

**SELECTIONS FROM THE RECORDS OF THE BOMBAY
GOVERNMENT.**

No. CCCCLXXXVII.—NEW SERIES.

PAPERS

RELATING TO

THE REVISION SURVEY SETTLEMENT

OF THE

DADU, SEHWAN AND JOHI TALUKAS

OF THE

LARKANA DISTRICT.



KARACHI:

PRINTED AT THE COMMISSIONER'S PRINTING PRESS,

1913.

No. 1975-A OF 1912.

REVENUE DEPARTMENT.

Office of the Commissioner in Sind,
Government House, Karachi, 29th June 1912.

From

A. D. YOUNGHUSBAND, Esquire, C.S.I., I.C.S.,
Commissioner in Sind,

To

HIS EXCELLENCY BREVET COLONEL THE HON'BLE,
SIR GEORGE SYDENHAM CLARKE, G.C.S.I., G.C.M.G.,
G.C.I.E., F.R.S.,
Governor and President in Council,
Bombay.

HONOURABLE SIR,

I have the honour to submit proposals for the revision of assessment rates of the three talukas of Dadu, Sehwan and Johi forming the Sehwan Division of the Larkana Collectorate. The proposals which are systematic, lucid and most reasonable, have been prepared by Mr. Covernton and are entirely concurred in by the Collector, Mr. Baker, in consultation with whom they were prepared. Mr. Baker, who possessed very great experience and knowledge of settlement matters and inspected all the three talukas, has gone so thoroughly into all the questions involved that little or no room is left for criticism. The material prosperity of this Division has remained almost unaltered since the reports were prepared by the Settlement Officer and does not call for any alteration of the rates proposed.

Grouping.

2. Mr. Covernton has divided the talukas into two groups, so far as the irrigated dehs are concerned. The first group comprises the whole of the Dadu taluka and 41 dehs of the Sehwan taluka, while 26 dehs of Sehwan and all the irrigated dehs of Johi are included in group II. This arrangement is commendably simple and is based on sound reasons which have been well stated.

For barani dehs three groups have been proposed. The first of these contains 5 dehs of Johi taluka which have an exceptionally good water-supply from the Gaj Nai through the Rajwah, getting thereby what is practically a Rabi flow supply. The other group, which comprises all barani dehs proper, has been sub-divided into sub-groups (a) and (b). The dehs of sub-group (a) are irrigated from canals which take off from the Gaj Nai at a point where the Nai issues from the hills, where the main bed is narrow and deep and the torrent has lost none of its force: consequently they receive a considerable volume of water entirely under control. While the dehs of sub-group (b) are not so favourably situated as regards water-supply. The grouping proposed is sound and I recommend it for the acceptance of Government.

Rates.

3. The proposed rates are very reasonable and thoroughly accounted for in the reports. I recommend the rates proposed for sanction *en bloc* with slight modifications in the rice rate of 2nd class dehs of taluka Sehwan and the rice rate of taluka Johi. The 2nd class dehs of taluka Sehwan

are generally those that depend for their water-supply on the Manchhar. Mr. Covernton has in paragraph 6 (ii) of his report shown how unsuccessful the Manchhar rice crop has been. Rice is cultivated there because no other crop can be raised. The results of the recorded experiments on the rice of the Manchhar dehs show that the proposed rate of Rs. 3-8 is rather high. Similarly the results of the experiments made by Mr. Covernton on rice in Johi taluka and the calculations based on them at page 15 of the Johi report indicate that the proposed rate of Rs. 3-8 for rice in Johi is also high. Moreover the difference of 8 annas between the rice rate of the 1st class dehs of taluka Sehwan, supposed to be equal to the good rice dehs of Dadu, and the rice rate of the Manchhar dehs which are all in the 2nd class, and where according to Mr. Covernton rice is most unsuccessful, seems too small. I would therefore recommend that the proposed rate of Rs. 3-8 for rice should be lowered to Rs. 3-4 for the 2nd class dehs of taluka Sehwan, and also for the Johi taluka.

4. The proposed dubari rates are in accordance with the modern principle of differentiating between watered and unwatered dubari and may be accepted.

5. *Kacha* rates have been assimilated to those of the Moro and Naushahro talukas which are on the opposite bank of the river. Mr. Covernton proposes to abolish the distinction between ploughed wheat and barley and ploughed other crops. This distinction has always seemed most invidious. Firstly because it is an obvious crop rate which should be avoided as far as possible in an irrigational settlement and secondly because it was intended to discourage the cultivation of wheat as being an exhaustive crop. But as the *kachas* are flooded every year whereby fresh alluvial soil is deposited, there should be no fear of exhaustion of soil.

6. *Barani* rates.—Mr. Covernton has proposed a reduction in the barani rates and an abolition of the system of remission in the case of barani lands. He has pitched his rates low so as to compensate the zamindars for the losses of bad years. I agree in these proposals and commend them for sanction.

7. The special rules for the administration of the revised irrigational settlement contained in Appendix A to Mr. Covernton's settlement reports, have been fully explained in the report, and I am in entire agreement with the proposals contained therein.

8. Mr. Covernton suggests that the period of guarantee should be 10 years: Mr. Baker recommends 20 years. I am of opinion that in view of the large irrigational projects, which are under consideration at present, the period of guarantee should be fixed at 15 years, as sanctioned by Government in the case of Larkana, Kambar and Ratodero, subject to the reservation that a further revision will be made if the Rohri Sukkur Barrage is constructed and an improved water-supply provided.

9. I append three statements, showing the existing and proposed rates in the different villages of the several groups and the modifications suggested by me. The financial results of the proposals made by the Settlement Officer and the modifications proposed by myself are shown and compared below.

	Existing Assessment.	Proposed Assessment.	Increase.	Decrease.	Percentage of Increase.	Percentage of Decrease.
	Rs.	Rs.	Rs.	Rs.		
<i>Dadu.</i>						
Settlement Officer ...	1,32,323	1,47,933	15,610	...	11.79	...
Commissioner in Sind ...	1,32,323	1,47,933	15,610	...	11.79	...
<i>Sehwan.</i>						
Settlement Officer ...	1,43,857	1,38,963	...	4,894	...	3.40
Commissioner in Sind ...	1,43,857	1,38,318	...	5,539	...	3.86
<i>Johi.</i>						
Settlement Officer ...	1,31,874	1,10,742	...	21,132	...	16.02
Commissioner in Sind ...	1,31,874	1,08,446	...	23,428	...	17.76

10. Petitions of objections together with 3 statements embodying an abstract of the petitions and the Collector's remarks thereon are forwarded herewith. The objections do not call for any modification in the proposals.

I have the honour to be,
Your Excellency's,
Most obedient servant,

R. E. GIBSON,
For Commissioner in Sind.

Statement showing the existing rates in the Dadu taluka with those proposed by the Settlement Officer.

KHARIF.

Proposed group and number of villages.	PRESENT RATES.							PROPOSED RATES.								
	Group.	Gardens.	Rice.	Other sown.		Lift aided by flow.	Barani.	Gardens.	Rice.	Other sown.	Lift.	Lift aided by flow.	Flow aided by lift.	Barani.	Wells.	
				Rs. a.	Rs. a.											Rs. a.	Rs. a.
... 30	I	2 4	2 4	2 12	2 6	2 12	1 12	According to method of irrigation.	4 0	2 0	2 6	2 10	2 12	0 6	2 2	
10	II	2 0	2 0	2 6	2 2	2 2	1 12									
5	III	2 12	2 12	2 4	1 14	2 4	1 12									
*54																

* Exclusive of one wholly forest deh (Belo Chol).

RABI.

