 1877	953	80	2 7	
November "	2,419	188	3 4	
December "	1,297	105	12 10	
January 1878	172	18	9 7	
February "	447	41	6 1	
March "	1,495	145	2 10	
April "	1,237	107	4 8	
May "	432	53	0 8	
June "	358	45	11 0	
July "	65	8	3 10	

APPENDIX IV

Extract paras 230 and 231 from Revenue Rates Report of Karnal Settlement

230 In 1858 the rain-fall was scanty, in 1859 it consisted of "only three or four heavy showers," in 1860 it was less than 6 inches at Karnal. Within two months the price of wheat rose from 23 sers to 9 sers per rupee the large export of grain across the Jumna greatly enhancing the demand. Relief works were set on foot, and from January to September 1861, the weak and sickly were fed at an expense to which the Famine Fund alone contributed Rs. 41,500. In August of the same year 22,237 souls received relief in this manner. Cholera broke out in the camps and the mortality was considerable among both men and cattle. In the *Chardak* two-thirds of the collections were suspended, and between 1860 and 1863 balances of Rs 48,000 accrued, of which more than Rs 27,000 had eventually to be remitted,

231 This famine was not so general, nor in the lower parts of the District so severe as that of 1860. But in the *Nardak* and the *Kathal Tuhsil* the failure of crops was more complete, and the distress greater, and the terrible mortality among the cattle left far more lasting effects upon the prosperity of the people. In 1868 both crops entirely failed, and in 1869 no rain fell till August and the autumn harvest was accordingly scanty while the spring harvest again entirely failed. Relief works of a very extensive nature were again opened and alms distributed as before. From first to last Rs 1,71,643 were spent, and 19,90,700 souls fed the daily average of helpless persons receiving gratuitous relief in April 1869 being 12,120 in addition to 1,814 on relief works. Cattle to the number of 65,000 died, and saved the *Chamas* and *Chuas* from starvation. Of the *Nardak* in particular the Deputy Commissioner wrote — "Hundreds of people are in a state of semi-starvation, never getting enough to eat from one day to another. Not a leaf is to be seen on the trees, that have, while they lasted, made a wretched substitute for fodder for the cattle. Skeletons of cattle in all directions empty huts, and lean countenances of the people remaining in the villages, indicate a state of poverty fully justifying the relief proposed." The Government in its review of the Famine, state that it was more severe in Karnal than in any other district of the Punjab. That in the Karnal District, the *Nardak* suffered more severely than any other part, may be gathered from the fact that, while the sum of Rs 2,193 was suspended in the *Nardak* alone, the suspension for the whole of the remaining villages of the District, including the high tract of *Kathal*, was only Rs 24,454. In 1869 alone Rs 19,400 out of a demand of Rs 24,000 was suspended. Nearly 20,000 cattle died in this tract alone, and the people have never recovered from the effect of this terrible blow, directed as it was at their most certain source of sustenance.

CHAPTER III, SECTION 3.

Miscellaneous questions on Famine Relief

[NOTE.—For the reasons stated in para. 7 of Government's instructions which preface this report the Punjab Government directed the late Financial Commissioner Mr. Ouseley himself to furnish a memorandum in reply to the questions included in this section. Mr. Ouseley's replies, so far as prepared before his decease, are accordingly given below.]

QUESTION 34

State as nearly as practicable the proportion that the whole number of persons that were in receipt of relief in any form in your District on a selected day or on the average of some week when the recent famine was at its height, bears to the whole population. Of the whole number so receiving relief, what were the proportions under the following heads — CH III

1. ON RELIEF WORKS	{ Adult males, " females, Children.
2. ARTIZANS SPECIALLY EMPLOYED (IF ANY) AS SUCH	{ Adult males, " females, Children
3. IN POOR HOUSES (RESIDENT)	{ Adult males " females Children
4. RELIEVED NON-RESIDENT (PARA. 30).	{ Adult males " females. Ch'ldren
5. RELIEVED IN VILLAGES	{ Adult males, " females, Children
6. OTHERS NOT RESIDENT	{ Adult males, " females Children.

REPLY

The question relates to the recent famine. But as this did not extend to the Punjab, no answer can be furnished.

QUESTION 35

Has Government ever attempted to organise emigration, permanent or temporary, from Districts suffering from famine to other parts of India or foreign countries as a relief measure? If so, with what success? Under what circumstances could any such emigration be organised or encouraged? To what extent has emigration been resorted to by the people voluntarily? Have any gone beyond sea? Have any permanently gone off to settle in other parts of India? How many [approximately] left their District on a temporary expedition to search for food or employment elsewhere during the recent famine? Did they go alone or with all members of the family, and with their cattle and property? Where did they go to, and were their hopes of alleviating their distress realised? How many [approximately] have not come back, and how many are supposed to have died?

REPLY BY MR. GORE OUSELEY

No attempts have been made by the Government to encourage emigration from the Punjab to other parts of India during any of the famines which have occurred in this part of the country, probably for the reason that none of these famines have been sufficiently severe to recommend such a course for adoption, nor have any attempts been made to encourage the population of a District visited by scarcity to emigrate into another District. When famine, or a scarcity of food deserving the name of famine, afflicts any portion of the country, it is so widespread in its effects as to make general flight impossible. The people themselves doubtless resort to emigration largely, they travel with their families either to other Districts where they have relations, and where famine is not prevalent, or they go with them to public works on which they can labour for their daily food. The seaboard is too far removed from the Punjab to be resorted to largely by its inhabitants, and the custom of the people is to return to their homes as soon as they think rain has fallen in sufficient quantity to enable them to till the soil. I have no means for

CH III ascertaining how many people left the Gurgaon or Delhi or Hazára Districts in the late famine. Many persons did leave their homes accompanied by their families, but as a rule their cattle had died before they left their villages, and they did not possess any other property. They went to the Relief Works opened in their neighbourhood, and in a vast number of instances their hopes of alleviating their distress were realized.

QUESTION 36

If famine-stricken people begin to emigrate to a part, where it is known they would not find things better than in the country they left, or if they wander aimlessly from their homes, settling nowhere, should steps be taken to stop this, and how? Would you employ the police under any circumstances to turn them back, or to compel them to go to relief-works or poor-houses? Or would you let them learn by their own experience? If they crowd into a town, say the head quarters of a District or the Province, would you do anything to stop them on the way or to prevent their begging and straggling about the town when they get there? Refer to paragraph 25 in answering this question, and add any thing that seems requisite in relation to the points now raised.

REPLY BY MR GORE OUSELEY

Steps should it seems to me be taken to prevent famine-stricken people from emigrating to a part, where it is known that they would not find things better than in the country they left, and for preventing such people from wandering aimlessly. Such interference is called for in the interests of the wanderers, and of those who being themselves pinched by scarcity would be sufferers by the influx of more mouths to feed. I would employ the police to prevent the onward progress of these people, and to point out to them where relief-works and poor-houses were to be found. I would not compel any one to go to a relief work or into a poor-house. If they crowd into a town in such numbers as to create anxiety on account of its sanitary condition, I would eject them and provide a relief work (if such work did not exist in the neighbourhood) for their support. I don't think that any popular discontent would be aroused in the Punjab by this amount of interference with the movements of masses of famine-stricken people. Legislation might be necessary to enable the police to practice even the amount of interference above indicated, if famines on a large scale were to become of frequent recurrence, but in the present state of the rural population in the Punjab, both as regards their comparative immunity from famine and their submission to authority, no legislative measures seem to be required.

QUESTION 37

Is it a recognized feature of the revenue administration in your District to give relief by the remission or suspension of the demand for land revenue when the crops fail? If there are any established rules, quote them. Is the land revenue assessment based on the principle that profits of good years should cover losses in bad years? Is it assumed that a sufficient margin of profit is left to the landholders to admit of the regular payment of the revenue under all vicissitudes of season, or only in the ordinary fluctuations that occur, excluding seasons of extreme drought? What is the practical state of the case? How far is it found to be possible to collect the land revenue in a year when the crops have totally failed, without pressing unduly on the land owners? What amount of failure of crops is held to justify what amount of leniency in collection? Where the occupier of land pays rent to a landlord, how is the payment of such rent affected by failure of crops, and to what extent does the remission or suspension of land revenue lead to corresponding treatment of rent? What are the arguments in favour of giving relief in the form of remission or suspension, respectively? To what extent has it been customary in actual practice in your District or Province to remit or to suspend in such cases? Up to what limits do you consider that it is practicable to recover in future years the postponed demand of bad years, or does suspension practically mean remission in all but a few cases?

REPLY BY MR. GORE OUSELEY

The rules for the remission or suspension of the Land Revenue when crops fail are to be found at p p 128, 129, 130, of the *Directions to Collectors*—they are as follows—

38 In general, however, deficiency of assets arises from calamity of seasons either want of rain or floods, or blight, or locusts, or hail, &c. The greatest care must be taken to ascertain with promptitude the extent of the loss, as soon as possible after it is alleged to have occurred, (as after the crops have been

removed, it is almost impossible to do this in a satisfactory manner) The destruction of the crop may **CH. III.** have been so complete as not to leave sufficient for the support of the people and payment of the demand, in which case the Revenue-payer must pay from other sources or borrow, or the property must pass into other hands. In such a case it will be for consideration whether measures should be adopted for compelling such a result, or whether the relaxation of the demand would be just and politic. In weighing this it must be remembered that the principle of the assessment has been to fix a moderate average demand for a long course of years. The Government agrees to relinquish the excess in a good year, and it is fair to expect that the deficiency of a bad year should be made good from the accumulated surplus of past or the anticipated surplus of coming years. If, therefore the property is fairly assessed, and the malguzár possessed of good means, it may be right to press for immediate payment notwithstanding acknowledged deficiency of assets. If it seems right to relax the demand of the State, it must then be decided how this relaxation should have effect, whether as a suspension of demand or a remission of balance.

"39 The demand may be suspended under authority of the Commissioner or Financial Commissioner, and this relief will often be sufficient and effectual when the estate is valuable, the calamity unusual, and the proprietor industrious and frugal. To render it effectual, an engagement should be taken from the proprietor, with or without security, for payment of the balance by instalments.

"40 If however, it be decided that the balance cannot be hereafter realized without too hardly taxing the industry of the malguzár, or permanently affecting the resources from which the future demand is to be paid, suspension of the demand is merely preliminary to remission of the balance, for which the sanction of the Financial Commissioner must be obtained. If a remission be granted, care must be taken to determine in whose favor it is made. If this precaution be omitted, the mere remission of a balance due from an estate held by a large coparcenary body, may be the cause of much dissension amongst them.

"41 It is not a matter of course that relief should be given in proportion to the extent of the loss sustained. It is necessary to show that due consideration has been given both to the circumstances of the estate and to the character and extent of the calamity, and that the relief is really called for. A mere suspension of demand is never advisable, unless there is a fair prospect of the proprietors being able to liquidate it by instalments extending over a reasonable period in addition to paying the current revenue. If remission is recommended it will not be enough to allege that the balance is irrecoverable, or that the assets are deficient. The Collector must explain the cause of the alleged deficiency of assets, the means he took for satisfying himself of its reality and extent, and the reasons why he considers the proposed remission of the demand expedient.

"42 The above remarks apply to ordinary and casual instances of default. When a general famine prevails arising from continued drought or any other extensive visitation of Providence, extraordinary measures evidently become necessary, and the Government interposes its authority to suspend the ordinary course of proceeding. Drought is the most common scourge of the country."

The principle on which the Land Revenue is assessed is to fix a moderate demand for a long course of years. The Government agrees to relinquish the excess in a good year and it is fair to expect that the deficiency of a bad year should be made good from the accumulated surplus of past or the anticipated surplus of coming years. But the expectation can be realized only under the ordinary fluctuations of season, and not when an extreme drought prevails for more than one harvest in succession. Where there has been a total failure of the crop, remission is at once allowed. Where the out-turn has been equal to only half the yield of an ordinary season, the Government demand is suspended and would be recovered in the course of a year or eighteen months if the succeeding harvests were good. Smaller failures of harvests would be met by smaller concessions. It must be remembered that when drought and consequent scarcity of grain occur in one tract of country, they cause higher prices for grain to exist in the neighbouring tracts not similarly afflicted, and that the revenue being paid in cash is more easily paid in the tracts not suffering from drought than it would be in seasons of plenty.

Where the occupier of land pays rent to a landlord he is entitled to a suspension or remission of his rent to the amount of the revenue assessed on his land whenever that revenue is suspended or remitted by Government.

The arguments in favour of giving relief in the form of remission of revenue are that it is the speediest and fullest mode for giving relief. It saves the owner and cultivator from borrowing money to pay the Government demand and it encourages them to hold on to the land.

It may be as well to state in illustration of the extent to which remissions and suspensions are granted in seasons of distress, that over 60,000 Rs. of revenue were remitted in six Districts in 1877-78, and that in 1878-79 over three lakhs of Rupees of revenue were suspended from collection in the four Districts which were chiefly affected.

CH III by the failure of their crops Part of this sum will probably have eventually to be remitted But this will depend on the nature of the seasons and of the harvests for the next few years.

Note—As Mr Ouseley's reply concerning the claim of a tenant paying cash rent to a remission of that rent in the same degree as the owner's revenue may have been remitted by Government, will possibly not be clearly understood, I here quote verbatim the provisions of the Punjab Tenancy Law on the subject (Section 15 of Act 28 of 1868)

Notwithstanding anything hereinbefore contained, it shall be lawful for the Court, in making a decree for an arrear of rent,

if the area of the land in the tenant's occupation has been diminished by diluvion or otherwise or if the produce of such land has been diminished by drought, or hail, or other calamity beyond his control, to such an extent that the full amount of rent payable by him cannot, in the opinion of the court be equitably decreed, to allow such remission from the rent payable by him as may appear equitable, provided that if the tenant hold a lease for an unexpired term of not less than five years, or have a right of occupancy, in a revenue-paying estate, no such remission shall be allowed to him, unless a remission of revenue has been allowed on the same ground and by competent authority in respect of the same estate.

QUESTION 38

Is the duty of seeing out distress in time of famine in the villages and the people's homes, one that properly belongs to Government, or is it sufficient for Government to offer means of obtaining relief, and to expect that the famine-stricken will come of themselves and make use of those means? If it is proper to depute Special Officers to inspect villages and urge the people to accept the relief offered, what steps do you consider necessary for strengthening the ordinary District staff and enabling them to carry out this duty? What class of officers should be selected for such duties, and what areas assigned to them? May these officers best be servants of Government, or should they be taken from the non-official class? What should be their precise duties, and what supervision should be provided to see that they carry out those duties? at what period may it become expedient to organize such an extra famine establishment? To what extent, and under what general circumstances, has there been any tendency on the part of the people in distress to reject measures of relief offered to them? Where determined disinclination has been shown by any portion of the population to leave their villages and go to relief works or poor houses, what has been the probable cause of such a state of things? Can it be traced to improper arrangements or the reception of applicants for relief, or for admitting them to employment on works, to an insufficient allowance of food, or wages, or to any such causes? Can any other causes be named which may have conducted to the disinclination to seek relief, such as physical prostration, or habitual want of confidence in officials, &c ?

REPLY BY MR. GORE OUSELEY.

It seems to me that it is sufficient for Government to offer means of obtaining relief in times of famine I do not consider it necessary to depute Special Officers to inspect villages and to urge people to accept the relief offered If such officers are required we have in the Punjab Honorary Magistrates, Municipal Committees and Zaildars or Headmen appointed over a certain number of villages, who could perform the duty of inspection and exhortation The Tahsildar or Sub-Collector of Revenue in each Sub-Division of a District called a Tahsil, assisted by his Naib Tahsildar, and his Camungo could supervise the work of these men I am unable, from my own experience in the Punjab, to reply to the rest of the interrogatories in this question.

QUESTION 40.

Do you consider that the events of the last famine have shown that the system of civil administration in your District is strong enough to bear the unusual strain laid upon it, or that any defects have been discovered which might be obviated? Is the area of your District too large for one man to supervise, or of a convenient size? Are your official relations with the Officers of the Public Works Department in your District such as are most conducive to the carrying on of relief works? What staff of Civil Officers have you to carry out your orders, and what duties and responsibilities attach to each? Is that staff of the proper strength and organized in the best possible way, or can you suggest any improvements? Have your native subordinates as a class shown energy, capacity, humanity, and physical activity in carrying out relief measures, or have they been wanting in these qualities? Give a general outline of the manner in which the relief operations in your District were conducted. To what extent did your control go, to what extent was there local independence of action? How was the chain of responsibility maintained between the superior and subordinate officers? How far were you yourself controlled in the relief administration, and how far left to act on your own discretion?

REPLY BY MR. GORE OUSELEY

The only Divisions in the Punjab which were affected by scarcity last year were Delhi, Hissar, and Hazara, and in none of these did the famine last long, nor was it of a very aggravated form. In all these Divisions the system of Civil Administration was found, with the little strengthening which the Government considered it necessary to afford to it in the shape of sending a few Extra European Assistants and some native Tahsildars,—sufficient to bear the unusual strain laid upon it.

The rest of the interrogatories in this question may be answered in the negative so far as they raise doubts respecting the judiciousness of existing arrangements, whilst it can be confidently stated that the official relations of the Districts and of the Public Works Department officials were conducive to the efficient carrying on of relief-works, and that the Native Subordinates as a class displayed energy, capacity, and humanity and physical activity in carrying out relief measures?

To Questions 39 and 41-45, which form the remainder of this Section, no replies have been recorded

CHAPTER IV, QUESTIONS 1—11

Memorandum by the Secretary to Government, Punjab, Public Works Department, CH IV on the questions in paras 1 to 11 of Chapter IV of the Circular of the Famine Commission, dated June 22nd, 1878

PREPARATION OF SCHEMES OF WORK FOR FUTURE USE

Q 1—*After 1868 the Government of India gave instructions that schemes of works should be prepared, suitable for execution in the event of famine. Were such schemes ever prepared? If so, have they been found of practical use during the recent pressure?*

In the Punjab there has not been occasion during the recent pressure, 1878, to undertake any large works of relief. The few demands for employment of this kind were met by the execution of small local works in a few Districts.

The works considered suitable for famine relief in 1868-69 were carried out in this way at the time to the extent required, and afterwards completed when necessary under the ordinary arrangements. The scarcity at that time affected seriously only a small number of Districts, chiefly, but not entirely, to the south of the Sutlej, and immigrants from Native States came for employment and relief.

On famine relief works there was, on that occasion, an expenditure of Rs 3,10,676, all except Rs 33,000 being in Districts south of the Sutlej. From January to May 1869 there was an expenditure of Rs 2,03,550 on direct relief of the infirm, of which Rs 1,89,531 was in the same Districts.

The works executed at that time, besides works of irrigation (which branch of the Public Works Department has supplied a separate memorandum) and minor local works, were road works, between Delhi and Umballa, Delhi and Muthra, Delhi and Gurgaon, Delhi and Rohtak, Hissar and Sirsa, Rohtak and Jhajjar, Sirsa and Ellenabad, Sirsa and Pamban, and north of the Sutlej, the trunk road, the Kangra valley road, and the roads from Amritsar to Sialkot and to Harike Patan, with some small works in the station of Lahore.

These works were proposed as suitable for giving employment of the kind required, and they were for the most part, but not all, works which would have been taken up and carried out in ordinary course.

There is no scheme or record of works specially proposed for famine relief with reference to the experience of 1868, apart from the general list of estimated and sanctioned works waiting for opportunity of being carried into execution.*

Q 2—*Do there appear to be any difficulties in the way of keeping up such schemes in a form which will be really useful in the future?*

There is no difficulty in keeping up schemes of famine relief works in a form that would be useful in the future. But there are certain considerations bearing on the practical usefulness of such schemes which require to be adverted to.

Works proposed for employment of people suffering in times of scarcity must be of a certain kind suited for the ready employment of untrained labor. Earthwork of a simple kind is the most generally suitable description of work, but other kinds of work, as road metalling, stone breaking, kankar digging, carriage of materials, may sometimes be made to furnish useful employment, if this can be done with the necessary facilities for concentration and supervision of the work.

The list of works proposed for famine relief should include, if possible, large works. Small works which need less time for examination and preparation are more readily supplied. Small works, if really required, are more easily provided with funds and carried out in ordinary times.

* Specific references is not given to the instructions of the Government of India alluded to in para. 1, Chapter IV of the Circular, and they have not been traced in this office.

Ca IV

Many or most large works which would furnish employment of this kind are incomplete without certain parts of the works, which are of kinds not suitable for famine relief.

A special scheme of famine relief work cannot be quite independent of other works and ordinary arrangements, so as to be dealt with altogether apart from them, and apart from the consideration of expenditure of ordinary Public Works Funds.

In the Punjab no such scheme is kept up, separate from the general list of approved and sanctioned works, which are waiting for the means of being carried out. Only it should be seen from time to time, as one or other of these sanctioned works is executed and struck out of the list, that the list continues to include works which are in whole or in part suitable for famine relief. It is not to be expected that when any work on the list is much wanted without reference to famine requirements and the money is provided, it should be set aside that it may be kept till a time of famine comes. There must be a certain amount of trust that other suitable works will be found. All works on this list are approved, estimated, and sanctioned, ready to be selected and given out when needed.

Large canals and tanks for water supply or irrigation supply the most entirely suitable and certain means of employment of unskilled labour. Roads and railroads largely embanked or deeply cut provide equally good work of similar kind, but where they run nearly on the ground level, and furnish little work, the people are dispersed over a great length of ground, or have to be frequently moved, and supervision becomes more difficult.

At the present time there are on the Punjab list (apart from irrigation works, dealt with separately, and District works, which are for the most part small,) 95 sanctioned major works (costing upwards of Rs 2,500 each) and 51 minor, which wait for funds to execute them. Of these 146 sanctioned works 85 major and 49 minor works are buildings and bridges, 10 major and 2 minor are roads and works of miscellaneous public improvement. These last are the works which would best furnish, if required, relief employment. Most of the District works and some Municipal are of the same class. And besides these new works there are the regular repairs of roads, separately sanctioned, and not included in the list of works, on which road repairs, provincial and District together, the estimated expenditure in the present year is upwards of 9 lakhs. Buildings and bridges, though not of the class of works which best furnish employment of the kind required, are not to be altogether left out of consideration. At Lahore in 1868 the preparation of a large site for a building provided good work for the suffering people, and the earth-work approaches to a bridge at Rawalpindi in the present year.

Q 3—*What classes of works would be included in them? Would the works differ in character from the ordinary works of utility brought forward for execution from time to time? And, if so, how? Give a practical example of works now considered suitable to be taken up as elements of such a scheme in two or three Districts, if possible.*

The answer to the first 3 questions in this para is given above. The proposals for the works of which the sanctions are recorded on the list referred to are approved by the Government before estimates are prepared. All are thus works of admitted importance or usefulness, which would be carried out in ordinary course if means were available, and which have had to be deferred in favor of works more necessary.

Among major works considered suitable for giving employment of the kind under consideration, may be mentioned,

Metalling and earth-work of the Delhi and Susa road in the Rohtak and Hissar Districts

Sanauli and Sewa road in the Karnal District

Phagwara and Bunga road in the Jullundur District.

Improvement of Pathankot and Dunera road in the Gurdaspur District

Improvement and metalling of road from Chichawatni railway station to Dera Ismail Khan, in the Jhang and Dera Ismail Khan Districts

Earth work of road from Dera Ismail Khan to Dera Ghazi Khan in these two Districts.

Also making and raising minor roads in several Districts, and the general road repairs above mentioned.

All the above, except the first, are provided for in whole or in part in the Budget of the present year, the first is in the list of sanctioned works for which funds have not yet been obtained.

Q 4—Should the works in such a scheme be looked on as immediately available for carrying employment as relief-works at the discretion of the Local Governments, or under what circumstances might the authority of the Government of India be held to be required? CH. IV.

No application for authority of the Government of India would be required for carrying on any of the Provincial or District works as relief works. They can be looked on as immediately available for giving employment of this kind at the discretion of the Local Government.

Q 5—If severe drought calling for the employment of labour on a very large scale, and in an exceptional manner, occurs at comparatively long intervals, how will it be best practicable to arrange for suitable projects, which, though suspended, must yet be fit for early execution? On whom should the responsibility of maintaining such schemes in an efficient state rest, and how could it be enforced?

The best practicable way of providing for the requirements of such a case as is supposed in this paragraph 5, as well as for others, seems to be by the course above described. A large work really required would not be kept back from execution at any time on account of its being a particularly good work for giving employment to the distressed people in time of scarcity. It may happen that sometimes no suitable large work has been proposed or can be thought of, in some particular part of the country, and advantage would have to be taken of large works elsewhere. For some time to come there seems good prospect of Railway and Canal works being available without needing to abstain at any time from the execution of any work that is required.

The responsibility of maintaining a record of sanctioned works, Provincial and District, ready for execution, including works suited for famine relief, should rest with the Chief Engineer.

Q 6—What number of persons is likely to be thrown on relief-works in an extreme case, and how should such a scheme be framed as to indicate what portions of it should be taken up on any particular occasion in order to provide for the employment of the anticipated numbers and for the length of time required?

The number of persons likely to be thrown on relief-works in an extreme case it would not be easy to estimate. The number is augmented by people from adjoining native states, when these states have suffered equally with the British Districts, or much more, as in some cases. In the famine of 1868 and at other times, people of Bikāner have come in considerable numbers to the Punjab in search of work and subsistence. In the present year certain works in the northern Districts of this Province were carried on chiefly for the benefit of people from Kashmir.

In 1868-69, which was a time of great but not extreme pressure, in the Districts south of the Sutlej especially, the number of persons employed on works was 1,060,059,* and of infirm persons relieved gratuitously 2,435,404.* The number of people who received gratuitous relief in the three Districts of the Hissar Division was 1,383,636.* The largest number of persons employed on works in any District was 643,402* in Rohtak, and of the infirm 792,194* in Karnal, the number of women in each of these cases exceeding the number of men. With an early supply of easily accessible work the proportion of people in employment would be higher.

In the famine of 1860-61, which was also chiefly in the country between the Sutlej and the Jumna, the amount expended on—

Relief works was	Rs 325,106
Takāvi advances	„ 275,000
Gratuitous relief	„ 7,83,945

The number of persons employed on works is not recorded. The number of persons fed daily amounted in July 1861 to 116,000. In the Delhi Division the aggregate number of persons employed and gratuitously relieved, during the whole time of the pressure, was 40,176,190.* Works were not systematically undertaken at that time, and many had to be devised for the occasion.

* Lieutenant-General Macleagan permits me to note that these figures give not the number of the persons relieved, but the sum of the numbers relieved daily during the whole period of relief operation. For further information on the subject, see the reply to question 2 Chapter I—E. WAGAR.

CH IV Q 7—*Should the works include only such as had been sanctioned for construction under the regular rules on such subjects, or would it under any circumstances be right to include in such a scheme large works to which sanction had not been given on account of their doubtful financial value, and their not being of a character that would justify their execution under ordinary circumstances? How far might there be risk of the Government being led into unprofitable expenditure in the completion of works of this sort begun under plea of famine pressure?*

It would be right, under two conditions, to include among the means of furnishing employment in famine time large works which had been set aside on account of their doubtful financial value (1) if the works are especially suited, from their nature and position, for providing employment of the kind required, and (2) if they are works likely, when completed, to be of great general or special usefulness.

In speaking of a work as of doubtful financial value, a work which should be of the remunerative class is implied. It is one from which after completion there is to be some income, but of which the anticipated income is too little to give a good return for the initial and current outlay on it. By this circumstance it would be reduced towards the condition of an unremunerative work, and would still be above works altogether unremunerative, like metalled roads, which are costly in first construction and maintenance and yield no return in money. A work of doubtful financial value should not, on that ground alone, be absolutely rejected. The Government cannot go on in an unlimited way constructing works which should be remunerative and are not. But famine demands should not be debarred from taking advantage of such works if they fulfil the two conditions above mentioned.

Works of the other kind noticed in this question, works which are not of a character that would justify their execution under ordinary circumstances, works which are not wanted, and would not be proposed except for the special purpose of providing the people with employment,—even such works it may be right to take in hand under the pressure of extreme distress. The execution of such works may be sometimes necessary, but as they would only be taken up when no works of recognized utility remain available to which the people could be sent, they should not be deliberately included in a scheme of works proposed.

There is undoubtedly risk of Government being committed to further expenditure for the completion of such works commenced in famine time. But the course to be followed would depend on the circumstances of each case and, the expenditure need not be always unprofitable.

Q 8—*It is probable that the amount of work executed by unskilled labour on any large work during the pressure of famine would be such that the exclusion of the expenditure on it would reduce the ultimate cost of such a work in any important degree, so as to be likely to render it remunerative, though if otherwise executed, it would not have been remunerative? Can any illustration be given of such a case as that last referred to?*

It is conceivable that the exclusion of the payment for the unskilled labour employed on a work in time of famine might so affect the relation of the apparent cost to subsequent income as to make it appear remunerative, but this would merely be a defective and fallacious account. No illustration can be given of such a case.

Q 9—*Could large works not sanctioned by proper authority, for whatever reason, be properly included in the scheme of works, and if so, what preliminary steps should be regarded as requisite before actually putting them in hand in severe scarcity arose?*

The question in para 9 is answered in the reply to para 7.

Q 10—*Considering the circumstances under which labour is applied on relief-works, is the risk of waste by reason of their being no regularly prepared scheme really great? Is there danger, in the absence of suitable projects ready for immediate execution, of the suffering population being left without proper relief until the necessary relief-works have been prepared for execution? How far might the intelligent action of the several branches of the Public Works Department be made to supply, from among projects in course of execution, or ripe for it, what was requisite? Could this end be sufficiently secured by distinctly making the Public Works Department responsible for bringing forward suitable works whenever pressure*

from scarcity arose, and, so far as was necessary and practicable, setting aside or postponing the ordinary work not suitable for relief purposes? CH IV

With reference to the first of the questions, there is risk of waste in the execution of any work, if it is not estimated in detail and properly laid out before it is allotted to the work people. But it cannot be said that waste would be a consequence of there being no regularly prepared scheme of works. The safeguards against waste are provided, if such work that is put in hand for famine relief is systematically dealt with in detail both before and during the construction, though it may not have belonged to a general scheme.

Any large project taken up in haste and put into shape on short notice would be liable to be insufficiently considered, and in one respect or other unsuitable. Small works, which though otherwise not so desirable, are yet often necessary and most useful, can be more readily prepared for relief purposes without risk of waste.

When in any District there are no proposed works of utility of a suitable kind, and the need for such employment arises, then either the people must be passed on under arrangements suitable to the occasion to certain large works elsewhere, or (if for any reason relief must be local) works have to be invented, having no definite purpose but to provide the people with food and some means of earning it, in such a case there is waste in the way of misapplied money, though perhaps no waste in the way of work incommensurate with expenditure. And under the circumstances proposed this would not be prevented by a prepared scheme. It is illustrated in the account of the relief operations in the Delhi Division in 1861, when the Commissioner wrote "The labour of a vast multitude which would have been lost, possibly for ever, was turned to good account, and many of the works then made are likely to prove permanently useful" (No 241, dated November 20th 1861, to the Honorary Secretary, Punjab Famine Fund).

If no work of any kind can be given to the suffering people, there is of course danger of their being for a time without proper relief, that is, earned relief. To avoid this, the chief thing required is a supply of tools in each District.

How far the action of the Public Works Department might be made to supply, from among projects in course of execution or ripe for it, what was requisite, has been indicated above. But directly at any particular time, it would depend on the state of progress of the works. For, as before observed, works which are wanted, and for which money is provided, would not be held back in order to form a reserve of employment for the suffering people in some unforeseen future time of scarcity. The Public Works Department could scarcely undertake to have suitable works to bring forward in any particular part of the country, whenever pressure from scarcity arose, but within the limits of a Province this could be arranged. Only it is to be remembered that the Public Works Department is now a divided Department, and the responsibility for suitable works would be divided. The Local Government has no longer the control of all the works going on within the range of its administration. Provincial general works and irrigation works, though under separate direction, are under the Local Government's orders, but not Military works and State Railway works.

Qn 11 — *Has there been practical difficulty in finding suitable relief-works during the recent pressure? If so, where and how? Make any suggestions on the subject of providing relief works which may aid in meeting the difficulties that are found to arise in practice.*

The first two questions in para. 11 are answered in the reply to para. 1, and the suggestions invited are contained in the foregoing part of this memorandum.

R. MACLAGAN, Lieut-Genl., R. E.,

Secretary to Government Punjab,
Department of Public Works.

Answers by MR C ROE, Settlement Officer, Mooltan

(IRRIGATION WORKS)

CHAPTER IV

PRELIMINARY REMARKS

The canals referred to in the following replies are the inundation canals of the Mooltan CH IV District. They are 36 in number, viz, 19 from the Sutley and 17 from the Chenab. They are cuts from the rivers varying from 3 or 4 to 50 miles in length, with a breadth of from 6 to 30 feet. The total length of the main channels is about 650 miles. The first Chenab canal leaves the river about 20 miles to the north of Mooltan, the head of the first Sutley canal is about 80 miles above the junction of the two rivers. None of the canals run at a great angle from the river, but they all strike inland as far as the slope of the country will permit. They fill gradually as the river rises, beginning to work about the 15th April, being at their full in July, and ceasing about 15th September. If they continue to flow beyond this, the irrigation benefits the land for the ensuing rabbi. My experience of the canals has been obtained during the 5½ years I have been in charge of the settlement of this District.

Answer to question 12.

The canals were all constructed under native rule, so there is no capital account. They are maintained by the "cher system," every person taking canal water is liable for so many days labour at the annual clearances of the canal from which he draws his supply. These persons are called "chers," and a full "cher" has to give 90 days labour. For this he receives no pay. The irrigated area for which a "cher" has to be given varies on the different canals from 14 to 50 acres. According to the returns of the present settlement, the area irrigated is by canals alone —

By Paggu (flow)	54,594	
By Jhilar (lift)	16,738 =	71,332
By wells aided by canals		<u>2,63,236</u>
Total		<u>3,34,568</u>

It is impossible to calculate acreage rates. The chief crops grown on canal lands are indigo, cotton and sugar. These crops could not be grown at all (except a little cotton) without canal water. In the present settlement estimates the gross value of indigo per acre has been calculated at between Rs 17 and Rs 18, that of cotton about the same, sugar at between Rs 52 and Rs 53. If the rabbi crops, like wheat, get a good watering, their yield may be reckoned at from a maund to 2 maunds per acre heavier than when not so irrigated. But the general effect of the canal irrigation is rather to extend the area of cultivation than to increase the yield per acre.

Answer to question 13

The liability to furnish "chers," as explained in the preceding answer, takes the place of the occupier's or water rate. The owner's rate is paid in the shape of land revenue. This was fixed at the last of settlement in a lump sum for each village. Out of this the Settlement Officer declared so much to be due to canals. The revenue thus fixed was not liable to enhancement in case of increase of irrigation, nor could ordinarily a remission be claimed in case of a decrease, but it was stipulated that one should be granted in case of exceptional failures of the canals. The total land revenue thus declared liable to remission was Rs 2,14,665. The irrigated area was 2,26,579. So that the average enhancement on account of canals was a little under 1 rupee per acre. Rents are all paid in kind, and there is little difference in the rate for canal and non-canal lands. But we might perhaps say that a proprietor who had been taking ¼th for an ordinary well, would, if he extended canal

CH IV irrigation to it at his own expense, raise his rate to $\frac{1}{2}$. But I have known no such case of enhancement, and the case which appears to be contemplated in the latter part of this question, *viz*, that of an extension of irrigation at the sole expense of the tenant, is quite unknown

Answer to question 14

The owner's or water advantage rate is a fixed charge, and is collected as a part of the ordinary land revenue. The occupier's or water rate is paid in kind by "cher" labour, cheis failing to attend have to pay 8 annas a day as commutation or fine. A list of absences is sent by the Canal Officer to the Deputy Commissioner, who collects the money as an arrear of revenue. One or two improvements in detail have been suggested at the present settlement, but there is no difficulty in working the system generally, nor is there any difficulty in the system of village assessments. Disputes about the right to take water are very rare. Those which do occur, are settled by the Canal Officer under section 63 of the Canal Act (VIII of 1873). I have not known any instance of a suit being afterwards brought in the Civil Court to set aside this decision. It would be absolutely impossible to charge for water by quantity.

Answer to question 15

Does not apply to these canals

Answer to question 16

The irrigation is measured annually by the Canal Department, but only for statistical purposes. The ordinary "gudáwari"* of the Patwáris would be sufficient for this. The Canal Officer has to record many statistics regarding the discharges, &c., of the rivers and canals. I never heard of any good resulting from this and I have known it interfere seriously with his proper duties,—the personal inspection of the canals. I do not know precisely what returns he has to submit, and so cannot say definitely what I think should be abolished. I can only record the general fact that his office work does interfere with his proper duties.

Answer to question 17

I do not think that in this District any of the evils mentioned can be attributed to the canals.

Answer to question 18

It is said that if soil impregnated with "kallar" or saltpetre receives a good supply of canal water for some time, the kallar is driven out.

Answer to question 19

Mooltan has no chance of over-irrigation. Some of the lands in Shujahábád suffer from excessive moisture, called "soma," which causes the natural springs to break out, and produces rank grass and weeds, turning the lands almost into a jhil. But this is due rather to the gradual approach of the river than to the canals. The lands in the suburbs of Mooltan, which are the most constantly irrigated, shew no signs of deterioration. They produce 2, 3, 4, and even 5 crops in a year, but then they have a plentiful supply of manure.