Proposed group and number of villages.	PRESENT RATES.											PROPOSED RATES.																			
	Group.	Boat and sailabl.	Boat and sailabl aided by lift.	Lift.	Barani.	Dubari watered and unwatered.	Haris.	SPECIAL KACHA RATES.				Boat and sailabl.	Boat and sailabl aided by lift.	Lift.	Barani.	DUBARI.		Haris.	SPECIAL KACHA RATES.												
								Kharif.	Rabi.							Watered.	Unwatered.		Kharif.	Rabi.											
									Wheat and barley.	Other ploughed crops.	Unploughed.									Ploughed.	Unploughed.										
... 30	I	3 0	4 0	3 0	1 12	0 4	0 11	2 2	2 0	2 0	1 2	3 0	4 0	4 0	0 2	2 0	0 2	0 12	2 2	3 0	1 2										
10	II	2 12	5 10	2 10	1 12	0 4	0 10	2 2	2 0	2 0	1 2																				
5	III	2 12	3 6	2 4	1 12	0 4	0 2	2 2	2 0	2 0	1 2																				
*54																															

* Exclusive of one wholly forest deh (Belo Chol).

STATEMENT showing the existing rates in the Sehwan taluka with those proposed by the Settlement Officer and the Commissioner in Sind.

KHARIF.

Proposed group and number of villages.	Group	PRESENT RATES.													PROPOSED RATES.										
		GARDENS VEGETABLES AND OTHER VALUABLE CROPS.						BARANI.							Special rates for leasid dehs (Kharif and Rabi).	BARANI.						Special rates for leasid dehs (Kharif and Rabi).			
		Dehs Babak and Jafarabad.	Dehs Yakanbani and Fesiani.	Other dehs.	Rice flow.	Other flow.	Lift.	Lift aided by flow.	Bel Barani.	Band Barani.	Hill streams.	Kacha wells in barani lands.	Wells.	Gardens.		Rice flow.	Other flow.	Lift.	Lift aided by flow.	Bel Barani.	Band Barani.		Hill streams (flow).	Hill streams (lift) and kacha wells and barani lands.	Wells.
I ... 32	I	5 0	4 8	4 0	3 0	2 14	2 0	2 10	1 0	1 2	1 2	1 2	2 0	According to mode of irrigation.	2 0	2 0	2 2	2 10	0 2	0 2	1 12	1 4	2 2		
8	II	...	...	2 2	3 0	2 2	2 0	2 2	1 0	1 0	1 4	1 2	2 0		2 2	2 2	3 0	2 2	0 2	0 2	1 4	1 4	2 0
40																									
II ... 18	I	5 0	4 8	4 0	3 0	2 14	2 0	2 10	1 0	1 4	1 2	1 2	2 0	According to mode of irrigation.	2 2	2 2	2 2	2 2	0 2	0 2	1 4	1 4	2 0		
8	II	...	...	2 2	3 0	2 2	2 0	2 4	1 0	1 0	1 4	1 4	2 0		2 2	2 2	3 0	2 2	0 2	0 2	1 4	1 4	2 0
20																									
Total ... 60																									

Note.—The figures in italics represent the Commissioner's rates, in cases where modifications are proposed.

RABI.

Proposed group and number of villages.	Group	PRESENT RATES.														PROPOSED RATES.																						
		Salsibi and bed.	Salsibi and bed aided by lift.	Lift.	BARANI.				DUBARI.		SPECIAL KAOKA RATES.			SPECIAL MANCHURU RATES.		Salsibi, bed and flow.	Salsibi, bed and flow aided by lift.	Lift.	BARANI.				DUBARI.		SPECIAL KAOKA RATES.		SPECIAL MANCHURU RATES.											
					Bel barani.	Band barani.	Hill streams.	Kacha wells in barani lands.	Watered.	Unwatered.	Kharif.	Rabi.		Unploughed.	Ploughed.				Unploughed.	Ploughed.	Bel barani.	Band barani.	Hill streams (flow).	Hill streams (lift) and kacha wells in barani lands.	Watered.	Unwatered.	Kharif.	Rabi.		Unploughed salsibi.	Ploughed salsibi.							
												Wheat and barley.	Other crops.															Unploughed.	Ploughed.			Watered.	Unwatered.	Ploughed.	Ploughed.			
I ... 32	I	2 4	2 4	2 0	1 0	1 12	2 0	2 0	0 12	0 4	0 4	2 2	2 0	2 2	2 4	2 4	2 0	4 0	4 0	0 2	0 2	1 12	1 4	0 12	2 2	2 0	0 2	2 2	2 0	0 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2
8	II	2 14	2 14	2 10	1 0	1 2	1 12	1 12	0 10	0 4	0 4	2 2	2 0	2 2	2 2	2 2	2 0	2 2	2 2	0 2	0 2	1 12	1 4	0 10	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	
40																																						
II ... 18	I	2 4	2 4	2 0	1 0	1 12	2 0	2 0	0 12	0 4	0 4	2 2	2 0	2 2	2 4	2 4	2 0	2 2	2 2	0 2	0 2	1 12	1 4	0 10	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2
8	II	2 14	2 14	2 10	1 0	1 2	1 12	1 12	0 10	0 4	0 4	2 2	2 0	2 2	2 2	2 2	2 0	2 2	2 2	0 2	0 2	1 12	1 4	0 10	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2
20																																						
Total ... 60																																						

Statement showing the existing rates in the Johi taluka with those proposed by the Settlement Officer and the Commissioner in Sind.

KHARIF.

Proposed group and number of villages.	Group.	PRESENT RATES.									PROPOSED RATES.								
		Gardens.	Rice flow.	Other flow.		Lift.	Lift aided by flow.	BARANI.			Gardens.	Rice flow.	Other flow.	Lift.	Lift aided by flow.	Flow aided by lift.	Barani (rainfall only).	Barani with black water and hill stream.	Wells.
				Rs. a.	Rs. a.			Rs. a.	Rs. a.	Rs. a.									
I ... 17 14 3	I Johi II Johi III Kakar	3 0 3 0 3 10	3 0 3 0 3 10	3 15 3 15 3 15	3 4 3 4 3 0	3 0 3 0 3 10	1 0 1 0 1 0	1 4 1 4 1 0	1 10 1 10 1 10	According to mode of irrigation.	3 0 3 0 3 0	3 0 3 0 3 0	3 0 3 0 3 0	3 0 3 0 3 0	3 4 3 4 3 4	0 0 0 0 0 0	3 0 3 0 3 0	3 0 3 0 3 0	
II ... 5	II Kakar	...	...	...	...	...	1 0	1 0	...		...	...	...	...	...	...	1 0	...	3 0
III-A ... 1 2 11	II Kakar III Kakar II Johi	...	...	...	...	...	1 0 1 0 1 0	1 0 1 0 1 0	...		...	...	...	...	...	...	1 0	1 0 1 0 1 0	3 0 3 0 3 0
III-B ... 5 43	III Kakar II Johi	...	...	...	...	...	1 0 1 0	1 0 1 0	1 10 1 10		...	...	...	...	...	...	0 0	1 10 1 10	3 0 3 0
Total	101																		

Note.—The figures in italics represent the Commissioner's rates, in cases where modifications are proposed.

RABI.

Proposed group and number of villages.	Group.	PRESENT RATES.												PROPOSED RATES.												
		Rabi and Sallabi.	Rabi and Sallabi aided by lift.	Lift.	BARANI.				Dabari watered and unwatered.	Haris.	SPECIAL 'ARHU' RATES ON MANCHHUR LANDS.		Mohi, Rabi and Sallabi.	Rabi and Sallabi aided by lift.	Lift.	Barani (rainfall only).	Barani with black water.	Barani with black water and hill stream.	DUBARI.		SPECIAL MANCHHUR RATES.					
					Rabi Barani.	Rainfall only.	Rainfall and hill floods combined.	Rs. a.			Rs. a.	Rs. a.							Rs. a.	Ploughed.	Unploughed.	Watered.	Unwatered and hill stream dollar.	Haris.	Unploughed Sallabi of all kinds.	Others.
... 17 14 3	I Johi II Johi III Kakar	3 15 3 15 3 0	3 15 3 15 3 15	3 0 3 0 3 10	1 0 1 0 1 0	1 0 1 0 1 0	1 10 1 10 1 10	0 4 0 4 0 4	...	3 0 3 0 3 0	1 0 1 0 1 0	1 0 1 0 1 0	1 0 1 0 1 0	1 0 1 0 1 0	3 0 3 0 3 0	1 0 1 0 1 0	1 0 1 0 1 0	0 10 0 10 0 10	1 0 1 0 1 0	1 0 1 0 1 0						
II ... 5	II Kakar	...	...	...	3 0	3 0	3 0	...	...	...	...	...	1 0	3 0	...	1 0	0 0	0 10	...	...				
III-A ... 1 2 11	II Kakar III Kakar II Johi	...	...	...	3 0 3 0 3 0	3 0 3 0 3 0	3 0 3 0 3 0	...	...	...	...	...	1 0	...	1 10	1 0	0 0	0 10	...	...				
III-B ... 5 43	III Kakar II Johi	...	...	...	3 0 3 0	3 0 3 0	3 0 3 0	0 4 0 4	...	...	...	...	0 0	...	1 10	2 0	0 0	0 10	...	...				
Total	101																									

* Rabi rates.
† Sallabi rates.