Answer to question 20

I should say inundation canals would be most useful wherever they can possibly be made. Without them the cultivation of this District would be reduced to a strip of sailáb land along the river banks, bordered by another strip of well lands. Out of a total cultivation of 5,09,172 acres, 3,34,568 acres depend on the canals, and were the canals to be closed, much of the other land would probably fall out of cultivation. All the more valuable kharif crops are quite dependent on the canals, and would be quite lost if they failed. The wells would probably secure the jowár and bájra and cheap grains, and a little cotton. I have already stated that the rabbi is mainly affected by the canal irrigation rendering it possible to plough and sow a more extended area. If, as is now and then the case, the canals continue to flow until the crop has received one or two waterings, the benefit is very great indeed.

Answer to question 21

The existing system of administration has already been explained. It is proposed to continue it with one or two slight modifications. The canal jama, corresponding to

* Annual yield by field inspection, described in the reply to question 3 Chapter I.

the owner's rate, will be fixed by the Settlement Officer in a lump sum for each village, and it will be distributed over all the holdings which take water. Should any holding fail to get water in any year, the canal revenue assessed on it will be entirely remitted. Should there be a partial failure, the Deputy Commissioner, after consulting the Canal Officer, will decide if any, and what, remission should be given. Any holding not now assessed with a share of canal revenue which may take water hereafter will have to pay 8 annas per acre for the area irrigated, until a jama in a lump sum is agreed on. The occupier's rate is the cheel labour. The number of cheels for each canal is fixed by the Settlement Officer or Deputy Commissioner in consultation with the Canal Officer, who has the entire management of calling them out, &c, each year, and who sends a list of the ab-entees to the Deputy Commissioner, who collects the amount due. The Canal Officer is of course consulted freely by the Revenue Officers, but he does not interfere directly with either the fixing or the collection of the Canal Revenue, I think it very undesirable that he should do so, because,—

- 1.—There is no connexion between engineering and revenue knowledge. A first rate Engineer may be utterly incompetent as a Revenue Officer and *vice versa*. An Officer enters the Public Works Department on the strength of his engineering knowledge only, and he rises in it for the same reason, and seniority.
- 2.—The details of revenue administration must so occupy the Canal Officer as to leave him no time for his proper engineering work.
- 3.—The position of the Canal Officer, who has above all things to show that his Department is "paying," prevents him from taking an impartial view either in fixing the rates originally, or in granting remissions, of course I do not mean that he is consciously partial. But he is apt to take too sanguine a view of the benefit of the works under his charge, and to over-estimate the resource and profits of the people. I think that Section 68 of the Canal Act provides satisfactorily for the decision of disputes regarding rights to water.

Answer to question 22

I have already described the Mooltan System Act VIII of 1873 applies to the Punjab generally, some special rules are required for a few details, but these can be passed under the Act, which does not appear to me to require alteration.

Answer to question 23

Does not apply to this District. Since the last settlement the irrigated area has risen from 2,26,579 to 3,34,568 acres without a single new canal having been made. Many of the existing canals have reached their limits, partly because the slope of the country will not admit of them being carried farther, and partly because they could not carry a greater supply of water. The great reason why no new canals are made is, because it is almost impossible for a local officer to get a project through the Public Works Department Secretariat. Nothing can be done without elaborate reports and plans, these are often criticised, apparently with the main object of finding some reason for not carrying them out. At any rate the project is shelved, and the local officers give up all thoughts of improvements. The people are most ready to take water whenever they can get it. Very little expenditure is required to prepare the land for irrigation.

Answer to question 24

I think a compulsory rate most objectionable on every ground both of theory and practice.

▲ --Of theory, because—

- i.—The knowledge that there was such a rate to fall back on would encourage reckless schemes and general waste of money on the part of Engineers.
- ii.—If people chose to go and settle in places where there is no water, I do not see that they have any claim to have a canal brought to them.
- iii.—If public feeling insists on their being provided with a canal, the public generally should pay the cost. It is unjust that it should shift the burden on to a very small and un influential minority.

CH IV

17—Even if the taking canal water would improve a property, I do not see that we have any right to effect improvements without the owner's consent

B—Of practice, because—

- 1.—The so-called ignorance and obstinacy of Zamindárs in refusing to take water is often the soundest practical common sense. The profits of canal irrigation may look very well on paper, but there are many drawbacks. There is a certain scramble for water, and a man may feel himself unable to hold his own against powerful neighbours or against the subordinate canal establishment, or his holding may be small, and he may be unable to incur the expense of a complete change in his system of cultivation.
- 12.—Land not really irrigable by a canal might be classed as irrigable, and so subjected to the tax.
- 13.—Land which does not take water, does not, unless it lies right on the canal and receives a supply by percolation, benefit by the proximity of a canal. It deteriorates in value, in proportion as the irrigating lands improve, tenants will desert it, only inferior crops will be produced, and the proprietor, if he is merely obstinate, will soon find out his mistake.
- 14.—If the land really benefits, the Settlement Officer will have no difficulty in raising the assessment at the next revision of settlement.
- 15.—I believe the imposition of such a tax, by whatever plausible arguments it might be supported, would give rise to the most profound and general discontent and ill-feeling,—even now we are twitted,—I do not mean by newspapers,—I am speaking of what has often been said to myself by Zamindárs,—with a breach of faith in our local rates and cesses acts, but this tax would be regarded as far worse. The people would only recognize one single fact, that they were being taxed for water they did not take, and which they declared they did not want.

The complaint which I have seen raised that people take water in bad years and then give it up, might be met, as it is here, by a system of assessment for a fixed period.

Answer to question 25

The minor distributaries or water-courses from the main canal, which are called in this District *Kassís*, are all private property, made by the persons taking the water. As these cannot be made without the permission of the Canal Officer, the grant of this permission would be considered by the people as conferring a prescriptive right to water, which would have to be compensated either by the grant of equal facilities of irrigation in another form without extra expense, or by a money payment representing the original cost of the "*Kassí*," and a remission of the canal revenue. No inconvenience has been experienced from these rights, nor is there any necessity to limit them or buy them out. The Canal Act appears to confer on Government ample powers for dealing with any difficulty that might arise on this subject.

Answer to question 26

There are no tanks used for irrigation in this District.

Answer to question 27

The maintenance of the canals is provided for by the "*cher*" system already described. The provisions of Part VIII of the Canal Act could also be enforced if necessary. Beyond this, no one is under any obligation to maintain or assist in maintaining irrigation works.

Answer to question 28

Does not apply to this District.

Answer to question 29

The supply generally regulates itself. That is, the mouths of the *Kassís* opening in the banks of the canals are considerably higher than the bed. Their

height from it varies considerably, and they fill as the canal rises. If there is a short supply, it affects mainly the "Kassis" whose mouths are highest. If the supply is short for a long time, and villages near the head are getting no water at all, the Canal Officer sometimes gives them a supply by putting a temporary dam across the canal, and stopping the supply of the tail villages for a few days. Some of these villages have a prescriptive right to such a dam,—in fact they cannot irrigate without it. Except on these occasions, or on the occurrence of a dispute, the Canal Officer does not interfere in the distribution of water. CIV IV

Answer to question 30

I do not think irrigation could be carried on at all by the agency of a company, because—

i — You could not give it unlimited powers to fix rates,

ii — Nor could you allow it to collect its dues summarily through its own officer,

iii — Or take up land and decide disputes without the intervention of Government

And if you fettered it in these respects it would require a subsidy. If Government had to exercise so much interference, and to pay a subsidy, it had better undertake the direct management.

Answer to question 31

I am not quite certain what the present system of accounts is. I believe it is that the whole of the occupiers', or water rate, and half the owners', or water advantage rate, is credited to the Canal Department. This may be fair in Districts where there is a good rain fall, for it may be considered that cultivation would have been extended, and the land revenue enhanced, even if there had been no canals, and that the revenue nominally fixed on the land in its unirrigated aspect does not fully represent this enhancement. But in Districts like Mooltan, I think the canals should be credited with the whole of the water advantage rate which is represented by the remissible jama, and which amounted at the last settlement to 2,14,665. For in case of total failure of the canals, the whole of this is remitted, and the land would certainly not be cultivated by any other means.

QUESTION 12, CHAPTER IV

Postscript to answers by Mr. C. ROZ, Settlement Officer, Mooltan

In my reply to the above question, by a "cher" is meant the labourer himself, and a "full cher" is a labourer who has to give the full quota of 90 days' work.

The number of chers, *i e*, full chers, necessary for the clearances was fixed for each canal by the Settlement Officer at the Regular Settlement. The total irrigation of the canal divided by the number of chers gives the number of acres which has to provide one full cher. This varied on each canal.

On the Sutlej canals the irrigated area per cher varied from 14 to 32 acres, the average being 25 acres. A cultivator irrigating less than the standard of his canal has to give so many days less labour, *e g*, the standard is 25 acres, he cultivates 10 acres, he therefore has to give $\frac{2}{3} \times 90$ days = 36 days' labour, and he would generally be spoken of as giving two-fifths or 6 chittacks of a cher, similarly, if he cultivates 50 acres, he would have to give two chers.

This standard, however, varies annually, for the number of chers fixed at Settlement is always called out. It is distributed over the different villages by Munsiffs, and inside the villages by Lambardárs. But the Canal Officers keep as a check on this distribution, the measurements of the irrigation of the preceding year, and it is on this that the chers are practically assessed, for instances, for the Matthal canal 90 chers were fixed, the irrigated area was 1,800 acres, which gave the standard of 20 acres per cher. If in any year the irrigation doubled, only the 90 chers would still be called out, and the standard for that year would be 40 acres per cher, and similarly, if the irrigated area were only 9,000 acres, every 10 acres would then have to give a full cher.

Answers by J D TREMLETT, ESQUIRE, Officiating Commissioner and Superintendent, Hissar Division, CH IV

IRRIGATION WORKS.

CHAPTER IV

Answers to questions 12—30

My knowledge of canals under the management of District Officers is limited to the experience I acquired when Deputy Commissioner of Muzaffargarh from March 1872 to March 1877. A famine in that District has been unknown within the memory of man, and I have had myself no experience in regard to any. I should add that I have at present access to no statistics of any kind, and I presume that, if needed, they will be procured from the present Deputy Commissioner of the District.

Answer to question 13

The Muzaffargarh canals differ, I believe, from those in other parts of India in that they are the property of the villagers, the only aid derived from the Government being, to the best of my remembrance, that it is customary to remit the revenue on land occupied by them, and waste land required for new cuts is granted free of charge when it happens to be Government soil. No rate is consequently paid to Government in any way,—at least directly, for as large areas are cultivated by means of these village canals, which would otherwise remain waste, at any rate for many years to come, a large proportion of the 5 lakhs of revenue which the District yields is entirely due to these works, and is a very handsome seignory on the Government right in the river water.

Answer to question 14

Hitherto the Muzaffargarh system has been, that each canal had a list of contributaries, whose lands are entitled to be irrigated by it. There is a small panchyat of managing members, who, under the supervision and final orders of the revenue authorities, fix the number of day labourers, who would be needed to clear the canal. These labourers are divided among the contributaries in proportion to the land revenue they pay. If they furnish this quota of day labourers well and good but for the number not supplied a fixed sum per labourer is charged, and credited to a special canal fund, out of which hired labour is paid, and improvements are effected. Casual works and improvements during the season are effected in the same way. These payments for non-supply of statute labour are recovered by the Tahsildars like land revenue and, so far as I remember, without any coercive measures beyond occasional sales of chattels, in cases of real poverty, postponements or even partial or total remissions being readily granted. It is however now the fashion to discredit this system of statute labour, which doubtless has defects, and I believe it is in immediate contemplation to abolish it, and substitute for it another, which I hope will make up in other ways for its greater costliness.

Answer to question 19

It was only during the later portion of my administration of Muzaffargarh that the improvements to the canals, for which the District owes so much to Mr Brandreth, then Commissioner of Mooltan, and which Tahsildar Bashir Ahmad, now Canal Superintendent, so vigorously and ably carries out, began to take effect in widely increasing the watered area, and I remember this showed itself in a large proportionate increase in the sugar-cane and indigo crops, the latter of which two crops, by requiring water absolutely at certain stages of its growth, is entirely restricted to canal watered land. I believe it was the greater profit from these crops which gave them the preference.

I do not remember hearing complaints of canal irrigation injuring the land as one reads of elsewhere, indeed indigo cultivation was believed to destroy the "reh" in the soil, and I have known cases where planting grass and constant watering has, at any rate temporarily, cured soil which was formerly white and crisp with "reh."

CH IV

Answer to question 20

In Muzaffargarh the hot weather rains are so slight that the kharif crops and the preparation of the fields for the spring crops depend almost entirely in many years on the canals. I fancy it will be found in practice that, where these canals exist, the people get to rely on them and the winter rains together; the supply of wells is very limited, and therefore in bad seasons the failure is worse than in a country where people are in the habit of looking to their wells habitually. Still in Muzaffargarh, owing I suppose to its being situated so low down in the great west river valley, an absolutely bad season is most unusual, as I have said above, a famine is unknown, although the indigo crop may be lost from water failing at a critical season.

Answer to question 21

In Muzaffargarh the water is distributed by water bailiffs attached to each canal according to well known existing interests. For misconduct or neglect they are liable to punishment or dismissal by the revenue authorities of the District.

Answer to question 25

It will have appeared from the foregoing remarks that in Muzaffargarh the canals and the use of the water are at present vested in the people themselves rather than in the Government, which is little more than a trustee charged with seeing the canal clearance fund is used for the benefit of the canal contributaries, and that these contributaries are not allowed to defraud or over-reach each other in regard to the management of the water supply.

Answer to question 27

Hitherto self interest and address in managing the leading headmen have been the only means by which the Muzaffargarh District Officer has been able to keep up and improve his canals, and the results have not been very satisfactory, as the amount of silt deposited every year, especially in bad seasons, is enormous, and the people are therefore always prone in the cold season, if not vigorously looked after, to shirk or only half do the clearing, and trust to Providence to remedy the neglect by a high and long continued rise, and I have often thought it a misfortune that the Deputy Commissioner had not legal powers to compel the work to be done, and to punish those who are backward or idle.

Answers by Mr J B LYALL, Settlement Commissioner Mooltan and Derajat Divisions

IRRIGATION WORKS.

CHAPTER IV

Answer to questions 12 to 31

The Muzaffargarh inundation canals are the only canals I have come across which can be truly said to be under the management of the District Officer

There are many small canals in Bannu and Dera Ismail Khan and Kangra and Gurdaspur, which are not under the management of the Canal Department, but in the two last Districts the people who irrigate may be said to manage them entirely themselves, and in the two former the District Officer really interferes very little, though on some of the canals there are officials called *Darogah Ab'pashi*, who are appointed by him, and who assist the zamindars in arranging the distribution of the water, and the collection of the labour required for the annual clearances and erection of dams

Most of the questions regarding Irrigation Works in the Famine Commission's list are not applicable to the Muzaffargarh canals. For example, to take the first two questions of the chapter, no capital has been expended by our Government, the annual cost of maintenance to Government is nil, the difference in value of irrigated and unirrigated crops cannot be given, as no crops are grown without irrigation of some kind, no canal dues or water rates are levied.

Under the circumstances it would be a waste of time to go through all the questions seriatim in writing about the Muzaffargarh canals

Answer to question 13

The amount paid per acre by the proprietor of canal-irrigated land in the shape of land revenue differs on every holding, and no distinction has been made hitherto between simple land revenue and canal advantage land revenue the whole charge has been in a lump sum

The commonest kind of holding in the District consists of a block of land of say 30 acres in extent with a well in it, such a well (as the holding is called), if it gets canal water, will pay a land revenue of from Rs 45 to 120 according to quantity of canal water, quality of soil, degree of high or low cultivation, &c. If the supply of canal water is very precarious, it will perhaps pay even less than Rs 45

Again, if such a well holding gets no canal water, but is moistened by the sailab or river floods, it will pay from Rs 25 to 45 according to quality of soil, certainty of the sailab, &c

Again, if such a well holding gets neither canal water nor sailab, it will pay from Rs 12 to 25 according to depth of well to the water level, quality of soil and water &c

It must be remembered that the whole area of a well holding of 30 acres will not be cultivated in the year, if it depends for irrigation upon the well only, the area of cultivation will fluctuate with regard to the rain fall and other circumstances, it may be put roughly at from 12 to 24 acres

Answer to question 16

No annual statistics of irrigation have been collected hitherto in Muzaffargarh, but if these canals are now made over to the charge of the Officers of the Canal Department, as we have recommended, the same statistics will be collected as in Mooltan and Dera Ghazi Khan. We have proposed that the facts shall be collected by the Patwaris in detail for each holding. The area irrigated, with detail of crop and estimate of yield, should be given

Answer to question 17 and 18

In a dry rainless country like Muzaffargarh, canal irrigation seldom or never requires to be accompanied by drainage, it does not appear to bring sickness to any serious extent, the water is muddy, and its use generally tends to improve the soil. There is much land in the District the surface of which is covered with efflorescent salts, a strong flood or a copious application of canal water will often make such land culturable.

Answer to question 19

In this country the area of cultivation is greatly increased whenever canal water is introduced, so the area under the poorer grains increases as well as that under the better crops. But the greater relative profits of the better crops, such as indigo and cotton, have, I believe, induced the zamindars to put a larger proportion of their canal irrigated land under them than formerly. I believe this to be the case from common report, and from facts shown by the comparative statistics of the neighbouring District of Mooltan, where the area under indigo and cotton seems to have increased of late years in a much greater ratio than the area of cultivation. I do not think that prolonged irrigation damages the land in this part of the country, provided that the soil is good, and the farming what is considered good by the custom of the locality. There is however a great deal of poor roughly cultivated land, which in its present unimproved and unmanured condition will not stand continuous cultivation, it grows only one crop in two years, and often gets even longer fallows.

Answer to question 20

It is not correct to say that inundation canals give water only during the rainy season they generally flow for four months or more, between the end of April and some time in September. The rivers rise from the melting of the snows long before the rains begin. Inundation canals are certainly very useful in a country like that of the Mooltan, Muzaffargarh and Dera Ghazi Khan Districts, where the annual rain-fall is very small, and where at the same time the water level is near the surface, so that wells can be easily made and profitably used for irrigation. The kharif cultivation is carried on almost entirely with canal water, except in emergencies, such as the sudden stoppage of a canal, the wells are not used for kharif crops, sugar-cane is of course an exception, and if the canal opens late, cotton is often sown with well water, the canal also gives the land the watering which it requires to make it fit for the rabbi sowings, in this way a larger rabbi crop is sown than could be effected with well water alone, and, once sown, the well and the winter rains will bring the crop to maturity.

I much doubt whether inundation canals could be worked advantageously in the North Western Provinces, or in any country where in ordinary years kharif and rabbi crops can be grown with rain water. Where farming with rain water is possible, it would hardly pay the zamindars to give the heavy labour necessary for the annual repairs and clearances of the canals (or an equivalent water rate) in order to secure a not very certain supply of water for four months only. And the floods which these canals often pour on the country would do much damage in highly cultivated tracts like the North Western Provinces, or the Upper Punjab, and would probably bring fever.

Answer to questions 21 and 22

It would take much writing to properly describe the system of canal administration in Muzaffargarh, it is in the main the same as that in force in Mooltan, except that the District Officer has charge in place of the Canal Officer. And as it is found that the District Officer cannot properly manage the Muzaffargarh canals, it has been settled (so far as the Local Government can decide) that they shall be presently made over to Officers of the Canal Department.

The system has been fully described by the Settlement Officer of Muzaffargarh and myself in reports submitted some three years ago with reference to the question of transferring the charge of the canals to the Canal Department. It has also been described in long reports submitted by the Settlement Officer of Mooltan and myself on the question of abolishing *cher labor* on the Mooltan canals. In that correspondence and in assessment reports since submitted, I have proposed some small modifications of the present system of

assessment of canal irrigated lands in Mooltan and Muzaffargarh. We have also lately reported, in concert with the Canal Officer of Mooltan, in favor of certain alterations of the rules hitherto in force in Mooltan regarding the management of these canals. CH IV

The Upper India Canal Act has been declared to be applicable to the inundation canals in Mooltan, Muzaffargarh, and Dera Gházi Khan, the question of its suitability to the circumstances of these canals was discussed during the Dera Gházi Khan settlement, and again in the correspondence regarding the Mooltan and Muzaffargarh canals above alluded to. If it is possible to pass under the Act the revised rules for the Mooltan canals which we have lately sent up for sanction, then I do not think that a special Act is necessary.

In regard to separation of engineering work from the other administrative work of the canals, we have lately proposed to give the Canal Officers in Mooltan and Muzaffargarh native assistants (of the rank of an Extra Assistant Commissioner or Deputy Magistrate), who will relieve him of a great part of the work not of the nature of engineering which he performs in Mooltan. Perhaps the best system for this part of the Punjab would be to have Collectors and Assistant Collectors wholly devoted to revenue work, as in Bombay, who would take over from the Canal Officer the distribution of the water, the assessment of cher labor, or of water-rates, the disposal of applications for new water-courses &c.

Such a Collector with the Tahsildárs and all the minor revenue officials of the District under his orders could do such work better than a Canal Officer. And the latter would have more time to devote to engineering, which would be almost the only work left to him.

Answer to question 23

The extension of the use of canal water is not slow in the case of these inundation canals in the south of the Punjab. It has been slower than it ought to have been in certain places, but this has been because the supply of water has been scanty, owing to mismanagement of the repairs and clearances of particular canals. Such slow extension has not been caused by reluctance to take water, or by difficulties in preparing the land for irrigation.

Answer to question 24.

The question of imposing a special rate on Districts, or on land protected by irrigation works, hardly concerns this country in the south of the Punjab, where canal water is always taken if it is available. In countries where canal water in many years of a cycle is not wanted, it is very doubtful whether canals ought ever to be made, if interest on capital outlay must be secured.

But if I was quite certain that in such a country a canal would, in the end, be a decided benefit to the tracts it would protect, then I should consider it fair to impose a compulsory rate on such tracts.

Answer to question 25.

The inundation canals of this part of the Punjab were almost all constructed in the first instance by the free or forced gratuitous labor of the people through whose lands they were made, or of people to whom land was granted on the canal in lieu of such labor. The Government of the day, as a rule, only assisted by organizing the enterprise, sometimes it also helped with hired labour or by distributions of food.

And after construction the canals have been maintained by the gratuitous labour of the irrigators, who have also had in many cases to dig very long kassis or water courses to bring the water from the main canal to their lands.

Broadly speaking, all the irrigators may be held to have acquired prescriptive rights to water from these canals. I think Government would have to pay compensation in addition to remitting revenue if it diverted water from a man's land, not of necessity, but in order to improve or extend the canal.

In this respect the provisions of the Canal Act do not seem to sufficiently secure the rights of irrigators on these canals.

Certain persons claim the right to put up chaps or dams in these canals, so as to raise the water till it will flow on to their lands. The erection of such dams has been generally forbidden, as it much reduces the supply of water in the canal beyond the dam, it is

CH IV sometimes still allowed under certain restrictions where the claim is of old standing, and the land cannot get a flow of canal water in any other way

The kassis or water-courses on these canals are considered the property of the persons who excavated them, other persons sometimes buy a share in them, or take water from them and pay for it. They can of course apply to be allowed to construct a separate water-course for themselves, and the Canal Act gives the officer in charge the power to grant such applications. I am not aware that the above customary claims or rights have hitherto seriously diminished the general utility of these canals, but I can see that they are likely to interfere with a policy of vigorous *improvement and extension*. A great deal can be done under the Canal Act, I do not think any additional powers can be properly demanded

Answer to question 31

In the case of the Muzaffargarh and Mooltan canals, I have proposed that the whole of the land revenue of land irrigated by canal water only, and two-thirds of the revenue of land irrigated by canal and well water, should be credited to the canals. This was the rule approved in the case of the Dera Gházi Khan canals. Formerly too small a share of the revenue was credited to the canals

Answers by MAJOR H. GREY, C S I, Political Agent and Superintendent, Baháwalpur

CHAPTER IV

Answers to questions 12 to 31

I am writing of the Ferozepore District and of the Baháwalpur State, of which I have held executive charge since 1871 inclusive, with an interval of one year in England

I have no experience of famines

I deal, as directed, only with questions 12 to 31, "so far as these questions apply to canals under management of District Officers"

Answer to question 16

Statistics of irrigation are recorded in the Ferozepore District as part of the annual "field inspection" operations of the Patwáris. These measurements commence in the irrigated tract at the same time as the alluvion—diluvion measurements in the river side tract, and thus precede the ordinary operations

When carefully supervised, these measurements are found fairly accurate, though always under the mark, partly because the Patwári is disposed to favor the agriculturist, and partly because he is in a measure dependent on him for information

The record of such statistics is necessary, if for no other reason, because on them is based the distribution of the annual clearance. The total cubic contents of clearance to be done on any canal, divided by the irrigated area in acres of that canal, gives the rate per acre in cubic feet. This, multiplied by the irrigated area of each village, gives the total quota of a village, and a convenient length of canal containing that amount of clearance is allotted to the village

The interior distribution over the proprietors is then arranged in the village without interference. These remarks apply also to the Baháwalpur State, where I have introduced the same system

For this system no detail is required beyond that of the irrigated area for each village. If, however, any village is irrigated by more than one canal, then the area pertaining to each canal must be ascertained

Answer to question 17

No injury has been caused by canal irrigation in Ferozepore or Baháwalpur, though the latter has been heavily irrigated for many years past. The water level, no doubt, has been greatly raised in the irrigated tracts, and this has been an advantage in itself, besides the improvement of the quality of the well water. No attempt to provide drainage has been made in either place, but neither has the natural drainage been obstructed, as the highest available ground is always sought out both for main channels and for distributaries. My belief is, that with a sandy sub soil no injury need be feared from well aligned inundation canals, sickness and efflorescence both result from water logging the soil. But a thick stratum of sand near the surface drains off the water, and the cessation of flow in the winter permits of complete drying of the country. This applies more strongly in the case of Ferozepore than in that of this state. Here, in many parts, the sandy stratum is many feet below the surface, and, moreover, some of the canals are closed only for the month or six weeks absolutely necessary for clearance. Where such is the case, the soil is greatly saturated, and of late years, since a 4 inch rain-fall has increased to 10 or 12 inches, sickness has increased

Answer to question 18

Canal water has rendered fit for cultivation large tracts in the Baháwalpur State, which were utterly unculturable from 'kallar' (noxious salts). When heavily irrigated such salts are either washed off the soil or down into it. Opinions differ among the Zamindárs as to which of the above results is obtained.

Answer to question 19

CH IV Canal irrigation has greatly increased the cultivation of valuable crops, in supersession of that of the poorer staples in the Bahawalpur State, and is doing so in the Ferozepore District. Where the conditions of soil, position and water supply permit, the Zamindars put in indigo, cotton, sugar and rice in place of less valuable crops.

Of course there is a limit to this, in respect of water supply. Rice takes six times as much water as jowár, bajra and the lighter kharif crops, sugar 4 times as much, indigo and cotton 3 times as much, and for 2nd year or 3rd year, indigo. Moreover, the flow must be very early, not later than the commencement of March.

On the other hand, canals, both here and in Ferozepore, have permitted the cultivation of cereals, where, without them, such could not have been sown, or, at any rate, matured. Thus, though causing the supersession of the poorer by the more valuable crops over large areas, canals have, in my experience, not diminished the actual area of cultivation of the poorer grains.

The productive power of land is certainly reduced where irrigation has long been applied. This however has nothing to do with the irrigation, but results from the shortsightedness of the Zamindárs, who overwork the land, and are long in learning to use manure.

Answer to question 20

I know no condition under which an inundation canal is not useful in the Punjab. Of course one that only gave irrigation in the rainy season would be less useful than one with a lower bed, but I think that such give larger results per rupee of capital outlay than any other. Anywhere south and west of Ludhiana, I believe that flooding large tracts for rabbi crops by broad shallow channels, designed merely to skim off the top 3 feet or so of the floods, is the most paying way possible of spending money or labour on irrigation works. Very light winter rains will mature the crops on land so flooded. Beyond this every rupee spent on prolonging the period of irrigation diminishes the per-centage of profit. Nevertheless profit is not the only thing to look to, and canals of long flow are necessary, but perennity is certainly not worth securing at a yearly loss. Systems of canals, such as I have made in Ferozepore, could be constructed in the same manner in many Districts of the Punjab—in fact, on the lower courses of all the five rivers. The following extract from my report for 1876 gives my views on the last 2 points of question 20.—

The Dowlatwah and Bucherawah are designed only to work from April to October inclusive and the Aghawah from June to September, especially in view of the probable subtraction of the whole cold weather supply of the Sutlej by the Sirhind canal. The object of these canals, as of all those in the District, is to give complete irrigation for the autumn crop, and the first flooding for the spring sowings—in fact to supply the place of the insufficient irrigation of the rainy season, which in this District extends only from the end of June to the end of September, and the rain-fall during which is utterly inadequate for crops on the 'karur' or clay soil of the tract called Hithár, included between the river and the old high bank of the Sutlej known as 'Dunda'. The further into October canal irrigation is extended the better of course for the spring sowings, and the design given to a canal in that view, affords also the further advantage of a watering for the cotton and garden stuff in April. The principle however, accepted is that the most remunerative possible method of laying out labour and money in irrigation is just to expend so much, and no more, of either, as will secure the complete irrigation of the autumn crop and the first flooding for the spring sowings. No effect that the Sirhind canal is likely to have upon the Sutlej in flood will interfere at all with the attainment of these objects. Both this year and last the Zamindárs would hardly take water before June, nor did they give any more irrigation to their autumn crops after 15th September. As to the spring crop, after a thorough saturation has been given for the sowings little more is required than the dews of winter and the January or February showers to mature the crop. It must be remembered, moreover, that the canals of this District are supplemented by wells, with the exception of Nizamwah, Panjawah and Khánwah (and on those canals they are being rapidly constructed). The principle accepted by me is that canals and wells should go hand in hand, the latter supplementing the irrigation of the former and the former enormously extending the area cultivable on the latter, and at the same time raising their water level, and thus increasing their supply and diminishing the cost of lift.

I have moreover discussed the entire question raised in question 20 in a pamphlet published in 1875, of which I attach a copy.

Answer to question 21

I am decidedly of opinion that the "direction" and "executive" functions should be kept separate. I will not enter into the vexed question as to whether the canal or the

tabul establishments are the least oppressive and venal, but will base my opinion simply on the ground of economy. The existing revenue establishments can assess and realize the water revenue, whereas, if these functions are vested in the Canal Officers, a special establishment is necessary. For distribution, if effected on a rough and ready system, the revenue establishments are also quite competent. Of course if the water is to be mathematically measured out, skilled men are required for the purpose. The yearly working cost, per acre irrigated of the Ferozepore canal series for 1875 and 1876, was to that of the Upper Sutlej series as $2\frac{1}{2}$: $16\frac{1}{2}$ (my report for 1876). Ch. IV.

Answer to question 23

I have not found the extension of the use of inundation canal water slow. In 1875 the incomplete Ferozepore canals irrigated 43,330* acres. In 1876, when still incomplete, they irrigated 64,675* acres. What they have done since I completed them and left, I do not know, but I know that the only delay in the development of the irrigation was that unavoidably incurred in the construction of distributaries. The same applies to new works in the Baháwalpur State, but it is to be borne in mind that the water is taken free of charge in both instances.

There is a certain difficulty and delay in the construction of distributaries. Unless professionally aligned, Zamindárs are, after experience of failures, very shy of attempting large distributaries, and, without large distributaries, the cultivation of a canal is limited to a narrow marginal strip, such as can be reached by the irrigation cuts taken from the canal direct. Again such distributaries require money for their construction, and the existing system does not provide adequately for the supply of money. Takávi will never be freely taken while the grants are hampered with the present conditions.

Accidents of season do not affect the progress of inundation canal irrigation. The Zamindárs expect such. Without such accident there is no shortness of supply in the hot season.

Answer to question 27

There is no obligation on Zamindárs to maintain works. The Ferozepore system of canals was nearly lost in the beginning of 1876 by an ignorant movement of opposition to the works. Advantage was taken of the revulsion of feeling after the irrigation season of 1876 to get all the sharers to bind themselves by stamped deeds of agreement to maintain the canals in future, according to the quota of maintenance allotted to each by the Deputy Commissioner, but I consider that power is required to enforce such obligations where not fully recognized.

My view on this matter is expressed in the following extract from my report for 1876 —

"It is very certain that no great co-operative work was ever yet accomplished, even with a consensus of opinion in its favor, where it was at the option of each individual unit to slurk his share thereof at any moment that the feeling of present laziness overcame the desire of future advantage. The vast system of canals created under direction of and bequeathed to the British Government by Dewan Sáwan Mull, in the Districts of Mooltan, Muzaffargarh and Dera Gházi Khan, would never have been constructed had such a principal been accepted and those Districts would have remained waste to the present hour. These canals comprise the Lower Sutlej and Chenab series, and the Indus series, both now administered by the Canal Department, and 66 canals in the Muzaffargarh District, managed by the Zamindárs under direction of the Revenue Officers, in a similar manner to the Ferozepore canals.

Of 33 canals in the Lower Sutlej and Chenab series additions have been made by the British Government to the trunks or branches of two only — 646 miles of canal out of 657 miles now existing having been taken over in working order from the Sikhs. (See page 40 of the India Office report of moral and material progress of India for 1871-72.) Out of 593 miles the existing length of the canals of the Indus series, only 108 miles have been constructed (by the Zamindárs) under British rule, the remainder having been taken over in working order from the Sikh Government. To the 66 Muzaffargarh canals the British Government has added nothing.

The average irrigated area of these three series is as follows —

	<i>Acres</i>
Lower Sutlej and Chenab series	2,14,632
Indus series	1,58,202
Muzaffargarh canals	2,50,708

* These field inspection returns are considerably under truth.

CH IV or a total of 6,23,542 acres being almost 2½ times the average irrigated acreage of the Bari Doab Canal (1,52,272 acres). Again, in the Bahawalpur State administered at present by a British Officer, a system of 49 canals of above 1,100 miles total length, and with an average irrigated acreage of 3,01,836 acres, has also been constructed upon the co-operative system. Thus altogether in the Punjab, including the canals under report, there are a million acres of land irrigated by canals constructed on this system, against less than 6,00,000 acres irrigated by the great Government works.

I give these statistics to show the enormous results of co-operative labor initiated by consent, and carried on under authoritative direction. It is probable that, however, keen for the inception, the Zamindars of the Districts and Native State above named, may often have been ready to shrug and throw up the performance of the above undertakings. And yet, when carried through, what a blessing for them and their descendants, and what an advantage to the existing and succeeding Governments. At the present hour (so short-sighted is the mass of ignorant agriculturists *acribus instis, incurioso fine*) it is only necessary to disseminate in the Districts of Mooltan and Muzaffargarh (in Dera Ghazi Khan a "clearance rate" is charged, and the clearance performed by paid labour) or in the State of Bahawalpur a belief such as was current in this District in February 1876 *vis*, that Government disapproved of their yearly clearance, and thus though they would be perfectly well aware that next year's irrigation depends on the performance of the clearance

* Irrigators

Replies by Mr E O'BRIEN, c s Settlement Officer, Muzaffargarh

CHAPTER IV

Answer to question 12

No statistics exist of the capital expended on or of the interest on the capital

CH IV

The annual cost of maintenance is as follows —

300,000 labourers working one day each, at 6 anas per day	Rs 1,12,500
Pay of establishment and fines on absentee labourers	" 24,771
Total	Rs 1,37,271

The area irrigated when the settlement measurements were made in 1874-75 was 209,081 acres No statistics before or after that year exist

It is not understood what the "corresponding rates per acre" mean In this District every kind of irrigation, whether flow or lift, superior crops or inferior crops, requiring many waterings or few, contribute uniformly their quota of labour and of the payment of establishment The amount of that quota depended hitherto on the amount of land revenue paid by the land irrigated Under recent orders of Government, the cost of maintenance is to be distributed over the area irrigated.

The rate per acre which irrigation costs the agriculturist is Rs 1,37,271 ÷ 2,09,081 acres = Rs 0-10-6 per acre. In this District the only unirrigated lands are the river sailāba lands The rain-fall is so small that no crops can be grown from rain alone Irrigated land here is that which grows two crops in the year—1 a kharif crop irrigated by inundation canals, 2, a rabbi crop, the land for which is softened by ploughing, and the seed is sown by canal water, and the crop is matured in the cold season by irrigation from wells, unirrigated, 3 e, sailāba land, grows only one, 4 e, the rabbi crop Therefore a comparison can only be made between an acre of unirrigated land bearing one crop, and an acre of irrigated land bearing two crops in the year An acre of unirrigated land will produce 8 maunds of wheat equal in value at 27 seers 10 chittaks per rupee to * Rs 11-9-4

An acre of irrigated land will produce 10 maunds of wheat in value at 27 seers 10 chittaks per rupee to * Rs 14-7-8, plus 5 maunds of cotton equal in value at 11 seers 1 chittak per rupee to Rs 18 1-3 *

The local value per acre of these crops will be Rs. 11-9-4 per acre for unirrigated land, and Rs 32 8-11 for irrigated land

Wheat has been chosen, because it is the crop most grown, and cotton as being equally placed in relative value to sugar, indigo and vegetables on the one hand, and rice, jowār and bajra on the other

Answer to question 13

Nothing is paid per acre in this District as water rate beyond the contribution to the cost of maintenance, which has in the answer to question 12 been estimated at Rs 0-10-6 per acre.

Rent in unirrigated and irrigated land respectively —The rent is always paid in kind The customary rate is higher in unirrigated than in irrigated land, because the expenses and labour of cultivation are so much lighter in unirrigated land than in irrigated On the other hand, the landlord will get rent on only one crop in unirrigated land, and on two crops in irrigated, besides that his rabi out-turn in unirrigated is something less than on irrigated

* The prices are the average of the wholesale prices for the last 23 years

CH IV. The rate of rent in unirrigated land is $\frac{45}{100}$ of the crop, and in irrigated land $\frac{75}{100}$. Taking then the case given in the answer to the preceding question, the rent in each sort of land will be as follows —

	Rent in kind per acre.			Value of the rent in money per acre		
	Mds	Srs		Rs	A	P
Unirrigated land	8	24	wheat	5	3	5
Irrigated land	8	12	of wheat	4	12	0
	1	26	cotton	5	15	4
Total irrigated			"	10	11	4

No owner's rate is paid by proprietors. The land revenue on unirrigated, *i. e.*, *sailāba*, and on irrigated, *i. e.*, irrigated by both canal and well is per acre —

	Rs.	A.	P.
Unirrigated	0	14	0
Irrigated	1	12	0

There is no reason, as far as this District goes, why a proprietor should not contribute to the state for advantage obtained from canals constructed and maintained at the public cost, or, as in this District, by the irrigators. Accordingly, it has been provided in the settlement now being made, that land coming under canal irrigation during the term of settlement shall pay from 6 to 8 annas per acre even though it has not been assessed at settlement. I can suggest no better means of levying a contribution from the proprietor than this, *viz.*, assess land irrigated by canal at settlement at a rate which shall represent the difference in value between land unirrigated and irrigated by wells only, and provide that land getting canal water for the first time during settlement shall pay a rate similar to the difference between irrigated and unirrigated rates.

Answer to question 14

Canal dues consist of (1) labour assessed on the irrigators, (2) fines on absentees from the works, (3) cash payments to establishment. The labourers turn out at the summons of the Deputy Commissioner.

The fines and payments for establishment are collected in the same way as the land revenue. No law exists for either calling out the labour or levying the fines. The practice is a bequest from former Governments. The system is bad, because it rests on no legal basis. The irrigators might refuse at any time to supply labour, or to do a work which the Deputy Commissioner thought necessary, and the whole would break down hopelessly. The pressure necessary to make the irrigators supply the amount of labour necessary often takes very objectionable forms.

I should like to see the whole matter placed on some legal foundation, the forced labour system abolished, and canal rates paid in cash. Cash payments would be unpopular only because the present system is so old, and because the change would be an innovation, still it could be done gradually. The agriculturists are very lavish of the canal water, and there have been many complaints of their injuring roads by allowing water to escape from their fields so as to impede traffic.

I have no experience of any of the theories suggested at the end of this answer.

Answer to question 15

The supply of water in the canals of this District has been in consequence of the neglect of the canals, very precarious, and I do not think the contributions of labour or cash could safely be increased at present. The canal administration has been temporarily improved lately, but not permanently. If the improvements were permanent, and the people became able to trust in a regular supply, the contributions might easily be increased. At present canal irrigation is deservedly mistrusted. Canal dues are almost invariably paid by the tenants, and, if they were raised, I imagine the tenant would continue to pay them till they grew so heavy as to make him throw up his tenancy.

Answer to question 16.

No statistics of the canals are recorded, and no revenue reports are prepared by the canal administration in this District. No Patwari's annual papers based on local inspection have ever been made. The figures in these answers are taken from settlement survey, which was made in 1873-74 and 1874-75. I suppose there cannot be two opinions as to the advantage of recording statistics of canal irrigation. CH IV

This District has 3,97,529 acres of cultivation, of which 2,09,081 are irrigated by canals. The loss to every part of the revenue administration in having no statistics of canal irrigation, when more than half the cultivated area of a District depends on canal irrigation, cannot be exaggerated. The form and detail of such statistics can best be decided by those who have had experience of recording canal statistics, I can only depose to the injury caused by not having any statistics.

Answer to question 17

The only mischief caused by canal irrigation is that described in the reply to the questions received with your F—39, dated 13th August 1878. * No system of drainage has ever accompanied canal irrigation in this District. Nothing has ever been done here except to make here and there water escapes in sudden emergencies such as dangerous floods. Drainage is decidedly necessary, for in many parts the excess water from canals collect in such quantities as to destroy crops and cause houses to fall down.

Answer to question 18

Canal irrigation is considered a cure for the efflorescent surface salt. No other attempts beyond giving the land a surface flooding are made to remove noxious salts.

Answer to question 19

Canal irrigation in this District has till lately been very precarious. During the last three years the supply of water has become more regular. The effect has been to increase the cultivation of the superior crops—sugar, indigo, cotton and also rice and china, which require copious irrigation. There is no evidence to show that the area under grain crops has diminished. The improvements have not yet had time to have any decided effect. All that can be said is, that improved irrigation decidedly stimulates at first the cultivation of superior crops. The only figures available for comparison of the changes in canal irrigation are the revenue survey made in 1856, and the settlement survey made in 1873-75. In the seventeen years which intervened, the general increase in cultivation in this District was 30 per cent. The increase of cultivation in the canal irrigated tracts of two out of the three tahsils was only 4 per cent. The statistics of two tahsils only are available, but they are those which contain the greatest area of canal irrigation. The canal irrigated tracts are generally in an impoverished condition. The reason why the canal tracts have not advanced simultaneously with the rest of the District, is a bad system of canal administration, which will hereafter be described.

There is no reason to suppose that prolonged irrigation damages the land. Canal water seems here to supply both irrigation and manure, for the lands irrigated by canals only are not manured, and do not seem to deteriorate. There is no evidence of a reduced production in canal lands.

Answer to question 20

The inundation canals in this District run in good years from April 15th to September 15th. Their normal duty is to supply water for the whole production of the kharif crops, (except sugar-cane, which remains too long in the ground to be completed by canal water), and to moisten the lands for the ploughing and for the sowing of the rabbi crops.

Answer to question 21

The system of canal administration is as follows.—The canals are managed by the Deputy Commissioner, a Native Superintendent of canals, the Tahsildars and a committee of the irrigators on each canal. The canals run in favorable years from the middle of April to the middle of September. During the running season the committee of irrigators and an official called the Mirab regulate the distribution of the water, but every matter has to be referred through the Tahsildars to the Superintendent and Deputy Commissioner.

* For which see the officer's reply to question 7 chapter I

CU IV. When the canals have ceased running, the committee of irrigators, Tahsildár and Superintendent of Canals, decide what amount of silt clearance, what improvements or repairs should be executed, and how many labourers will be required for the work. The number of labourers is practically fixed by the Superintendent of Canals. When the number has been fixed, a petition has to be obtained from the irrigators asking to be allowed to supply the number of labourers fixed. This is necessary, for the theory is that the canals of this District are managed by the people themselves, and are maintained by labour voluntarily supplied by the people. The number of labourers required is distributed over the area irrigated the year before, and each irrigator is required to supply the number thus assessed. Then a proclamation is issued, the labourers are called out, the annual clearance and repairs begin.

A clerk is appointed to keep the roster of the labourers present and absent, and at the end of the work each irrigator who has not supplied his quota of labourers is debited with the number of labourers which he has not supplied, at the rate of 8 annas per man absent per day. These fines on absentees are credited to a fund for the general improvement of the canal.

The members of the committee on each canal are remunerated by being absolved from supplying a portion of their quota of labourers. The Tahsildárs are responsible for collecting the fines on absentees, which are the only canal dues in this District.

I think that the functions of the engineer in charge of the works, and the technical business of the water supply, and those of the officer who distributes the water, secures water to the extension of irrigation, and realizes the canal revenues, should be combined in one person. If it is not combined in one person, the persons responsible for each part of the duties can only be —

- 1 The Engineer in charge of the works
- 2 The Deputy Commissioner who would distribute the water

I have seen the canal administration here for five and a half years, where the distribution of water is managed by the Deputy Commissioner. As a matter of fact, he leaves the distribution of water to get on as best it can, and never interferes with it in any way, and however much he might wish to regulate it, and however active he may be, he could not find time from his other duties to pay any attention to the distribution. The same thing may be said of his subordinate the Tahsildár. However energetic he may be, he has not the time, and so leaves the distribution of water to take care of itself.

Answer to question 22

The system of canal administration prevailing in this District has been described in the answer to the last question. It is capable of improvement by the canals being put under the charge of a professional Engineer, who could devote his time to the work, instead of being as at present left to such chance attention as a Deputy Commissioner, already overworked, and without any special knowledge of canals, can give it.

There are 66 canals in this District with a length of 514 miles. They irrigate 2,09,081 acres, and have Rs 2,25,706 of land revenue depending on them. A great canal system like this requires the undivided care of a European professional Engineer. Under the present arrangement, the supply of water is either deficient or excessive. The powerful irrigators escape supplying their full quota of labour, and take more than their fair share of water. Works are ignorantly executed, and a great deal of labour is wasted. The Northern India Canal and Drainage Act VIII of 1873 has not been extended to this District. There are no rules of any kind in force. A law is very necessary for it. If a single irrigator refused to supply labour or pay fines for not supplying, there is no legal means of compelling him, and if he contested the Deputy Commissioner's power in the Civil Court, the whole system of canal management would break down.

Answer to question 23.

The cause of the slow increase of canal irrigation has been inefficient administration. No other reason can be alleged why the cultivation in the canal tracts has not increased *pari passu* with the rest of the District. The cost of irrigation, Rs 0-10-6 per acre, is very low. The soil of this District produces superior crops. Little labour is required to bring waste land under cultivation. The canals may be said to be in an unsatisfactory condition, inasmuch as

the defects in the administration have not been removed. During the sixteen years that preceded 1875, the canals were absolutely neglected. Attention has recently been called to them, and some improvements have been made of a temporary nature. No canals have reached the state in which further extension is not likely. There are 15,35,475 acres of culturable waste in this District, to which canal irrigation could be extended. The District is very favourable for the extension of canals. The hot weather level of the Indus is higher than the greater part of the District, and there is steady slope from the Indus to the Chenab, and no dorsal ridge between the rivers. The difficulties in preparing land for irrigation for the first time are small. There is not a rock in the District. CH IV.

Answer to question 25

The right of the irrigators to take water from all the canals in the District is prescriptive. Both the state and the persons through whose lands the canals pass own the canal beds, but the rights of the state and of the landowners have become so intermingled, that it can not be said that the ownership rests with either the one or the other alone.

Three-fourths of the canals were excavated and maintained by the irrigators. The remaining fourth consists of those canals which were dug under the Government of the Nawáb of Bahawalpur. In this case one fourth of the expense of first excavation was borne by the Nawáb's Government, and three-fourths by the irrigators. The maintenance of all the canals has been entirely borne by the irrigators, all that Government has contributed is the power of contribution to effect the clearance, and a certain amount of supervision. It is because the irrigators have for the most part excavated and entirely maintained the canals, that I say the right to take water is prescriptive. The prescriptive rights of the irrigators have not led to inconvenience in respect of the general utility of the canals. There is never any difficulty in a landowner, not an original irrigator, getting water for land within reach of the canal, which has hitherto been unirrigated. I have never heard of objections being made to the extension of canal irrigation to new land. I do not think it desirable or possible to buy out the prescriptive rights. The original excavators or irrigators do not form a definite body. It would be impossible after so many changes to say who the persons were who had the prescriptive rights, though there is no doubt that those rights exist. Extension of canal irrigation in this District is so easy, that the right to irrigate is rendered less valuable. It has been thought necessary in the neighbouring District of Dera Ghazi Khan to buy up the prescriptive rights of the original excavators. The canals were dug there under similar circumstances to those in this District. No claims grounded on prescriptive right have been made. The irrigators on any canal are all on the same footing in this matter. I have never heard of any irrigator urging superior claim to water on the ground that he had been an original excavator, or an irrigator of long standing. No suits regarding canals or canal water have come before me since I have been in the District.

Answer to question 26

The minor distributaries are so small and numerous, that no Government supervision is made over them. They require to be cleared every year. The work is postponed to the very last moment by the irrigators, and the water entering the canals often prevents its being completed before the running season. Applications for remissions and reductions of land revenue on account of the failure of canal water are very common in this District, and in investigating such applications, I have often found that the failure of water occurred only because the applicant had omitted to clear his small distributary, and when assessing villages, I have often wished for the power to set the crowd which was clamouring for reduction at work to clear their neglected water-courses. I think that steps should be taken to compel the irrigators to maintain in proper efficiency the small water-courses. As long as the present system of compulsory labour and fines on absentees is maintained in this District, all that is required to be done is to extend that system to the minor distributaries. The absentee fines fund exists, but it could not with justice be spent on private water-courses.

Answers by MAJOR, E. C. CORRYN, Deputy Commissioner, Shahpur

IRRIGATION WORKS

CHAPTER IV

Answer to question 12

The capital expended to date on the construction of the principal Government canals Ch IV.

(noted in the margin) of the Shahpur District is Rs 85,500, and the yearly interest on the capital at Rs $4\frac{1}{2}$ per cent is Rs 3,847 8. The annual cost of maintenance is Rs 14,500. The present acreage irrigated is 21,500 acres. The average local value per acre of the chief crops raised by irrigation from these canals is, wheat Rs 20, and bajra Rs 16. The difference between this and the average value of such crops raised without irrigation is, wheat Rs. 14, and bajra Rs 10.

Name of canal	Capital expended in construction	Interest on capital @ 4½ per cent	Annual cost of maintenance
	Rs.	Rs.	Rs.
Shahpur station canal	35,000	1,582	5,000
Rohri	5,000	225	1,500
Mir Murtaza	7,000	315	800
Yas. & Sh.	20,000	922 8	2,000
Chandwah	10,000	450	1,000
Total	85,500	3,847 8	14,500

Answer to question 13

The amount per acre paid for the use of water for all crops by the occupier in the shape of water rate is Rs 2 8. The ordinary increased rent on irrigated over unirrigated land is Rs 2 8 per acre. The proprietor pays in shape of land revenue Rs 1 4 per acre. There is no reason why a proprietor, whether paying land revenue or not, the yearly value of whose land is increased by irrigation from canals constructed and maintained at public cost, should not contribute to the state in return for the advantages he thus obtains.

Answer to question 14

The canal dues in this District are not recovered under any law, merely under the authority of the Financial Commissioner's No. 237, of 18th May 1876*. It is realized in this way—after ascertaining the extent of land irrigated, the amount to be realized on it is intimated through the Patwaris to the proprietor, and is paid in by him in the same manner as the Government demand on his land. No difficulty has been experienced in realizing the water rate in this manner, and no better principle can be suggested. It is not found that water is used in too lavish a manner by agriculturists in this District on account of the charge being made on the irrigated area, as the value of water is thoroughly appreciated in a District like this liable to prolonged drought, and the water is supplied in turn according to a roster which is carefully kept up, so that as soon as one proprietor's land is fully irrigated, his neighbours are on the look out for his share, and he is quite as vigilant as the Government officials to prevent any waste of water. It will be seen from this that it would be impolitic to raise or interfere in any way with the present water rate. I am very adverse to raising water rates on crops, as it has a very demoralizing effect on the proprietor, and often leads to fraud, and sometimes to loss by the proprietor as well as to Government. I would, in regard to inundation canals, advise adhesion to a fixed water rate as the most equitable system of realizing a water due, and most satisfactory to all concerned. I entirely deprecate the system of water being charged for by quantity, as it aims unscrupulously and under-paid officials with a terrible arm for oppression, and opens door for fraud and speculation. I have no experience as regards a contract rate, and must therefore be silent, but I should say in a District like this it would not answer.

Answer to question 15

In this District, as I have already said, I would not increase the water rate. Indeed I feel disposed to lowering it.

Answer to question 16

The statistics of irrigation are recorded in a register, which is prepared by the Patwari, who measures up the area of each proprietor's land watered by the canal. His measurements are then tested by the canal Muharrir and the Kanungo, which is again checked at random by the Tahsildar or his Naib, and thus is finally compiled in the form prescribed.

* Since this was written the rules (under the Canal Act), which govern the other canals of the Punjab, have been made applicable to the Shahpur canals.

C# IV by the Irrigation Department, and submitted at the close of the year with a report through the Commissioner and Superintendent to the Secretary to Government in the Irrigation Department, who incorporates it in his report with the irrigation statistics of the Province. I consider all such statistics put together in the shape of a Blue Book of the greatest value to officers who take an interest in the extension of irrigation works.

Answer to question 17

I have already remarked how terribly a District like this suffers from drought, the temperature being very dry, and the soil generally arid. Even if the embankment of a canal is temporarily broken, the out-let of water from its rapidity soon spreads over the country. By the time the gap is repaired, the water expanded over a vast tract is soon sucked up, so that it very rarely does any damage, but on the contrary benefits standing crops, or if the land is fallow, produces a fine crop of grass, which is considered of the greatest value in a cattle producing District like Shahpur. To no overflow of water of the kind have any of the medical authorities ascribed sickness in this District, and the introduction of canals, by raising the water level generally from 40 feet to 35 feet, has been accepted by the people as an immense boon, as they can now use smaller and less expensive cattle on their wells, which is an estimable blessing to impecunious persons. It has been further found that where the land is termed "kallar" or "shór," that is, where there is an unprecedented efflorescence of saltpetre and salt, the canal water has entirely mitigated it, and land that was considered useless and unproductive is now highly esteemed, and will be highly assessed at next settlement. The lay of the country in this District is such that drainage is not taken much into account in the extension of canals, but there are some localities where the canals will be usefully extended should funds be forthcoming to extend these canals, when drainage must be taken into consideration, as, for instance, when canals run a long length, the first few miles will have to be considerably widened, so that where there is a "flush," the water might, in a considerable body, overstep its banks, and for this reason depressions leading back to the river would have to be drained, otherwise crops sown within them would be destroyed.

Answer to question 18

It has already been shown that soil that was unproductive and previously unfit for cultivation, from the presence of noxious salts, has, by canal irrigation been considerably improved.

Answer to question 19.

The general effect of canal irrigation has contributed to a considerable extension of cotton growing. The supply of poorer grains has in no way diminished, on the contrary, if anything, increased. The area of the better crops has not to a very large extent been extended, as most irrigating canals cease to flow in September and October, although one of the new ones, the "Cobynwah," has run for all the year round. This will explain the small effect that such canals have on the superior rabi crops, and for this reason I should like now money placed in the hands of the District authorities to widen and deepen these canals to a small extent, so that they might be made to run nearly all the year round, and there is no doubt that the additional outlay would be met by an increased income on the rabi crops.

Answer to question 20

My answers to No 19 to a large extent answer the questions in No 20

Answer to question 21

The system of canal collections has already been explained. There is a staff of Baidárs and Chhapráis, who act under the direction of Jamadárs and Muharrirs, for distributing water, and their action is checked by Patwáris and Kanungos, and supervised by Tahsildars and their Náibs, who submit diaries and reports to the Deputy Commissioner, who has the sole executive administrative charge of the canals, which have been introduced and extended by his predecessors and himself.

Answer to question 22

There would be no objection to the extension of Act VIII of 1873, although up to date the want of its extension has not been felt.*

* See note to reply to question 12

(3)

Answer to question 23

The only reason I can ascribe for the extension of the use of canal water being commonly so slow in this District, has been the want of funds to extend the existing canals, as the people are most eager and anxious for their extension, and the only remedy I can propose is, that a lump sum be provided annually in the Budget for the extension of the existing canals and for the excavation of the new ones Ca. IV,

There are a number of small canals belonging to private individuals. These gentlemen, after excavating them, merely cared to make all they could out of them, and as they did not regularly clear them at every year, they have gradually silted up, and became almost useless, others again had not the capital to carry on their enterprise. Thus a good deal of land has been wasted along the alignment of these canals, and no good has accrued to the proprietors or to those who would have been benefitted along the strips of land that these canals traverse. Now what I propose is, that Government should gradually purchase all these canals, and with a very small outlay render them useful and remunerative. The income they would bring in would soon repay the amount of purchase money and the sum expended in clearing and repairing, as a judicious District Officer could purchase the canals for Government on very advantageous terms.

*Remarks on above report by MR. D. C. MACNABB, Commissioner and Superintendent,
Rawalpindi Division.*

I think it is much more simple to collect water-rate for these inundation canals on the acreage of the area watered than in any other way.

CHAPTER IV, QUESTION 12

[Memo prepared by Captain J W Ottley, R. E., under the orders of the Chief Engineer]

PARA. 12, QUESTION 1

What is the Capital expended to date in the construction of the principal Canals in your Province, and what is the yearly interest on that Capital? CH IV.

REPLY

The accompanying extract from the Chief Engineer's review of the Revenue Reports of 1877-78 (paras 127 and 128) affords the required information

"127 The Capital debited to each series of Canals, exclusive of interest, according to the Examiner's returns, stand thus"—

Series of Canals	Capital 1st April 1877	Addition during the year 77-78	Capital on 1st April 1878.	Add contributions	Grand Total capital, 1st April 1878.
	Rs	Ra	Rs.	Rs	Rs.
<i>Canals yielding Income.</i>					
Western Jumna Canal	48 83 805	8 75,408	57,59,213		57,59,213
Delhi & Gurgaon Irrigation, Works,	1,83,410		1,83,410		1,83,410
Bári Doáb Canal,	1,46 97 271	1,39,225	1,48 36 496		1,48,36,496
Upper Sutlej Inundation Canals,	5,67,673	454	5 68,127	..	5 68,127
Lower Sutlej and Chenab Ditto,	1,07,642	440	1,08,082	..	1,08,082
Indus Inundation Canals,	5,75,552	1,923	5,77,475		5,77,475
Shahpur Canals,	22,813	14,763	37,576		37,576
Total,	2,10,88,166	10,82,213	2,20,70,379	.	2,20,70,379
<i>Canals under Construction and Projects</i>					
Sirhind Canal,	87 37,953	11,59,802	98,97,755	60,88,524	1,69,86,279
Swát River Canal,	1,23 020	1,88,726	3,11,746	..	3,11,746
Abdul Rahman Khan's Canal,	35 095		35,095		35,095
Special Survey, Derajat Circle,	3,06 957	—5	3,06,952		3,06,952
Ditto Lower Bári Doab Circle,	4,38,043	—47	4,37,996		4,37,996
Total,	96,41,068	13,48,476	1,09,89,544	60,88,524	1,70,78,068
Madhopur Workshops,	5,61,863	—18,452	5,43,411		5,43,411
GRAND TOTAL	3,12,41,097	23,62,237	3,36,03,334	60,88,524	3,96,91,858

"128 The interest debited to each series of Canal is as follows"—

Series of Canals.	ON CAPITAL OUTLAY		
	To 1st April 1877	During 1877-78	Total
	Rs	Ra	Rs
Western Jumna Canal	40 53 334	2,38,533	42,91,867
Delhi and Gurgaon Irrigation Works	2 34 847	8 253	2 43,100
Bári Doáb Canal	1,13,13 644	6,64,989	1,19,78 633
Upper Sutlej Inundation Canals	3,88 529	25,617	4,14,146
Lower Sutlej, and Chenab Inundation Canals	76 140	4,872	81,012
Indus Inundation Canals	2,96 197	25 909	3,22,106
Shahpur Canals	6,561	1,112	7 673
Sirhind Canal	14,88,814	4,17,091	18,55,905
Swát River Canal	15,663	10 055	25 718
Abdul Rahman Khan's Canal	2,106	1,580	3,686
Special Survey, Derajat Circle	50 446	13 812	64,258
Do Do Lower Bári Doáb Circle	79,683	19 714	99 397
Madhopur Workshops	2,94,810	25,215	3,20,025
Total	1,82,50,774	14,56,752	1,97,07,526

CH. IV The following are the dates from which Interest began to accrue on each series of Canals —

Western Jumna Canal	..	1821-22
Delhi and Gurgaon Irrigation Works	..	1839-40
Báir Doáb Canal	..	1849-50
Upper Sutlej Inundation Canals	.	1856-56
Lower Sutlej and Chenab Inundation Canals		1851-52
Indus Inundation Canals		1857-58
Shahpur Canals		1871-72
Sirhind Canal	..	1861-62
Swát River Canal	..	1871-72
Abdul Rahman Khan's Canal	.	1875-76
Special Surveys Derajat Circle	..	1868-69
Special Surveys Lower Báir Doáb Circle		1867-68
Madhopur Workshops		1857-58

Under the accounts rules at present in force, Interest is debited yearly at $4\frac{1}{2}$ per cent. on the Capital Outlay up to the end of the previous official year, and the yearly interest thus calculated is added to that brought forward at the close of the preceding year quite independently of the Revenue which the Canal may have earned in the meantime. It will be seen that by this system the Interest *must* necessarily accumulate. As an instance, let the accounts of the Western Jumna Canal be examined. The capital at the close of 1877-78 was Rs 57,59,213. The total accumulated interest up to the same date was Rs. 42,91,867, so that the total charges against the Canal at that date amounted to Rs 100,51,080

Up to this same date however the net *dis* Revenue of this Canal had amounted to Rs. 129,62,691 or nearly 30 lakhs of rupees in excess of the charges, and if the indirect Revenue be added, the total *net* revenue earned by the Canal up to the end of 1877-78 had amounted to Rs 285,78,230 or more than $2\frac{1}{2}$ times the total charges up to the same date. In other words, the Western Jumna Canal has repaid its capital and interest over and over again, and yet, according to the rules of the Department, interest on the whole Capital outlay continues to be charged year by year.

PARA 12, QUESTION 2*

What is the annual cost of maintenance?

REPLY.

The following statement shows the annual cost of maintenance for the 10 years ending 1877-78 —

Years	Western Jumna Canal	Báir Doáb Canal.	Upper Sutlej Inundation Canal.	Lower Sutlej and Chinab	Indus.	Shahpur
1868-69	2,41,017	3,65,585	60,312	1,60,956	1,10,063	
1869-70	3,89,787	3,68,747	84,677	1,71,883	1,24,009	
1870-71	3,39,799	4,23,371	91,742	1,88,185	1,17,374	4,139
1871-72	3,76,454	3,47,983	1,49,226	1,44,144	1,57,826	4,181
1872-73	4,01,178	9,15,702	1,56,206	1,63,623	1,80,464	4,339
1873-74	3,72,982	6,72,523	1,17,034	1,63,993	1,58,059	4,187
1874-75	3,38,737	3,56,883	1,10,640	1,56,269	1,91,736	3,690
1875-76	3,75,158	5,02,401	1, 8,066	1,63,694	1,90,013	5,214
1876-77	3,89,373	5,68,399	78,358	1,55,640	2,13,963	5,778
1877-78	4,18,725	5,23,987	65,507	1,69,616	2,53,365	6,001
Total.	36,42,140	44,45,581	10,26,769	16,38,003	16,96,872	37,529
Average Rs	3,64,214	4,44,558	1,02,677	1,63,800	1,69,687	4,691

* Rs 3,26,477 are due to the Madhopur Workshops. Under the orders of the Government of India the working expenses of the Madhopur Workshops from this date have been debited to the Báir Doáb Canal, but the shops have now been closed and are under liquidation.

(3)

PARA 12—3

What is the present acreage irrigated?

REPLY.

The following table gives the acreage irrigated in each year for the 10 years ending Ch IV 1877-78, and also the average area in acres deduced therefrom

Years.	Western Junna Canal acres.	Bári Daob Canal acres.	Upper Sutlej acres.	Lower Sutlej and Chenab acres	Indus acres	Shahpur acres
1868-69	4,86,873	2,99,835	66,584	1,99,463	1,07,160	.
1869-70	4,96,542	2,33,927	1,48,796	2,43,093	1,29,177	.
1870-71	4,62,707	2,79,210	77,070	2,02,036	1,74,342	2,460
1871-72	4,44,385	2,87,070	87,043	1,88,465	1,44,334	4,113
1872-73	3,51,820	2,28,796	1,35,349	2,42,504	1,80,137	4,445
1873-74	3,11,747	2,32,146	65,233	1,97,064	1,63,020	4,080
1874-75	3,82,547	2,79,183	84,120	2,73,658	1,71,822	6,355
1875-76	3,09,095	2,14,599	1,38,937	2,77,863	1,44,960	4,041
1876-77	3,66,482	2,02,712	74,243	2,85,645	1,66,574	9,123
1877-78	5,07,974	2,66,995	81,185	2,84,680	1,71,604	5,588
Total	41,20,977	25,25,108	9,58,660	23,94,521	15,53,130	40,205
Average	4,12,098	2,52,510	95,856	2,39,452	1,55,313	5,02 ₅

Total average 1,160,254 acres

Note—The total area irrigated during 1877-78 (including the Delhi and Gurgaon Irrigation works which watered 2,098 acres,) was 1,320,124 acres.

PARA 12—4

From this calculate the several corresponding rates per acre

REPLY

Taking the acreage irrigated and the maintenance in 1877-78, and the total capital outlay up to the end of the same year, we arrive at the following results.

On the *Western Junna Canal* the capital was Rs. 11.5 per acre and the maintenance about 13 annas an acre

On the *Bári Daob Canal* the corresponding figures are Rs 55.5 and nearly Rs 2. These figures are however not really comparable either as to capital or maintenance. As regards capital, the *Western Junna Canal* being partly an old native work, the capital shown is smaller than would be the case if the same work had to be executed at the present day. This canal too is a very long established one, on which irrigation may be said to have attained very nearly its full growth. On the other hand the irrigation on the *Bári Daob Canal* is not yet fully extended, so that the capital falls at present on a smaller acreage than will eventually be the case, and further, owing to the physical difficulties of the country, as well as to the more recent period of its construction, the incidence of the outlay must necessarily, other things being equal, exceed that of the *Western Junna Canal*.

Again as regards maintenance, this item as well as its incidence must vary greatly from year to year according as more or less extensive repairs are executed, and as the season is favorable to irrigation or otherwise, but from a comparison of the returns of a number of years, it may be said that taking one year with another, the maintenance charges on a fully developed canal should average from 12 annas to one rupee per acre. The incidence of the capital will of course depend on the peculiar circumstances of each case, it might perhaps be put down as a very rough estimate at from Rs 25 to Rs 30 per acre for a canal without navigation. The maintenance charges and the acreage irrigated have been furnished above for the inundation canals as well as for the permanent canals, but as all these inundation canals are worked on different systems which are often the

Ca. IV. merest modifications of those which prevailed when the Punjab was under native rule, it will be understood that no advantage would be derived from a comparison of their capital accounts as shown by this Department with similar statistics of canals which have been mainly or entirely constructed by the British Government since the annexation. The same remark applies, but with even greater force, to any comparison of the maintenance charges which on Inundation Canals are in many cases merely nominal, the necessary work being performed as part of the duties of the irrigators under the land settlement.

PARA 12—5

What is the average local value per acre of the chief crops raised by irrigation from these canals.

REPLY

The information given in the following table is obtained from the returns published in the Revenue Reports and are obtained yearly from the District Officers. No opinion can be formed in this office as to the amount of reliance which may be placed on them.

	Western Jumna Canal average of 8 years		Bári Doáb Canal average of 10 years.	
	Rs.		Rs.	
Sugar-cane	106 28 per acre.		82 25 per acre.	
Cotton	41 39 "		40 57 "	
Jowár	18 65 "		21 47 "	
Rice	60 74 "		42 78 "	
Wheat	37 16 "		31 41 "	
Barley	26 13 "		17 28 "	
Indigo	169 56 "		not grown	
Gram	18 61 "		24 56 "	

PARA 13—1

What is the amount per acre paid for the use of water for the chief crops by the occupier in the shape of water-rate ?

REPLY

	Wester Jumna Canal		Bári Doáb Canal.		Upper Sutley Inundation Canals.	
	Rs 5 per acre.		Rs 6 per acre.		Rs	
Sugar-cane	2 4 0		2 8 0		1 12 0	
Cotton	1 10 8		1 8 0		2 0 0	
Jowár	3 0 0		4 12 0		3 0 0	
Rice	2 4 0		2 8 0		0 12 0	
Wheat	2 4 0		2 8 0		0 12 0	
Barley	2 4 0		2 8 0		1 4 0	
Indigo	2 4 0		2 8 0		1 4 0	
Gram	2 4 0		0 12 0		1 4 0	

These rates are those charged for flow irrigation. When the water is lifted on to the fields the charge made is 1/3rds on the Western Jumna Canal and 1/2 on the Bári Doáb and Upper Sutley Inundation Canals of the above flow rates. The great divergence of rates noticeable on the Upper Sutley Inundation Canals is due to the fact that the number of waterings necessary from wells to supplement the Inundation irrigation, had to be taken into account. Thus rice, cotton, gram and jowar can be usually matured by the canal water alone, which in the case of wheat, barley and sugar-cane requires to be supplemented by wells.

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On the Indus and Lower Sutlej and Chenab series no water rent as a rule is charged. CH IV.
The profit of the canals depending on the share of the land revenue which has been assigned to them as the result of their operations

The following extract from the Chief Engineer's review of the Revenue Report for 1870 71 explains the returns of the Shahpur Inundation canals, which, though belonging to this Department, are managed by the Deputy Commissioner of the District.

" 75 The mode of realizing the returns from these canals is I am informed, as follows —

One-fourth of the produce is taken from private lands irrigated by the canal, one-half from Government waste leased to cultivators Jhallars or machines for raising the water are charged at Rs. 10 each.

The grain or other produce obtained as above is usually sold on the spot to the grain dealers, and has yielded about Rs 2-14 per acre irrigated."

PARA 13—3

What is paid by the proprietor per acre in the shape of land revenue on owner's rate ?

On the Bári Doáb Canal, this rate varies. For a single crop it is Rs 1-8-0, 1-4-0, 1-2-0, 1 0 0, 0 12-0 per acre according to the particular village which is irrigated, when two crops are taken from the same piece of land in the same year, an addition of one-half of the above rates is made for the second crop. These rates apply to whole villages, and were fixed by the Settlement Officer at the settlement, and no information exists in the Irrigation Department as to how these rates were arrived at, or what guided the Settlement Officer in their application to any particular village.

The villages on the Western Jumna Canal pay at present an enhanced land revenue on certain areas which were classed at settlement as irrigated, and the payment is made whether these areas receive water or not. Of the incidence of these rates per acre no information is available in the Irrigation Department.

When the new settlement comes into force in the Districts watered by the Western Jumna Canal, an owner's rate bearing a certain proportion ($\frac{1}{2}$ has been suggested) to the occupier's rate will be charged, and will be leviable only on the fields actually irrigated during each season.

PARA 13—4

Is there any reason why a proprietor, whether paying land revenue or not, the yearly value of whose lands is increased by irrigation from canals constructed and maintained at the public cost, should not contribute to the State in return for the advantage he thus obtains ?

REPLY

No reason is known in the Irrigation Department why such proprietor should be exempt, on the contrary it would seem that such proprietors might justly be charged in proportion to the advantages so obtained.

PARA 14, QUESTIONS 1, 2, 3

- 1 *In what way, and under what law, are the canal dues recovered in your District ?*
- 2 *Has there been found to be any difficulty in applying the law in any particular, and if so, how ?*
- 3 *And what better system can be suggested ?*

REPLY

The law under which the demand is made and the dues collected is Act VIII of 1873

The manner in which the demand is ascertained and scheduled is, as follows —

The fields irrigated are noted, in a book provided for the purpose, by the chowkidar (canal patrol) during the irrigating season. These books are checked from time to time by the superior native revenue establishment, and by the European Officers of the Division. The entries are moreover attested by the seals of one or more of the village headmen.

CH IV Towards the close of each irrigating season, a staff of Amins (measurers) are sent out into the irrigated tracts, these men ascertain the area of each field which has been watered, either by means of village maps (where these exist) or by actual measurements with the chain, they also note the description of crop growing in each field. They are accompanied by the chowkidar who had noted the irrigation, the village Patwari (accountant), the Lambardar (headman of the village), and the owners of the fields.

The area of the field and description of crop is entered on the spot in the field measurement papers (khasrah), from this the demand statement (khataom) is compiled.

This latter document contains the detail of the demand from each individual cultivator, a copy is deposited with the Patwari, and the original is sent to the Deputy Commissioner and forms his warrant for the collection of the season's dues.

It should be added that a considerable per centage of the measurements made by the Amins are checked under the orders of the Executive Engineer by his Assistant Engineers, and by the Deputy Magistrates, and the Zillahdars or native revenue officials. Independently of this every complaint, whether of over-measurement or of incorrectness in the entry of the class of crop, is investigated on the spot by a superior officer.

There has been as yet no difficulty experienced in applying the provisions of the Act above referred to, and as far as the Irrigation Department is concerned the present system has been found to work smoothly and well.

PARA 14, QUESTIONS 4, 5 AND 6

It is commonly said that water is used in too lavish a manner by agriculturists when the charge is made on the irrigated area, or otherwise than by quantity supplied. Is this the case, and what remedies can be applied?

5 *Will raising the water-rate have the effect of preventing this?*

6 *To what extent is this likely to have a tendency to throw the poorer crops out of cultivation, or to confine irrigation to the more paying crops?*

REPLY

There can be no doubt that, when special precautions are not taken to prevent it, the cultivators do use the water in too lavish a manner. The only remedy which at present seems possible and which is now being tried, is a reduction in the size of the outlets, and a consequent diminution of the volume of water allotted to the area to be irrigated.

This operation however requires to be very carefully carried out and necessitates very close personal enquiry by officers of experience into the requirements of the tract of country affected, in order to ensure that justice is done to the cultivators.

Raising the water rate would have no effect on the lavish use of water, because under the present rules when a cultivator has taken his second watering, he may take as many more as he likes, or can get, without paying anything additional. The only effect of raising the water-rate would thus be to curtail the area irrigated, but it would in no way restrict the supply to individual fields.

Another method of remedying the evil complained of would be to charge for each watering, but this plan would not only entail an enormous increase of establishment, but would of necessity put far too much power into the hands of poorly paid native subordinates, and would moreover largely increase the interference with the people, a step which is to be avoided as far as possible.

It is believed, after mature consideration, that the method first indicated, viz, the restriction of the size of the openings, is the only practical method of at present meeting the necessities of the case, and that it would, if properly carried out, effect the desired object.

It is not possible to say exactly to what extent the raising of the water rate would effect the poorer crops, but it may be conceded at once that the higher the rate the smaller the margin of profit to the cultivator, and hence the fewer poor crops would be grown. It

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is believed that any very considerable rise in the rate would confine irrigation to those Cn IV crops which require high cultivation, and that the crops which to a great extent form the food staples of the mass of the population, would thus be left entirely to the mercy of the seasons

PARA 14—7

Is water charged for by quantity, and can this be done?