No. 132 OF 1909.

REVENUE DEPARTMENT.

Settlement Office,

Larkana, 23rd April 1909.

From

S. H. COVERNTON, Esquire, I. C. S.,
Settlement Officer,
Sehwan,

To

THE COMMISSIONER IN SIND.

SIR,

In accordance with Government Resolution No. T/39, dated the 30th September 1908, I have the honour to submit proposals for the revision of the irrigational settlement in the Dadu taluka.

Brief description of the taluka.

2. Dadu is bounded on the north by the Marvi wah and Kakar taluka, on the east by the Indus, on the west by the Nara, and on the south by Sehwan taluka. The taluka may be divided into two parts, on the west are the lowlying lands of the Nara Valley and on the east the lands watered by small canals taking directly off the river.

The taluka now contains 53 dehs, deh Ghalu having been completely eroded by the Indus. The average length of the taluka is about 28 miles; its width varies from 7 to 14 miles; and its total area is 294.36 square miles. Its population according to the last census was 55,454, which gives an average of 188 to the square mile. The only town of any size is Dadu, the head-quarters of the taluka, which has a population of 2,235. The climate is, as usual in Upper Sind, exceedingly hot in summer, and cold in winter with occasional frosts. The average rainfall for 5 years is 3 inches 95 cents.

Markets.

3. As a rule the grain is purchased by dealers from the zamindars in their villages and *deras*. Such as is not required for local consumption is sent by the banias to the railway stations at Dadu, Phulji road, Puranodero, Sita road (in Kakar taluka) and Bhan (in Sehwan taluka) for export to Karachi and Europe, or shipped at Puranodero into boats which convey it to Gidu Bandar and the Fuleli.

There is no market of great importance in the taluka, but Dadu serves as a centre of the grain trade especially for the centre and south. At Sita road station there has sprung up a village of grain-dealers and their godowns which plays a similar part in the north. Messrs. Ralli Brothers have an agency at Sita road and several other Karachi grain-dealing firms have agencies both there and at Dadu and Puranodero. Some of the large and more enterprising zamindars and especially the Hindus despatch their own grain to Karachi and sell it there.

Communications.

4. No new roads have been constructed in Dadu taluka during the current settlement. Nevertheless the taluka is well provided with the means of communications with all parts. The principal roads used for transport are—

1. The trunk road from Sehwan to Shikarpur through Dadu, which runs from south to north through the taluka.
2. Johi-Dadu.
3. Bhan-Dadu.
4. Dadu-Bahawalpur,
5. Phulji-Phulji station,
6. Kamal-Khan,
7. Pat to Sita road station and Puranodero.

These roads are of course all unmetalled, but except after heavy rain they are sufficient for the traffic which passes over them, especially as bullock carts are rare and most of the grain is carried on camels, donkeys, or bullocks. Grain is also conveyed in boats during the inundation along the Nara and Pritchard wah to Sita road. The cost of transport is said to be as follows:—

Baghban to Dadu or Puranodero	...	Rs. 3 per kharar.
" by boat to Sita road	... About	" 2 "
Khairo to Sita road by camel	... ..	" 3 "
" " by boat	... ..	" 1½ or 2 per kharar.
Pat to Sita road by camel	... ..	" 2 per kharar.

But on comparison with the Johi rates these appear much too high and I have little doubt that grain can generally be carried much more cheaply.

The North-Western Railway line to Sukkur and Shikarpur runs through the length of the taluka. There are four stations within the taluka borders, at Khudabad, Dadu, Phulji road and Piaro goth; a goods station on a branch line at Puranodero (called for some reason "Phulji Bandar") and two stations just outside the taluka at Sita road and Bhan. In addition to these a station was built two years ago between Phulji road and Dadu, but it has not yet been opened and it seems doubtful whether it will ever be used. The Khudabad station has been opened and that at Piaro goth enlarged during the settlement, but in spite of their convenient positions they have not been much used for goods traffic as until recently they possessed no telegraph office. In fact Piaro goth is still without one.

There are ferries over the Indus at Sita, Ghalu, Jhalo, Puranodero and in deh Shahani.

Manufactures and Industries.

5. There are no manufactures in the taluka. There are 53 oil-presses in the taluka in which oil is extracted from jambho, sariha or ahur, the charge being from Rs. 8 to Rs. 14 per *kharar. There are no cotton gins or rice-husking engines.

* 1 kharar of jambho in Dadu contains 21 maunds.

Irrigation.

6. The report of the Executive Engineer, Western Nara, is attached at the end of this report. The purport of Mr. Krishnarao's remarks is as follows:—

The principal canal of the taluka is the Western Nara. This canal and its branches irrigate the western and south-western dehs of the taluka. The Pritchard wah, the mouth of which is in taluka Mehar, enters the Western Nara in the north-west corner of Dadu taluka and acts as a feeder to the Nara for the whole Sehwan division. These two canals during the last 5 years have been very little affected by the vagaries of the inundations or by changes in the course of the river, and their working has been uniformly satisfactory, at any rate since the improvement to the Akil mouth in 1905. Such complaints as are heard are rather of too much water than of too little. This is especially the case with the lands below the tail of the Escape channel (or Chandan wah). Ever since the new mouth to the Nara was built, there has been less need of water in the Pritchard wah, and it seems to have been the custom to run off the surplus down the Escape channel into the Sutiara dhand. This overflows into the Jakhpari dhand and this again fills a series of depressions and *dhoros* in Jung, Marvi, Kandi, Baghban, Makhdum Bilawal and Pir Gunio. All the kharif crops that lie in the path of this flood are destroyed and the lands are in many cases rendered unfit even for sailabi rabi crops.

I observe the Executive Engineer describes the working of the Escape channel during the past 3 years as satisfactory. This is no doubt true in the sense that there was an abundance of water. But the condition of things which existed was certainly not satisfactory to most of the zamindars nor was its effect on agriculture good. This year it was even worse than usual. For as a rule there is sailabi cultivation in the bed of the flood, though the crops are for the most part rather bad. But this year the lands remained so long

submerged that in Marvi and Kandi, etc., hardly any sailabi crops could be grown at all.

The principal branches of the Nara are the Kudan wah with its continuation the Juberji branch in deh Juberji, the Karo wah and Lower Nur wah in the central southern parts of the taluka and the Garibi and Ali Ganj in the south-west. The Juberji branch also receives water from the Prithard wah as well as the Nara. The working of all these branches has been satisfactory since 1905. Before that year both the branches and the Nara itself seem to have been very variable. Some years they would give an excellent supply while in others as, *e. g.*, in 1902 a change at the mouth produced disastrous results. I understand that at the end of last summer another unfavourable change has taken place in the Akil mouth of the Nara, but the Executive Engineer assures me that it is not likely to make much appreciable difference in the Sehwan division; 6 inches or a foot is the full supply at the most.

The rest of the taluka is served by a number of small canals taking directly off the river and these, Mr. Krishnarao points out, suffer very much from the vagaries of the river and are at present somewhat unreliable. Nor does it appear to be quite correct that they worked fairly satisfactorily in the last few years even in a low inundation. In 1907 they all failed very early and most of the crops depending on them suffered considerably. This was especially the case with the Marvi wah in the north of the taluka and the Upper Nur wah in the centre. But on the whole the Marvi wah has worked more consistently than the Upper Nur wah upon which a large portion of the taluka depends. This latter canal suffered from changes at its mouth both in 1904 and 1907. A new mouth was constructed last year which should improve its working in the future. This mouth opens out of a dhand, one end of which has now silted up; but the Executive Engineer is of opinion that in the future a sufficient supply of water will reach the canal from the southern end of the dhand. But the full supply may be from 6 inches to one foot lower than it was last year. (This point is not referred to in this report, but the opinion was given in a separate letter).