At present this cannot be done, as hitherto it has been found impossible to measure the volume of small bodies of water with sufficient exactness. Many ingenious modules have been at different times invented, but, without exception, they have all failed in practice, they have either become clogged with silt, or have failed to work from want of sufficient head, or from inability to deliver, even approximately, a steady supply with varying heads on the outlet.

It is also to be noted that almost all the forms which have been hitherto suggested have been far too expensive to admit of their introduction into general use.

Again it would seem that, even if a satisfactory module were invented, it would not be possible to fix one general rate for the sale of water for irrigation purposes, as the effect of water, and consequently its value, in maturing a crop varies with local circumstances both of soil and climate. Special rates would have to be fixed for different tracts and perhaps even in some cases for individual villages. It may therefore be concluded that such a system would be found in practice too cumbrous and complicated to admit of its introduction.

PARA 14, QUESTIONS 8, 9, 10, 11, 12, 13

Is it (water) ever charged for on a contract system, a whole village, or the proprietors or cultivators of a certain portion of the village lands paying a lump sum periodically for the water supplied to those lands through a given aperture?

9 *Is this system a good one?*

10 *What are the difficulties attending it?*

11 *Where it is adopted, what arrangement is made for distributing the water among the cultivators?*

12 *Have complaints practically arisen where the system has been in force, and how could they best be guarded against?*

13 *Does there appear to be any objection to making such a system of contract compulsory where the general advantage of the cultivating community calls for increased economy in the use of a limited supply of water?*

REPLY.

The contract system does not at present exist on any canal in the Punjab. It has, however, been tried more than once and on different canals, but has each time been abandoned for reasons which will be subsequently detailed.

From 1827 to 1833 a system of short term (seldom beyond three years) contracts obtained on the Western Jumna Canal, but Sir William Baker states that it was found that, although the cultivators used and paid for the water in a year of drought, they refused to pay water rent when the season happened to be favourable, the canal authorities of course claimed the water-rent under the terms of the contract, and in this way the outstanding arrears became very considerable. He also states that it was found very difficult to ascertain the irrigating capabilities of an outlet owing to the supply in the canal increasing year by year as improvements were made.

CH IV About the year 1841, the experiment was again tried on the same canal, the contracts being fixed for 20 years on very favorable terms to the cultivators. When these contracts expired about 1861, it was found on measurements of the area irrigated that Government was a very heavy loser. Thus it is said that in one village whose contract had been made on the supposition that 800 acres would be the average area irrigated, it was found that over 3,000 acres had actually received water, and as the cultivators refused to take a fresh contract except on equally favorable terms, it was found impossible to continue the system.

Similarly an attempt was made in 1856, by order of the Chief Commissioner of the Punjab, to introduce the contract system on the Hushi Canal.

After endeavouring for two years to induce the Zamindárs to accept a system of contract, the Director of Canals, (the late Colonel Dyas) reported to Government as follows:—

"It will be seen that out of 440 villages representing an annual payment (average of 7 years, 1849-50 to 1855-56 inclusive) of Company's Rs 72,000, nine villages only, representing an annual payment of Company's Rs 4,294 have come forward. They offer to pay Company's Rs 3,584 only in the aggregate, or Company's Rs 710 less than the average on the condition that the water courses are never to be closed, or, in other words, that there is to be no 'Bundee' as far as they are concerned."

It is needless to say that a proposition of this kind could not be entertained, and the project consequently was abandoned.

On the question being again raised in 1872, Colonel Crofton, then Chief Engineer for Irrigation, reported that in his opinion matters were not as yet ripe for a repetition of the experiment.

It is true that the fixed supply which is a necessity for the delivery of water by volumetric measurement, is not required in the case of lump-sum contracts where the contractor takes the risk, and so far the latter system is simpler, but as a contract to be of any use must include a series of years, and as experience shows that the village communities are not sufficiently educated to see the necessity for taking the bad years with the good, any contract based on fair terms appears to be at present an impossibility, although all Canal Officers hope that the introduction of the system may become practicable at some future date.

It seems worth while to note here that one of the greatest advantages usually claimed for the contract system is, that it would do away with the necessity for the half-yearly measurements. This view, however, is not altogether correct, and has frequently been combated in various official papers.

The following is an extract from para. 6 of Government of India Resolution No 281, dated 24th February 1868:—

"To ascertain the actual areas irrigated is, in fact, almost as necessary for a system of contract as for a system of direct charge on area, and, under all circumstances, the knowledge of the areas is required for statistical purposes."

It may also be mentioned that the views here expressed were in entire accordance with those of the late Sir Donald McLeod (then Lieutenant-Governor of the Punjab) as given in his Secretary's letter remarking on the above Resolution.

The following extract from Colonel Crofton's No 60, dated 2nd September 1872, is also given as bearing on this subject:—

"8 With reference to the value of the periodical measurements, even under a system of contract payments, in distributing the charges among the several irrigators, the following statements which I have extracted verbatim, is given in the Revenue Report of the Eastern Jumna Canal, North-Western Provinces, for 1870-71, of a partial failure of the contract system:

'The diminution in the average number of contract outlets from 407½ in 1869-70 to 83½ in the present year, requires a few words of explanation. As far as I have been able to ascertain, the distribution of the profits among themselves was found by the zamindárs of large villages a more difficult task than they were equal to, quarrels arose, and numerous petitions were submitted to the Canal Officer, to the effect that the more influential men were swallowing up the profits of the contract whilst the weaker individuals could not get their fair share. These matters coming under Act IX of 1859 could not be settled by the Canal Authorities, so in many cases they were taken into the Civil Courts where law expenses further reduced their profits. Thus it happened that when the contracts of many villages expired in 1870, those with a large number of shareholders and a large area of irrigation did not apply for a renewal.'

"Some years ago, in 1866, if I recollect rightly, when the question of measuring up the irrigation Ca IV. in the Dera Ghazi Khan District arose, the Chiefs and other influential men objected, but a large body of their tenants, who were present in camp, begged me to take their interests also into consideration, and have measurements made, assigning as their reason that they would thus have some check on the exactions of their landlords."

From what has been written above it will be gathered that any extensive introduction of a contract system is surrounded by difficulties, the chief one undoubtedly being the unwillingness of the cultivators to enter into any but a very one-sided bargain, under the terms of which they *must* gain, and Government *must* lose. It is of course possible that when the river works are perfected at the heads of the permanent canals so as to ensure fixed supplies for the different seasons of the year, a system with this object may be introduced in some shape or other, and that it may come soon into operation is the ardent hope of every thoughtful Canal Officer, but, as it was remarked by Colonel Crofton in 1872, so it may still be said that the canals are not yet ripe for the system.

The complaints which have been made during former trials, that the richer and more influential landowners have benefitted at the expense of their poorer and weaker neighbours, can, it would seem, only be guarded against by a retention of the present system of constant supervision, which includes the patrolling and subsequent measurement of the areas irrigated, in order to ascertain with the greatest exactness the incidence of the charges for water, and it may be noted that even at the present time, one of the greatest difficulties a Canal Officer has to contend with is the equal distribution of the water to rich and poor alike, especially when the supply falls short of the demand.

In short it may be said that the experience gained under the system at present in force, in which the water is practically not so much restricted as it probably would be under a contract system, leads to the conviction that equitable distribution of the water can only be obtained by the constant supervision of the Canal Officer, as above described, unless indeed the villagers would agree to entrust these duties to some of their own number or to some independent and qualified person. Their distrust of one another is however so great that there seems to be but small probability of their accepting willingly such a change, for some time to come at any rate.

It must also be remembered that it is precisely the minute supervision of the area irrigated which entails the entertainment of a large establishment whose duties are for the most part confined to thus watching and measuring the fields irrigated, and if this establishment must be retained under any system of contract, such system would at once be deprived to a great extent of the advantages which are usually supposed to attend upon its introduction.

As regards the question of making the contract system compulsory, it may be said that it does not at present, at any rate, appear desirable to force such a system on the people in opposition to their wishes, and that it is considered that it should be introduced only with the full consent of the cultivating community, the remedy for the lavish use of water must be looked for in the meantime in the manner previously indicated, *viz.*, in the restriction of the size of the outlets and the consequent diminution of the supply of water available for irrigation in each village.

PARA 15-1

Having reference to the margin of profit on irrigated crops commonly left to a cultivator after payment of the existing water-rates, could these rates be increased without trenching unduly on that margin of profit?

It is believed that, taken as a whole, the rates at present in force could not be raised to any great extent.

Attention has been directed to this subject in this Department, and it is probable that some minor changes will be made, but considering the effect which a change of rates always has in unsettling the minds of the cultivators, and with special regard to the unfavorable seasons which have recently been experienced, it has been deemed desirable to postpone this question until matters are more settled, the more so as it is believed that such changes as are in contemplation will not appreciably affect the revenue of the canals.

CH IV.

PARA 16—1

How are the statistics of irrigation recorded, and are revenue reports of the chief irrigation works prepared by the Canal Administration, and in what form?

REPLY

The accounts of expenditure and income are recorded in detail in the Examiner's Office

They are summarized at the close of the year and furnished to the Local Government in the forms in which they appear in the Annual Revenue Report. They consist of a general statement of income with supplementary statements of detail, and capital and revenue accounts of each series of canals under the Irrigation Department

The Examiner also furnishes an appropriation and outlay account, which is printed with the Annual Progress Report

Revenue reports are prepared annually by the Executive Engineers of Irrigation Divisions, these are forwarded by them to their respective Superintending Engineers, who compile reports for their Circles. These reports have hitherto been printed and have formed part of the Revenue Report of the Province, but in future, under recent orders from the Government of India, they will not be printed in extenso. They are reviewed by the Chief Engineer and are forwarded to the Government of India with a Resolution of the Local Government. These various reports are prepared in forms which have been generally approved by the Government of India. A reference to the last report published will best show the forms in use

Monthly statements of irrigation operations are compiled in the Chief Engineer's office and published in the *local Gazette* these are approximate and are obtained from the record books of the canal patrols, whose duty it is to enter the area irrigated in their respective beats from week to week. They give however a fair idea of the state of the irrigation in each crop

Half yearly statements for each crop, and an annual statement including both crops, are also compiled and published. These are prepared from actual measurements and assessments and are accurate records of the irrigation year by year

Further particulars of duty done by the water, area under chief crops, proportion of flow to lift irrigation, and other details, will also be found in the Annual Revenue Reports.

PARA. 16—2,

Do you think them necessary?

REPLY

These reports are of great value as a record, and enable a comparison to be made of the progress of irrigation year by year

They show in great detail the rise and fall in the canal-supplying rivers of the Province, the water supplied to each canal, and the duty derived from it, and allow officers of one Circle to judge of the work done by them in comparison with the work done in other Circles, and as the reports are also circulated to other Provinces and Administrations, the experience gained in one Province is thus made available over the whole of the country

PARA, 17—1, 2, 3 AND 4.

What evidence is there as to any mischief being caused by canal irrigation, such as by increasing sickness, or injury to the land by raising the water-level or production of efflorescent surface salts, &c?

2 *To what extent has drainage accompanied, or ought drainage to accompany, canal irrigation?*

3 *Has the provision of needful drainage been neglected ?*

CH IV.

4 *Is additional drainage needed to meet the effect of the increased quantity of water thrown on the surface, or to remove obstructions caused by canals, channels, water-courses, &c*

REPLY

Before replying specifically to the above questions, it appears desirable to lay down, first of all, the conditions under which it is considered that a system of artificial drainage would be required in connection with any canal project

It will be understood that as a general rule, and by the working of natural laws, the capacity of the natural drainages of any given tract will suffice for its ordinary rain-fall. In the event of an extraordinary rain fall, and especially if this be sudden, the drainage lines may for a time become more or less gorged and consequently unable to afford the necessary relief, so that the land will be to a greater or less extent submerged. The result will be a temporary raising of the spring levels, and possibly an increase of sickness in the inundated tract

Now, irrigation may be regarded as supplementing the natural rain-fall, and when the capacity of the natural drainage lines is insufficient to carry off both the rain-fall and the additional amount of water spread over the surface by means of irrigation, it becomes absolutely necessary to resort to artificial remedies

Owing to the peculiar conformation of the country over a great portion of the Punjab, the capacity of the natural drainage lines is far in excess of what is required to carry off the rain-fall alone, and it is generally sufficient for the necessities both of this and of irrigation waters

It need scarcely be said that it is of course imperative that these natural drainages should be in no way obstructed or interfered with

It is now a well understood principle of modern Canals that they should be aligned so as not to obstruct natural drainage channels, the same principle holding good for distributaries as well as for the main arterial lines.

Nothing further appears to be required at first in the case of new canals which have been thus aligned, but after a canal has been opened, and irrigation to some extent developed, the springs will rise to a certain extent both in the vicinity of the canal and in the irrigated tracts, and whenever it is found that the natural drainage lines are insufficient, either in number or capacity, for the work they have to perform in preventing an excessive rise of the spring level, it will be necessary to apply local remedies, but it is obvious that no general rule can be laid down in this matter

Thus on the Bari Doab Canal, there are no channels specially made for drainage purposes, nor have any such cuts hitherto been found to be necessary

In some places improvements to the natural drainage outfalls have been made, and projects for one or two such improvements are now under consideration, but the necessity for a regular system of artificial drainage does not exist, and that such is the case is to be attributed to the careful alignment of the main Canal and distributaries

As bearing on this subject, the following extract (para 37) from the Revenue Report of the Superintending Engineer Bari Doab Canal Circle for 1876 77 is given

" 37 Attention has been called to a considerable rise in the spring level as indicated by the level of water in wells in Lahore and Amritsar

" The heavy rains of 1875 raised the springs in all the low-lands some 8 feet to 10 feet, this was rapidly subsiding when the rains of 1876 again caused a rise, this too is now quickly disappearing, and the springs are now (August 1877) about five feet above their normal level, it is to be remarked that this rise is observable in wells situated in or near a drainage

" The periodical observations of the height of surface of water in wells show that the wells in the vicinity of canal channels have not participated in the rise observed in wells in the lower lands "

As regards this Canal also it may be broadly said that there is no evidence of any mischief, having been caused by canal irrigation either in increasing sickness or in injury to the lands by the raising of the spring level or by the production of efflorescent surface salts

A similar statement may also be confidently made as regards all the Inundation Canals, The case of the Western Jumna Canal is however widely different Here the

CH IV old faulty alignment of the main Canal and the absence of proper distributaries are entirely responsible for the obstruction of the natural drainage channels and the consequent water-logging of the low-lying tracts

The alterations of the alignment of the Canal which are now in hand, and indeed in great part completed, as well as the construction of properly aligned distributaries (which will replace the numerous village water courses now in use) will, when completed, permit the re-opening of the natural drainage lines, and this alone will in great part relieve the evils now complained of

Where these natural drainages are known to be insufficient to carry off both the water spread over the surface by irrigation, and the rain-fall (which is more abundant in some of the tracts watered by this Canal than elsewhere in the Punjab), they will be supplemented by artificial cuts, the scheme for which is now under elaboration. These artificial channels cannot, however, for obvious reasons, be constructed until the present irrigation has been provided for by the new system of distributaries

The increased sickness in some tracts (notably in the Karnal and Delhi Districts) watered by the Western Jumna Canal long since attracted attention, and special investigations into the causes and possible remedies have more than once been made

In 1856 the matter was brought to the notice of the Supreme Government, but attention was diverted from the subject by the mutiny, so that it came to pass that action was long deferred. In the end however the remodelling project now in hand was sanctioned by the Secretary of State, and the work was commenced which, it is confidently believed, will within the course of a few years entirely remove the evils complained of

It is especially interesting to note that the observations which have been made above were confirmed by the state of this country in 1877 when it was fully shown that a greater accumulation of water on the surface than the drainage (whether natural or artificial) can carry off in a reasonable time, is the real cause of the evils which are usually attributed to canal irrigation, and that it makes no difference whether such accumulation is derived from canal or rain water or from both combined. The year 1877 was one of drought, and to meet the wants of the cultivators a very much larger supply of water than usual was forced down the Western Jumna Canal and spread out over the land, nevertheless all the swamps decreased in area largely, and many villages which owing to the water-logging of their lands had previously resigned canal water, eagerly applied for its restoration to them

Again an inspection of the higher lands and drier tracts watered by the Bootana Branch of the Western Jumna Canal conclusively show that there is nothing mischievous in the use of canal water if only the channels be properly aligned. It is not too much to say that although irrigation of very long standing in these parts, it would be difficult to find anywhere finer cultivation and a more complete absence of all the evils which are so commonly supposed to be the necessary accompaniments of irrigation from this old canal

As regards the liability of irrigation to increase the production of efflorescent salts, it may be sufficient to remark that ordinarily such increase only occurs where the soil was originally impregnated with them to a great extent, and that it then occurs whether the irrigation is derived from wells or canals. The evil can scarcely be said to exist to an appreciable extent on the Bárri Doáb Canal, and appears to be even stationary on the Western Jumna Canals. It is believed that there is a general consensus of opinion among Canal Officers in this Province, that the best way of treating such soils is to leave them alone

It is understood that a report of a Committee, assembled at Allygarh in the spring of 1877, to investigate into this subject, has been published, it has not however been received in this office up to date, although it has been asked for both from other Departments in this Province and also from the Irrigation Branch of the North Western Provinces

The following extract from Major Earle's Revenue Report of the Western Jumna Canal for the year 1868-69 may be found interesting —

" 75 In conclusion I may observe that Reh (salt efflorescence) on land about the Canal, to some extent appears to be decreasing

" Mr Duncan states in his report that this is the case along the Canal in the Karnal District, and that the land seems to be recovering itself. When inspecting the Delhi Division, I observed the same

down there, and was informed that much of the land that had for years remained useless on account of Reh, was now being brought under cultivation again, and I was shown some such land with a fine crop of sugar-cane on it. I can only attribute this to the attention which is paid to the draining of the country as much as possible, by either closing the Canal itself, or the Rajbhas, and passing off by means of them as much drainage water as it is possible to do" CH IV

PARA 18-1

Has Canal irrigation anywhere been combined with attempts to improve soils previously unfit for cultivation from the presence of noxious salts?

REPLY

Yes, a very notable case on a small scale is that of the Lawrence Hall Gardens at Lahore. A few years ago the ground here was white with Reh efflorescence, and the locality might have been fairly instanced as a singularly bad case of the evil. So bad was it that it seemed hopeless ever to expect any good result from the experiments which were to be tried on it. By dint however of frequent floodings or washings with canal water, aided by drainage and careful and intelligent supervision, it would seem that the salts have been at last got rid of, at any rate they do not now come to the surface of the ground, and certainly the luxuriant vegetation in the gardens at the present time would seem to indicate that the evil has been really removed.

The case of these gardens is especially interesting as some of the members of the Famine Commission must have had an opportunity of satisfying themselves that the evil does not now exist, whilst others will probably be able to testify to its existence in an aggravated form previous to the introduction of Canal irrigation.

PARA 19—1, 2, 3, 4 & 5

What has been the general effect of continued Canal irrigation on the character of the cultivation?

2 *Has the irrigated area of the poorer grains which supply the chief part of the food of the people been gradually diminished, and has the area of the better crops been increased?*

3 *If the area of poorer crops has been reduced, is this due to conditions of soil or position of lands and difficulties of access from the water-supply or to the relative profits in the one case being greater than in the other?*

4 *State the general facts as to the changes in the areas irrigated during the last 10 or 12 years, and make any comments that seem desirable. Is there reason to suppose that prolonged irrigation damages the land under any circumstances?*

5 *Is there any evidence of a reduced production?*

REPLY

The questions above asked do not admit for the most part of a reply from the Irrigation Department.

It would appear that the only way of obtaining a satisfactory answer would be to compare the areas and distribution of the total crops of a tract before and after the introduction of Canal irrigation. This information could be furnished from the settlement records alone, and to these, this Department has no access.

Statements have been prepared showing the irrigation in detail for both the Western Janna and Bani Doab Canals for 15 years and 13 years past respectively.

From an inspection of these statements it will be seen that the total acreage irrigated varies, as might be expected, with the rain-fall as well as with changes in the incidence of the charges for water.

CH IV It will also be observed that the acreage of some crops, such as cotton for instance, appears to depend to a very great extent on the greater or less demand which may exist in the markets for that particular commodity

An inspection of the returns of the Western Jumna Canal will show that ordinarily no very great variations occur in the areas of the more valuable crops such as sugar cane, rice and the various dyes, spices, oils &c. Whereas the poorer cereals, and the pulses are only as a rule cultivated by the aid of the canal water to any great extent in years of drought. The very large acreage of fodder crops on the Bári Doáb Canal, as compared with that on the Western Jumna Canal, is worthy of remark and is clearly due to the former passing through a very much drier tract than the latter

It is believed that it will be apparent from the Statements given that in ordinary years the better classes of crops are alone cultivated with canal water, and that in these years, the poorer grains are grown by the aid, of the rain-fall. In years of drought these also require artificial aid, without which their cultivation would be impossible

Although as previously stated it is impossible for this Department to show conclusively the effect of the introduction of Canal irrigation on the general cultivation of the tract under its influence, still, from observation it is believed that as a matter of fact the area under the poorer crops has really not decreased, at any rate to any great extent, but that the total area of cultivation has been increased by an increase in the area under the better crops. It should also be borne in mind that the poorer cereals and the pulses form the food staple of the very poorest classes alone, for it is believed that with this exception the mass of the population consume wheat and barley, and these grains form, as it will be seen, a very large proportion of the crops cultivated by the aid of canal water

The only reason for the cultivation of the better class of crops when canal irrigation is used, is the relative greater profit which is thus obtained

With regard to the last question, it may be said that there is no evidence of reduced production, and that it is considered that prolonged irrigation does not damage the land in any way, providing that the drainage of the tract is attended to in the manner described in the reply to question 17

The produce per acre and the rate per rupee of such produce, as shown in Form No VII of the Superintending Engineer's Revenue Reports, are furnished yearly by the District Officers to the Executive Engineers of the various Canal Divisions

The following figures extracted from these returns show the estimated amount and value of the crops grown in 1877-78, on the two permanent canals of the Punjab

Food grains	BARI DOAB CANAL		WESTERN JUMNA CANAL	
	Maunds	Rupees	Maunds	Rupees
<i>Cereals</i> —				
Wheat, Barley, mixed grain	2,630,425	52 60 350	2,866,829	70 90 170
Rice	460,319	9 20,638	709,808	22,16,367
<i>Cereals</i> —				
Jowár, Kangni, Maize	700,207	14,00,414	650,144	17,14,547
<i>Pulses</i> —				
Gram, Masúr Chiná	168,853	3,15,017	200,424	4,52,231
Total food grains	3,959,804	78,96,919	4,427,205	1,14,73,315
Total amount of food grains on the two canals during 1877-78		Maunds	8,387,009	
		Valued at Ra.	1,93,70,234	

In other words, the two permanent Canals of the Punjab (the Bári Doáb and the Western Jumna) enabled the cultivators to grow some 300,000 tons of food grains in a year when owing to the drought it would have been impossible to raise these crops without irrigation. Moreover, it is estimated that the value of other crops (such as sugar cane, dyes, oils, spices, vegetables &c.) grown during this same year amounted to Rs 94,59,366 (i.e., Rs 13,76,166 on Bári Doáb Canal and Rs 80,83,200 on Western Jumna Canal) and that thus the country was enriched and better able to bear the stress of scarcity and high prices

Bair Doab Canal.

	1865 66	1866 67	1867 68	1868 69	1869 70	1870 71	1871 72	1872 73.	1873 74	1874 75	1875 76	1876 77	1877 78
RAINFALL { Kharif Rabi	Scanty Good	Scanty "	Scanty "	Drought	{ Fair, Good	Scanty, "	Good, Scanty	Good, "	Fair Very good.	Very good, Scanty	Good, Very good	Very good Good.	Very scanty Good.
OTHER CAUSES					<i>Water advanced age first began to be charged during 1868.</i>	<i>Differential Rates intro duced from 1867</i>							<i>Great export of grain to Madras</i>
BETTER CLASS OF CROPS													
Sugar-cane (annual)	9,180	9,156	10,601	9,811	11,628	6,994	6,287	9,158	10,306	8,900	8,729	7,496	8,339
Rice (kharif) "	59,864	57,608	63,962	41,286	76,709	24,716	11,698	29,094	32,882	27,658	24,611	27,049	24,248
Cotton (do)	5,286	12,611	21,101	8,206	11,671	11,228	20,387	27,637	27,868	17,612	33,216	19,676	10,646
Wheat & Barley (rabi)	64,541	119,704	129,934	185,610	96,553	162,301	178,864	103,872	99,039	149,682	92,347	96,970	138,098
Vegetable (kharif and rabi)	207	680	683	781	8,766	8,247	not shown	2,449	2,053	2,040	1,119	1,632	2,240
Total	132,727	193,606	226,181	246,513	199,342	208,466	211,626	172,110	172,147	206,872	159,821	152,833	181,164
POORER CLASS OF CROPS													
Cereals — Jowar, Bajra, Kangni, Maize, mixed grains	7,205	4,461	5,338	16,135	10,743	24,028	29,382	20,911	19,604	22,980	20,768	12,724	37,716
Pulses — Urd, Chink, Moth, Gram Masur &c	2,902	3,752	3,320	6,478	6,085	6,739	12,613	7,623	9,663	8,690	4,646	4,676	10,424
Fodder — Charri, Sunj, Grass &c.	24,160	19,643	28,244	16,172	9,220	13,526	13,499	14,869	13,989	16,744	20,971	20,496	16,379
Total	34,267	27,746	37,002	40,785	26,048	44,293	55,364	43,403	43,246	46,414	46,386	37,894	64,619
Total of above totals	166,994	221,352	263,083	287,298	225,390	252,759	266,990	215,513	215,392	253,286	206,206	190,717	245,083
Total irrigation including { dyes, oils, spices, tob acco &c.	175,979	228,482	269,128	299,834	233,927	279,210	287,070	228,796	232,146	279,813	214,599	202,712	266,966

NOTE.—Up to the Rabi of 1870 71, a uniform rate of Rs. 2-6-8 was charged for all descriptions of crops. From that date the following have been the flow rates, the 1st rate being half of these
Sugar-cane Rs 6-0-0, Rice 4-12-0, Cotton, Wheat, Barley and Vegetables Rs 2-8-0, Jowar, Bajra, Kangni, Maize, Gram, Masur, Urd, Grasses, Sunj, Rs 1-8-0 per acre

(15)

Western Jumna Canal

IV-13
16

		1863-64	1864-65	1865-66	1866-67	1867-68	1868-69	1869-70	1870-71	1871-72	1872-73	1873-74	1874-75	1875-76	1876-77	1877-78	
RAIN FALL	Kharif	Fair	Scanty	Very fair	Scanty	Good.	Drought.	Very scanty	Fair	Good.	Very good	Very good	Good	Very good	Fair	Drought	
	Rabi ^a		Very scanty	Good	Very scanty	Very good		Very scanty	Scanty	Scanty		Good.	Scanty.	Very scanty but the very heavy rain-fall of September on which Rabi crops to be grown without canal water	Scanty	Fair	
OTHER CAUSES					Increase of rates and differential rates introduced from 1st November 1868							Reversion of settlement in progress	Reversion of settlement in progress				
<i>Better class of crops</i>																	
Sugar-cane		30,089	29,786	34,028	19,774	27,209	38,431	45,122	39,878	81,322	40,845	42,068	33,439	25,554	34,603	42,135	
Rice		47,355	57,157	51,517	62,071	39,456	39,490	48,705	45,852	32,974	43,143	43,816	50,029	51,827	46,074	34,733	
Cotton		45,882	77,738	63,684	1,04,790	99,801	74,876	80,089	98,445	1,00,951	96,129	54,805	58,283	69,577	76,616	65,989	
Wheat and barley and mixed grains		1,46,234	2,01,806	1,78,775	1,91,471	1,95,707	2,37,550	2,14,173	2,09,848	2,19,808	1,14,364	1,00,195	1,74,409	87,116	1,52,981	2,29,019	
Vegetables including chillies, sugarcane, &c		Not known	1,126	2,811	6,360	8,098	8,182	7,862	6,930	6,221	4,554	8,107	4,287	4,014	5,008	2,845	
Total			3,67,107	3,24,812	3,84,477	2,96,271	3,02,522	3,93,960	4,00,760	3,91,072	2,96,735	2,45,984	3,20,400	2,49,097	3,15,281	3,74,721	
<i>Poorer class of crops</i>																	
Cereals —Jowár, bájra, kangni, maize, &c	Not known		18,770	35,672	15,418	11,241	89,381	49,503	19,816	10,052	6,346	8,792	8,228	10,782	8,666	48,222	
Pulses —Urd, mote, gram, masur, &c			20,770	1,400	8,546	1,468	31,027	25,355	19,437	20,236	10,081	12,017	19,762	8,072	11,354	26,158	
Fodder —Lucerne, chari, grass, angri, &c			1,481	1,831	1,145	240	729	623	550	658	562	880	892	762	1,169	1,812	
Total			86,022	38,768	20,180	12,940	71,087	75,481	38,805	30,945	16,978	21,694	28,882	25,616	21,099	71,166	
Total of above totals			4,03,129	3,63,580	4,04,656	3,09,210	4,03,616	4,69,436	4,39,605	4,22,016	3,16,713	2,65,689	3,49,282	2,64,713	3,36,380	4,45,887	
Total irrigation including dyes, oils, spices, tobacco, &c			3,01,657	4,34,960	3,97,963	4,47,171	3,31,037	4,86,879	4,96,842	4,82,707	4,44,380	3,51,821	3,11,747	5,82,647	3,09,695	3,66,482	5,07,974

(15)

NOTE—From March 1865 the flow rates had been Re 1 3 2 per acre for 1st class and Re 0 10 8 for second class crops the lift rates being 3/4ths of these. These rates were slightly in excess of those which had been in force since 1827. From the 1st November 1868, (1st commencing with the rabi of 1866-67) the following differential flow rates were imposed—sugar cane Re 5, rice tobacco opium, vegetables and sugarcane Re 3-0-0, Indigo cotton and all rain crops (such as wheat, barley, chana, gram, and other pulses), Re 2-4-0, all other kharif crops (jowár, bájra, Indian corn, kangni, &c) Re 1 10 8. The lift rates being still about 3/4ths of above.

PARA 20, QUESTION 1

Under what conditions is an inundation canal, giving water only during the rainy seasons, CH IV found to be useful?

REPLY

The conditions may be stated as follows —

- 1 A short or uncertain rain-fall, rendering it impossible to grow crops without irrigation
- 2 A river whose annual rise may be fairly depended upon both as to date and height.
- 3 A tract of country, the surface of which can be easily watered by the usual rise of the river, and through which the Canal can be cheaply made. It must also be of sufficient width to render the irrigation probably remunerative
- 4 Lastly, as regards the rabi cultivation, a sufficient number of wells to mature the crops sown by the aid of Canal water

These conditions are fulfilled in most of the Khadir or low lands bordering on the rivers of the Punjab. The rain-fall is exceedingly small at the best, and frequently fails almost entirely, the rivers are fed from the snows of the Himalayas, and rise with great regularity as summer approaches, the Khadir tracts have but a small elevation above the river beds, and the country slopes on either side from the river, whilst the existence of old disused river channels frequently enable a Canal to be cut with but a small expenditure of money.

The irrigation from an Inundation Canal being from its nature very precarious, the rates must be low, and consequently the capital cost must be small in order to enable the Canal to pay its way

PARA 20, QUESTION 2

To what extent is it probable that such irrigation could be usefully attempted in the Punjab, or elsewhere where not now applied, and where a water-supply is available?

REPLY

In the Punjab such irrigation might be usefully attempted wherever there are sufficiently wide belts of Khadir land with good soil to render the construction of Inundation canals remunerative

The following is a brief statement of some of the tracts in the Punjab which might thus be irrigated

- 1 The strip of Khadir land lying on the right bank of the Sutlej between the Upper and Lower series of Sutlej Inundation Canals. It has been estimated that 1,40,000 acres could be watered from the Sutlej River in this way. The Government of India has directed that these works if ever carried out, should be so aligned as to render it possible to incorporate them as part of the permanent Scheme of Canals on the Sutlej which was submitted in 1873
- 2 An Inundation Canal from the Ravi below Tolumba for the irrigation of the lands between that place and Mooltan. It has been estimated to water 90,000 acres.
- 3 A canal from the Ravi to water the station of Montgomery and the surrounding country, say some 15,000 or 20,000 acres
- 4 An Inundation Canal from Chinot on the Chenab, for the irrigation of the Khadir. It is designed to irrigate 23,900 acres.
5. An Inundation Canal from Ramnagar on the Chenab for the irrigation of 133,680 acres
- 6 Further Inundation Canals could be made with advantage in the Jech Doab between the Rivers Chenab and Jhelum, but no detailed investigation has been made

PARA 20, QUESTION 3

CH IV *How far would such irrigation be useful for rabi or kharif cultivation ?*

REPLY

There is always a risk of the river cutting away, deserting, or silting up the heads of Inundation Canals, but under favorable circumstances the *Kharif* crop can be assured by their means alone. As regards the *Rabi* crop, the ground can be prepared for sowing, but, with the exception of gram, all *rabi* crops require to be subsequently watered from wells. In the Punjab, the Inundation Canals are usually dry from October to May.

PARA 20, QUESTION 4

How far may wells be depended on to supplement the deficiencies of supply in such a Canal during the dry season ?

REPLY

This question is not completely understood. If it refers to the *kharif* crops, it may be broadly said that the Canal is not, as a rule, supplemented by wells at all. The rivers from which these Canals are supplied always rise, if this rise is large the irrigation is large, if small, the irrigation is proportionately less, but so far as actual experience goes it appears that, as a rule, the cultivators never attempt to supplement it in any way, in fact the Persian wheels are usually dismantled during this season, only to be set up again in time for the *Rabi* waterings.

If the question however refers to the *Rabi*, the reply must be that as a broad general rule the *Rabi* crops (with the exception of gram) must be brought to maturity by the aid of well water.

It is perhaps desirable to note here that at the close of the Inundation season, the water generally stands much higher in the wells than at its commencement, and that this alone is a great help to the cultivators, inasmuch as the water has to be raised through a less height. It may also be well to note that very frequently the cultivators sow more *Rabi* land than they are able to perfect by means of well irrigation alone. They know they can secure a certain area under each well, and they trust to a seasonable fall of rain for the balance, it is a matter of pure speculation, but from the prevalence of the practice referred to it would appear to be on the whole a paying one.

PARA 21, QUESTIONS 1 2 3-4 AND PARA 22, QUESTIONS 1-2

Para 21, Question 1 — What is the system of Canal administration

2 *Who is responsible for distributing the water and for collecting the dues ?*

3 *May the functions of the Engineer in charge of the works and the technical business of the water-supply, and those of the officer responsible for seeing that the available water is distributed equitably to the land that most requires it, and securing water to the extension of irrigation and the realization of the Canal Revenues and their due assessment and increase, be best combined, or should they be kept separate ?*

4 *State the reasons for your opinions*

Para 22, Question 1 — What system actually prevails in your province, and if you think it susceptible of improvement, say how ? Do you think a special canal law necessary to admit of proper administration

2 *And have you such a law, and is it satisfactory ?*

REPLY

The Irrigation Department in the Punjab is administered by a Chief Engineer who is also Secretary to the Local Government. He is aided by a Personal Assistant and by an Assistant Secretary. Under the Chief Engineer there are four Superintending Engineers

in charge of Circles, and under these again are the Executive Engineers of Divisions and CH IV. their Assistants and Subordinates of both the Works and Revenue Establishments. In the Punjab, the Executive Engineers are responsible for the distribution of the water and the assessment of the water rates, whilst the Deputy Commissioner collects the Revenue.

It is considered that all matters connected with the distribution of the water-supply, the assessment of the water rates, the settlement of disputes between the cultivators, and complaints against the distribution or assessment, are best left in the hands of the Engineers, the collection being entirely in the hands of the Civil Officers of the District.

The following extracts from a "Report on Irrigation Works" by Colonel (now General) Strachey, R. E., then (1867) Inspector General of Irrigation Works, will, it is believed, afford the best reply that could be given to the question as to whether the construction and maintenance of the works, and the management and distribution of the water-supply, could best be combined in the hands of one set of officers or assigned to two distinct classes of agents.

After remarking that no serious question was in the present day likely to arise regarding the agents who should carry out the construction and maintenance of the works, because from the nature of the work it must obviously be performed by professional Engineers, if it is to be properly performed at all, General Strachey proceeds to the discussion of the question as to whether the management and distribution of the water-supply should, or should not be left in the hands of the Canal Engineers, and says —

"The positive arguments in favour of a professional management are that for the economical and certain distribution of water in prescribed proportion to different localities, engineering skill is absolutely needed, that this skill is equally requisite to admit of trustworthy opinions being formed as to the sufficiency of the water-supply, the causes of deficiencies, and the best way of preventing or remedying them, the possibility of extending the use of the available volume of water, and the means of accomplishing this, the manner of dealing with the drainage of the irrigated lands and utilizing to the utmost the surplus water passing from them or the irrigating channels, the decision of disputes among consumers of water as to the shares to which they are equitably entitled, and the quantities they actually received. In fact it may be said that among all the steps that have to be taken in relation to the supply of the water and its distribution, there is not a single one which does not call for professional knowledge.

"The properly qualified canal engineer has this knowledge, the Revenue Officer is, as a rule, wholly devoid of it, and it may be safely said that no knowledge of the sort in question, which he will possess will be of sensible value.

"As a fact, when there is a non professional management, the whole of the matters above mentioned are entirely neglected, until the evils caused by such neglect become so serious as to lead to an engineer being called in to apply a remedy.