The Kolab Sial and its branches the Wadhu and Ghari wah irrigate a large area in the east and centre. Except in one or two years, such as 1907, 1898 and 1899, the Kolab Sial itself has worked fairly well during the settlement. The two branches seem to have been rather more uncertain, but their lower portions are sometimes aided not only from the Upper Nur wah but also by a supply of water from the Nara through the Karo wah which fully compensates for any fall in the river.

The south-east centre is dependent either on the river or the Phitto. From the Executive Engineer's report it would appear that the Phitto has been on the whole a satisfactory canal. This however is hardly true of its higher portions above the junction with the Lower Nur wah, the working of which was certainly unsatisfactory in 1907 and was not, I believe, very good in 1906. There are constant complaints about this canal which, since the beginning of the settlement, takes off not from the main stream of the river but from what is now a sort of dhand in the inundation season, although I think there is some exaggeration in these complaints and that in ordinary years the cultivation on the Phitto might be much larger if the karias were cleared.

The Lower Nur wah from the Nara now tails into the Phitto wah and below the point of junction the supply of water is fairly good both in kharif and rabi. In a bad year some of the Nur wah water is also made to flow eastwards for a little way up the bed of the Phitto.

The Executive Engineer's map which accompanies his report shows the tracts watered by each canal. This map does not appear to be quite up to date in some respects. Not only has the course of the river altered somewhat but large parts of Chanrath and Buth Malho which are marked as watered from canals are now either waste or watered from the river. And the tail of the Lower Nur wah from Khudabad to the Phitto wah is not shown at all.

The north of the taluka is protected from river floods by the Fatehpur band; the average cost of maintaining this band is Rs. 364 per year.

Improvements.

The Executive Engineer states that the construction of the Akil mouth in 1903 and its widening in 1904 did not materially affect the Sehwan division. But its further widening to 125 feet in 1905 has very considerably helped all those dehs which depend for their supply on the Nara and its branches. The opening of the Pritchard wah in 1890 referred to by him took place during the previous settlement and its effects seem to have been duly considered by Mr. Disney and Sir Evan James in framing the proposals for the current settlement. A new feeder was dug into the dhand at the mouth of the Pritchard wah in 1903, which for a year or two helped to improve the supply in that canal and the Nara. But since 1905 changes in the river have made it of little effect and on the other hand the improvement at Akil rendered the aid of the Pritchard wah less necessary to the Nara.

The condition of deh Juberji has been much improved by the construction of the Juberji branch, and that of the central dehs by the improvements of the Upper Nur wah in 1891 and 1892 which affected the Ghari and Wadhu wahs no less than the Nur wah. These improvements would appear to justify the raising of the old 2nd group dehs on this canal to the 1st group. The construction of the new mouths to the Upper Nur wah in 1905 and 1907 are not exactly "improvements," but were intended to restore the canal to its former condition. The new mouth of the Marvi wah constructed in 1903-04 seems for a time to have removed all ground for complaints in the northern dehs, but much of this advantage has again been lost recently owing to changes at the mouth.

Dehs Kinjhar, Rap, Samuhi, Nasrani and Pambi still depend either on the river or private canals, *i. e.*, the Shah Ibrahim and the two Imam Ali wahs, and the Dilbahar wah from the Chikan dhand. Except the latter the working of these canals has been unsatisfactory of late years partly owing to changes at the mouth and partly to the failure of their owners to keep them in proper repair.

The average annual cost of repairs has been shown by the Executive Engineer jointly for all 3 talukas and as many of the canals serve more than one taluka I see no way of dividing up the cost between the three. The total average cost for the 3 talukas is Rs. 1,243. The statements showing the distribution of cultivation under each head of irrigation are also shown jointly for the 3 talukas. Appendix XII however fulfils this purpose for Dadu taluka separately. According to this there has actually been a small decrease in the rice area in this taluka during the past 15 years. Unfortunately the details of the cultivation in 1892-93 were so unreliable that they could not be given in that statement. But it would seem that the average rice area in the 5 years 1893-94 to 1897-98 was about 1,300 acres more than it was in the last 5 years of the previous settlement, *i. e.*, 1885-86 to 1889-90, and this increase was undoubtedly due to the opening of the Pritchard wah in 1890 as Mr. Krishnarao points out. But then there is some reason for believing that the area of rice in those earlier five years was very much smaller than it had been not long before. The Bimoki area during the years 1893-94 to 1897-98 was smaller than it had been under the old settlement and has now decreased yet further. On the other hand kharif lift has increased considerably and rabi lift most remarkably under the current settlement and it is here that the effects of the various improvements are best seen. Sailabi has decreased considerably, probably on account of the shifting of the river. Generally speaking the sailabi lies near the river though there is also some in the path of the Chandan flood; kharif charkhi is in the centre of the taluka, and bimoki and rice in the east, as is shown in the map of the Executive Engineer. Rabi charkhi and watered sailabi or bosi crops are found chiefly near the Nara and Phitto and on the banks of the various dhands in the north of the taluka and *wahurs* in the east.

The division of the taluka into charkhi madad moki and moki madad charkhi dehs proposed by me in paragraph 15 does not always agree with the colouring of Mr. Krishnarao's map, but this is because his red colour includes sailabi, bimoki and rice, whereas I have considered only the bimoki area in each deh.

The number of wells used for irrigational purposes in Dadu taluka has steadily increased during the settlement and is now 817* as compared with 398 in 1892-93. The water which is in most cases sweet and abundant is usually found at a depth of from 20 to 30 feet, sometimes much less, e.g., 12 to 15. The crops usually grown on wells are wheat and garden vegetables (especially onions), and in most cases are exceedingly good. A crop on a kacha well in Markhpur, on which a former Assistant Collector performed an experiment, produced 55 kasas of wheat to the acre. The area usually cultivated on a single well is about 6 acres.

History of the current settlement.

7. The current is the first irrigational settlement introduced into the original Dadu taluka and the second in the fourteen northern dehs transferred from Kakar. It was introduced into both parts in 1892-1893. The average annual revenue which the settlement was expected to produce appears to have been Rs. 81,050 for the original Dadu dehs and Rs. 20,420 for the Kakar dehs, altogether Rs. 1,01,470. The average of annual collections during the settlement (excluding remissions) is Rs. 1,31,429.†

†Or Rs. 1,32,375 after the inclusion of the belated collections referred to below.

Thus the original estimate of the settlement has been considerably exceeded. The reason for this seems to be that the cultivation area was very much under-estimated, being based on the average of the annual area of cultivation during the five years previous to 1889-1890 in the old Dadu dehs and on the average of the 10 years previous to 1890-1891 in the Kakar dehs. New in 1892-1893 these average areas had already been very greatly exceeded and although the cultivation area has steadily declined since then, it has never fallen back to the old level. This decline in the cultivation area since 1892-1893 is naturally accompanied by a decline in the gross demand and in collections as is shown in Appendices XII and XIII, and the improvement in the last 5 years during which the Nara has been working satisfactorily is but slight.

Remissions are shown in Appendix XIII. On an average they come to Rs. 5,789 or 4 per cent. of the gross demand. Arrears average Rs. 1,167. But these arrears consist very largely of remissions sanctioned and collections realised after the close of the revenue year. If these belated remissions are added to the total of remissions in Appendix XIII the average will be Rs. 5,829 or 4.2 per cent. of the gross demand. Arrears still outstanding are Rs. 181 only. The reasons for the remissions shown in Appendix XIII are given in the table below:—

Statement showing reasons of remissions in Dadu taluka.