"Nor does this complete what has to be said on the subject. In truth, the full benefit of the engineering skill and knowledge can never be applied to the construction and maintenance of the works unless the engineers are constantly watching their operation, and have an intimate acquaintance with all their peculiarities, and the precise wants which they are to supply. Not only is professional knowledge necessary to secure the best management, but a complete practical knowledge of the details of management is necessary to secure the most satisfactory application of professional skill to the works. To know how best to design and construct the works, the engineer must know how they are used, and to know how best to use the work the managing officers must have engineering knowledge. The conclusion seems unavoidable that the engineer should have the management of irrigation * * * I believe that there is one thing only which leads with certainty to success and progress, and that is knowledge, that there is no condition of affairs in which improvements of great value may not be made by the help of increased knowledge, and that of all places in the world where such improvements may most reasonably be hoped for, India stands very prominently forward. I reject the doctrine that Revenue Officers avowedly quite devoid of all the special knowledge which is required for anything but an empirical management of the supply and distribution of water, are proper persons to be left in charge of such a duty one day after it becomes possible to replace them by persons possessed of such knowledge. I dispute the position that, under a reasonable system, professional engineers would be one whit less capable of dealing justly with established rights to water-supply than the District Revenue Officers, or less careful of the interests of the community and of the public revenue dependent on the efficiency of the irrigation, or less able to command respect and co-operation from the people of the country in which the works lie. On these points we have direct evidence, obtained from actual experience in Upper India, that professional engineers are to be trusted quite as fully as Revenue Officers, and on general grounds it may safely be predicated of the professional officers that inasmuch as their exact knowledge of the things to be done will necessarily be more complete, those things will be better and not worse done by them. With no less confidence do I assert that great and valuable improvements may, without the smallest doubt, be made in the Irrigation Works in all parts of India, and that the scope and necessity for improvement is especially great, precisely where the non-professional system of management has till now been followed. As to questions of law, rights and customs, so far as these really affect the management of irrigation I can conceive no reason why they should not be as well understood by a specially trained class of engineers as by the Revenue Officers."

CA IV. The Government of the North-Western Provinces, reviewing Colonel Strachey's memorandum, remarked as follows —

"There is no question in these provinces as to the charge of the works supply, and distribution being in the hands of the Canal Officers. The assessment of water-rate, whether by measurement or value, must also so far as present experience goes, remain with the Canal Officers. The collection of the water-rate used also to rest in the Canal Officers, but that has been transferred to the collectors and, it is generally agreed, with advantage. * * * In its resolution the Government of India call upon this Government to say whether the engineer may not be relieved of the burden of a great portion of his present administrative duties by the constitution of a separate department * * * In such a department there would be the assessment of water-rate and of miscellaneous revenue and their collection, police duty, including summary adjudication of disputes, and the preparation of cases for prosecution. No doubt there is here a great array of business, which cannot be dissociated from canal administration, and which yet presses heavily on the Canal Officer and must often render difficult the effective discharge of his professional and more special duties. If a separate department, with a staff sufficient to take up the whole of this business in direct subordination to the Superintending Engineer were instituted, the Lieutenant Governor admits that it would be a great relief to the Canal Officer. His Honor does not however, see the way to recommending such a measure. The expense would be very great, and the Lieutenant Governor is not altogether certain whether a co-ordinate and independent administrative branch might not affect the authority and influence of the Canal Executive Officer."

Experience in the Punjab fully confirms in every particular the reasons set forth in the above extracts for intrusting the engineer in charge of the works with the distribution of the water and the assessment of the water-rate. From the nature of his duties, the canal engineer has the most intimate knowledge of the necessities and capabilities of the various tracts of land in his Division, and therefore knows best when to allot the water, and what quantity to give. Again, his special knowledge, together with the records of the allotment, qualifies him to deal with the measurements, assessments, and the various complaints and questions which arise therefrom. It is believed that no other official in the District possesses either the requisite information, or has time to take up this class of business, and if special officers were appointed to carry on this work, additional expense and divided responsibility would be involved, and both are to be deprecated. Lastly, the system which at present obtains in this province has had a long and fair trial and is found to work satisfactorily.

It will be seen from the foregoing remarks that it is not considered that the system at present followed in the Punjab requires alteration.

A special law is undoubtedly required for the proper administration of canals. In the Punjab there is such a law, viz Act VIII of 1873, the rules under this Act having also the force of law have only lately been sanctioned, so that there has been as yet but little experience of their working. These rules however are the out-come of very considerable discussion and criticism, and are moreover for the most part based on the results of observation and experience, and there is but little reason to doubt that they will work satisfactorily, so far at any rate no serious complaints against them have been brought to light.

PARA 23—QUESTIONS 1, 2, 4, 5, 6, 7, 8

- 1 *Why has the extension of the use of canal-water been commonly so slow?*
- 2 *What has been the nature of the obstacles, and how can they best be avoided or removed?*
4. *Have any of your canals practically reached the state in which any further extension is not likely, or is likely to be small?*
5. *Say how far this is the case in each? are difficulties met with in preparing land for irrigation for the first time in the way of sub-dividing fields, or levelling the surface, or formation of water-courses which require more time and money than can be supplied by a limited population otherwise than slowly?*
- 6 *If such difficulties as are met with, how may they best be removed?*
- 7 *Does the existing system provide sufficiently for making advances to cultivators to adapt their land to irrigation, and if not, what changes are desirable?*

(21)

3 Does not shortness of supply during the hot season materially affect progress of Ch IV. canal irrigation ?

REPLY

It may be confidently stated that as a broad general rule the extension of irrigation in all parts of the Punjab has been the reverse of slow. The people ordinarily apply eagerly for the use of canal-water as soon as a supply is available, and they are satisfied that it is constant. An instance of the necessity for permanency occurred on the new rajbhas constructed from the Katora Canal, which is one of the Upper Sutley Inundation series. When these rajbhas were first constructed there was a rush of applicants for water, but during the first season the supply of this canal failed owing to a change in the course of the river and the consequent silting up of the head.

This unfortunate occurrence deterred the cultivators from going to the expense of making proper water-courses, and canal irrigation fell for the time into disrepute. It was found possible however the next year to secure a better head for the canal, and the constant supply which was thus maintained dissipated the fears which the cultivators had entertained, and they commenced on all hands to complete their channels and used the water, and the latest reports exhibit a very remarkable extension of irrigation on these lines.

On the Bari Doab Canal, the extension of irrigation, quick as it was, would have been still quicker had there been funds enough at first to enable the distributaries to be completed at the same time as the canal. Unfortunately this was not the case, and the demand for water was invariably ahead of the power of supplying it.

To ensure a rapid extension of irrigation in the Punjab, on the opening of a canal, all that appears necessary is to provide (1) an absolutely certain supply of water, and (2) a proper system of distributaries (completed in all respects at the time the water is admitted) to convey the water within easy reach of the cultivators, and the reason of this may be stated to be that every second or third year there is ordinarily a failure of seasonable rain-fall during one or other of the crops.

On the Western Jumna Canal, no very great extension of irrigation is to be expected so long as the present supply at the head is maintained. It is hoped that the remodelling of part of the Main Line which is now in progress, as well as the construction of proper distributaries and the introduction of pipe outlets in place of the large openings formerly granted, will prevent the present lavish use of water and thus render a certain extension of irrigation possible, but no estimate of what that extension will really be, can be made. If however this canal is ever enlarged, as has been proposed, to the extent of carrying an *additional* supply of 2,000 cubic feet per second during the kharif season, there would of course result a very large extension of irrigation.

The Bari Doab Canal is open throughout the entire length proposed under the latest estimate. There will certainly be an extension of irrigation, but this will principally result from the tract of country traversed by the Kasur and Sobraon Branches, into which water has only lately been admitted in small quantities, and the distributaries from which are not yet completed on their entire length.

On these rajbhas it has been reported that the main difficulty encountered in the development of irrigation has been the poverty of the cultivators, which it is alleged has prevented the more rapid construction of the water-courses, which must now, according to the latest rules, be completed before the admission of water is permitted.

As soon as this was brought to the notice of the Local Government, the Canal Officers were desired to instruct the cultivators that on proper representation being made to the District authorities, no obstacle would be thrown in the way of their obtaining "Takavi" advances. This appears to have solved the difficulty raised, and nothing further appears to be required.

As regards the question of shortness of supply during the hot season, it may be sufficient to state that this difficulty is practically unknown in the permanent canals of the Punjab, as the rivers from which their supplies are drawn are fed from the snows, and are not dependent on rain-fall.

The Inundation Canals, although fed from the same, or similar, rivers as the Permanent Canals, are subjected occasionally to short supply. This is due sometimes to

CH IV. an insufficient rise in the river, but more frequently to some change in its course, which by interposing a sand bank between it and the canal head, prevents a proper supply passing down the channel

PARA 24—QUESTIONS 1, 2, 3, 4 and 5

1 *Where the financial prospects of projected irrigation works are not such as to appear to justify the outlay of public money on them in expectation of the income being at an early date sufficient to cover all the expenses, including the charge of interest on capital outlay, do you think that a special rate to make good the deficiency might properly be charged on the District for the benefit of which the works are designed, or on the land that would be protected, and is so, under what conditions?*

2 *If not, what are your objections?*

3 *How would you meet the case put in this question if not by some such special rate?*

4 *Is it more equitable to place a compulsory charge on those Districts which can probably derive no advantage from the works, or only on the Districts or lands that can benefit?*

5 *If the protection to be given by such works to particular Districts is deemed of great importance under conditions such as have been above stated, what course do you think should be taken, having regard to the necessity for protecting the general finances of the country?*

REPLY

The conditions of the financial success of canal projects in various of parts of India are so essentially different, and so many different cases would occur in practice, that it seems impossible to give to the points raised in the above questions a specific reply which should be equally applicable to all the cases which might arise in practice.

For instance there is first the tract of country which is ordinarily not in want of irrigation, and where there is little or no hope of canal works ever proving remunerative, but where it is considered that a canal should be made as an insurance against famine. Here perhaps it might be right to impose a compulsory protection rate, much on the same grounds as embankment rates have already been imposed in some parts of India. It would, however, appear open to question whether, even in these cases, it would not be preferable to afford the required protection by the improvement of communications, whether by rail or road, rather than by canals. It may however be at once said that this case does not apply to the Punjab, because in those parts of this province through which canals are likely to be projected, the country is so dry that extensive cultivation without the aid of irrigation is ordinarily impossible, and, as a matter of fact, canal water is eagerly taken up wherever the rates are fixed sufficiently low to admit of the cultivators making a fair profit by its use. Here the only question for consideration is whether the capital cost of the project is such that the interest on it, together with the working expenses, can be met from such rates as experience has shown that the people are able and willing to pay. It is considered that if, owing to engineering difficulties, or other causes, the capital cost cannot be reduced within the required limits, it will generally be better to dismiss the scheme as impracticable, rather than to impose a compulsory rate on an unwilling population. Indeed it may be laid down as a general rule that in this province no canal project should be entertained unless reasonable grounds exist for believing that it will prove remunerative, or at any rate self-supporting, within, say 10 or 15 years, after the completion of the works.

As regards the Punjab, also, it may be said with confidence that generally it would be neither desirable nor expedient to impose a compulsory rate on the lands through which projected canals would have to pass, because these tracts are as a rule, previous to the introduction of canal irrigation, so sparsely populated and so poor that they would ordinarily be quite unable to bear such an additional burden as is suggested in the above questions, and the attempt to impose such a rate under these circumstances would make the administration of Government most unpopular.

But besides all this, it can be shown that a compulsory rate may be, at any rate in some instances, positively harmful. A case in point is the present condition of some tracts of country watered by the Western Jumna Canal. Here an enhanced land revenue was assessed at the last settlement on certain areas deemed by the settlement officer capable of being watered from the canal. This rate was levied whether the lands received water or not, and was in fact a "compulsory rate," pure and simple. The result has been that the people have continued to take canal water long after it was desirable that it should have been withheld on account of the rising of the springs and the general water-logging of the country, the Canal Officers have been powerless in the matter, *because*, owing to the compulsory rate, the cultivators had a right to the water.

Had it not been for this compulsory rate, the water in these parts could have been largely restricted, and passed into other drier tracts where it was really urgently required, and thus a double benefit would have been ensured.

It has been said above that as a general rule canal projects should not be entertained unless they are likely to prove remunerative, but even in this case the question still remains as to how the interest is to be defrayed during construction, and up to the time when the works shall be self-supporting.

It has also been pointed out that it would ordinarily be impossible to meet this interest in the Punjab from compulsory rates imposed for that purpose on the lands to be watered, but it may be desirable to enquire whether—first, the district, and secondly, the province, could not afford the necessary assistance, for it must be remembered that the mere construction of any great public work necessarily adds to the wealth of the district in which it is being carried out, by the expenditure within its bounds of a large sum of money, and moreover that, in such a dry country as is pre-supposed, the additional cultivation rendered possible after the completion of a canal must also increase the general wealth and prosperity not only of the actual irrigators themselves, but also of the district as well as of the province in which they are resident.

The condition of the various tracts, and the circumstances of the canals which might be projected to pass through them are however so various that it would appear impossible to lay down any general rules for the treatment of all cases alike, and it is believed that Government would have to deal with each one separately after a full consideration of all the facts involved.

It might in some cases perhaps be possible to meet the charges from the surplus revenues of the district, in others it might be necessary to transfer the burden to the province, or even to the general resources of the empire, and the decision would to a great extent be determined by the magnitude and importance of the particular work.

At first sight the proposition to impose the whole or any portion of the charge for a canal project in the Punjab, on the general resources of the empire, may appear to be inequitable, but it is believed that a slight consideration of the actual facts will show that this is not the case.

The figures about to be given will be found at pages 13 and 14 of the statements of accounts prepared by the Examiner Public Works Accounts up to the end of the official year 1877-78. They are published in the Revenue Report of this Department for that year, and immediately follow the Chief Engineer's Review.

From these figures it will be seen that the total capital of all kinds expended on all the irrigation works of the Punjab amounted on the 1st April 1878 to Rs 396,91,858; of this sum Rs 60,88,524 were due to contributions from native states, and we are not therefore immediately concerned with these amounts. Of the remainder (Rs 3,36,03,334) Rs 1,64,48,438 were obtained from *ordinary* funds, that is to say, were derived from the ordinary revenue of the empire from year to year, and the balance (Rs 1,71,54,896) was obtained from *extraordinary* funds, that is to say, from money which had been borrowed and on which therefore interest is clearly due.

Now the *net revenue* of all the canals as given in the statement referred to has amounted altogether to Rs 3,33,02,397. This includes the net direct income (Rs 1,14,08,743) and the so-called indirect income (Rs 2,68,93,654). This latter is also included because it is, as a matter of fact, as much the income of the canals as that which is derived from the actual water-rates, for this income would not have been levied by Government had it not been for the canals.

CH IV Now the *net* income of the Punjab Canals having been up to the end of 1877-78, Rs 3,83,02,397, let us deduct from this the *whole* of the ordinary expenditure, *viz* Rs 1,64,48,438, and from the remainder, *viz* Rs 2,18,53,959 let us again deduct the whole of the interest charges on extraordinary expenditure, *viz* Rs 32,05,689, and the balance Rs 1,86,48,270, will clearly be the gain which has accrued to the imperial treasury from the operation of the Punjab Canals

Under these circumstances it scarcely seems unreasonable to suggest that, until the account is balanced, the imperial Government should be asked to defray the interest charges on new canals rather than that additional taxation should be imposed on a province which has already so largely recruited the imperial resources

PARA 25—QUESTIONS 1, 2, 3 AND 4

- 1 *Have any customary claims or prescriptive rights in the use of water from tanks or canals, or water-courses grown up in your district ?*
- 2 *What is their nature and history ?*
- 3 *Have they led to inconvenience in respect to the general utility of such works to the agricultural community that might benefit from them ?*
- 4 *Would it in any case that you know be desirable to buy out such rights as exist, and to prevent the accretion of others ?*

REPLY

* On the Bari Doab Canal, no prescriptive rights in the use of water have arisen, but in some cases prescriptive rights in the water-courses constructed by certain individuals in the early days of the canals have given rise to a certain amount of inconvenience, because although the water pertained to Government, the channel in which it was carried from the distributaries to the villages belonged to the individual who had originally the enterprise to make it, and he consequently charged a further rate on all lands irrigated. These channels, however, have for the most part been bought up by the cultivators concerned, or else by Government, and it is believed that few if any such rights now exist, and they will certainly not be permitted to grow up in the future.

On the Western Jumna Canal a few prescriptive rights exist, but are not of a very embarrassing nature

They may be divided into the five following classes —

- (1) *Right to water in the head villages* — When this canal was first opened in 1821 there was considerable difficulty in procuring labour for the construction of the head bunds which had to be made annually to divert the water from the river into the canal. Inducements were therefore held out to settlers, and arrangements were made with the villages whereby they were to supply so much labour on the condition of receiving irrigation for their lands rent free. At the present day however the value of the water supplied is from ten to twenty times the value of the labour given. This arrangement must under the terms of settlement and the orders of Government, be maintained during the currency of the present settlement, which will, however, expire in the course of a few years.
- (2) *Shares in village water-courses* — Formerly on the Western Jumna Canal there were no Government Distributaries, the village water-courses being constructed direct from the main canal at the cost of the cultivators, and in so far as a canal without distributaries is useless, the villages were in one sense co-partners with Government in the canal, and had therefore, to a certain extent, a right to the water carried by these channels. These old water-courses are however being gradually replaced by properly aligned distributaries made at the sole cost of Government.

(25)

- (3) *Private water-courses*—There are a few private and Zamindári water-courses CH IV which stand on much the same basis as those belonging to villages, and which also are gradually being replaced by Government Distributaries
- (4) *Enhanced land Revenue a claim to water*—At the old settlement an extra rate was levied on certain areas assessed by the Settlement Officer as capable of irrigation from the Canal. This extra rate was called the "enhanced land revenue," and was collected whether the occupiers chose to water their lands or not. This extra rate amounted annually to Rs 3,85,925, and was nothing more or less than a compulsory water-rate. So long as this rate was levied it is clear that water had also to be given, and in this sense the irrigators had a prescriptive right to the water. Under the new settlement, however, which is now in progress, this enhanced land revenue will cease absolutely, and in its place will be imposed the owner's rate, which will be assessed by the canal officers crop by crop on those lands only which have been actually irrigated during that particular season. This alteration will be most beneficial in every respect,—it will not compel any set of men to irrigate against their will, whilst it will enable the Canal Officers to deliver any water so released to those drier tracts where it is infinitely more required.
- (5) *Jhind and Kalsia claims* The fact of the canal passing through Jhind territory has been held to give that state a claim to water, which has recently been fixed by the Local Government at 200 cubic feet per second. A similar claim also exists on behalf of the Kalsia state, but the actual quantity to which it is entitled has not yet been definitely settled.

On some of the small inundation canals which were originally constructed by private agency, claims exist which are occasionally somewhat troublesome, some have already been bought out, and others are now under consideration, and will it is hoped be finally settled before long.

As a general rule it may be said that no serious difficulty has been encountered in dealing with most of these claims, although in some cases the discussion of the terms which should be alike equitable to Government and to the claimants has been somewhat protracted.

PARA 25—5, 6, 7 AND 8

5 *Have such claims or rights to the use of the water in the upper parts of rivers obstructed the application of the water in the lower parts to purposes of irrigation or vice versa?*

6 *If this has happened in any case, could any remedy be applied which would be equitable?*

7 *How should disputes on such points be settled?*

8 *In cases in which the action of the ordinary Courts would be impossible or inapplicable, what principles should govern decision in such disputes?*

REPLY

No such case is known in the Punjab, and if any such exists the inconvenience is so slight that it has not as yet been felt. It is believed that most rights can be bought out, not necessarily by paying down money, but perhaps by permanent remission of demands commensurate with the injury entailed, or by a reconsideration of the terms of settlement. Disputes on such points would ordinarily be settled by order of the Local or Supreme Government according to the magnitude of the question involved.

PARA 29—1

How has the distribution of water been fixed where the supply is less than the demand?

REPLY

The answer to this question involves the consideration of two perfectly distinct cases which may arise in practice. There is first the case in which the volume of water in the

CH IV projected canal is known to be insufficient for the requirements of the whole tract of country through which it will pass. Under these circumstances the first action is to eliminate all portions of the country (if there be any such) which do not actually stand in need of canal irrigation. The conditions may be stated to be (1) a rain-fall of more than 20 inches, and (2) a spring level less than 25 feet below the natural surface of the ground. Where these conditions exist it is considered that the crops can be assured by well irrigation and that there is no necessity for supplying these areas with canal water.

The Kasur and Sohraon Branches of the Bari Doab Canal may be instanced as a case in point. The proposed supply was insufficient for the whole tract of country through which these branches were to run, and orders were therefore issued that irrigation was not to be provided for the upper portions where the average rain-fall was more than 20 inches per annum, and the depth to water in the wells was less than 25 feet.

On the Western Jumna Canal also it is proposed to restrict the supply to all the "Khadir" or river lands, where the depth to water is very small (in some cases not more than 6 to 10 feet) and to carry the canal water past these tracts to the drier regions further down where the wells are 50 and 100 feet deep, and where also the rain-fall is very small.

These tracts having been thus eliminated and the distributaries lined out, the limit of irrigation is fixed at about 2 miles on either side of these channels, because it has been found that water-courses carried further than this are more difficult of supervision and lead to waste of water. This limit of two miles is fixed by Section 31 of Act VIII of 1873, and Rule 6 of the Rules under that Act, where it is enacted that water shall not ordinarily be granted to lands where the length of the water-course from its head to the point of contact with the fields, exceeds two miles.

Lastly as regards villages within this limit, the rule is to grant only sufficient water to enable the people to irrigate a certain proportion of the village lands, this proportion is of course a variable one depending on many considerations, but is now usually fixed at from 20 to 25 per cent of the culturable area.

The second case, referred to above as one that might and does not occur in practice, is that of a short supply in the canal during an irrigating season, that is, when the volume of water available for distribution is insufficient to meet all the requirements of those to whom outlets have been allotted. In this case, Divisional Canal Officers are empowered under Section 32 (a) of the Act, and Rules 15 and 16, to impose closures (locally known as "Tátil" or "Bandi") on such water courses as they may deem right.

The Act allows these closures to extend to 10 days, but, as a matter of fact, the practice is rarely if ever to extend them beyond 4 days at the outside. The orders for these closures are notified either (a) by a notification, or (b) by a special order, and must be in writing under the hand of the Executive Engineer, a copy being conveyed by the canal establishment to each village concerned and delivered to the Patwári (village accountant), or in his absence, to any Lambardár (Headman of the village). The receipt of each person who receives such an order is taken and filed in the Canal Office, and it is, by law, the duty of the Patwári and Lambardár who receives the notice to affix it at once in a conspicuous position in the village and to make its purport generally known.

There is probably no other portion of a Canal Officer's work which demands such experience and care as the proper regulation of these closures, whilst their due enforcement, especially in seasons of drought, can only be ensured by the exercise of great vigilance and firmness.

On this subject, the late General Greathed wrote some years ago as follows.—

"It is an universal rule of experience that a high standard of irrigation from a given amount of water is never attained without direct superintendence of an European Officer. It is only by unremitting energy in riding about the country, and seeing with his own eyes that the periods for taking water allotted to different water-courses are not overpassed that the Officer in charge of irrigation can ensure the fertilization of distant lands, and no one can do this duty so well as a young Englishman."

By means of these closures the supply of water is reduced as far as possible rateably, so that the available supply may be distributed to the best advantage of the community at large.

Do customary or other established rights interfere with the extension of irrigation from any Government canal, and if so, where and to what extent, and what remedy should be applied ?

REPLY

Not to any serious extent, and when there is a collision between existing rights and the interests of Government, the matter is reported to Government by the Local Canal Officer, and an adjustment is effected.

Is it the duty of any one to see that the available water is made use of to the best possible advantage for the community as a whole, and on whom does the duty fall ?

REPLY

Undoubtedly, it is the duty of every official connected with the Canal Administration, from the Chief Engineer down to the lowest paid patrol, to see that as far as possible the available water is made use of to the best possible advantage for the whole community. Naturally however the brunt of this work falls on the Executive Engineer and his assistants and subordinates. This is the task of distributing the water to the best advantage, of imposing, enforcing, if necessary by fines or other punishments, the orders as to closures, of ascertaining, investigating, and if necessary punishing all cases of waste of water, and lastly of securing to the poorer and weaker cultivators their equitable share of the available water.

Cases of breach of closure or of waste of water may come immediately under the eye of a European Officer whilst inspecting the tract in his charge, or they may be reported by either the patrols, or one of the superior native establishment, but no report by a patrol is acted on until verified by actual inspection by a Superior Officer or other convincing proof of its correctness.

A record is kept of all these occurrences, and the order passed is based, to a great extent, on the frequency of the offence, and on evidence as to whether the fault had been committed wilfully or otherwise. Ordinarily a caution is given on the first occasion of a delinquency, but if it is repeated severer measures are taken. The Act and the rules under the Act prescribe the powers of the Canal Officers in these matters, but it may be said that as a general rule it is not found necessary to punish with severity. Sometimes notorious offenders against canal law have to be made an example of, but instances of this kind are extremely rare.

The grievances of the cultivators are brought to the notice of the European Officers of a Canal Division in a variety of ways. The complainant may present himself in person at the officer's camp, or he may waylay him during his inspection, or he may send in a written petition either direct or through some of the native subordinates. Every authenticated complaint or grievance is attended to, enquiries are made and, if well founded, redress is given. Moreover in the great majority of cases, if a man consider that justice has not been dealt out to him, he will petition the next higher authority for an investigation with the full certainty that his request will be granted, and that a report will be called for. Thus he will go from the Assistant to the Executive, thence to the Superintending and Chief Engineers, and finally, if not satisfied, even to the Local Government itself.

With the exception of cases thus brought by the people themselves to the notice of the Canal Officers, the general principle adhered to is to interfere with their internal affairs as little as possible, and to leave them to manage matters in their own way.

In order to avoid any misconception as to the scope of the reply just given, it may be as well to explain that the only people who get any water are those who have applied for it, and to whom it has been granted. The considerations which guide the Canal Officer in the original allotment of water (within the limits previously noted) to cultivators who have applied for it, are in the first place, how much water he can spare, and in the second, what proportion of the area of the village has already been supplied with irrigation.

It will be seen from the above that water is not forced on a village as a whole, or on any particular cultivator in it, and that its internal distribution within the limits above described is left as far as possible in the hands of the village community.

CH IV It has already been remarked that the cultivators are only too ready to give in petitions when they consider that their crops are in danger or that they have any other grievance, and Canal Officers are bound to enquire into all such cases

PARA 30—1

Is there any special difficulty introduced into the spread of irrigation by the intervention of the agency of a company in the management of a canal, and how could such difficulties be best overcome

REPLY

There are no such companies in the Punjab, nor is it considered desirable, in such a matter as the management of a canal, so closely allied as it is to the general administration and Government of the Province, to introduce them

PARA 31—1, 2, 3

In reckoning the return obtained from the outlay on canals or other irrigation works, is full credit given them under the existing system of accounts?

2 *Where separate water-rate are charged on the cultivators, is the indirect profit obtained by the increase of land revenue properly taken into account?*

3 *Where there has been no distinction made in the payment to Government between the charge made as land revenue and that for the supply of water, is the canal revenue fairly estimated at present, and if not, how do you think it would best be reckoned?*

REPLY.

Full credit is not by any means given to any of the canals in the Punjab. In no instance is the so-called indirect profit credited to the canals in the Imperial Accounts, although the Department is permitted to show these amounts in statistical returns as part of the benefits derived from the operation of the canals.

This applies not only to cases in which these amounts are assessed by the Civil Officers, but also to all the sums which are actually assessed by Canal Officers themselves. Thus the whole of the "water advantage rate" on the Bari Doab Canal (which is assessed by the Canal Officer and amounted in 1877-78 to Rs 2,00,083,) is credited in the Imperial Accounts as Land Revenue. Again the whole of what is called the "Fluctuating Land revenue" in the Montgomery District, and which was assessed by the Canal Officer in 1877-78 at Rs 85,894, is shown in the Imperial Accounts as Land Revenue and is not credited to the canals.

Similarly on the Western Jumna Canal the whole of the owner's rate, although it will be assessed by the Canal Officers, will, unless a change is made in the system of accounts, be shown as Land Revenue in the Imperial Accounts.

It may be as well to add that even the correct share of the revenue which, as has been mentioned above, is permitted to be shown in statistical returns, has not all along been given to the canals, but endeavours have been and are still being made to rectify the omissions. Much has already been admitted, but there are still some items under consideration and under process of adjustment by the Financial Commissioner.

The contention, however, is that all these sums (by whatever name they may now be called, whether "water advantage rate," "owner's rate," "enhanced land revenue," or "fluctuating land revenue") which are at present only shown in canal statistical returns, and which are really credited in the Imperial Accounts as Land Revenue, should properly be credited in these accounts as canal revenue, in the same way that the actual water-rates or "occupiers' rates" are credited.

But even supposing this to be done, the result will not even then correctly show the true credit which should be afforded to the canals.

Thus in most of the Districts of the Punjab proper there are large areas of culturable waste land, the property of Government, which now bring in nothing in the way of revenue, except the small amount which can be realized from a grazing tax on cattle fed

in them, there are also other tracts on which owing to the small rain-fall and the great depth of the wells, only a very light assessment can be made

On the opening of a canal not only is a large portion of the waste land brought under irrigation, and assessed, with land revenue at irrigated rates, but population increases, and a further portion of the waste is opened out for the cultivation of the poorer cereals and pulses dependent on the rain-fall, and all these tracts are assessed at the next settlement at unirrigated rates at a far higher figure than the old grazing tax, and whilst no portion of this would be credited under the present system to the canal, it is clear that but for its presence no such assessments would have been possible

Both these cases have occurred on the Bari Doab Canal in the Lahore District. Large tracts, on which only a few stunted trees grew before the canal was opened, are now covered with crops, and besides this a very large area of land, the cultivation of which was formerly precarious, has now been secured, so that a large increase in the assessments of the District has been made possible by the introduction of the canal

In the interval between the first and second settlements, the population per square mile increased from 107 to 214, and although this may not have been entirely due to the increased cultivation which was rendered possible by the canal, still there can be no reasonable doubt that it was greatly aided by it.

In such a case as the Bari Doab Canal, where improved communications both by rail and road, the benefits arising from the establishment of a strong Government, the large expenditure on other great public works, and other causes have doubtless had great effect in increasing the general wealth and prosperity of the District, it would be very difficult, perhaps impossible, to determine with any degree of exactness the particular share which is due to the introduction of the canal.

There are, however, many other cases in which practically the whole of the increased prosperity would be attributable to the canal alone.

For instance, in such a case as that of the country between the rivers Ravi and Chenáb, for the irrigation of which a canal has been designed, the whole increase of revenue which might accrue to Government after the introduction of the canal would be as fairly a canal asset as the revenue derived from the mere water-rates, and thus because nothing but the amount now levied could be raised without canal irrigation.

In the two Districts through which this canal would pass (*viz.* the Gujránwála and Jhang Districts) there are about $2\frac{1}{2}$ million acres of unappropriated waste, the property of Government, and the rain fall is so small, and the wells (where they exist) so deep, that any extended cultivation without canal irrigation is out of the question.

In a case of this sort the only way of clearly establishing the true benefits of the canal, would be to take the revenue assessed on the tract through which it was to pass, previous to its construction, and to credit the canal with every rupee by which that revenue might subsequently be increased. Till this is done the true results of irrigation in such tracts will never be known.

JOHN W OTTLEY, CAPTAIN, R E,

Offg Asst Secretary to Government, Punjab,

P W Department, Irrigation Branch.

CHAPTER IV, QUESTION 12
ACT No VIII OF 1873

An Act to regulate Irrigation, Navigation and Drainage in Northern India CH IV
[Received the assent of his Excellency the Governor-General on the 11th February 1873]

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- (b) all works embankments, structures, supply and escape channels connected with such canals channels or reservoirs,
- (c) all water-courses, as defined in the second clause of this section,
- (d) any part of a river, stream, lake or natural collection of water or natural drainage channel, to which the Local Government has applied the provisions of Part II of this Act,
- (2) “Water-course” means any channel which is supplied with water from a canal but which is not maintained at the cost of Government, and all subsidiary works belonging to any such channel,
- ‘Water course’
- (3) “Drainage work” includes escape-channels from a canal, dams weirs embankments, sluices, groins and other works for the protection of lands from flood or from erosion formed or maintained by the Government under the provisions of Part VII of this Act, but does not include works for the removal of sewage from towns,
- ‘Drainage work’
- (4) “Vessel” includes boats, rafts, timber and other floating bodies,
- ‘Vessel’
- (5) “Commissioner” means a Commissioner of a Division and includes any officer appointed under this Act to exercise all or any of the powers of a Commissioner,
- ‘Commissioner’
- (6) “Collector” means the head Revenue Officer of a District and includes a Deputy Commissioner or other officer appointed under this Act to exercise all or any of the powers of a Collector,
- Collector powers of a Collector,
- (7) “Canal Officer” means an officer appointed under this Act to exercise control or jurisdiction over a canal or any part thereof,
- ‘Canal Officer’
- “Superintending Canal Officer” means an officer exercising general control over a canal or portion of a canal,
- ‘Superintending Canal Officer’
- “Divisional Canal Officer” means an officer exercising control over a Sub-Division of a canal,
- ‘Divisional Canal Officer’
- Sub-Divisional Canal Officer means an officer exercising control over a Sub-Division of a canal,
- ‘Sub-Divisional Canal Officer’
- (8) “District” means a District as fixed for revenue purposes
- ‘District’
- 4 The Local Government may from time to time declare, by notification in the official Gazette, the officers by whom and the local limits within which all or any of the powers or duties hereinafter conferred or imposed shall be exercised or performed
- Powers to appoint officers
- All officers mentioned in section three clause (7) shall be respectively subject to the orders of such officers as the Local Government from time to time directs

PART II

OF THE APPLICATION OF WATER FOR PUBLIC PURPOSES

- 5 Whenever it appears expedient to the Local Government that the water of any river or stream flowing in a natural channel or of any lake or other natural collection of still water, should be applied or used by the Government for the purpose of any existing or projected canal or drainage work,
- Notification to issue when water supply is to be applied for public purposes.
- the Local Government may by notification in the official Gazette, declare that the said water will be so applied or used after a day to be named in the said notification, not being earlier than three months from the date thereof
- 6 At any time after the day so named any Canal Officer acting under the orders of the Local Government in this behalf, may enter on any land and remove any obstructions, and may close any channels, and do any other thing necessary for such application or use of the said water
- Powers of Canal Officer
- 7 As soon as is practicable after the issue of such notification, the Collector shall cause public notice to be given at convenient places, stating that the Government intends to apply or use the said water as aforesaid, and that claims for compensation in respect of the matters mentioned in section eight may be made before him
- Notice as to claims for compensation

Damage for which compensation shall not be awarded

8 No compensation shall be awarded for any damage caused by—

- (a) stoppage or diminution of percolation or floods,
- (b) deterioration of climate or soil,
- (c) stoppage of navigation or of the means of drifting timber or watering cattle,
- (d) displacement of labour

Matters in respect of which compensation may be awarded

But compensation may be awarded in respect of any of the following matters —

- (e) Stoppage or diminution of supply of water through any natural channel to any defined artificial channel, whether above or under ground in use at the date of the said notification —
- (f) Stoppage or diminution of supply of water to any work erected for purposes of profit on any channel whether natural or artificial, in use at the date of the said notification
- (g) Stoppage or diminution of supply of water through any natural channel which has been used for purposes of irrigation within the five years next before the date of the said notification
- (h) Damage done in respect of any right to a water course or the use of any water to which any person is entitled under the Indian Limitation Act 1871, Part IV
- (i) Any other substantial damage not falling under any of the above clauses (a) (b), (c) or (d) and caused by the exercise of the powers conferred by this Act which is capable of being ascertained and estimated at the time of awarding such compensation

In determining the amount of such compensation, regard shall be had to the diminution in the market value at the time of awarding compensation, of the property in respect of which compensation is claimed, and where such market-value is not ascertainable, the amount shall be reckoned at twelve times the amount of the diminution of the annual net profits of such property caused by the exercise of the powers conferred by this Act.

No right to any such supply of water as is referred to in clause (e), (f) or (g) of this section, in respect of a work or channel not in use at the date of the notification, shall be acquired as against the Government, except by grant or under the Indian Limitation Act, 1871, Part IV

And no right to any of the advantages referred to in clauses (a), (b) and (c) of this section shall be acquired as against the Government, under the same Part.

9 No claim for compensation for any such stoppage, diminution or damage shall be made after the expiration of one year from such stoppage, diminution or damage unless the Collector is satisfied that the claimant had sufficient cause for not making the claim within such period

10 The Collector shall proceed to enquire into any such claim, and to determine the amount of compensation, if any, which should be given to the claimant, and sections nine to twelve (inclusive) fourteen and fifteen, eighteen to twenty-three (inclusive), twenty six to forty (inclusive) fifty one, fifty-seven, fifty-eight and fifty-nine of the Land Acquisition Act, 1870, shall apply to such enquiries

Provided that instead of the last clause of the said section twenty-six, the following shall be read 'The provisions of this section and of section eight of the Northern India Canal and Drainage Act, 1873, shall be read to every assessor in a language which he understands, before he gives his opinion, as to the amount of compensation to be awarded.'