Year.	Deficient water-supply.	Floods.	Kham.	Assessment for un-authorized cultivation.	Fallow-forefeited assessment.	Insects.	Locusts.	Dilution.	Forests.	Other reasons.	Total.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13
	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
1892-93	1,751 10	Details not available.
1893-94	862 12	930 11	...	25 12	417 0	...	...	...	...	3 6	2,248 0
1894-95	79 10	8,762 12	...	...	1,152 8	...	...	...	...	28 8	10,021 6
1895-96	185 11	...	...	30 4	653 4	...	...	...	...	12 0	871 5
1896-97	1,027 13	...	...	...	...	...	...	...	...	...	1,227 13
1897-98	...	442 11	...	44 6	1,229 1	...	...	...	24 0	...	1,740 0
1898-99	417 14	...	...	...	5,778 8	...	...	...	...	10 8	6,214 14
1899-1900	16,713 0	...	...	...	...	...	...	...	208 5	...	15,508 5
1900-01	...	6 2	235 10	13 14	1,816 0	...	...	...	...	301 12	2,453 12
1901-02	3,217 6	...	...	...	7,003 14	70 3	...	...	...	8 12	10,300 3
1902-03	13,422 8	...	...	...	...	...	...	...	...	...	13,422 8
1903-04	633 3	...	...	22 7	925 7	...	...	...	...	...	1,601 0
1904-05	7,737 0	...	...	9 10	1,969 2	...	...	...	5,048 14	...	14,794 11
1905-06	304 11	50 2	...	68 2	2,983 6	75 5	...	352 2	...	...	3,678 1
1906-07	191 11	306 13	...	26 1	1,367 2	...	22 10	198 5	...	23 4	2,123 0	
1907-08	3,498 12	822 7	...	...	...	70 0	60 15	24 2	...	211 10	4,668 14
TOTAL OF 16 YEARS...	49,905 12	11,222 3	215 10	167 6	26,304 11	218 3	22 2	651 0	5,276 2	667 1	80,873 10	
AVERAGE...	3,119 1	702 4	17 1	12 8	1,644 0	14 3	2 2	41 7	331 12	42 7	5,054 3	

Now if the fallow remissions (column 5) and the figures in columns 8 and 9 be deducted, the balance of "falsi remissions" will average only 4,315 or 3 per cent. of the average gross demand, which cannot be considered as high.

The revenue has been recovered without any difficulty, especially during the last 6 years. Notices had to be issued in a large number of cases, but as the accompanying statement of coercive processes shows, it has only once in that period been found necessary to inflict fines for late payments. No forfeitures of property or land have occurred since 1902 except in the case of fallow lands.

Coercive processes resorted to in Dadu taluka during the current settlement.

Year.	158, Land Revenue Code.			148, Land Revenue Code.			154, Land Revenue Code, forfeitures and sales of immovable property for non-payment of assessment.			Forfeitures and sales of immovable property for non-payment of assessment.			Forfeitures for non-payment of fallow assessment.			REMARKS.		
	Cases.	Amount of arrears.	Notice fee.	Cases.	Arrears.	Fines imposed.	Cases.	Amount of arrears for which forfeiture was made.	Amount of arrears for which sale was made.	Amount recovered from sale.	Cases.	Area.	Assessment.	Cases.	Area.		Assessment.	
																		Rs. a. p.
1892-93	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Details not available
1893-94	563	11,273 9 1	230 4	...	...	...	...	...	...	...	...	...	81	190 2	417 0	...	...
1894-95	651	20,991 6 9	271 13	...	...	...	1 71 10	1 71 10	1 25 7	...	...	...	31	574 19	1,152 9	...	...
1895-96	637	81,113 2 5	248 8	...	...	...	...	...	...	...	...	...	66	291 22	653 4	...	...
1896-97	725	4,305 7 0	3 9 13	...	...	...	...	...	...	...	...	...	1	41 0	87 0	...	...
1897-98	1,173	13,399 9 0	509 13	...	...	...	7 134 15	0	...	...	...	...	93	634 22	1,229 1	...	...
1898-99	1,940	15,001 1 0	481 12	...	...	...	7 917 19	0	...	...	...	...	340	1,832 29	4,748 6	...	...
1899-1900	1,022	12,906 10 2	401 12	...	...	...	13 823 4	0	119 8 0	103 8	...	...	5	...	...	...	...
1900-01
1901-02	1,091	13,432 8 9	436 6	...	...	...	2 135 10	0	...	...	...	...	302	2,861 19	6,487 4	...	...
1902-03	839	17,377 11 11	407 0	...	...	...	...	...	...	...	...	...	8	...	...	...	...
1903-04	1,117	30,738 4 5	516 12	...	...	...	...	...	...	...	...	...	110	419 24	825 7	...	...
1904-05	806	21,923 14 10	363 4	...	...	...	...	...	...	...	...	...	107	721 0	1,909 3	...	...
1905-06	1,143	25,225 6 1	498 0	...	...	...	...	...	...	...	...	...	237	1,324 28	2,991 8	...	...
1906-07	1,048	39,995 2 5	501 8	80	806 13	125 10	...	...	...	...	...	...	76	603 0	1,307 2	...	...
1907-08	843	19,367 4 0	294 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Arable area.

8. The area of occupied land in the taluka has increased since 1892-93 by about 3,500 acres, but the unoccupied area has also increased by about 3,700 acres, and thus their relative proportion has remained almost unchanged. The increase in the taluka area seems to be due chiefly to the surveying of large unsurveyed numbers and the more accurate figures thus obtained and still more to the surveying of kacha lands which had hitherto been outside the deh maps. The principal area thus added to the taluka was Kacho Sita on the borders of Sita deh.

At present the occupied area is 53.1 per cent. of the total area of the taluka as compared with 53.3 per cent. in 1892-93. The cultivated area according to Appendix XII has declined by more than 16,000 acres and the fallow area in 1907-08 is 16,000 acres more than in 1892-93. But the inundation in 1892-93 seems to have been almost unusually high one and it is probable that a large

area was cultivated on khas mokal* or without permission. Certainly the area of cultivation in that year was much higher than before or since.

The increases or decreases in the area of cultivated land in individual dehs since Mr. Disney's report are for the most part comparatively small. The only cases in which a remarkable change has taken place are shown in the following statement (dubari is not included) :—

Deh.	Amount of increase or decrease.	Remarks.
Sidwah	845 acres increase	This increase seems to be due to the surveying of kacha lands.
Pir Gunio	675 "	This seems to be due to surveying of unsurveyed land and the lapse of a jagir.
Sita	1911 "	Due to the surveying of Kacho Sita.
Aminani	354 decrease	Due to the defective working of the Phitto wah and to kalar, and to the non-clearance of karias.
Nurja	373 "	The same reason and failure to clear karias
Nasrani	528 "	Chiefly due to erosion.

The total cultivated area of the taluka according to the average of the last 3 years was 8,225 acres greater than the average for the years 1885-86 to 1889-0. It is of course far lower than in the first year of the settlement which was a very exceptional year. But throughout the first 10 years of the settlement after 1892-93 the cultivation area continued to decrease, presumably on account of the unsatisfactory working of the Nara in several years. During the last 5 years a rise has again taken place.

Crops.

9. The area of cultivation under each kind of crop during the past 5 years is shown in Appendix XI.

No new staple has been introduced into the taluka.

Varieties and outturn.

(i) Rice.

In the centre and north of the taluka sathriun, tor, motiro, lari and occasionally sugdasi are grown on the Nara and elsewhere. In Kurpur and the south-west corner the rice is almost all lari. The latter is a coarse and low priced variety which is grown very extensively in the Sehwan division, because it suffers less from floods than any other kind. It is therefore peculiarly well adapted to the Nara Valley where the rice fields are usually uneven and lie in the beds of *dhoro*s and depressions and the water-supply is therefore very imperfectly under control. Tor is another inferior variety, the price of which is lower than either sathriun or lari. Even sugdasi and sathriun are much inferior both in quality and productiveness to the sugdasi and sathriun grown further north, doubtless because they require a level surface and careful watering. In the Mail country, I believe, an average field of sugdasi will produce 2 kharars per acre. What appeared to be a very good field of sugdasi in Jung was found when experimented on to produce only 50 kasas per acre. A field of sathriun in Markhpur, which was certainly better than any of its neighbours, gave only 42½ kasas. A field of tor produced 51½ kasas per acre. In all these cases the fields were the best I saw in the neighbourhood and the general run of crops would probably only produce about 35 kasas.