11 Every tenant holding under an unexpired lease or having a right of occupancy, who is in occupation of any land at the time when any stoppage or diminution of water-supply in respect of which compensation is allowed under section eight, takes place may claim an abatement of the rent previously payable by him for the said land, on the ground that the interruption reduces the value of the holding

12 If a water-supply increasing the value of such holding is afterwards restored to the said land, the rent of the tenant may be enhanced in respect of the increased value of such land due to the restored water supply to an amount not exceeding that at which it stood immediately before the abatement

Such enhancement shall be on account only of the restored water-supply, and shall not affect the liability of the tenant to enhancement of rent on any other grounds

13 All sums of money payable for compensation under this Part shall become due three months after the claim for such compensation is made in respect of the stoppage, diminution or damage complained of

and simple interest at the rate of six per cent per annum shall be allowed on any such sum remaining unpaid after the said three months, except where the non-payment of such sum is caused by the wilful neglect or refusal of the claimant to receive the same

Interest

PART III

OF THE CONSTRUCTION AND MAINTENANCE OF WORKS

14 Any Canal Officer or other person acting under the general or special order of a Canal Officer may enter upon any lands adjacent to any canal, or through which any canal is proposed to be made, and undertake surveys or levels thereon, and dig and bore into the sub-soil, and make and set up suitable land marks, level marks, and water-gauges, and do all other acts necessary for the proper prosecution of any enquiry relating to any existing or projected canal under the charge of the said Canal Officer, and where otherwise such enquiry cannot be completed, such officer or other person may cut down and clear away any part of any standing crop, fence or jungle,

Power to enter and survey,
to

and may also enter upon any land building or water course on account of which any water-rate is chargeable for the purpose of inspecting or regulating the use of the water supplied, or of measuring the lands irrigated thereby or chargeable with a water-rate, and of doing all things necessary for the proper regulation and management of such canal

Power to inspect and regulate water supply

Provided that if such Canal Officer or person proposes to enter into any building or enclosed court or garden attached to a dwelling house not supplied with water flowing from any canal, he shall previously give the occupier of such building, court or garden, at least seven days' notice in writing of his intention to do so

Notices of intended entry into houses
do so

In every case of entry under this section the Canal Officer shall, at the time of such entry tender compensation for any damage which may be occasioned by any proceeding under this section, and in case of dispute as to the sufficiency of the amount so tendered, he shall forthwith refer the same for decision by the Collector, and such decision shall be final

Compensation for damage caused by entry

15 In case of any accident happening or being apprehended to a canal any Divisional Canal Officer or any person acting under his general or special orders in this behalf, may enter upon any lands adjacent to such canal, and may execute all works which may be necessary for the purpose of repairing or preventing such accident

Power to enter for repairs and to prevent accidents

In every such case, such Canal Officer or person shall tender compensation to the proprietors or occupiers of the said lands for all damage done to the same. If such tender is not accepted, the Canal Officer shall refer the matter to the Collector, who shall proceed to award compensation for the damage as though the Local Government had directed the occupation of the lands under section forty three of the Land Acquisition Act, 1870

Compensation for damage to land

16 Any persons desiring to use the water of any canal, may apply in writing to the Divisional or Sub-Divisional Canal Officer of the Division or Sub-Division of the canal from which the water-course is to be supplied, requesting such officer to construct or improve a water course at the cost of the applicants.

Application by persons desiring to use canal water

The application shall state the works to be undertaken, their approximate estimated cost, or the amount which the applicants are willing to pay for the same or whether they engage to pay the actual cost as settled by the Divisional Canal Officer, and how the payment is to be made

Contents of application

When the assent of the Superintending Canal Officer is given to such application, all the applicants shall, after the application has been duly attested before the Collector be jointly and severally liable for the cost of such works to the extent mentioned therein

Liability of applicants for cost of works

Any amount becoming due under the terms of such application, and not paid to the Divisional Canal Officer, or the person authorized by him to receive the same on or before the date on which it becomes due, shall on the demand of such officer, be recoverable by the Collector as if it were an arrear of land revenue

Recovery of amount due

17 There shall be provided, at the cost of Government, suitable means of crossing canals constructed or maintained at the cost of Government at such places as the Local Government thinks necessary for the reasonable convenience of the inhabitants of the adjacent lands

Government to provide means of crossing canals

On receiving a statement in writing, signed by not less than five of the owners of such lands, to the effect that suitable crossings have not been provided on any canal the Collector shall cause enquiry to be made into the circumstances of the case and if he thinks that the statement is established he shall report his opinion thereon for the consideration of the Local Government, and the Local Government shall cause such measures in reference thereto to be taken as it thinks proper

18. The Divisional Canal Officer may issue an order to the persons using any water-course to construct suitable bridges, culverts or other works for the passage of the water of such water-course across any public road, canal or drainage channel in use before the said water-course was made, or to repair any such works

Persons using water-course to construct works for passing water across roads, &c.
such works

If they fail, Canal Officer may construct, Such order shall specify a reasonable period within which such construction or repairs shall be completed, and if after the receipt of such order, the persons to whom it is addressed do not, within the said period construct or repair such works to the satisfaction of the said Canal Officer he may, with the previous approval of the Superintending Canal Officer, himself construct or repair the same;

and if the said persons do not, when so required pay the cost of such construction or repairs as declared by the Divisional Canal Officer, the amount shall, on the demand of the Divisional Canal Officer, be recoverable from them by the Collector as if it were an arrear of land revenue

19 If any person, jointly responsible with others for the construction or maintenance of a water course, or jointly making use of a water-course with others neglects or persons jointly using water-course refuses to pay his share of the cost of such construction or maintenance or to execute his share of any work necessary for such construction or maintenance the Divisional or Sub Divisional Canal Officer, on receiving an application in writing from any person injured by such neglect or refusal, shall serve notice on all the parties concerned that, on the expiration of a fortnight from the service, he will investigate the case and shall on the expiration of that period, investigate the case accordingly, and make such order thereon as to him seems fit Such order shall be appealable to the Commissioner, whose order thereon shall be final

Any sum directed by such order to be paid within a specified period may, if not paid within such period, and if the order remains in force, be recovered by the Collector from the person directed to pay the same, as if it were an arrear of land revenue

20 Whenever application is made to a Divisional Canal Officer for a supply of water from a canal, it and it appears to him expedient that such supply should be given and that Supply of water through in it should be conveyed through some existing water-course, he shall give notice to the persons responsible for the maintenance of such water-course to show cause, on a day not less than fourteen days from the date of such notice why the said supply should not be so conveyed, and after making enquiry on such day, the Divisional Canal Officer shall determine whether and on what conditions the said supply shall be conveyed through such water-course

When such officer determines that a supply of canal water may be conveyed through any water-course as aforesaid, his decision shall, when confirmed or modified by the Superintending Canal Officer, be binding on the applicant and also on the persons responsible for the maintenance of the said water-course

Such applicant shall not be entitled to use such water-course until he has paid the expense of any alteration of such water-course necessary in order to his being supplied through it, and also such share of the first cost of such water-course as the Divisional or Superintending Canal Officer may determine

Such applicant shall also be liable for his share of the cost of maintenance of such water-course so long as he uses it.

Application for construction of new water course.

21 Any person desiring the construction of a new water-course may apply in writing to the Divisional Canal Officer, stating—

(1) that he has endeavoured unsuccessfully to acquire from the owners of the land through which he desires such water-course to pass a right to occupy so much of the land as will be needed for such water-course,

(2) that he desires the said Canal Officer, in his behalf and at his cost, to do all things necessary for acquiring such right,

(3) that he is able to defray all costs involved in acquiring such right and constructing such water-course

Procedure of Canal Officer thereupon

22 If the Divisional Canal Officer considers —

(1) that the construction of such water-course is expedient, and

(2) that the statements in the application are true,

he shall call upon the applicant to make such deposit as the Divisional Canal Officer considers necessary to defray the cost of the preliminary proceedings, and the amount of any compensation which he considers likely to become due under section twenty-eight,

and upon such deposit being made he shall cause enquiry to be made into the most suitable alignment for the said water-course and shall mark out the land which, in his opinion, it will be necessary to occupy for the construction thereof and shall forthwith publish a notice in every village through which the water-course is proposed to be taken, that so much of such land as belongs to such village has been so marked out and shall send a copy of such notice to the Collector of every District in which any part of such land is situate

CH IV

23 Any person desiring that an existing water course should be transferred from its present owner to himself, may apply in writing to the Divisional Canal Officer, stating—

(1) that he has endeavoured unsuccessfully to procure such transfer from the owner of such water-course,

(2) that he desires the said Canal Officer, in his behalf and at his cost, to do all things necessary for procuring such transfer,

(3) that he is able to defray the cost of such transfer

Procedure thereupon.— If the Divisional Canal Officer considers—

(a) that the said transfer is necessary for the better management of the irrigation from such water-course, and

(b) that the statements in the application are true,

he shall call upon the applicant to make such deposit as the Divisional Canal Officer considers necessary to defray the cost of the preliminary proceedings, and the amount of any compensation that may become due under the provisions of section twenty-eight in respect of such transfer,

and upon such deposit being made, he shall publish a notice of the application in every village and shall send a copy of the notice to the Collector of every District through which such water course passes

24 Within thirty days from the publication of a notice under section twenty-two or section twenty-three, as the case may be, any person interested in the land or water-course to which the notice refers may apply to the Collector by petition, stating his objection to the construction or transfer for which application has been made

Objections to construction or transfer applied for

application has been made

The Collector may either reject the petition or may proceed to inquire into the validity of the objection giving previous notice to the Divisional Canal Officer of the place and time at which such inquiry will be held

The Collector shall record in writing all orders passed by him under this section, and the grounds thereof

25 If no such objection is made, or (where such objection is made) if the Collector over-rules it, he shall give notice to the Divisional Canal Officer to that effect and shall proceed forthwith to place the said applicant in occupation of the land marked out or of the water-course to be transferred, as the case may be.

26 If the Collector considers any objection made as aforesaid to be valid, he shall inform the Divisional Canal Officer accordingly, and, if such officer sees fit, he may, in the case of an application under section twenty-one, alter the boundaries of the land so marked out, and may give fresh notice under section twenty-two; and the procedure hereinbefore provided shall be applicable to such notice, and the Collector shall thereupon proceed as before provided

27 If the Canal Officer disagrees with the Collector, the matter shall be referred for decision to the Commissioner

Such decision shall be final, and the Collector, if he is so directed by such decision, shall, subject to the provisions of section twenty-eight, cause the said applicant to be placed in occupation of the land so marked out or of the water-course to be transferred, as the case may be

28. No such applicant shall be placed in occupation of such land or water-course until he has paid to the person named by the Collector such amount as the Collector determines to be due as compensation for the land or water-course so occupied or transferred, and for any damage caused by the marking out or occupation of such land, together with all expenses incidental to such occupation or transfer

In determining the compensation to be made under this section, the Collector shall proceed under the provisions of the Land Acquisition Act, 1870, but he may, if the person to be compensated so desire, award such compensation in the form of a rent-charge payable in respect of the land or water-course occupied or transferred.

If such compensation and expenses are not paid when demanded by the person entitled to receive the same, the amount may be recovered by the Collector as if it were an arrear of land revenue, and shall, when recovered, be paid by him to the person entitled to receive the same

29 When any such applicant is placed in occupation of land or of a water-course as aforesaid the following rules and conditions shall be binding on him and his representative in interest :—

First —All works necessary for the passage across such water-course or water-courses existing previous to its construction and of the drainage intercepted by it, and for affording proper communications across it for the convenience of the neighbouring lands, shall be constructed by the applicant and be maintained by him or his representative in interest to the satisfaction of the Divisional Canal Officer

Conditions binding on applicant placed in occupation, following rules and conditions shall be binding on him and his representative in interest :—

First —All works necessary for the passage across such water-course or water-courses existing previous to its construction and of the drainage intercepted by it, and for affording proper communications across it for the convenience of the neighbouring lands, shall be constructed by the applicant and be maintained by him or his representative in interest to the satisfaction of the Divisional Canal Officer

Second—Land occupied for a water-course under the provisions of section twenty-two shall be used only for the purpose of such water-course CH. IV.

Third—The proposed water-course shall be completed to the satisfaction of the Divisional Canal Officer within one year after the applicant is placed in occupation of the land

In cases in which land is occupied or a water-course is transferred on the terms of a rent-charge,

Fourth—The applicant or his representative in interest shall, so long as he occupies such land or water-course, pay rent for the same at such rate and on such days as are determined by the Collector when the applicant is placed in occupation.

Fifth—If the right to occupy the land ceases owing to a breach of any of these rules, the liability to pay the said rent shall continue until the applicant or his representative in interest has restored the land to its original condition or until he has paid, by way of compensation for any injury done to the said land such amount and to such persons as the Collector determines

Sixth—The Collector may, on the application of the person entitled to receive such rent or compensation, determine the amount of rent due or assess the amount of such compensation, and if any such rent or compensation be not paid by the applicant or his representative in interest, the Collector may recover the amount, with interest thereon at the rate of six per cent. per annum from the date on which it became due as if it were an arrear of land revenue, and shall pay the same, when recovered, to the person to whom it is due

If any of the rules and conditions prescribed by this section are not complied with, or if any water-course constructed or transferred under this Act is disused for three years continuously,

the right of the applicant, or of his representative in interest, to occupy such land or water-course shall cease absolutely

30 The procedure hereinbefore provided for the occupation of land for the construction of a water-course shall be applicable to the occupation of land for any extension or alteration of a water-course, and for the deposit of the soil from water-course clearances

Procedure applicable to occupation for extensions and alterations.

PART IV

OF THE SUPPLY OF WATER.

31 In the absence of a written contract, or so far as any such contract does not extend, every supply of canal water shall be deemed to be given at the rates and subject to the conditions prescribed by the rules to be made by the Local Government in respect thereof

In absence of written contract, water supply to be subject to rules.

Conditions as to—

32 Such contracts and rules must be consistent with the following conditions —

(a) The Divisional Canal Officer may not stop the supply of water to any water-course, or to any person, except in the following cases —

(1) whenever and so long as it is necessary to stop such supply for the purpose of executing any work ordered by competent authority and with the previous sanction of the Local Government

(2) whenever and so long as any water-course is not maintained in such proper customary repair as to prevent the wasteful escape of water therefrom

(3) within periods fixed from time to time by the Divisional Canal Officer

(b) No claim shall be made against the Government for compensation in respect of loss caused by the failure or stoppage of the water in a canal, by reason of any cause beyond the control of the Government, or of any repairs, alterations or additions to the canal or of any measures taken for regulating the proper flow of water therein, or for maintaining the established course of irrigation which the Divisional Canal Officer considers necessary, but the person suffering such loss may claim such remission of the ordinary charges payable for the use of the water as is authorized by the Local Government

(c) If the supply of water to any land irrigated from a canal be interrupted otherwise than in the manner described in the last preceding clause, the occupier or owner of such land may present a petition for compensation to the Collector for any loss arising from such interruption, and the Collector may award to the petitioner reasonable compensation for such loss

(d) When the water of a canal is supplied for the irrigation of a single crop, the permission to use such water shall be held to continue only until that crop comes to maturity, and to apply only to that crop, but if it be supplied for irrigating two or more crops to be raised on the same land within the year, such permission shall be held to continue for one year from the commencement of the irrigation, and to apply to such crops only as are matured within that year

- CH. IV. (e) Unless with the permission of the Superintending Canal Officer, no person entitled to use the sale or sub-letting of canal water, water of any canal, or any work, building or land appertaining to any canal, shall sell or sub-let or otherwise transfer his right to such use, provided that the former part of this clause shall not apply to the use by a cultivating tenant of water supplied by the owner of a water course for the irrigation of the land held by such tenant
- But all contracts made between Government and the owner or occupier of any immovable property, as to the supply of canal water to such property, shall be transferable therewith, and shall be presumed to have been so transferred whenever a transfer, with land, of contracts for water, with, and shall be presumed to have been so transferred whenever a transfer of such property takes place,
- (f) No right to the use of the water of a canal shall be, or be deemed to have been acquired under the Indian Limitation Act, 1871, Part IV, nor shall Government no right acquired by user be bound to supply any person with water, except in accordance with the terms of a contract in writing

PART V

OF WATER-RATES.

- 33 If water supplied through a water-course be used in an unauthorized manner and if the person by whose act or neglect such use has occurred cannot be identified, the person on whose land such water has flowed, if such land has derived benefit therefrom, or if such person cannot be identified, or if such land has not derived benefit therefrom, all the persons chargeable in respect of the water supplied through such water-course, shall be liable, or jointly liable, as the case may be, to the charges made for such use
- 34 If water supplied through a water-course be suffered to run to waste, and if, after enquiry by the Divisional Canal Officer, the person through whose act or neglect such water was suffered to run to waste cannot be discovered, all the persons chargeable in respect of the water supplied through such water-course shall be jointly liable for the charges made in respect of the water so wasted
- 35 All charges for the unauthorized use or for waste of water may be recovered in addition to any penalties incurred on account of such use or waste
- All questions under section thirty-three or section thirty-four shall be decided by the Divisional Canal Officer subject to an appeal to the Head Revenue Officer of the District, or such other appeal as may be provided under section seventy-five
- 36 The rates to be charged for canal water supplied for purposes of irrigation to the occupiers of land shall be determined by the rules to be made by the Local Government, and such occupiers as accept the water shall pay for it accordingly
- Charge on occupier for water how determined. A rate so charged shall be called the "occupier's rate."
- "Occupier's rate"
- 37 In addition to the occupier's rate, a rate to be called the "owners rate" may be imposed, according to rules to be made by the Local Government, on the owners of canal irrigated lands, in respect of the benefit which they derive from such irrigation
- "Owner's rate"
- 38 The owners rate shall not exceed the sum which, under the rules for the time being in force for the assessment of land revenue, might be assessed on such land, on account of the increase in the annual value or produce thereof caused by the canal irrigation. And for the purpose of this section only, land which is permanently settled or held free of revenue, shall be considered as though it were temporarily settled and liable to payment of revenue
- Amount of owner's rate
- 39 No owners rate shall be chargeable either on the owner or occupier of land temporarily assessed to pay land revenue at irrigation rates, during the currency of such assessment
- Owner's rate not chargeable in respect of land temporarily assessed to land revenue at irrigation rates.
- 40 If such land is occupied by the owner,
- When occupier is to pay both owner's rate and occupier's rate
- or if it is occupied by a tenant whose rent is not liable to enhancement on the ground that the value of the produce of the land or the productive powers of the land has or have been increased by irrigation, such owner or tenant shall pay the owner's rate as well as the occupier's rate
- 41 In the case of a tenant with a right of occupancy, the Local Government shall have power to make rules for dividing the owner's rate between such tenant and his landlord proportionately to the extent of the beneficial interest of each in the land.
- Power to make rules for apportioning owner's rate

42 If the owner of the land is not the occupier, but has power to enhance the rent of the occupier on the ground that the value of the produce or the productive powers of the land has or have been increased by irrigation, or if, when the amount of rent was fixed, the land was irrigated from the canal, the owner shall pay the owner's rate.

43 If a revision of settlement is a ground for entertaining a suit for the enhancement of rent, the introduction of canal irrigation into any land shall have the same effect on the landlord's right to re enhance the rent of a tenant with a right of occupancy of such land as if a revision of settlement had taken place, under which the revenue payable in respect of such land had been increased.

44 Where a water-rate is charged on land held by several joint owners it shall be payable by the manager or other person who receives the rents or profits of such land, and may be deducted by him from such rents or profits before division, or may be recovered by him from the persons liable to such rate in the manner customary in the recovery of other charges on such rents or profits.

Recovery of Charges

45 Any sum, lawfully due under this Part and certified by the Divisional Canal Officer to be so due, which remains unpaid after the day on which it becomes due, shall be recoverable by the Collector from the person liable for the same as if it were an arrear of land revenue.

46 The Divisional Canal Officer or the Collector may enter into an agreement with any person for the collection and payment to the Government by such person of any sum payable under this Act by a third party.

When such agreement has been made such person may recover such sum by suit as though it were a debt due to him, or an arrear of rent due to him on account of the land, work or building in respect of which such sum is payable, or for or in which the canal water shall have been supplied or used.

If such person makes default in the payment of any sum collected by him under this section, such sum may be recovered from him by the Collector under section forty-five, and if such sum or any part of it be still due by the said third party, the sum of part so due may be recovered in like manner by the Collector from such third party.

47 The Collector may require the *lambardár* or person under engagement to pay the land revenue of any estate, to collect and pay any sums payable under this Act by a third party in respect of any land or water in such estate.

Such sums shall be recoverable by the Collector as if they were arrears of land revenue due in respect of the defaulter's share in such estate,

and for the purpose of collecting such sums from the subordinate *zamíndárs*, *ryots*, or tenants, such *lambardár* or person may exercise the powers, and shall be subject to the rules laid down in the law for the time being in force, in respect to the collection by him of the rents of land or of shares of land revenue.

The Local Government shall provide,

- (a) for remunerating persons collecting sums under this section, or
- (b) for indemnifying them against expenses properly incurred by them in such collection, or
- (c) for both such purposes

Fines excluded from Sections 48, 46, 47 48 Nothing in sections forty five, forty-six, or forty-seven applies to fines.

PART VI OF CANAL NAVIGATION

49 Any vessel entering or navigating any canal contrary to the rules made in that behalf by the Local Government or so as to cause danger to the canal or the other vessels therein, may be removed, or detained or both removed and detained, by the Divisional Canal Officer, or by any other person duly authorized in that behalf.

The owner of any vessel causing damage to a canal, or removed or detained under this section shall be liable to pay to the Government such sum as the Divisional Canal Officer, with the approval of the Superintending Canal Officer, determines to be necessary to defray the expenses of repairing such damage, or of such removal or detention, as the case may be.

50 Any fine imposed under this Act upon the owner of any vessel, or the servant or agent of such owner or other person in charge of any vessel, for any offence in respect of the navigation of such vessel, may be recovered either in the manner prescribed by the Code of Criminal Procedure or, if the Magistrate imposing the fine so directs, as though it were a charge due in respect of such vessel.

CH IV

51 If any charge due under the provisions of this Part in respect of any vessel is not paid on demand to the person authorized to collect the same the Divisional Canal Officer may seize and detain such vessel and the furniture thereof, until the charge so due, together with all expenses and additional charges arising from such seizure and detention, is paid in full

52 If any charge due under the provisions of this Part in respect of any cargo or goods carried in a Government vessel on a canal, or stored on or in lands or warehouses occupied for the purposes of a canal, is not paid on demand to the person authorized to collect the same, the Divisional Canal Officer may seize such cargo or goods and detain them until the charge so due, together with all expenses and additional charges arising from such seizure and detention, is paid in full

53 Within a reasonable time after any seizure under section fifty-one or section fifty-two, the said Canal Officer shall give notice to the owner or person in charge of the property seized that it, or such portion of it as may be necessary, will, on a day to be named in the notice, but not sooner than fifteen days from the date of the notice, be sold in satisfaction of the claim on account of which such property was seized, unless the claim be discharged before the day so named

And if such claim be not so discharged, the said Canal Officer may, on such day sell the property seized, or such part thereof as may be necessary to yield the amount due, together with the expenses of such seizure and sale

Provided that no greater part of the furniture of any vessel or of any cargo or goods, shall be so sold than shall, as nearly as may suffice to cover the amount due in respect of such vessel cargo or goods.

The residue of such furniture cargo or goods, and of the proceeds of the sale, shall be made over to the owner or person in charge of the property seized

54 If any vessel be found abandoned in a canal, or any cargo or goods carried in a Government vessel on a canal or stored on or in lands or warehouses occupied for the purposes of a canal be left unclaimed for a period of two months, the Divisional Canal Officer may take possession of the same

The officer so taking possession may publish a notice that, if such vessel and its contents or such cargo or goods, are not claimed previously to a day to be named in the notice not sooner than thirty days from the date of such notice, he will sell the same, and, if such vessel, contents, cargo or goods be not so claimed, he may, at any time after the day named in the notice, proceed to sell the same

The said vessel and its contents, and the said cargo or goods, if unsold, or, if a sale has taken place, the proceeds of the sale after paying all tolls, charges and expenses incurred by the Divisional Canal Officer on account of the taking possession and sale, shall be made over to the owner of the same, when his ownership is established to the satisfaction of the Divisional Canal Officer

If the Divisional Canal Officer is doubtful to whom such property or proceeds should be made over, he may direct the property to be sold, as aforesaid, and the proceeds to be paid into the District Treasury, there to be held until the right thereto be decided by a Court of competent jurisdiction

PART VII

OF DRAINAGE

55 Whenever it appears to the Local Government that injury to any land or the public health or public convenience has arisen or may arise from the obstruction of any river, stream or drainage channel, such Government may, by notification published in the official Gazette, prohibit, within limits to be defined in such notification, the formation of any obstruction, or may, within such limits, order the removal or other modification of such obstruction

Thereupon so much of the said river, stream, or drainage channel as is comprised within such limits, shall be held to be a drainage work as defined in section three

56 The Divisional Canal Officer, or other person authorized by the Local Government in that behalf, may, after such publication, issue an order to the person causing or having control over any such obstruction to remove or modify the same within a time to be fixed in the order

If, within the time so fixed such person does not comply with the order, the said Canal Officer may himself remove or modify the obstruction, and if the person to whom the order was issued does not, when called upon, pay the expenses involved in such removal or modification, such expenses shall be recoverable by the Collector from him or his representative in interest as an arrear of land revenue

57 Whenever it appears to the Local Government that any drainage works are necessary for the preparation of schemes for improvement of any lands, or for the proper cultivation or irrigation thereof, or that protection from floods or other accumulations of water, or from erosion by a river, is required for any lands, the Local Government may cause a scheme for such drainage works to be drawn up and published, together with an estimate of its cost and a statement of the proportion of such cost which the Government proposes to defray, and a schedule of the lands which it is proposed to make chargeable in respect of the scheme

58 The persons authorized by the Local Government to draw up such scheme may exercise all or any of the powers conferred on Canal Officers by section fourteen.

59 An annual rate, in respect of such scheme, may be charged according to rules to be made by the Local Government, on the owner of all lands which shall, in the manner prescribed by such rules, be determined to be so chargeable.

Such rate shall be fixed as nearly as possible so as not to exceed either of the following limits —

(1) Six per cent. per annum on the first cost of the said works, adding thereto the estimated yearly cost of the maintenance and supervision of the same, and deducting therefrom the estimated income if any, derived from the works, excluding the said rate —

(2) In the case of agricultural land, the sum which, under the rules then in force for the assessment of land revenue, might be assessed on such land on account of the increase of the annual value or produce thereof caused by the drainage work.

Such rate may be varied from time to time within such maximum by the Local Government.

So far as any defect to be remedied is due to any canal, water-course, road or other work or obstruction, constructed or caused by the Local Government or by any person, a proportionate share of the cost of the drainage works required for the remedy of the said defect shall be borne by such Government or such person as the case may be

60 Any such drainage rate may be collected and recovered in manner provided by sections forty-five, forty-six and forty-seven, for the collection and recovery of water-rates.

61 Whenever, in pursuance of a notification made under section fifty-five, any obstruction is removed or modified,

or whenever any drainage work is carried out under section fifty-seven, all claims for compensation on account of any loss consequent on the removal or modification of the said obstruction, or the construction of such work, may be made before the Collector, and he shall deal with the same in the manner provided in section ten.

62 No such claim shall be entertained after the expiration of one year from the occurrence of the loss complained of unless the Collector is satisfied that the claimant had sufficient cause for not making the claim within such period.

PART VIII

OF OBTAINING LABOUR FOR CANALS AND DRAINAGE WORKS.

63 For the purposes referred to in this Part, the word "labourer" includes persons who exercise any handicraft specified in rules to be made in that behalf by the Local Government.

Power to prescribe number of labourers to be applied by persons benefited by canal

64 In any District in which a canal or drainage work is constructed, maintained or projected by Government, the Local Government may, if it thinks fit, direct the Collector

(a) to ascertain the proprietors, sub-proprietors or farmers, whose villages or estates are, or will be, in the judgment of the Collector, benefited by such canal or drainage work, and

(b) to set down in a list having due regard to the circumstances of the District and of the several proprietors, sub-proprietors or farmers, the number of labourers which shall be furnished by any of the said persons, jointly or severally, from any such village or estate, for employment on any such canal or drainage work when required as hereinafter provided

The Collector may, from time to time, add to or alter such list or any part thereof

65 Whenever it appears to a Divisional Canal Officer duly authorized by the Local Government that, unless some work is immediately executed, such serious damage will happen to any canal or drainage work as to cause sudden and extensive public injury,

Procedure for obtaining labour for works urgently required

Cu IV. and that the labourers necessary for the proper execution thereof cannot be obtained in the ordinary manner within the time that can be allowed for the execution of such work so as to prevent such injury, the said officer may require any person named in such list to furnish as many labourers (not exceeding the number which, according to the said list, he is liable to supply) as to the said officer seem necessary for the immediate execution of such work

Every requisition so made shall be in writing and shall state

- (a) the nature and locality of the work to be done
 - (b) the number of labourers to be supplied by the person upon whom the requisition is made and
 - (c) the approximate time for which and the day on which the labourers will be required,
- and a copy thereof shall be immediately sent to the Superintending Canal Officer for the information of the Local Government

The Local Government shall fix and may from time to time alter, the rates to be paid to any such labourers provided that such rates shall exceed the highest rates for the time being paid in the neighbourhood for similar work In the case of every such labourer the payment shall continue for the whole period during which he is, in consequence of the provisions of this Part, prevented from following his ordinary occupation

The Local Government may with the previous sanction of the Governor General in Council, direct that the provisions of this Part shall apply, either permanently or temporarily (as the case may be) to any District or part of a District for the purpose of effecting necessary annual silt clearances or to prevent the proper operation of a canal or drainage work being stopped or so much interfered with as to stop the established course of irrigation or drainage

66 When any requisition has been made on any person named in the said list every labourer ordinarily resident within the village or estate of such person shall be liable to supply, and to continue to supply, his labour, for the purposes aforesaid

PART IX OF JURISDICTION

67 Except where herein otherwise provided all claims against Government in respect of any thing done under this Act may be tried by the Civil Courts, but no such Court shall in any case pass an order as to the supply of canal water to any crop sown or growing at the time of such order

68 Whenever a difference arises between two or more persons in regard to their mutual rights or liabilities in respect of the use construction or maintenance of a water-course, any such person may apply in writing to the Divisional Canal Officer stating the matter in dispute Such officer shall thereupon give notice to the other persons interested that, on a day to be named in such notice he will proceed to enquire into the said matter And after such enquiry, he shall pass his order thereon unless he transfers (as he is hereby empowered to do) the matter to the Collector, who shall thereupon enquire into and pass his order on the said matter

Such order shall be final as to the use or distribution of water for any crop sown or growing at the time when such order is made, and shall thereafter remain in force until set aside by the decree of a Civil Court

69 Any officer empowered under this Act to conduct any inquiry may exercise all such powers connected with the summoning and examining of witnesses, as are conferred on Civil Courts by the Code of Civil Procedure, and every such inquiry shall be deemed a judicial proceeding

PART X OF OFFENCES AND PENALTIES

70. Whoever, without proper authority and voluntarily does any of the acts following, that is to say,—

- (1) damages alters, enlarges or obstructs any canal or drainage work,
- (2) interferes with increases or diminishes the supply of water in or the flow of water from over or under, any canal or drainage work,
- (3) interferes with or alters the flow of water in any river or stream, so as to endanger, damage or render less useful any canal or drainage work,
- (4) being responsible for the maintenance of a water course, or using a water-course neglects to take proper precautions for the prevention of waste of the water therefrom interferes with the authorized distribution of the water therefrom, or uses such water in an unauthorized manner,

(5) corrupts or fouls the water of any canal so as to render it less fit for the purposes for which it is ordinarily used, CH. IV.

(6) causes any vessel to enter or navigate any canal contrary to the rules for the time being prescribed by the Local Government for entering or navigating such canal,

(7) while navigating on any canal, neglects to take proper precautions for the safety of the canal and of vessels thereon,

(8) being liable to furnish labourers under Part VIII of this Act, fails, without reasonable cause, to supply or to assist in supplying the labourers required of him,

(9) being a labourer liable to supply his labour under Part VIII of this Act, neglects, without reasonable cause, so to supply, and to continue to supply, his labour,

(10) destroys or moves any level-mark or water-gauge fixed by the authority of a public servant,

(11) passes, or causes animals or vehicles to pass, on or across any of the works, banks or channels of a canal or drainage work contrary to rules made under this Act, after he has been desired to desist therefrom,

(12) violates any rule made under this Act for breach whereof a penalty may be incurred, shall be liable on conviction before a Magistrate of such class as the Local Government directs in this behalf, to a fine not exceeding fifty rupees, or to imprisonment not exceeding one month or to both.

71 Nothing herein contained shall prevent any person from being prosecuted under any other law for any offence punishable under this Act. Provided that no person shall be punished twice for the same offence.

72 Whenever any person is fined for an offence under this Act, the Magistrate may direct that the whole or any part of such fine may be paid by way of compensation to the person injured by such offence.

73 Any person in charge of or employed upon any canal or drainage work, may remove from the lands or buildings belonging thereto, or may take into custody without warrant, and take forthwith before a Magistrate or to the nearest police station to be dealt with according to law any person who, within his view, commits any of the following offences:

(1) wilfully damages or obstructs any canal or drainage work,

(2) without proper authority interferes with the supply or flow of water in or from any canal or drainage work, or in any river or stream, so as to endanger, damage or render less useful any canal or drainage work.

74 In this Part the word "Canal" shall (unless there be something repugnant in the subject or context) be deemed to include also all lands occupied by Government for the purposes of canals, and all buildings, machinery, fences, gates and other erections, trees, crops, plantations or other produce, occupied by, or belonging to Government, upon such lands.

PART XI

OF SUBSIDIARY RULES

75 The Local Government may, from time to time with the previous sanction of the Governor General in Council make rules to regulate the following matters—

(1) The proceedings of any officer who, under any provision of this Act, is required or empowered to take action in any matter,

(2) the cases in which and the officers to whom and the conditions subject to which orders and decisions given under any provision of this Act, and not expressly provided for as regards appeal, shall be appealable,

(3) the persons by whom, the time place or manner at or in which anything for the doing of which provision is made in this Act shall be done,

(4) the amount of any charge made under this Act,

(5) and generally to carry out the provisions of this Act.

The Local Government may, from time to time, with the like sanction, alter or cancel any rules so made.

Such rules, alterations and cancellments shall be published in the local official Gazette, and shall thereupon have the force of law.

SCHEDULE

(See Section 2)

Number and year	Title.	Extent of repeal
VII of 1845.	An Act for regulating the Levy of Water-rent, Tolls and Dues on certain Canals for Irrigation and Navigation, constructed by Government in the North Western Provinces, and for the Protection of the said Canals from injury	The whole
XIV of 1863	An Act to amend Act X of 1859 (to amend the law relating to the Recovery of Rent in the Presidency of Fort William, Bengal)	Section fifteen.
XII of 1856.	An Act to provide for the compulsory taking of rights to form and maintain private water-courses from public works of irrigation	The whole.
XXX of 1871.	An Act to regulate Irrigation, Navigation and Drainage in the Punjab,	The whole.

WHITLEY STOKES,

Secretary to the Government of India

(47)

No 3725 I
PUBLIC WORKS DEPARTMENT, PUNJAB
IRRIGATION BRANCH

Cu, IV

NOTIFICATION

Dated Lahore, 17th August 1878

In exercise of the powers conferred on him by Act VIII of 1873, and with the approval of His Excellency the Governor-General in Council, the Hon'ble the Lieutenant-Governor is pleased to direct the publication of the following rules, and to declare them applicable to the undermentioned Canals —

The Bān Doāb Canal and all its Branches
The Western Jumna Canal and all its Branches
The Upper Sutlej Inundation Canals
The Lower Sutlej and Chenab Inundation Canals
The Indus Inundation Canals
The Inundation Canals in Shahpur and Bannu Districts under the control of Government

By order of the Hon'ble the Lieutenant Governor,

R HOME, MAJOR R. E.,
Offg Joint-Secy to Govt Punjab, P W D,
Irrigation Branch.