I heard of one field near Baghban which was said to have given last year 80 kasas to the acre. But this was evidently regarded as very extraordinary if not absolutely incredible.

Two experiments on lari rice in Sehwan taluka gave 60 kasas per acre but investigations in the *deras* of other dehs of Sehwan and on the Johi side gave much lower results, i.e., 30, 20 and even 10 kasas per acre. No doubt Johi rice is inferior to that of Dadu, but the difference is very much less than that which exists between Dadu and Larkana.

(ii) Juar.

The juar most cultivated in the taluka is one or other of the white varieties, but red juar is not infrequently grown in a corner of the field along with the white. The varieties of both appear innumerable and their names differ in different parts.

This year so much damage was done to all the juar of the taluka by insects that it was not easy to arrive at any reliable estimate of the out-turn, especially as my experiments gave the most various results. But it seemed to be established pretty certainly, firstly, that in this taluka charkhi juar is very much more productive than moki, and secondly that a kharar to the acre is a good but not extraordinary crop for charkhi juar especially in a favourable year. Out of 13 experiments in charkhi juar in this taluka, 2 gave 60 kasas, one 50, one 40, and 4 more between 40 and 30. The rest gave poor results but were poor crops. Probably an average charkhi crop would give about 50 kasas. In charkhi madad moki juar I found one good patch in an otherwise poor field, which gave a result equal to 60 kasas per acre. But this was far above the average of the whole field. Other results were 16, 41 and 35 kasas per acre. All other fields experimented on gave exceedingly low results.

I found one crop of moki juar which gave 35 kasas to the acre and another which gave 31. But the averagely good field this year gave about 20 kasas and about half of those I tested gave less than 12. But it is true that the moki crops in this division were poorer than usual this year, for they suffered both from overflowing and from the attacks of the caterpillar.

(iii) *Bajri.*

The outturn of this crop is much the same as that of juar when the latter is not injured by insects (for bajri is not exposed to their attacks). Out of 5 experiments in charkhi and charkhi madad moki bajri this year, the lowest gave 26 kasas and the highest 60. Other results were 50, 35 and 30.

(iv) *Wheat.*

No experiments in this were possible as the harvest was not ready when the report was written.

An experiment made by the Assistant Collector in 1906 gave 44 kasas to the acre for lift wheat. Another made in Markhpur on wheat grown on a kacha well gave 55 kasas. Two old experiments in sailabi gave 40 and 35 kasas respectively.

The usual varieties grown in the taluka are thori, rari and gandio.

(v) *Jambho and other oil-seeds.*

One experiment in charkhi sariha in this taluka gave an average outturn of 23 kasas to the acre. A field of charkhi ahur gave only 11½ kasas to the acre. Both these were charkhi bosi crops, i. e., unwatered after the seed was sown. One field of bosi jambho gave 30 kasas and one of bosi ahur only 8 kasas to the acre.

The methods of cultivation in this taluka are those which prevail all over the district. A description has been frequently given before (e. g., in the Mehar report) which it seems unnecessary to repeat. It may however be noted that in addition to the transplantation method of cultivation, rice is also sown broadcast in this taluka. Sometimes the two methods are alternated in the same field—rice is transplanted for 2 years and broadcast in the 3rd.

Prices.

10. The retail prices of the staple agricultural products during the past 9 years of the settlement are shown in Appendix XV, from which it will be seen that with the exception of juar, bajri, barley, matar and chana, the prices of all the chief products have risen. Even juar and bajri are dearer now than they have ever been since 1899-1900, a year of unusually high prices, and in all grains there has been a steady rise during the past 7 years. Whether the figures given in these appendices can be implicitly relied on I do not know. There are many inexplicable differences between the Sehwan and the Dadu price lists and I fancy Mukhtiarbars did not always take much trouble to record the prices accurately. But at any rate there is no doubt at all that the prices of grain stuffs and other things also have risen of recent years. In 1899 bullocks are said to have cost only Rs. 25 each. Now even a moderate bullock can seldom be bought for less than 50 rupees and a really good one may cost from Rs. 80 to Rs. 100.

All this means for the hari an increased outlay on seed and plough bullocks and also on food, unless he happens to have some of last year's produce stored up. Thus if the prize has become more valuable, yet the stakes are also higher.

No doubt increased expenses do not affect the zamindar directly. But in most cases he is bound to advance the hari the money required for the purchase of seed and bullocks and thus year by year he requires more capital and incurs greater risk. On the other hand although there is no means of ascertaining accurately the wholesale prices obtained by the zamindars for their produce there can be no doubt that they have risen along with the retail rates. Of course the price which the zamindar can obtain for his grain varies slightly from week to week and no doubt this is the reason why the

remission rates in neighbouring dehs sometimes differ so greatly. For example, in 1907 the juar rate sanctioned in Markhpur was 54, in Makhdum Sahib 48, and in Nasrani, which is further away from a goods station or market, it was 53. But however unreliable the remission rates may be in calculating the average rate in a given deh, yet they show very clearly how the wholesale prices have risen in the taluka during the past 6 years.

Sanctioned rates for remission purposes.

	1902-03 per kharar.		1907-08 per kharar.		1908-09 per kharar.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Juar (white) ...	36 to 40		48 to 54		60 to 75	
Lari rice ...	27 to 30		50		48 to 50	
Sugdasi rice ...	30 to 38		54 to 55		No remissions.	
Rajri ...	44		50 to 62		60 to 70	
Wheat ...	60		90		...	
1903-04.						
	Rs.	Rs.				
Sariha ...	60		100 to 110		...	
Jambho ...	48 to 50		90 to 110		...	

No doubt prices have already fallen somewhat below the high level reached at the beginning of the current year. But I believe it is the case that a similar rise has been taking place all over India for some years past and it seems highly probable that whatever the causes may be they are permanent and that the rates will in future be at least no lower than they were in the beginning of 1907-08.

Value of land.

11. The result of the sales in pursuance of Civil Court decrees in the last 3 years is as follows. No earlier figures are available.

Deh.	Year.	Area.	Amount.		Rate per acre.	
			A.	g.	Rs.	a.
Markhpur ...	1905-06 ...	5 15	245	0	45	9
Malkani ...	1906-07 ...	4 30	800	0	63	2
Dadu ...	1906-07 ...	8 31	408	0	46	7
Khariro ...	1907-08 ...	6 5	612	8	100	0

The following figures of prices paid for land in various dehs are taken from the Sub-Registrar's books and documents—

Nara lands.		On Upper Nur Wah.		On Phitto wah.	
Deh.	Rate per acre.	Deh.	Rate per acre.	Deh.	Rate per acre.
	Rs.		Rs.		Rs.
Sunhian (jagir) ...	46	Khariro ...	54	Nurja ...	17
				<i>Miscellaneous canals from rivers.</i>	
Kandi ...	64	Khariro ...	39	Dadu ...	18
Baghban ...	94	Khasa Chandia ...	45	Dadu ...	35
Jung ...	20	Purmodero ...	66	Duabo ...	32
				<i>Kacha lands.</i>	
Mekhdum Bilawal ...	82			Nasrani ...	104
Kurpur ...	102				

Tenures, etc.

12. The system of tenures in this taluka is the same as that which prevails in most parts of Sind. The zamindar engages a hari for a single season to cultivate his land. The hari provides seed, cattle and labour and the produce is shared between them at *batai*.* The zamindar is responsible for the clearance of the

* Division of produce.

karias. The labourers for the transplantation of rice and harvest are usually paid both by hari and zamindar in the proportion of the *batai* shares. In the northern part of the taluka the zamindar usually advances takavi to the hari to enable him to purchase seed and cattle and this advance is recovered at the time of *batai* without interest. But in the dehs near Dadu town no takavi is advanced. The different systems of sharing the produce at *batai* are as follows:—

Wheel (aided or unaided).		Flow of all kinds including sailab.
Central and southern parts of the taluka.	Zamindar $\frac{1}{2}$ and hari $\frac{2}{3}$...	Zamindar $\frac{1}{2}$ and hari $\frac{1}{2}$.
Northern dehs ...	Zamindar $\frac{1}{2}$ and hari $\frac{1}{2}$ or zamindar $\frac{2}{3}$ and hari $\frac{2}{3}$ in all cases.	Same as for wheel cultivation.
	Wheel of all kinds unaided by flow.	Flow aided by wheel and flow of all kinds.
Deh Sita ...	Zamindar $\frac{2}{3}$ and hari $\frac{2}{3}$...	Zamindar $\frac{1}{2}$ and hari $\frac{1}{2}$.

The explanation given for the larger share received by the zamindar in lift cultivation in the north is that the zamindars are obliged to advance large sums in takavi which they are not always able to recover. The explanation is hardly satisfactory for takavi is given in most talukas, but a distinction is almost always drawn between lift and flow.

In most parts of the taluka haris and zamindars appear to be on good terms and applications under section 86, Land Revenue Code, are very rare. The northern zamindars however complain that it is now becoming hard to find cultivators for their lands; the haris naturally prefer, if they can, to take up rice lands on the Nara in the Mehar division and every year large numbers go thither. Even those who take up fields in Dadu occasionally abscond after takavi has been advanced. But the *batai* shares alone would seem to be sufficient explanation of any scarcity of haris that may be felt in these dehs.

There are no maurusi haris in the taluka.

The number and value of sub-leases is shown in Appendix VII. The lessee pays a cash-rent and receives the whole or a share of the produce paying as much of the assessment as is proportionate to his share.

Condition of the cultivating classes.

13. The agricultural live-stock of the taluka is shown in Appendix IX. There are few large khatedars in this taluka and as Sir E. James noted on the last report, still fewer "large holders of ancient family with the too frequent accompaniment of extravagant proclivities. The majority of them live quietly and in very humble style." In fact in this taluka there is probably a greater number of holders who cultivate their own land themselves or with the help of their relations than in other parts of the district. The following statement shows the number of *khatas* in the names of Hindus and Musalmans and their size within each deh. Its value is not very great, firstly, because the khatedar is by no means necessarily the owner, and secondly because many persons own lands in more than one deh. But it was not possible to obtain figures for the size of each man's holding within the taluka without throwing far too much work upon the tapadars and taluka office. In any case I think it is safe to conclude that the majority of estates are not higher than 50 and probably as low as 30 for the *khatas* are in most cases divided up between several sharers.

Details of *bhatas* in Dadu taluka.

Extent of area.	HINDU.				MUHAMMADANS.				TOTAL.			
	1892-1893.		1907-1908.		1892-1893.		1907-1908.		1892-1893.		1907-1908.	
	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.
Within 50 acres ...	449	...	690	...	2,838	6	3,066	6	3,267	6	3,756	6
From 50 to 100 acres ..	38	...	96	...	165	...	179	...	208	...	275	...
From 100 to 500 acres.	50	...	43	...	108	8	81	8	156	8	124	8
From 500 to 1,000 acres ...	1	...	8	...	6	6	8	6	7	6	11	6
Above 1,000 acres ...	...	...	...	...	1	...	...	...	1	...	...	...
Total ...	538	...	832	...	3,116	...	3,334	...	3,654	...	4,166	...

According to this statement 77·3 per cent. of the holdings are of less than 25 acres. And the Hindu khatedars are now 24·9 per cent. of the whole as compared with 17·2 per cent. in 1892-93.

From a comparison of Appendices VI and VII with the statement given by Sir Evan James in section 10 of his letter No. 125 printed with the last settlement report, it would seem that the land has continued (until recently) to pass from the agriculturist classes to the banias almost as rapidly under the present settlement as under the last. In the last 6 years, however, the area annually sold and mortgaged to banias has declined, partly perhaps owing to legislation, partly to the improvement in the Nara. But even in 1907-08 the area of such sales amounted to 411 acres. The disappearance of the Musalman zamindar in this taluka may in part be due to the unsatisfactory condition of the Nara in former years, but I think it is largely caused by the smallness of the zamindar's estates and the number of shares into which each is broken up. It is difficult for a man, without capital, however thrifty he may be, to carry on the management even of a small estate without incurring debts, especially if he does not cultivate the land himself.

It is still more difficult for zamindars of this type to effect any improvements whether in irrigation or agriculture. All that is to be known about the existing staples and the customary methods of agriculture they know already and they cannot afford to try experiments with new fangled ideas which are as likely as not to fail. They possess no power of combination and without combination any important improvement in irrigation is beyond their means. Usually indeed their mutual disputes and jealousies prevent them even from combining to clear and maintain in order those zamindari canals which already exist. It is owing largely to this neglect that so much of Mondar and Nurja dehs is uncultivated and that the Imam Ali and Ibrahim wahs work so unsatisfactorily.

Grouping.

14. I propose that all the dehs of the taluka should be placed in a single group.

Reasons.

The fact is that since the improvement in the Nara and Pritchard wah each half of the taluka is at its best when the other is at its worst. In a high inundation the Nara bimoki and rice lands are damaged by flooding in a low inundation, the crops watered from the river and from the small canals taking off the river fail from lack of water.

Mr. Disney in 1891 found no reason for making any distinction of grouping except for the dehs Chanrath, Nurja, Aminani and Buth Malho. Sir Evan James disagreed with this. He adopted a three-fold division of the taluka into (i) the low lands of the Nara depression, (ii) the lands of the river

side which are low and irrigated with comparative ease, and (iii) the central dehs a strip of high land badly watered from the tails of the canals. This division he made the basis of his distinction between the first and second groups. The first group was supposed to consist of the dehs in the 1st and 3rd portions of the taluka and the 2nd contained the dehs belonging to the central portion. But as a matter of fact in one at least of the 1st class dehs, *i.e.*, Dawachh, the riverside lands are 9 or 10 feet above the Indus summer level, and on the other hand Mondar and Khushk in the 2nd class contain a large area of low bosi and sailabi lands and border on the river. More than $\frac{1}{2}$ of Khasa Chandia is also moki or bosi land, though it is certainly the worst half. Mondar and Khushk are no worse off than Dawachh and Shahani. Their western portions and the adjacent parts of Khasa Chandia lie on the Upper Nur wah, which in ordinary years has an adequate supply of water, and all these lands appear to be exceptionally prosperous and fertile. Nor does it seem necessary to retain Khasa Chandia in the 2nd class on account of its southern and western lands, although these are certainly rather salt and the cultivated fields are infested with drabhi; for the cultivation in this part of the deh is not very extensive and the eastern and northern parts are decidedly good. The seven southern dehs of the second group are no doubt high in so far as they consist mostly of charkhi lands. But at the present time their irrigation is not so defective as to justify their position in a lower group. And to place charkhi dehs in a second group merely because they are charkhi would be to base the grouping on an entirely indefensible principle.

Dadu deh is watered by the Wadhu wah and Ghari wah (*ex* Kolab Sial), both of which work well enough except in a very bad year like 1907-08. This year the deh produced the best charkhi crops that I have seen in the division, the outturn of the average crop being from 50 to 60 kasas. Dahi is partly dependent on the unsatisfactory Phitto wah. But $\frac{2}{3}$ of the deh are watered by the Ghari and Wadhu wah and the crops in this part are usually fair. Duabo depends largely and Phaka, Khudabad and Kalhora entirely on the branches of the Nara, and since the improvement in the Nara there has been no necessity to keep them in class II. Naulakhi is perhaps the most unsatisfactory of all for it lies at the tail of the Wadhu and its only supply is from the unreliable Phitto. But at any rate the lands near the Phitto itself are certain of a fair charkhi kharif supply and those further away would remain uncultivated in a bad year. This year the crops on the Phitto lands were distinctly good, in fact the best in the deh. There has been no decline in cultivation in the deh during the settlement and more than $\frac{1}{2}$ of it on an average is cultivated each year. In rabi the lands on the Phitto bank receive a small supply from the Lower Nur wah drawn backwards along the Phitto bed.