IRRIGATION DEPARTMENT, PUNJAB
RULES ISSUED UNDER ACT VIII OF 1873

PART III

ON CONSTRUCTION AND MAINTENANCE OF WORKS

- 1 ORDERS FOR CONSTRUCTION OF WORKS—The order which a Divisional Canal Officer may issue under
Section 18 Section 18 shall be in writing and shall be served on each person concerned or his representative as a civil process through the Deputy Commissioner
- 2 PROCEEDINGS OF SUPERINTENDING CANAL OFFICERS ON REFERENCE—The Superintending Canal
Section 20 Officer, before confirming or modifying a decision passed by the Divisional Canal Officer under Section 20, shall hear and record any objections made to such decision by the parties interested or their representatives, to whom at least 15 days' notice of the date and of the place at which Superintending Canal Officer will consider the Divisional Canal Officer's decision shall be given
- 3 PROCEEDINGS OF DEPUTY COMMISSIONER—The notice which the Deputy Commissioner is bound
Section 24 to give to the Canal Officer under Section 24 shall not be less than fourteen days
- 4 OPENING OF NEW WATER-COURSES—Water shall not be admitted into any new water-course until
Section 29 all works necessary for the passage across such water-course of water-courses existing previous to its construction, and of the drainage intercepted by it, and for affording proper communications across it, for the convenience of the neighbouring lands, are completed to the satisfaction of the Divisional Canal Officer
- 5 APPLICATIONS FOR WATER—All applications for water or for the construction or improvement of
water courses under Part III of the Act shall be in the form prescribed in Appendix No 1

PART IV

ON THE SUPPLY OF WATER

- 6 LIMIT OF LENGTH OF WATER COURSES—Water shall not ordinarily be granted to lands where the
Section 31 length of the water-course from its head to its point of contact with the fields exceeds two miles
- 7 APPREHENDED WASTAGE—Applications under Section 16 of the said Act shall not be granted
Section 16 where, in the opinion of the Divisional Canal Officer, loss from wastage is likely to occur. From his decision an appeal may be preferred to the Superintending Canal Officer

- CH. IV. 8 SANITARY REASONS**—The Divisional Canal Officer shall not engage to grant water for the irrigation of any kharif crops upon lands within one mile from the outermost houses of any town, if such irrigation be objected to by the Municipal Committee (or, if there be no Municipal Committee, by the Deputy Commissioner) and the objection is approved by the Superintending Canal Officer and the Commissioner of the Division. Should these Officers differ in opinion, the question will be referred to Government in the Irrigation Department, whose decision shall be final.
- 9 PREPARATION OF FIELDS**—A Divisional Canal Officer may withhold or postpone the issue of water to any cultivator whose fields he may have ascertained by personal inspection (by himself or one of his Assistants, or the Canal Deputy Collector) to be unprepared for irrigation by division into *kadis* or compartments, not greater in area than 36 feet by 36 feet, and by the addition of small water channels, as is customary in irrigation from wells.
- Section 31**
- When a field is irrigated which has not been so prepared, an additional charge may be imposed equal to half the amount of occupier's rate leviable on the field.
 - Rice-fields and gardens are exempted from the operation of this rule.
 - In each case the Divisional Canal Officer the Sub-Divisional Canal Officer or Canal Deputy Collector must certify that he personally examined the field, and that it was not properly prepared for irrigation according to the terms of the rule.
 - An appeal against the orders of the Divisional Canal Officer may be preferred to the Superintending Canal Officer.
- 10 FILLING OF TANKS FOR WATERING CATTLE**—Tanks may be filled with canal-water without charge, and without reference to the area irrigated in any village, whenever water can be made available without injury to the cultivation dependent on any canal, under the following regulations—
- Section 31**
- No tank shall be so filled unless exclusively used for domestic purposes and for watering cattle, such tanks are generally in the immediate neighbourhood of villages.
 - As provided in Rule 12 a, no tank shall be so filled from which irrigation is practised.
 - No tank shall be so filled which intercepting any line of drainage, is liable to overflow from accumulation of water derived from natural causes.
 - No tank shall be so filled except on the written order of the Sub-Divisional Canal Officer issued on the written applications of the parties concerned. The filling of tanks can only be permitted at such times and to such extent as the Sub-Divisional Canal Officer approves.
 - No tank shall be so filled unless the water-course used to fill it shall be shown to the satisfaction of the Sub-Divisional Officer to be in a sound condition when the application is made.
 - The privilege herein accorded may be suspended for 12 months for breach of these regulations, by order of the Divisional Canal Officer passed on a regular proceeding and inquiry in each case, from his order an appeal may be preferred to the Superintending Canal Officer.
- 11 CONTRACTS**—The Divisional Canal Officer with the previous sanction of Superintending Canal Officer is empowered to make contracts for the supply of canal-water for purposes other than irrigation, not specified in schedule of rates for any term not exceeding one year. For terms exceeding one year the previous sanction of the Local Government shall be necessary.
- 12 CHARGES FOR WATER USED FOR PURPOSES OTHER THAN IRRIGATION**—Tanks may be filled with canal-water for purposes other than those stated in Clause I of Rule 12 such water will be charged for at rates and subject to conditions to be determined by the Local Government in each case.
- 12 a** Irrigation may also be carried on from tanks, provided the previous sanction of the Sub-Divisional Canal Officer be obtained. The usual rates will be charged for such irrigation.
- 13 WATER SUPPLIED TO CANTONMENTS, TOWNS &c**—When water is supplied to forts, or other military buildings cantonments, civil stations, cities, towns, railways, public gardens or other places of public resort, either by filling of tanks or by direct flow, contracts at special rates may be accepted by the Divisional Canal Officer with the previous sanction of the Local Government.
- 14 WATER-POWER**—The use of water-power may be granted by the Divisional Canal Officer at such rates and under such conditions as may be sanctioned by the Local Government in each case.
- 15 TATILS**—Divisional Canal Officers are empowered for purposes of administration repairs and maintenance, to order the closure of any water course for periods which shall not extend beyond ten consecutive days. For longer closures the authority of the Superintending Canal Officer is required.
- Section 32 (a)**
- Section 32 (a)** 16 Orders for closures under Rule 15 must be notified either—
- by a notification,
 - by a special order.
- Such notification or order shall be in writing under the hand of the Divisional Canal Officer and a copy shall be conveyed by the Canal establishment with due expedition to each village concerned and delivered to the Patwari, or in his absence to any Lambardar. The receipt of each person to whom a copy of the notification or order is delivered shall be affixed to a schedule prepared for the purpose, which shall be recorded in the Divisional Canal Office.

It shall be the duty of the Patwari or Lambardar who receives the notification or order above described to affix it at once in a conspicuous position in the village and to make its purport generally known. CH. IV

17 STOPPAGE OF SUPPLY IN IMPROPERLY MAINTAINED WATER COURSES—Stoppage of supply of water to any water course under Section 32 (a) (2) may be enforced when the Canal Officer ordering the stoppage has satisfied himself, by personal inspection, that the water-course is not maintained in proper repair. The order for such stoppage shall be in writing under the hand of the Divisional Canal Officer, and an immediate report shall be made to the Superintending Canal Officer, and the special grounds for stoppage explained. The Superintending Canal Officer's order shall be final.

Section 32 (a). **18 REPORT OF CLOSURES**—Immediate report shall be made to Superintending Canal Officer of all closures under case (1), Section 32 (a)

19 Nothing in the foregoing rules shall be taken to affect the power of a Canal Officer to close any water course or stop any supply of water on his own authority in cases which he deems to be of pressing emergency.

Section 32 (b). **20 CLAIMS FOR REMISSION**—All claims for remission of occupier's rate under Section 32 (b) shall be made to the Divisional Canal Officer previous to the cutting of the crop. The Divisional Canal Officer may reject or admit any claim. If the claim is admitted, the Divisional Canal Officer may remit to the limit of 50 rupees in each individual case, provided that the aggregate remissions for any one village do not exceed 200 rupees. If the Divisional Canal Officer considers that higher remissions should be granted than those above specified the sanction of the Superintending Canal Officer must be obtained. Pending the decision, the collection shall be suspended.

Claims to remission of ordinary charges other than occupiers' rates payable for the use of the canal-water shall only be admitted on proof of actual loss caused by the stoppage of supply, or proof of such loss the whole, or any portion of the charges, may be remitted as hereinbefore provided.

If a claim for remission of ordinary charges, other than occupiers' rates, be rejected by the Divisional Canal Officer, the claimant may prefer an appeal to the Superintending Canal Officer.

PART V OF WATER-RATES

Section 36. **21 CHARGES FOR THE USE OF WATER**—The charge for the use of water shall be made on the area irrigated at the rates specified in the schedules for the time being in force, and subject to the following rules:

Section 36. **22 CHARGE LEVIABLE FOR "PALEVE" WHEN NO CROP IS SOWN**—When a field receives the first or preliminary watering and afterwards no crop is sown, the lowest rate of charge for "lift" or "flow" as the case may be, will be imposed. One watering after the crop has been sown shall be charged for at the rate leviable for the whole crop, or the whole year as the case may be.

23 CHARGE FOR MILKED CROPS—If milked crops be grown in the same field, the occupier's rate shall be calculated on the highest rated crop.

24 CHARGE FOR DIFFERENT CROPS GROWN IN THE SAME FIELD—If different crops be grown in different parts of the same field the occupier's rate shall be calculated on the highest rated crop, unless the division between the two crops shall have been clearly defined by a ridge not less than half a foot high.

25 CHARGE LEVIABLE ON FIELDS RE-SOWN—When the original crops sown in a canal irrigated field fails and is ploughed up and a fresh crop sown in the same season, the occupier's rate to be levied is that due on the crop which comes to maturity.

Section 36. **26 OCCUPIER'S RATE FOR FIELDS PARTLY IRRIGATED**—If only a portion of a field be irrigated the occupier's rate shall be chargeable on the whole field unless such portion shall have been clearly demarcated by a ridge not less than half a foot high.

Section 36. **27 CHARGE LEVIABLE ON FIELDS PARTLY IRRIGATED FROM CANALS, PARTLY FROM WELLS**—Where a portion of a field has been irrigated with canal-water and a portion with well-water, the whole field will be treated as irrigated with canal-water, unless a clearly distinguishable boundary demarcated by a ridge not less than half a foot high exists between the two portions. Where such a boundary exists, enquiry will be made whether the use of well-water was owing to deficiency in the supply of canal-water, in which case the canal charge on the portion irrigated by canal-water, should be reduced to lift rates.

Section 36. **28 USE OF CANAL WATER-COURSES FOR CONVEYANCE OF WELL-WATER**—If well-water is conveyed in the same channel as canal-water in the course of the same season the whole of the irrigation from that channel during such season shall be treated as

irrigation from the canal

Section 36. **29 CHARGE LEVIABLE FOR PERMANENT IRRIGATION FROM ESCAPES**—Irrigation from escape channels, when the supply is permanent shall be governed by the same rules as irrigation from other parts of the canal.

CH IV 30 **CHARGE LEVIABLE FOR INTERMITTENT IRRIGATION FROM ESCAPES**—Irrigation from such channels when the supply is intermittent may be allowed at such reduced rates as shall from time to time be fixed by the Local Government in each case

31 When a natural drainage channel or reservoir, not being part of the canal, is used as an escape channel if it is so used at the request of person desirous of irrigating from it the same rates shall be chargeable for irrigation from it as for irrigation from an escape channel. Provided that the area if any, irrigated from it previous to the introduction of canal-water shall not be liable to water rate the amount of such area shall be determined by the Deputy Commissioner. In all cases in which water is supplied under this rule, a written contract shall be executed, setting forth the terms on which it is supplied.

32 **CHARGE LEVIABLE FOR THE UNAUTHORIZED USE OF WATER**—Persons irrigating from a canal without permission, or taking water at times prohibited by proper authority, shall be chargeable with a special water-rate on the area irrigated, in addition to such penalties as may be imposed under Section 70 of the Act.

33 **CHARGE LEVIABLE FOR "AB PAI" (WASTE OF WATER)**—The charge leviable for water used in an unauthorized manner, or suffered to run to waste, shall be made on the area flooded at special rates, according as the land is cultivated or uncultivated, in addition to such penalties as may be imposed under Section 70 of the Act. The special rates mentioned in this and in the preceding rule (32) will be published in the Schedule of Rates.

34 An appeal against any charges made under Rules 22 to 33 inclusive may be preferred to the Commissioner.

35 **SCHEDULES OF RATES TO BE ACCESSIBLE TO VILLAGERS**—The Patwari of every village irrigated by canal shall be furnished by the Divisional Canal Officer with a statement in Hindi, or the current written language of the District showing the rates of assessment of each class of produce per ordinary local and canal measurements, which statement shall be suspended in the Chaupal or other place of public resort.

36 **PAIWARIS FEES**—The allowance to Patwaris employed in the Irrigation Department shall be 2 per cent on the amount of collection, this payment to be conditional on their affording satisfaction to the Divisional Canal Officer in respect to their duties in connection with the measurements and assessments and to the Deputy Commissioner in respect to their duties connected with the collection of canal revenue.

37 **LAMBARDARS' FEES**—The allowance to Lambardars, or other persons collecting from cultivators shall be 3 per cent on the amount collected, on condition that the full amount due has been paid within three months of the issue of the demand statement, and that the Lambardar has performed his duty connected with assessments, such as personal attendance or deputation at the time of measurement and correct report of irrigation.

Provided that it shall be at the discretion of the Deputy Commissioner or Divisional Canal Officer, as the case may be subject to the appeal allowed by Rule 76 to withhold the whole or part of the allowances prescribed in Rules 36 and 37 in the event of the conditions not being complied with.

PART VI NAVIGATION

38 **TOLLS**—When a Government canal shall have been declared by the Local Government open for navigation tolls and charges on boats and rafts plying thereon shall be levied on such a system and at such rates as shall be from time to time determined by the Local Government with the approval of the Government of India, such system and rates being published by notification in the Government Gazette.

39 **FERRIES**—Ferry boats shall not be permitted to ply on the canal except under a written license in the form contained in Appendix II, from the Divisional Canal Officer and subject to conditions therein laid down. An appeal against an order revoking such license may be preferred within 15 days to the Superintending Canal Officer.

40 **MEASUREMENT**—Every boat or raft entering a Government canal shall be liable to measurement for the purpose of ascertaining the amount of toll the boat or raft shall pay, according to the schedule of rates in force for the time being.

41 **NUMBER**—Every boat, at the time of first measurement, shall be given a serial number by which it shall be distinguished while plying on the canal. The number shall be fixed on the port or left hand bow of the boat, and shall not be less than eight inches in height, and shall be of such a colour as to be easily distinguishable at a distance of 100 yards.

42 **TICKET**—Every boat on entering a canal shall be furnished with a ticket, in the form contained in Appendix III, which shall specify the number of the boat, the date on which it entered the canal, the name of the owner of the boat, his occupation and place of abode and the name of the person in charge of the boat. Upon leaving the canal the Divisional Canal Officer shall enter on the ticket the date of leaving and shall return the ticket to the person in charge of the boat.

43 **DIMENSIONS**—No boat above 14 feet beam over all shall be allowed in a canal on which the locks are 16 feet in width and no boat above 18 feet beam over all, in a canal on which the locks are 20 feet in width. No raft of more than 14 feet in width and 90 feet in length shall be allowed on any canal the locks of which are 16 feet, and no raft of more than 18 feet in width and 100 feet in length will be allowed in a canal the locks of which are 20 feet in width.

44 **TOLLS PAYABLE IN ADVANCE**—Tolls on boats are payable in advance, and no boats shall be allowed to leave any canal on which it is plying until all such tolls and charges have been duly liquidated. The officer granting permission for the boat's removal shall sign the certificate at the foot of the ticket given under Rule 42 (Appendix III) after satisfying himself that all claims against the boat have been paid.

45 **RECEIPT FOR TOLLS**—Tolls may be paid either to the Divisional Canal Officer or to the person appointed by him, herein after called the Agent, at any of the toll stations, and a receipt, in the form contained in Appendix IV shall be granted for the same.

46 **PASS FOR BOATS**—Upon any boat plying on a canal being freighted, the owner or person in charge shall declare to the Divisional Canal Officer or his agent at the place of loading (or if there be none there, to the first he may pass on his journey), an invoice of the cargo, showing the nature, weight, value and destination. The Divisional Canal Officer or his agent shall thereupon furnish such person in charge with a pass, in the form contained in Appendix V, specifying the foregoing particulars, which pass shall be delivered up to the Agent nearest to the place at which the vessel is unloaded.

47 **PASS TO BE SHOWN WHEN REQUIRED**—It shall be obligatory on the person in charge of a boat to show the pass granted under Rule 42 when called upon to do so by the Divisional Canal Officer or his authorized agent.

48 **EVERY BOAT OR RAFT TO BE NAVIGATED BY TWO PERSONS**—No boat or raft shall be navigated by less than two persons.

49 **PASS FOR RAFTS**—Passes in the form shown in Appendix VI shall be granted to persons wishing to float rafts down a canal upon application to the Divisional Canal Officer or the nearest agent. No raft unprovided with a pass shall enter a canal.

50 **REMOVAL OF RAFTS FROM CANAL**—On reaching the destination specified in the pass the person in charge of a raft shall, within 24 hours deliver the said pass to the local agent, who, if all is in good order, shall authorize the removal of the raft, which shall be effected within 48 hours from the time of permission being granted, unless written authority to defer removal be given by the agent.

51 **DIVISIONAL CANAL OFFICER EMPOWERED TO REMOVE RAFTS**—Rafts not removed within the time required by Rule 50, and rafts found unattended, may be taken out of the water by the Divisional Canal Officer or his agent.

52 **RAFTS WITHOUT PASSES**—Any raft found in a Government canal unprotected by a pass, may be charged with double toll reckoned on the distance from the head of the canal to the place where such raft shall be removed from the canal.

53 **DOUBLE RATES TO BE CHARGED FOR EXCESS OVER QUANTITY SHOWN IN PASS**—Double rates shall be leviable on all articles in excess of the quantity of each kind specified in the pass granted under Rule 49.

54 **REMOVAL OF RAFTS LODGING AGAINST CANAL WORKS**—Every person floating a raft in a canal shall so navigate it that it shall not lodge against any canal works, and if any raft so lodges or causes obstruction it shall at once be broken up and removed by any Canal Officer on the spot.

55 **MASTS**—Boats must have their masts fitted so that they can be letdown with ease and speed, and no mast shall be so high as to strike or scrape any bridge under which the boat may pass.

56 **BOATS AND RAFTS TO BE FASTENED FORE AND AFT**—Every boat or raft which is brought to alongside of a canal bank or wharf must be securely fastened fore and aft to the bank or wharf, no boat or raft can be brought up outside another so moored without the permission of the Divisional Canal Officer.

57 **BOATS AND RAFTS TO BE MOORED SO AS NOT TO OBSTRUCT TRAFFIC**—No boat or raft shall be placed in such a position as to endanger the safety of other boats or rafts, or to obstruct their passage, or to impede navigation, and no bamboos or poles shall be allowed to be erected, or to remain erected on vessels moored to the bank.

58 **EVERY BOAT OR RAFT WHEN BROUGHT TO TO HAVE SOME ONE ON BOARD**—Every boat and raft when brought to, shall at all times have some person in attendance on board.

59 **WRECKS**—In every case of a wreck or obstruction of a canal channel by a sunken or partially sunken, boat or raft, the Divisional Canal Officer may call upon the owner or person in charge to remove the same without delay. Should the owner or the person in charge not be forthcoming, or should he refuse to remove the wreck or obstruction, or should he not within 48 hours commence to remove the wreck or obstruction, then the Divisional Canal Officer may undertake the removal under Section 49 of the Act.

60 **BANKS OR BERMS NOT TO BE USED AS WHARVES**—The banks or berms of the canal shall not be used as wharves for the deposit of goods except with the permission of the Divisional Canal Officer.

61 **GOODS TO BE REMOVED FROM CANAL LANDS**—All goods shall be removed from canal lands within seven days, unless the written permission of the Divisional Canal Officer be obtained to their remaining longer. All goods deposited on canal lands must be properly stacked, and so placed as not to interfere with other traffic. In the event of such goods not being removed when required, a charge of four annas

CH IV. per 100 maunds per diem shall be levied, when the goods are susceptible of being reckoned by weight, or a proportionate charge shall be determined by the Divisional Canal Officer when the goods are reckoned by number. This rule does not apply to canal warehouses for which special rules will be framed.

62 **BOATS OR RAFTS LIABLE TO BE EXAMINED**—Any boat or raft plying on a canal may be examined by any Canal Officer, of rank not inferior to a Sub-divisional Officer, or by any agent, provided that there is reason to believe that the owner or the person in charge thereof is attempting to evade the canal rules.

63 **CANAL CLOSURES**—Any canal may be closed once a year for the execution of needful works, on one month's notice published in the Government Gazette of the intention so to close it. Any canal may also be closed at any time without notice in the event of any sudden emergency, and no claim for compensation to any owner, or person in charge of any boat, or raft navigating the canal, shall be created by unavoidable detention resulting from such closure, or from the depth of water being at any time unavoidably reduced in the canal or from the failure of any weir, lock, bridge or other work in the canal bed. The fact of an emergent closure having been authorized shall be notified in the Government Gazette.

PART VIII OF OBTAINING LABOR, &c

PART VIII—Section 63

64 Persons exercising the handicrafts detailed below shall, in addition to the agriculturists, be deemed labourers for the purposes referred to in Part VIII—

Workers in leather	Mochs,
" " oil	Teh,
" " earthenware	Kumdar,
Weaver	Julaah,
Washerman	Droob,
Water carrier	Bhoot,
Barber	Na'i,
Bearer	Kahar,
Fisherman	Jiswar,
Millers generally	Kahar,

PART X OF OFFENCES AND PENALTIES.

65 **OFFENCES UNDER CANAL ACT TRIABLE BY MAGISTRATES OF THE 2ND CLASS**—The Lieutenant-Governor is pleased, under Section 70 of the Act, to direct that charges of offences under that Section shall be cognizable by a Magistrate of the 2nd class.

66 No person, without the permission in writing, of the Divisional Canal Officer, shall pass, or shall cause any animal or vehicle to pass on or across any of the roads, works, banks or channels of a canal, or drainage work, after he has been desired to desist therefrom, excepting upon such bridges, fords and ferries, and their approaches, as are provided by the Divisional Canal Officer.

PART XI, SUBSIDIARY RULES.

67 **ASSESSMENT AND REALIZATION OF OCCUPIER'S RATE**—The amount demandable for occupier's rate shall be determined and apportioned by the Divisional Canal Officer, and the Deputy Commissioner shall realize the sums due.

68 **KHATAONI TO BE ACCESSIBLE TO VILLAGERS**—The Patwari is responsible that the village copy of the *khataoni* or demand statement is at all times accessible to any person who pays for canal-water.

69 **DISTRIBUTION OF PARCHAS**—As soon as the *khataoni* is completed, the Amin shall tender to each cultivator a *parcha*, or slip, containing the particulars of water rate due from him, with the date on which it was given noted on it. All *parchas* remaining unclaimed shall be left for delivery with the Patwari of the village, or, in his absence, with the Lambardar. The *parchas* shall be in the form detailed in Appendix VII.

70 **COMPLAINTS AGAINST KHASRAH ENTRIES**—If a cultivator desires to contest the correctness of the entries made against him in the demand statement, whether as to the fact of the land having been irrigated, or of its being charged 'flow' or 'lift,' or as to the measurement and entries of class or crop, he must lodge a complaint with the Divisional, or Sub-Divisional Canal Officer, or Deputy Collector, within 21 days of date of receipt of *parcha* by the cultivator, or, if he should not have received a *parcha*, within 10 days of the date on which he first became acquainted with the claim against him, and the complaint must be investigated on the spot within 15 days of receipt, and promptly decided.

The order of the Divisional or Sub Divisional Canal Officer or Deputy Collector in such cases, shall be forthwith communicated to the complainant, and shall be subject to appeal to the Commissioner of the Division CIV

71 OBJECTIONS MAY BE MADE BY A LAMBARDAR, &C ON BEHALF OF CULTIVATOR—When a Lambardar or other person is responsible, under Sections 46 and 47 of the said Act for the payment of the occupier's rates in a village or any portion of a village complaints under these rules may be lodged by such Lambardar or Contractor, instead of by the cultivators and any refund that may be necessary in consequence of the order passed upon objection so lodged shall be paid by the Deputy Commissioner to such Lambardar or Contractor on account of the cultivators concerned

72 METHOD OF DEALING WITH ALTERATIONS IN THE DEMAND—If, after the giving of the *parcha*, any addition is made to the demand or any reduction is allowed on a complaint under Rule 22 or 37, or by way of remission under Section 32, clause (b) of the Act or otherwise, such addition or reduction shall be communicated to the cultivator by means of supplementary *parchas*. Demands shall be shown in black and remissions in red letters. All such alterations as are made before the despatch of the *khataons* to the Deputy Commissioner shall be included in that document and shall also be written on slip similarly printed (black for additions and red for reductions) and attached to the *khataon*. Alterations made after the despatch of the *khataons* shall be communicated to the Deputy Commissioner by means of similar slips.

73 OBJECTIONS TO THE DEMAND—Objection to the demand urged before the Deputy Commissioner shall be referred by him to the Divisional Canal Officer the collection not being suspended, except on the receipt of an intimation from the Divisional Canal Officer that an objection has been admitted by him.

74 IRRECOVERABLE BALANCES—Balances found to be irrecoverable owing to want of assets absconding of defaulters, or any other such cause and claims to refund on the ground of mistakes in collection shall be dealt with by the Deputy Commissioner under the rules for suspension, remission, and refund of land revenue.

Section 75

75 PAYMENTS OF REFUNDS—In all cases payments of refunds will be made by the Deputy Commissioner.

76 APPEAL AGAINST RETRENCHMENT OF FEES—An appeal against retrenchment of fees of Lambardars and Patwars shall lie to the Commissioner of the Division or Superintending Canal Officer, according as the retrenchment has been made by the Deputy Commissioner or Divisional Canal Officer.

77 RECEIPTS FOR WATER-RATE—Receipts shall, when demanded, be given by the Lambardar or other person making the collection to each cultivator on payment of occupier's rate.

78 GENERAL PROHIBITION—No person employed on a canal shall without previous sanction obtained from the Divisional Canal Officer have any interest in the distribution or use of water from the said canal or purchase, or bid for, any Government property sold thereon, either in his own name, or in the name of another, or jointly, or in shares with others.

PROCEDURE

79 SPECIAL RULE OF PROCEDURE FOR THE DERA GHAZI KHAN DISTRICT—In the Dera Ghazi Khan District appeals under Section 32 b of the Act shall lie to the Superintending Canal Officer, and those under Sections 33 and 34 shall lie to the Deputy Commissioner of the District.

OF APPEALS AND REFERENCES, AND THE PROCEDURE THEREIN

80 INTERPRETATION—In the following Rules the expression "the Court" denotes the Officer to whom in the particular case an appeal may be preferred under the provisions of the Act, or the Rules made thereunder for the time being in force.

81 NO APPEAL EXCEPT WHEN EXPRESSLY GIVEN—No appeal shall lie from any decision or order given or made under any provision of the Act, except where an appeal is expressly allowed by the Act or by the Rules made thereunder for the time being in force.

82 PERIOD FOR APPEALING—The period for presenting an appeal shall be 30 days, unless any other period is expressly prescribed, and in the latter case the period so prescribed.

But any appeal may be admitted after the period prescribed when the appellant satisfies the Court that he had sufficient cause for not presenting the appeal within such period.

Extension of time—If the period prescribed expires on a day when the Court is closed, the appeal may be presented on the day that the Court re-opens.

83 CALCULATION OF PERIOD—The period prescribed shall be calculated from the date of the decision or order appealed from, and in computing such period the day when the decision or order was made, and the time requisite for obtaining a copy of the decision or appealed order against shall be excluded.

- CH IV** **84 FORM OF APPEAL**—The application for admission of an appeal shall be stamped in accordance with the law in force relating to Court fees, and shall be accompanied by a copy of the decision or order appealed against, and shall state concisely the grounds upon which the appeal is preferred
- 85 WHEN APPEAL MAY BE SUMMARILY REJECTED**—The application may be rejected if, upon a perusal of the grounds of appeal and the copy of the decision or order appealed against, it appears to the Court unnecessary to call for the proceedings
- 86 PROCEDURE ON ADMISSION OF APPEAL**—If the application be granted an entry thereof shall be made in a register of appeals, numbered consecutively, and a day shall be fixed for the hearing of the appeal
- 87 NOTICE OF HEARING TO BE GIVEN**—Notice of the date and place fixed for the hearing of the appeal shall be given to the appellant in such manner as the Court may direct, and to every other party to the case whose interest is opposed to that of the appellant in the manner hereinafter prescribed.
- 88 CONTENTS OF NOTICE**—A written notice containing the title of the Court the names of the parties, the date and place fixed for the hearing of the appeal, and such other particulars as the Court may by general or special order, direct, shall be issued in duplicate under the hand and seal of the Court
- 89 MODE OF SERVICE**—The notice shall be served by delivering one copy thereof, if practicable, to the person addressed therein, or, in his absence, to some adult male member of his family, or if none such be found, by leaving such copy at the addressee's usual place of residence. Provided that if the Court shall so direct, the notice may be served under registered cover sent through the Post Office
- 90 ACKNOWLEDGEMENT OF PERSONAL SERVICE**—When personal service is effected the addressee shall be required to acknowledge the service by affixing his signature, seal or mark on the back of the duplicate copy to be retained by the serving officer
- 91 MEMORANDUM BY SERVING OFFICER**—The serving officer shall in every case endorse on the duplicate copy a memo signed by him of the date and mode of service, and return such copy to the Court which issued it.
- 92 COST OF SERVICE**—The cost of serving any notice shall be borne in the first instance by the party appellant, and shall be paid to the proper officer of the Court before such notice is issued. The charge made for service shall be in accordance with the lowest civil process scale for the time being in force
- 93 HEARING MAY BE POSTPONED OR ADJOURNED**—The hearing of an appeal may be postponed or adjourned from time to time, as the Court may see fit by written order to direct, to any subsequent date, and notice of such date shall be given to the parties in such manner as the Court may direct
- 94 ATTENDANCE OR REPRESENTATION OF PARTIES NOT ESSENTIAL**—The attendance of the parties in person or by representative, shall not be necessary at the hearing of any petition of appeal, or of any appeal, but any party so attending shall be entitled to be heard
- 95 COURT TO BE SATISFIED BEFORE HEARING THAT NOTICE HAS BEEN RECEIVED BY PARTIES**—The Court shall not proceed to the hearing of any appeal unless and until it is satisfied that notice of the date and place fixed for such hearing has been received by the parties concerned in sufficient time to permit them to appear or to be represented at such hearing. Provided that the Court may presume that notice has been received when a written notice has been served in any of the ways described in Rule 89, above. Provided also that an appeal may be heard and decided notwithstanding the absence of any party who is shown to the satisfaction of the Court to be wilfully evading service of notice
- 96 PROCEDURE ON HEARING**—(a) The Court, before passing its order or decision on the appeal, shall record in writing which (if any) of the parties to the appeal are present, in person or by representative, at the hearing thereof
- (b) The Court if it think further inquiry necessary, may conduct such inquiry itself and in such case shall be deemed to be an officer with the powers described in Section 69 of the Act.
- (c) When the hearing of the appeal is concluded, the decision or order of the Court shall, when practicable, be pronounced forthwith, and shall be recorded in writing signed by the Court, and the substance thereof shall be explained to such of the parties or their representatives as are present when the decision or order is passed or given.
- (d) Every decision or order recorded in English shall be translated into Urdu and the translation shall be authenticated by the signature of the Court and filed with the proceedings.
- 97 COPY THEREOF TO BE SENT TO SUBORDINATE OFFICER**—A copy of the decision or order shall be transmitted by the Court to the Officer from whose decision or order the appeal was preferred
- 98 COPIES TO BE GRANTED TO PARTIES**—A copy of the decision or order of the Court, in English or Urdu, shall be granted to any person concerned or interested therein, who shall apply for the same, upon payment of the proper Court fees and copying charges
- 99 OF RE-HEARING IN CERTAIN EVENTS**—If any party against whom an order or decision is made or given upon an appeal heard in his absence shall, within 30 days from the date of such order or decision, satisfy the Court that he had received no notice of the time and place fixed for the hearing

thereof or had not received such notice in sufficient time to permit him to appear, and that he did not wilfully evade service thereof, the Court may pass an order, if it think such order requisite for the ends of justice (and not otherwise), upon such terms as appear just, setting aside its previous decision or order, and grant a re-hearing, which shall be subject to the same rules as the hearing of an appeal. CH IV'

100 **POWER OF REVISION BY FINANCIAL COMMISSIONER AND CHIEF ENGINEER.**—The Financial Commissioner may at any time call for any case which has come before a Commissioner otherwise than under Section 19 of the Act, or before a Deputy Commissioner, and the Chief Engineer may at any time call for any case which has come before a Superintending or Divisional Canal Officer, and pass such orders thereon consistent with the Act and the rules made thereunder as may seem proper

101 **POWER OF REVISION BY LOCAL GOVT.**—Orders passed by the Financial Commissioner shall be subject to review by the Local Government in the Revenue Department, and orders passed by the Chief Engineer to review by the Local Government in the Irrigation Branch, Public Works Department

102 **FINALITY OF ORDERS AND DECISIONS OF APPELLATE COURT.**—Except as provided in the three last preceding rules, or as may be otherwise expressly provided in the rules for the time being in force, the order or decision passed upon any appeal shall be final.

103 **SCOPE OF RULES.**—Nothing contained in the foregoing rules applies to the hearing of an appeal from any decision or order in a criminal case under the Act

104 **PROCEDURE UPON REFERENCE UNDER SECTION 27.**—Upon a reference to the Commissioner under Section 27 of the Act, the procedure shall, so far as may be, be the same as is prescribed in Rule 2 upon a reference under Section 20 of the Act

105 Except as provided in Rule 2 and in the last preceding rule, no person shall be entitled to be heard in person or by representative before the Superintending Canal Officer, Commissioner, or other higher authority to whom, under the provisions of the Act or the foregoing rules, any matter is submitted or referred for sanction, approval or decision. Nothing in this rule shall preclude the persons concerned from submitting for the consideration of any such officer or authority, petitions relating to any matter so submitted or referred

APPENDIX I

CH IV

Application for Water-course from _____ Canal, Village _____
 PARGANAH _____, DISTRICT _____
 FOR _____ CROP OF 18 .

- | | |
|--|--|
| <p>1 Name of applicant.</p> <p>2 Name of supply channel</p> <p>3 Proposed site of new outlet.</p> <p>4 Approximate area of land to be irrigated</p> <p>5 Number of pipes required</p> <p>6 Irrigation by overflow or lift.</p> <p>7 Approximate length of water-course</p> <p>8 Names of owners of lands to be traversed by water-course.</p> <p>9 Land irrigable from any existing outlet or not</p> <p>10 Number and names of intending shareholders (if any) in the outlet applied for</p> <p>11 Number of outlets now { Right bank
in supply-channel { Left bank</p> <p>12 Width of bank, including slope and pathway</p> <p>13 Number of outlets now allotted to village.</p> <p>14 Culturable area { Whole village.
Applicant's lands</p> <p>15 Area already provided { In village
with irrigation { In applicant's holding</p> <p>N B —Columns 11—15 to be filled in in Canal Office.</p> | |
|--|--|

APPENDIX II.

License for Ferry Boat	Canal
Position of ferry	
Dimensions of boat or raft	
Name of person to whom license is granted	
Period for which license is granted,	
Tolls leviable at Ferry,	

CONDITIONS

This license may be revoked without any compensation thereby becoming claimable by the licenser if tolls be levied in excess of those specified above, or if the boat be not maintained in proper working condition, or if delays or obstructions to travellers occur, or for other fault, which in the judgment of the Divisional Canal Officer demands it. Appeal against the orders of the Divisional Canal Officer shall lie to the Superintending Canal Officer,

Station and date }
 }

(Sd.) A. B.,
 Executive Engineer

Division Canal

APPENDIX V

CH. IV.



TRAFFIC DEPARTMENT

CANAL

PASS FOR BOAT No .

Station, dated

18 .

- 1 Date of departure.
- 2 Name and address of owner of boat
- 3 Name and address of owner of cargo.
- 4 Description of cargo
- 5 Weight of cargo in maunds (Government).
- 6 Place of departure on canal
- 7 Destination of canal.
- 8 Ultimate destination.
- 9 Distance by canal.
- 10 Rate of freight,
- 11 Amount of freight.
- 12 Value of cargo
- 13 Number of passengers.
- 14 Remarks

Signature of Navigation Agent

APPENDIX VI



TRAFFIC DEPARTMENT

CANAL

RAFTING PASS

18

From
 Distance
 Description of rafts
 Dimensions
 Cubic contents
 Rate of tolls, Rs
 Amount paid, Rs
 Estimated value of rafts, Rs
 Name of owner
 Residence
 Name of person in charge
 Date of entering canal

To
 miles

(Signature)

Rs

Canal.

RECEIVED AT

Station.

of 18

Navigation Agent

APPENDIX VII

Statement of land irrigated by

in *Manza*

Fargahah

Zilah

during *fasl*

18

Date of giving <i>parcha</i> .	NUMBER OF FIELD		AREA AND NATURE OF IRRIGATION		Name of crop.	Demand	REMARKS.
	<i>Khataoni</i> .	Settlement.	<i>Flow</i>	<i>Lift</i> .			
							Enter particulars of cultivator's parentage, caste, &c., where confusion is likely to arise from men having the same names, or explanatory details regarding irrigation.

(59)

IV-12
69

CR IV

921

CHAPTER IV, QUESTION 15

Having reference to the margin of profit on irrigated crops commonly left to a cultivator CH IV after payment of the existing water-rates, could these rates be increased without trenching unduly on that margin of profit? How would raising the water-rates operate on a cultivator under a lease, and how on the revenue-paying proprietor if it took place during the currency of the lease or Settlement respectively?

REPLY

Prepared by order of the Financial Commissioner of the Punjab

In replying to this question it is necessary, in the first instance, to examine the problem of what is the due margin of profit which should be left to the cultivator

The highest possible water-rate, which can be levied, is that which leaves to the cultivator the same net surplus produce as he receives from the land, when cultivated without irrigation, plus such excess as may be sufficient inducement to him to take the water. But with a fixed water-rate the amount of surplus produce will necessarily vary not only according to the quality and position of the land, but also according to the highness of the cultivation, and therefore if the rate in the case of the best lands approaches the theoretical maximum, it will in the case of the poorer and worse cultivated lands be prohibitive. While if the rate be lowered so as to induce the irrigation of the poorer lands, the margin of profit now left to the cultivator of the lands, which it paid to irrigate at the higher rate becomes unduly large, but unless the rate be thus lowered, the canal supply will not be fully utilized. The question therefore of what a cultivator's due profit is, resolves itself, in cases where irrigation is voluntary, into the question.—What are the highest rates at which there will be a full demand for the canal water? And it must be noted that the pitch of these highest rates depends partly upon the area commanded by the canal. Very high rates can be paid only from high cultivation, and high cultivation from its cost both in labour and capital is necessarily confined to a small proportion of any given area, and therefore, of two canals equal in other respects, the one which can distribute its water over a large area of which it irrigates only a small percentage, can realize higher rates than the one which commands only a small area, of which it is forced to ensure the irrigation of a large proportion. It follows from these considerations that neither an estimate of the surplus remaining with the cultivator nor a comparison with rates levied elsewhere, is of itself an adequate test of the sufficiency of an existing scale of rates. The question whether existing rates can be raised, viewed merely with reference to the canal income, becomes the following issue of fact—

Taking "a" to represent the existing irrigated area and "b" the existing rates, "y" the enhanced rates, and "x" the area which will be irrigated at those rates, will "xy" be larger than, equal to, or smaller than "ab"?

The first effect of an enhancement of rates must be the abandonment of irrigation in the case of lands which it first pays to irrigate at existing rates, and the final result of the enhancement will depend upon the question, whether the water thus made available will be taken up elsewhere, and if not, whether the increase in the price received will compensate for the decrease in the area irrigated?

The rates for flow irrigation now in force on the canals under the Punjab Government are per acre—

	Barr Doab		Western Jumna	
	Canal		Canal	
	Rs	As P	Rs	As P
Class I	6	0 0	5	0 0
" II	4	12 0	3	0 0
" III	2	8 0	2	4 0
" IV	1	8 0	1	10 8

These rates were introduced on the Western Jumna Canal in 1867. the previous rates having been Class I, Rs 1-3-2

CH IV ^{Class III comprises—}
On the Bari Doab Canal—Cotton, vegetables orchards kemp water nuts wheat, barley savon, tobacco &c
On the Western Jumna Canal—Indigo cotton and spring crops
On the Igna Canal—As on Western Jumna Canal.

^{Class IV comprises—}
On the Bari Doab Canal—Jowar, bajra, kangra, maize, gram and other pulses.

^{On the Western Jumna Canal and Igna Canal—All autumn crops except indigo and cotton}

Class II, Rs 0 10-8 The Bari Doab Canal rates have been in force since 1870 the former rate was Rs 2-6-8 per acre for all crops. On the new Agra Canal, which is under the Government of the North-Western Provinces, but passes through the Punjab Districts of Delhi and Gurgaon, the rates are —

	Rs	A	P
Class I	6	10	8
" II	4	0	0
" III	3	0	0
" IV	2	0	0

Irrigation is extending on this canal, but this fact is in part due to the late prevalence of dry seasons. The rates on the Western Jumna Canal are comparatively low, but it cannot, the Financial Commissioner thinks, be confidently asserted that, if the present abundant irrigation of the tracts now watered by the canal were checked by enhanced rates, the liberated water would be taken up elsewhere. On the lower parts of the Bari Doab Canal there is a large unsatisfied demand for water, and it may well be that increased rates would on this canal result in increased income. But it now becomes necessary to point out that the question of enhancement has to be regarded from other points of view than that of canal finance.

When irrigation at remunerative rates has become established in a tract, the whole agricultural economy is gradually constructed on its basis. The increase in the net profits of cultivation enables the cultivators to pay higher rents, and on these enhanced rents the land revenue demand will in some cases have been founded. Population also increases, being supported on the increased produce. If now the water-rates are raised to such an extent as to seriously diminish the irrigated area in a tract enjoying this artificial prosperity, there is a danger of a sudden contraction of the resources on which the increased population has been fed, and of severe, although it may be temporary, distress. Rents may probably fall, and the revenue, assessed with reference to the former condition of the village, may have to be remitted.

On both the Bari Doab and Western Jumna Canals there are tracts which have thus long enjoyed irrigation, and in which it is quite possible that an enhancement of the rates to any serious extent might result in a considerably lessened production and consequent impoverishment of the population. But it would be impossible to accurately decide whether the rates could be safely enhanced except by actually making the experiment.

The statement of these considerations, which apply also to the other smaller irrigation works of the Punjab, will be held to justify the Financial Commissioner in his adopting the reply given, by the Joint-Secretary Irrigation Department, that in his opinion the rates could not as a whole be raised to any great extent. Further inquiry would be needed to decide whether they should be tentatively raised at all, and then actual experience alone could determine the success or failure of the experiment.

With reference to the second part of the question, it must be first pointed out that under the Canal Act of 1873 there are two descriptions of canal rates —

1. Owner's rate, which is of the nature of land revenue
2. Owner's rate, or the water-rate proper

If the owner's rate be raised, the profits of the land-owner are to that extent diminished, even if he is able to compel the cultivator to pay the enhanced rate, this will in fact stand in the place of so much rent, which he might otherwise have exacted.

If the occupier's rate be raised—

- a—An occupancy tenant would not probably be held entitled to an abatement of rent under section 14 of Act XXVIII of 1863 and the loss would therefore in the first instance fall on him. Should it be so severe as to induce him to abandon his holding, the owner might incur a loss of rent.
- b—A tenant under a lease would for the time be in the same position as an occupancy tenant the owner would not suffer during the term of the leases unless the tenant were unable to fulfil his engagements from his reduced profits.

(3)

c.—In the case of lands cultivated by the owner himself or by tenants at-will, the loss would fall on the owner unless the rents paid by the tenants were not competition, but customary rents, in which case it is probable that the tenants would continue to pay the former rents, unless this were no longer possible

The revenue-paying proprietor would not be able to claim as a matter of legal right any diminution of assessment during the currency of a settlement, on the ground that his profits or rents had been diminished owing to the introduction of higher water-rates, but if these had been brought below the level, with reference to which the assessment was framed, his claim for revision would be equitable .

QUESTION 21, CHAPTER IV

What is the system of canal administration? Who is responsible for distributing the water and collecting the dues? CII IV

As Major Home's reply to above question does not notice the duties of the native officials subordinate to the Executive Engineers, the following extract from the proceedings of the Punjab Government for March 1876 is given, in order to throw light on this portion of the subject

Memorandum of the duties and charges of the various members of the Revenue Division as observed on 2nd Division Bari Doab Canal, Punjab, by CAPTAIN R. H. PALMER, Executive Engineer 2nd Division Bari Doab Canal.

The Deputy Collector is the senior of the Revenue Division and ranks next to the Assistant Deputy Collector his duty Engineer, his charge extends over the whole of the Division and he is under the immediate orders of the Executive Engineer, he supervises the Revenue Office and the preparation of all the Revenue returns that are kept in the voluminous, he also assists the Executive Engineer in enquiring into the innumerable cases of disputed assessment, reporting on all cases sent to him for that purpose and giving his opinion he allots the work to each Muharrir (or measuring Munshi) at the time of measuring up a crop he arranges the villages in the order they are to be measured, and is to be active in seeing the work carried out properly, and in the preparation of the Revenue returns after the measurement of a crop has been completed

During the interval between the completion of the returns for one crop and the commencement of measurement of the next, he is employed in investigating cases of dispute amongst shareholders of water courses, visiting the scene of dispute, and enquiring into the matter on the spot. He also supervises the arrangements for supply of water, seeing that the order of *tattils* is properly maintained, and that the Zilabdar and Patwars are doing their duty addressing the Executive Engineer on all subjects that he considers require attention

The Darogha ranks next to the Deputy Collector, his duties are similar, but in a subordinate form he is employed by Executive Engineer in attending to those matters that the Deputy Collector is unable to take up. The Division is usually divided between Deputy Collector and Darogha, the latter being more especially under the Executive Engineer and his Assistant

The Zilabdar's have regular charges allotted to them a map accompanies this memorandum showing in different colors the channels under each Zilabdar, the length of the charges vary and are arranged so that the more experienced have the greater charge due consideration being given to the area of irrigation and how distributed, in some parts of this Division (notably the lower portion) the irrigation is scattered over a very large area

The duties of a Zilabdar are to see that the water is fairly distributed over his charge, that the *tattil* (or "turn for water") is properly arranged, so that each may have a fair share and to call attention of Executive Engineer through the Sub-divisional Officer to any infringement of the rules in force, or inefficiencies of the arrangements to afford the required supply

It is to see that all outlets and water-courses are in an efficient state of repair and to report any dereliction, he must be well acquainted with the circumstances of the villages in his charge, their water courses, and principal shareholders, and in all cases of dispute amongst the cultivators regarding shares of water right of way, &c, he will be required to furnish the facts and merits of the case for the Canal Officer's information. He is especially to look after the Patwars, and to see that their registers are properly kept up, to check the entries therein and to report on laziness or incapacity, he will initial the registers, and note the date of inspection and make a note in his daily journal of having done so

All cases of waste of water must be measured by him, and a report of the same made to Sub-divisional Officer as soon after its occurrence as possible. There is a regular form for this report, and it is appended. In cases where breach of canal rules has occurred in taking water out of turn, obstructing the flow, &c, he is to report at once to the Sub-divisional Officer

Under orders from the Sub-divisional Officer he is to collect the minor sums for miscellaneous revenue keeping an account (1) of the same, giving receipt to the payees (2) and paying the amounts realized into the Sub-divisional Treasury. He makes these collections on the authority of a warrant (3) issued by the Sub-divisional Officer. He is to be especially active during the time the measuring Munshi (Amm) is in his *zillah*, aiding him in every way seeing that the Lambadars and Patwars of a village are duly warned to be ready

Sundry collections.

- (1) Zilabdar's each book Form C and Form B
(2) Counterfoil receipt book
(3) Form A

CH IV at the time of measurement, any cases of disputed irrigation to be sent to the Divisional Officer, with a report of the circumstances, he is also to warn the cultivators to make their objections within the prescribed time, in order that no delay may occur in the preparation of the demand statement

Journal of occupation He submits a report of his occupation every 10 days to the Executive Engineer through the Sub-divisional Officer

Patrols or, as they are called in this Division, "Chaukidárs" These men have distinct charges of the irrigation of about 20 villages on an average, and an irrigated area of 1200 to 1500 acres, their charges are kept as much as possible on one line of rāybāh, except in cases of a bifurcation, where one village derives its water from two separate channels

The Patrol keeps a book, which is a register of the irrigation in his charge, in it he enters the irrigation as it occurs, and the manner in which he keeps this register up to date is the first sign of his efficiency The register is a book of some 60 pages, regularly bound and fit for rough usage in the field it has been found advisable to have the form lithographed with lines for the entries, it saves the Patrol the labour of doing this, and also makes erasures and alterations difficult to hide, a specimen page is appended

The covers are of cardboard bound with country leather, and can be used over and over again for successive seasons, it frequently happens that one such book is not enough for one Patrol's charge, and some have two or three

On this canal, where settlement maps showing the fields in each village on a large scale are available each Patrol is furnished with one of these maps for each village, this enables him to identify any field and to enter its number and area at once in his register without further measurement Besides the map the settlement register of each village is also in the keeping of each Patrol, it is useful in enabling him to refer to it in case of disputed area of any field, also in cases of dispute and inquiry regarding the alignment of a water-course, or position of some land, the map and settlement register are always available on the spot for reference

The Patrol also assists in the maintenance of *tidils* and regulation of the "turn" for water under the direct orders and supervision of the Zilāhdār

At the time of measurement of a crop the Patrol points out to the Amín the lands that have been irrigated, giving name of cultivator and of landlord, and the other information required in the "khasrah," it will be seen therefore that the Patrol's register is the foundation of the whole assessment of a crop

The Muharrir or Amín who measures up the land is sent out by the Deputy Collector with instructions at what village to begin his work, and in what order to proceed, where the village maps are available, he does not need to use the chain, but merely enters the number (settlement number) of the field irrigated, and its area, in the case of large fields only partially cultivated, he uses the chain to measure the portion

He enters the fields thus irrigated, in a lithographic form called a khasrah (form appended) blank forms of which are furnished to him from time to time from the Revenue Office On completion of the measurement of a village the khasras are tied together, and are signed by the Amín, the Lambardars of the village who are present during the measurement, and also by the Patwáris if present, on the presence or absence of these last depends whether they receive the allowances on the collections

The khasrah having been completed, is sent at once to the Divisional Office, where the demand statements are prepared

The demand statement is prepared from the khasrah, being an abstract of the land irrigated by each cultivator, the rate payable for each class of crop, and amount due for water-rent, and landlord's water-advantage rate, at the foot of the demand statement for each village is given the amount due to Lambardars and Patwáris on the assessment. A form of demand statement, "khatauni," is appended

Amongst the Revenue returns in use on this Division may be mentioned those used by the Sub-divisional Officer

Forms D, E and F appended herewith the first is an abstract of all demands, on account of miscellaneous revenue, and the second is an abstract of the collections, and the third is a balance account of demands and collections, showing the amount not collected at close of month,—these are submitted monthly

Various miscellaneous forms have been adopted for use on the Division that have been found useful in enabling all the necessary information on the subject being submitted at once, among those most in use are the following —

Form of application for an outlet from a rāybāh

Form of "sanad" granting permission to irrigate, with detail of shareholders, &c

Form of report of "waste of water"

Form of report of breach of "*tidil*," or taking water out of turn.

(3)

A scale of the pay obtaining on this Division to the members of the Revenue establishment is as CH. IV follows —

List of Revenue Establishment and those in the 2nd Division Bâri Doâb Canal

RANK	Rate of pay	No employed in 2nd Division, Bâri Doâb Canal
	Rs	
Deputy Collector	250	1
Darogha	100	1
Zilâhdâr 1st grade	80	
Do 2nd do	60	1
Do 3rd do.	50	1
Zilâhdâr 4th do	40	3
Nâib Zilâhdâr 1st grade	35	4
Do 2nd do	25	2
Munshi	60	1
Munshis	30	2
Do	25	3
Do.	15	3
Amins	12	12
Canal Patrol	10	1
Canal Patrols	8	3
Do	7	10
Do	6	3
Do	5	85
Gauge keepers	7	4
Do	6	3
Do	5	21
Tahsil Chattrads	5	11
Revenue Clerk	80 to 100	1
Gauge Clerk	40 to 60	1

*List of Forms, &c, forwarded**

1		Part of a register—Specimen page of book.
2		Khataah—Amin's measurement form
3		Khataani—Demand statement of assessments
4	A	Warrant for realization of miscellaneous revenue
5	B	"Dâkhla Bhai"—Form of receipt for do
6	C	Cash-book—Receipt and payments by Zilâhdâr,
7	D	Statement of sundry demands
8	E	Ditto collections
9	F	Ditto balance account ditto
10		Form of application for an outlet
11		"Sanad"—deed of grant of permission to irrigate
12		"Report of waste of water," or water used for other purposes than irrigation
13		Report of breach of canal rules and the abstract showing nature of offence and date, &c, &c
14		Daily register of water gauge
15		Ten days register of water gauge

* [These are not added here, being unnecessary for the purposes of this extract.]

CHAPTER IV, QUESTION 26

If anywhere it be found that the tanks, &c, are so small and numerous that Government cannot practically carry out their supervision and maintenance, would it be expedient that steps should be taken for imposing on the cultivators or proprietors who benefit by the water, the duty of carrying out all necessary repairs, or works for securing the irrigation in an efficient condition? Do you think this principle should apply to all tanks, great and small alike? Might the obligation, equitably, be held to attach without any corresponding relief being given, or should any privileges (such as lowered rent) be conceded to the ryots, if they are charged with the duty of repair? To what extent should the liability go, whether only to minor works not requiring engineering skill, or to all works? How could such a duty be best enforced, and any neglect of repairs checked at its inception? And what penalties should be legalized to punish such neglect when it does occur? Is there any local or other fund from which to pay for such work, if it consisted of more than ordinary earth-work? Could such a fund, in case of need, be established? CH IV

REPLY.

(Prepared by order of the Financial Commissioner of the Punjab.)

The Financial Commissioner is of opinion that in the case of small irrigation works not requiring engineering skill, the maintenance of which, by the Canal Department, would be too expensive, it is expedient that steps should be taken for imposing on those who benefit by the water, the duty of carrying out all repairs or works necessary for securing the irrigation in an efficient condition. In some parts, *i e*, in the Hazára and Kángra Districts, and in the Salt Range, the people themselves efficiently control the irrigation, and interference by Government would be unnecessary and inexpedient. But in other Districts experience has shown that unless measures for their maintenance are taken by Government, small works, and especially those which benefit several estates, neither of which is especially concerned in their maintenance, are liable to fall into a state of inefficiency, from negligence or want of co-operation on the part of the irrigators, and the Financial Commissioner has had lately brought before him the question of the future maintenance of such works, with reference to an embankment and drainage canal in Gurgaon, an embankment in Mohtak, and a protective embankment in the Shujabad tahsil of Mooltan.

The character of the arrangements, which should in each case be made, must depend largely on the nature of the works. On the Landoha stream, in the Gurgaon District, some embankments had fallen into decay, which, by diverting and distributing the water, irrigated several villages. The proprietors of these estates, although unable to themselves co-operate for the restoration of the works, were perfectly willing and ready to agree that the works should be restored, and maintained by the District Officer acting through the Tahsildár, and that the expenses incurred should be collected rateably from the estates benefiting.

In the case of a second work in the same District, which, until lately, has been in charge of the Canal Department, the character of the irrigation necessitated more complex arrangements, and it has been proposed to constitute the Deputy Commissioner a Divisional Canal Officer, under Act VIII of 1873, and to lease the works to the District Committee.

The Government canals in the Shahpur District are managed by the Deputy Commissioner, under the direction of the Canal Department.

In cases where the arrangement made is one of voluntary agreement, the penalties of neglect would depend upon the terms of the agreement, but in such cases it will be probably found expedient to provide that the local officers shall carry out the repairs,

CH IV charging the cost to the villages concerned. Where the District Officer is constituted a Divisional Canal Officer, he will be able to exercise the powers granted by the Canal Act. Funds would be provided by the people under agreement, or by the Government, or by the District Committee, if that body were to undertake the management of the works. As above noted, a proposal of this nature has been made with reference to certain works, but the orders of Government have not yet been received.

In all cases in which works are constructed and maintained by the people themselves, whether acting in unassisted co-operation, or under the direction of the local officer, no water-rate of the nature of an occupier's rate or charge for water should be levied, but the irrigated lands might be assessed (with due precautions for the protection of capital) at wet rates, just like fields watered from wells constructed and maintained by the owners of the land.

QUESTION 31, CHAPTER IV

In reckoning the return obtained from the outlay on canals or other irrigation works, is full credit given them under the existing system of accounts? Where separate water rates are charged on the cultivators, is the indirect profit obtained by the increase of land revenue properly taken into account? Where there has been no distinction made in the payment to Government between the charge made as land revenue and that for the supply of water, is the canal revenue fairly estimated at present, and if not, how do you think it would be best reckoned? Cuttack

REPLY

(Prepared by order of the Financial Commissioner of the Punjab)

On the Western Jumna canal the Irrigation Department levies water rates, which are treated as its direct income, and is credited with the portion of the land assessment estimated to be due to the canal. Owing to the irrigated and unirrigated assessment not having been accurately distinguished in the former settlements, the estimate of what portion of the land assessment is due to the canal is approximate only, but is believed to be generally just to the canal. The estimate in one District is still under examination.

In the new settlements, which are now being introduced into the Districts watered by this canal, the land will be assessed in its unirrigated aspect, and the irrigated assessment will be collected in the form of an 'owner's rate' the realizations of which will be shown to the credit of the Canal Department.

On the Bari Doab Canal water-rates are charged for the use of the water, and the land having been assessed in its unirrigated aspect, the net assessment of the canal irrigated lands is collected in the form of a special rate—the water advantage rate—the proceeds of which are shown to the credit of the department. On the Upper Sutlej Irrigation Canals the water rate levied by the Canal Department in the Montgomery District includes the assessment of the land in its irrigated aspect, and the full rate is credited to the Canal Department. There is also a little irrigation in the Lahore District where 'water rate' and 'water advantage rate' are levied, and credited to the Canal Department.

The Lower Sutlej and Chenab Inundation Canals of the Mooltan District are maintained by statute or 'cher' labour. No water rate is levied, but the estimated proportion of the land revenue due to the canals is so credited. In the new settlement now being made it is proposed that the canals shall take credit for the whole of the assessment on lands irrigated by canals alone, and for two thirds of the assessment on lands irrigated by canals and wells jointly.

On the Indus Inundation Canals, in the Dera Ghazi Khan District, no water rate proper is levied, but the irrigators contribute a fixed sum of Rs. 45,000 as representing half the cost of clearance, and of the revenue assessed on canal lands the whole of that assessed on lands watered by the canal only, and two thirds of that on lands watered by the land and wells are credited to the canals.

In Shahpur the whole of the realizations from the canal irrigated lands are credited to the Canal Department.

Although one or two items of minor importance are still under discussion, it may be stated that the Canal Department does receive full credit for its returns, direct and indirect.

GLOSSARY OF INDIAN TERMS USED IN THE PUNJAB REPLIES TO THE INQUIRIES OF THE
FAMINE COMMISSION

N B—The meanings given are confined strictly to those which the words express in these papers. Owing to delay in the printing of the papers the glossary is not as complete, as it was hoped to make it.

A

abī irrigated land usually applicable to lands irrigated by canals or streams
 abpāthū irrigation (Persian)
 ab-vāg cesses
 adwālatī a Sikh judge with civil and criminal powers.
 ahal manure.
 ahir cowherd or caste of men so employed.
 āpī shepherds.
 āhar capans flavus, a pulse.
 āsāmī a tenant.
 āsāmīār tenant by tenant
 āsār or bār Hindi month about 13th June to 13th July
 āsār or usām (Mooltan dialect) Brassica eruca, elsewhere known as tāmra
 āsār or esō Hindi month about 13th September to 13th October
 āsā ik teacher
 āsā ik āsāmīārān the teacher of agriculturists the name of a native periodical devoted to agriculture, published at Hoshiarpur
 ātrī a field servant or labourer
 ātrā the flour of wheat or other cereals.
 ātrān a small heating pipe

B

bār the wheel on which the rope of the Persian wheel hangs
 baidar workman employed principally in excavating earth
 bairagi Hindu fakir
 baidās beans
 baira or bajri spiked millet.
 bīśākh Hindi month about 13th April to 13th May
 bār waste dorsal tracts of the Punjab doabs (deltas)
 bārī or vārī a turn
 bārī bulls of pulse, mixed with spices and eaten with bread
 bārī as a relish
 bārīn dependent on rain & e unirrigated land
 bānū petty village trader
 bānū upland high tracts, as opposed to khādīr or low alluvial tracts
 bān, ar uncultivated land
 bānd an earthen embankment to hold up water or drainage also applied to the land on which the water is thus retained
 bārī measured lands close to the villages or towns
 bānūchī a resident of the Bānū town or tract immediately adjoining it.
 bāpār market place
 bāsmātī a fine variety of rice
 bātī share of the produce paid as rent.
 bātra or bhātra wheat and gram mixed
 bān ground pulse moah and gram
 bār or bhār alluvial land on the bank or in the bed of a river
 bhāctārī a tenure, described in the reply to Question 10
 Chapter J

bhātāwā noon or about 12 o'clock
 bhī sa straw of wheat or barley
 bhādon or bhādra Hindi month about 13th August to 13th September
 bhātī a tribe said to be of Rājput origin
 bhātī water carrier
 bhāra muscous
 bhāng an intoxicating drug, made from the hemp plant, cannabis sativa.
 bhārānī one of the wooden pieces of the Persian wheel
 bhāte demons or goblins.
 bhārī a heap
 bhārī sandy soil
 bhāwadār owner of land, a term used in the south east portion of the province
 bhāg a measure of land of varying extent usually about ½ an acre
 bhāhū

bān gunny bags
 bānī a pillar
 bhāhū old
 brahmins priestly caste Hindus
 bhāh rating distribution of a tax.
 bhāgar or bhogār forced labour
 bhār a poor sandy soil

C

chhāj a sieve
 chāh any area of land large or small with known bounds
 chāh commonly applied in assessment work to a cluster of villages of similar qualities
 chākhār a description of subowner common in the Mooltan and Derajat Divisions—see reply to Question 10 Chapter L
 chāfār sheet.
 chāfū land irrigated by wells
 chāmār name of a caste, usually employed as tanners and leather workers
 chāhī name of one of the wheals in a Persian well
 chāras an intoxicating drug made of the resin of hemp flowers and seeds
 chāna gram cicer arctium
 chāna chābina roasted gram and wheat or gram and jowār
 chāwal rice
 chāpāī unleavened cakes of bread
 chāpārī a bed
 chāpārīāi budgeman, messenger
 chārasa bucket
 chārīārī a field labourer (Peshāwar District)
 chārī a Police station.
 chākhārī village watchman
 chākhārīāi headman of trade also a leading agriculturist.
 chārī the straw of jowār
 chāpāgar a veranda roofed by thicket
 chāpāl or chāpāl village assembly room
 chāt Hindi month about 13th Jyāsh to 13th April
 chār statute labour applied to irrigation canals
 chāhāwā the time of the agriculturists morning meal, about 9 a m
 chāna panicum mitacum
 chātāī one sixteenth part of a ser or one-eighth of a pound
 chāhā grām—see chāna
 chāh the sandy bed of a torrent (Hoshiarpur District)
 chōki kārā hoeing
 chāra a sweeper
 chārāī labyrinth sativas, a poor description of pulse
 chāhālī musco combs
 chālī a labourer
 chāshīmī land irrigated by streams
 chāh ot clay
 chārkhārī irrigated by wells

D

dāl split pulse
 dasak demand for payment of arrears issued to a revenue defaulter
 dāhī naturally moist soil (Dehli District)
 dāpārī a plain in Dera Ismail Khan District at the foot of the Suleman hills
 dāk post journey arrangements for travelling
 darawā a scarecrow
 darkhāst petition or request
 darhār public assembly held by a ruler
 dāgrī a pulse (caninus) usually known as arhar
 dākar low lying stiff clay
 dāyā wheat and jāyā mixed or jowār alone boiled and used as food
 dā, ar wheat of first quality in which there is no barley or gram mixed

GLOSSARY OF INDIAN TERMS—continued

dākhā bahī register of receipts given for payments of revenue
 degchā a cooking pot
 dhān unhusked rice
 dharmarth (or soukalap) land given rent or revenue free for religious or charitable purposes
 dharmśālā (Hindu or Sikh place of worship also a hostelry for travellers kept by a Hindu or Sikh fakir
 dhākar a grayish brown coloured land in Delhi District.
 dhāk butes frontosa.
 dhama coriander
 dheri a heap
 dheri shāmīlāt a heap common to all the owners of any land
 dhoanak a tribe
 doab delta
 doṣāṭ country coarse cloth
 doṣāṭ land bearing two crops per annum
 dogar a tribe of hill Rajpūts
 doṣahāṅ good light loam
 dṛaman sandy soil topped with a thin layer of clay
 duffūdar a sargant (mounted)
 dūhri naturally moist
 ḍākar strong, heavy loam
 deg moist alluvial tracts on the river of that name

E

ekush land bearing one crop per annum.

F

fakir a monk
 faal harvest.

G

gāri a cart
 gādū a tribe of shepherds (Kāngra District)
 gāṣk loamy soil (Montgomery District)
 gawār oyamopas a hard gray pulse, principally used to feed cattle (Delhi Division)
 gāgar a large brass vessel for water,
 gawāṣ a small brass vessel for water
 ghāt parched barley (Lahore)
 ghi clarified butter
 ghwāṣ an edible weed
 ghūmā a measure of land usually corresponding to an acre but of varying size in different districts
 girdāri going the rounds, annual inspection of fields by village accountants
 godi kama hoeing
 godā hoeing
 gōlaha th. see who has
 gorbā a manure, or manured land
 gop wheat and barley mixed
 gūjar a tribe of agriculturists and herdsmen
 gur raw sugar

H

hak a right
 hak kasu an allowance for service customarily rendered by a land owner to the ruler the allowance usually consisting in a remission of part of the revenue (Dehra Ghazi Khan District)
 hār or asārā Hindu month about 13th June to 13th July
 hātā a measure the length of a man's forearm from elbow to tip of middle finger
 hād manured land also in Shahpur District land which is on a hill drainage
 h kīm native physician
 hūlāṅ low lands
 hākārāḥ a messenger

I

ḥākā tract
 ḥām a draw back of revenue allowed in return for service, also any gift from a superior for service done
 ḥār. dār revenue farmer

J

ḥār. dār an assignee of Land Revenue
 jat an agriculturist
 jāma the amount of Land Revenue payable by any land.
 jāmhāndi rent roll or revenue roll.
 jau barley
 jāwī or jāwī oats
 jeth a Hindu month about 13th May to 13th June
 jhī a swamp
 jhallār a Persian wheel applied to the raising of water from a canal or stream
 jhallāri land irrigated by jhallārs
 jhāri a fee, paid in the Moolān and Dehraḍ Diverions as a fine on inheritance and in return for allowing a non-proprietor to work a well and to hold the land attached as a sub proprietor subject to payment to the original land owner of nothing more than a small fixed quit rent or proprietary fee
 jilībān hard sticky clay mixed with kankar below the surface of the earth
 jora horizontal and vertical wheels of a well,
 jōlāḥ a weaver
 jowār great millet
 jungle waste or forest,
 jhoana a sort of rice

K

kahi a spade
 kāla black
 kālapān perennial hill stream
 kāngri Italian millet
 kāttik a Hindu month from about 13th October to 13th November
 kallar a noxious white efflorescence common on many lands in the Punjab described in the reply to Question 7 (Chapter 1)
 kāṛr clay soil (Punjab District)
 kālar a doola bearer also a caste of men usually so employed
 kāssa water course or ravine
 kāsunbūḥa soilflow
 kānān a mound
 kāna thatch or reed
 kācha rough buildings or excavations, in which neither stone nor burnt bricks have been used.
 kāchūḍ the edible arum
 kānān a field servant or labourer
 kānak wheat
 kānjan black pulse
 kānkar nodular limestone—see reply to Chapter IV by General Maclean
 kāṛf the kafess esper
 kānāl a measure of land generally equal to 1/2 a rood.
 kāhān government or state
 kāror or kror a hundred lakhs = 10 millions
 kāṛ khowār one who enjoys hak kasr which see.
 kānāṅgo superintendent of village accountants
 kāṛi a calf of a buffalo.
 kāṛān a metal glass, a vessel larger than koul, which see.
 kāṛāḥ low lying land adjacent to rivers
 kāṛif autumn harvest.
 kāṛtik a mental disease.
 kāṛāt manure
 kāṛāṅgān a treasurer
 kāṛān a field register
 kāṛānām a ledger
 kāṛāḥ a Muhammadan grave yard
 kāṛāḥ a ring
 kāṛāḥ nā gāna to thresh by the tramping of hoofs.
 kāṛāḥ diot
 kāṛāḥ hāt land cultivated by the owner himself as opposed to that which tenants cultivate for him
 kāṛāḥ kasu or rice or jowar boiled in milk
 kāṛāḥ rice and mung or moth and rice boiled together
 kāṛāḥ acacia arabica
 kāṛāḥ instalment
 kāṛāḥ in form of cash payment of field labourer
 kāṛāḥ of or belonging to a mountain
 kāṛāḥ a small piece of metal for drinking water
 kāṛāḥ a chamber added at the bottom of a well
 kāṛāḥ dist. see varying in different districts from 1 to 2 miles.
 kāṛāḥ a tree
 kāṛāḥ or kāṛāḥ cotton

GLOSSARY OF INDIAN TERMS—continued

hankoot appraisement of standing crops in order to assess the value of the State's share
 khatir a potter
 khat a common laborer
 khatir a trenched field on a hillside
 khawad green wheat or green barley
 kharan hire cost of carriage
 khat a granary (Kangra)
 khach expenses
 khawat roll of revenue payable by each owner in a village

L

lambardar a village headman.
 lakh a hundred thousand
 lao a rope
 lashch those who cut the harvest
 lat rod
 lettri system of employing field labourers
 lot or lohri a Hindu annual holiday, the 1st of Magh (about 15th January)
 ladi a tribe
 lot or lat plander.
 langi a turban

M

maah rent or revenue free grant
 majidhar one who holds a maah
 mahajan banker
 mahant a Sikh priest
 mahal the rope which carries the water pots of the Persian well
 mahal an estate paying land revenue
 maah a measure = 4 maunds
 mach or mahā Hindu month about 13th January to 13th February
 maghar or magharar Hindu month from 13th November to 13th December
 mah a gardener
 mahar an agricultural tribe.
 mahā a pole of land
 maah a mound of 40 acres
 maana a platform raised on stakes or fixed on the top of a tree from which men watch the crops.
 mahārār one who pays land revenue
 mahagar the amount paid by a mahagar or the act of doing so
 mahik owner
 mahāna owner's dues
 mahāki or mahāki muree
 mahā or mahār arum lens, a pulse
 mahā or mahā pulse, phaseolus radiatus
 mahār field pea.
 mahā or mahā or mahāwa a millet, eleusine coracana
 mahār a labourer
 mahā or mahā a tenant or labourer who pays rent in grain
 mahāā spices
 mahā rows of bullocks which work at fields or threshing by turns
 mahār or mahār a pot herb, fennel
 mahā a tribe (Gurgoon)
 mahār an official who superintends the distribution of canal water
 mahār a carpenter a mason
 mahār a village bard
 mahār a tall coarse grass also the fibre made from it.
 mahār a sort of rice of inferior quality
 mahār a sweeper
 mahār the breadth of the fist across the lowest knuckle.
 mahār a evil judge
 mahār a writer
 mahār or mahār pulse phaseolus munga.
 mahār pulse phaseolus acuminatus
 mahār a village
 mahār same as mahār which see
 mahār a tanner or a leather worker
 mahār a writer
 mahār a tribe
 mahār a quarter of a town
 mahār the headman of a mohalla
 mahār a headman of a village or a tribe

mahārāh a learned Mahomedan.
 mahārāh clayey land
 mahārāh sandy loam
 mahārāh a dye
 mahārāh cash assessment or lease
 mahārāh mid-day camp assant
 mahārāh village by village

N

nābri land irrigated by canals
 nallādar land irrigated by hill drainage (Shahpur and Bannu)
 nabeb alluvial lands annually flooded by the river
 narka when the khab crops have been cleared the land is called marka until sown again with Kharif crop
 nazar a present by an inferior to his superior
 nasārāh quit rent payable to Government usually by an assagore of Land Revenue or feudatory
 nās (or gorla) manured land
 nāgā blue deer
 narmot good loam
 nās manured.

O

oograh collection

P

pagga flow irrigation as opposed to lift.
 pakka masonry work of stone or burnt brick, as opposed to kacha which see
 pachād high lands at the foot of the Saleman hills (Dera Ghazi Khan District)
 pahān an Afghan tribe
 pahā stick
 panir seedlings raised in nurseries.
 pakkā pāni the water supply is abundant and does not fail when worked continuously the water (pani) is called pakkā i.e. permanent.
 panichayat a council of five or more
 patwār village land accountant.
 pattidarī a tenure see reply to question 10 chapter 1
 parohatī priestly dues.
 pardannash or pardadar those who sit behind the veil, i.e., women of a respectable class
 patā a lease
 parāt a large plate of wood or brass.
 pashm shawl wool
 pashmanā cloth made from pashm
 phāsān Hindi month from 13th February to 13th March.
 phoushā a spider
 pipal ficus religiosa.
 pilchī tamaria gallica, a dwarf (amarak common on alluvial lands in the larger rivers)
 poh Hindi month from 13th December to 13th January
 por a hollow bamboo attached to the ploughs through which the seed is sown
 post poppy
 pulāhī acacia modesta

R

rabbi spring crop
 raj rule or Government
 rakā a field labourer who is paid his wages in cash
 radm cesses
 rakā a preserve of grass or forest land
 rāybahā a canal distributory
 rān, ar a tribe of poor rajputs.
 rasāh light loam (Delta)
 rasāhāh a fee in kind paid by agriculturists to mulvanahs or mulvis who pray for them at the time of the reaping of the harvest (i.e., the mouvis share)
 reh same as kālār, which see
 reh atil loam
 rasāh light loam
 retar sandy soil
 rakkar hard stony soil

GLOSSARY OF INDIAN TERMS—*concluded*

S

sāg	green vegetables.
safud	white
san	brown hemp fibre, <i>crotilaria juncea</i>
sandā	a mak, binuloc
sarir	body
sarir ká kara	body debt
sahákár	a merchant a money lender
sattá	parched barley or parched gram well ground
sambat	Hind. year
samuká	sau, as sanwak, which see
sanad	diced of gram
saason	mustard
sankalap	same as dharwarth which see
sánwák or	sawank or Shamakha poor millet opiumenium frumeticum
sáwan	Hind. month from 13th July to 13th August.
sajad	a Muhomedan tribe
sálaba	most alluvial land on the bank or in the bed of a river
ser or seer	a measure of weight = 2 lbs
sera	travellers h stery
scnja	trefoil
sepidar	hired labourer for agricultural purposes.
sham	evening
shor	same as kallar, which see
steki	roads.
sikand	dry soil (Montgomery district).
sira	an ear of corn
sropa	same as shúr which see
somá	swampy exundations caused by water logging
sohágá	a flat heavy piece of wood dragged over the surface of a ploughed field to smooth the furrows
sohá	a kind of fanned
soof	aniseed.
súhá	ashes
stranj	a carpet
sowás	excess, additional

T

táramirá	brassica eruca, produces a coarse oil, similar to but less pungent than mustard
tahsil	sub division of a district
tahsildar	revenue officer in charge of a tahsil
ditto (náib)	his deputy
taká	place where a Muhomedan fakir lives
tal oká	a small local division of a district.
talukdari	a tenure
takaví	a loan to agriculturists
tatli	a holiday or taking water out of turn
teppa	a small local division in the Bannu and other districts.

tásh	a metal vessel used for drinking water
towá	a pan
thal	starchy waste
thana	a police station
thal	a flat metal dish used as a bread plate
thál	a small ditto
til	sassaparilla sweet oil
trifash	Land levies, 3 crops in the year
tele	insects or a disease which attacks vegetables and crops
toba or thobá	men who dig wells and clean wells or diggers
tobai	a tobá's work.
toyá	a measure
talbasa	process money

U

urd	a pulse
ussim or assir	same as taramira, which see.

V

vadarak	a remarkably fine description of wheat.
vars or bári	a turn
varsa	clothing (Multan)

W

wárf	large wells on which 2 Persian wheels work (Montgomery District)
warháí	cultivated land under preparation for the Rai crops before the sowings have taken place, generally so described from January to September
wárfyat	a foreign country generally used of Europe or western Asia.

Z

zail	a cluster of villages
zaildar	the headman of a zail
zamúdar	an agriculturist.
zillah	a district
zillahdar	a subordinate canal official charged with the distribution of the water along a defined length of canal and under the control of the Executive Engineer
zaildar	his deputy
zira	cumm
zabti	cash rates charged on the more valuable crops