There remain the 3rd class dehs :

(i) Bhand and Buth Malho. These dehs were probably put in class III because they depend on the Phitto. But there is a great difference between them and the other three 3rd class dehs, for they both lie below the junction of the Lower Nur wah with the Phitto. The Nur wah is the best of all the Nara branches and both in kharif and rabi discharges a large body of water into the Phitto. Thus the dehs below the junction really receive Nara water. Bhand is also watered by the tail of the Ali Ganj wah *ex* Nara. Altogether it is decidedly superior to its neighbours, Badani in the 1st class and Kalhora in the 2nd, and its crops this year appeared excellent.

Buth Malho contains a great deal of waste land, but the kabuli numbers are almost all in a belt along the bank of the Phitto wah and within easy reach of its wheels; and the crops are almost as good as those of Bhand.

Both dehs have a large area of well cultivation which argues a good supply of subsoil water at no great depth.

(ii) Nurja, Aminani and Chanrath. The condition of these dehs is less satisfactory. They are entirely dependent on the unsatisfactory Phitto wah and a *wahur* which was once the bed of the river, and the zamindars are small men, for the most part poor and without any power of combination.

For these reasons I was at first inclined to follow Mr. Disney's example and to place at any rate Nurja and Aminani in a 2nd class. But the greater

part of Aminani and Chanrath is in jagir and the central portion of Nurja is uncultivated. The rayati cultivation in these dehs is entirely confined to the fields on the bank of the Phitto wah and the wahur and for these numbers a sufficient water-supply is available both in kharif and rabi. The soil in most of the cultivated parts is good, and if the season is not a bad one the charkhi rabi crops especially in Nurja are excellent. Even in the central part of Nurja, if the karias were properly cleared, I have no doubt that very fair charkhi crops could be raised. Aminani is also able to obtain water from the Lower Nur wah along the bed of the Phitto when the latter dries up.

15.—

Rates.

Kind.	Proposed.		Existing.		Difference.		
	Rs.	a.	Rs.	a.	Rs.	a.	
Rice ...	4	0	1	3 4	+	0 12	
			2	3 0	+	1 0	
			3	2 12	+	1 4	
Bimoki ...	3	0	1	2 12	+	0 4	
			2	2 8	+	0 8	
			3	2 4	+	0 12	
Moki + charkhi ...	2	12	1	2 12		NZ	
			2	2 8	+	0 4	
			3	2 4	+	0 8	
Charkhi + moki ...	2	10	1	2 12	-	0 2	
			2	2 8	+	0 2	
			3	2 4	+	0 6	
Kharif lift ...	2	8	1	2 6	+	0 2	
			2	2 2	+	0 6	
			3	1 14	+	0 10	
Boai and sailabi ...	3	0	1	3 0		NZ	
			2 & 3	2 12	+	0 4	
Boai and sailabi + lift ...	4	0	1	4 0		NZ	
			2	3 10	+	0 6	
			3	3 6	+	0 10	
Rabi lift ...	4	0	1	3 0	+	1 0	
			2	2 10	+	1 6	
			3	2 4	+	1 12	
Gardens ...	According to method of irrigation.	1) Same as rice. 2) 3)	1		-	0 12	
			2		-	0 8	
			3		-	0 4	
Berasi ...	0	8	1,2&3...	1 12	-	1 4	
			Kacha ...	Kharif	2 8		NZ
					Ploughed rabi	3 0	Wheat...	3 0	NZ
Dubari ...	1	8	Unploughed rabi ...	2 0	+	1 0	
				1 8		NZ	
Dubari ...	2	0	Watered	3 0	+	1 12	
				Unwatered	0 8	4 annas ...	+	0 4
Babul groves (other than rent free huris) at 1/2 per cent. the bimoki rate.	1	8	1/2 Bimoki rates ...				
Wells =	Kharif lift.						

Taking gardens as usually cultivated with well or kharif lift the difference will be—

1	+	0 12	And if in kharif lift and rabi well, then
2	+	1 0	1 - 0 4
3	+	1 4	2 - NZ
			3 + 0 4

Notes.—In this taluka it has always been customary to charge only 1/2 and not 1/3 bimoki rates. The latter were restricted to the Upper Sind districts, whereas this taluka was part of the Karachi district. Trees in this taluka are in most parts exceedingly scarce and pasturage even more so. Considering especially the increasing difficulty of finding pasturage for camels, I think it would be unwise to discourage babul planting in any way.

Rice.

This rate is certainly very low when compared with other talukas although it is a considerable increase on the old rates. The reason for this is to be found in the description of the rice of Dadu taluka already given in paragraph 9; rice is cultivated chiefly on the Nara or on *dhoros* communicating with the Nara, for there alone can a sufficient and certain water-supply be obtained. It is grown almost entirely on lowlying fields where the ground is uneven and the water-supply cannot be controlled. In a fairly high inundation such fields become flooded by the effect of the "sim" water alone. Moreover in recent years it has been the custom to relieve the pressure of water in the Pritchard wah by letting it run off down the Chandan Escape channel into the Sutiaro and Jakhpuri dhands. These quickly overflow and the flood water finds its way by a line of *dhoros* down the Nara Valley as far as Pir Gunio. And it is the rice which suffers most from these floods. The result is that as a rule only the cheaper and coarser varieties can be grown; and where better varieties are cultivated they are very inferior in productiveness and quality to the rice of other talukas where the land is level and the water can be controlled to the utmost nicety.

There is no occasion to penalise rice cultivation in this taluka. Appendices XI and XII show clearly that its area is not greatly on the increase in the taluka as a whole and generally speaking it is grown only on lands where dry crops could not with advantage be grown at all.

The best rice lands, especially in the north-west of the taluka, are usually cultivated with dubari crops and sometimes with watered dubari and the increase in the proposed dubari rates will compensate for the comparative lowness of the rice assessment on these lands. For the average rice land of the taluka I do not think the rate is too low. If my estimate of 35 kasas as the average outturn is correct, the zamindar's share at $\frac{2}{5}$ is 14 kasas. (The lower *batai* rate is the one which would apply most often to the poorer lands.)

It should be explained that certain deductions known as *rajkharch* are made from the shares of both hari and zamindar by way of payment to the reapers, the potter, carpenter and other village work people.

In the case of the zamindar, the *rajkharch* on an average crop comes to about 1 or $1\frac{1}{2}$ kasas per acre. If we deduct 1 kasa, his share will be 13 kasas. At Rs. 50 per kharar, this is worth Rs. 10-13. And a third of this would be Rs. 3-9 for the Government assessment. If the *batai* shares be $\frac{1}{3}$ and $\frac{1}{3}$ his net profit would be Rs. 13-4, a third of which would be Rs. 4-6. This suggests an average assessment of Rs. 4. (Clearance expenses are not allowed for but they would not be high in Dadu rice lands.) This argument assumes that the assessment should not be higher than $\frac{1}{3}$ of the zamindar's net assets. But a better way of testing its fairness is to examine the balance of profit left with the zamindar.

(i) In the case of a peasant proprietor with a family owing no land save what he cultivates himself, the holding would probably be about 10 acres.

His produce would therefore come to	...	...	350 kasas.
Deduct for seed (at 2 kasas to the jireb)	...	...	40 kasas.
Deduct for <i>rajkharch</i>	...	...	10 kasas.
Balance	...	...	300 kasas.

*Assessment on 10 acres ... Rs. 40
 Payment to rombo labourers ... Rs. 10
 Total of deductions ... Rs. 50
 The rate of pay for rombo labourers when paid in cash is about 4 annas per day.

Balance of produce 300 kasas, value at Rs. 50 per kharar	...	Rs. 250
Deductions as per *zaargin	...	Rs. 50
Net profit	...	Rs. 200
Monthly income	...	Rs. 16-10

Now an ordinary labourer gets at present between 6 and 8 annas a day, i.e., Rs. 11-4 or Rs. 15 a month. And it may be taken that the cost of bare subsistence for a man and his family is between Rs. 11 and Rs. 12 per month.

The interest earned by the land owner on the capital invested (as apart from the wages of his labour) is not therefore large, for this calculation ignores all expenses which do not recur annually, e.g., the cost of bullocks and agricultural instruments.

(ii) A small land owner with 30 acres cultivated by haris.

At a *batai* of $\frac{1}{3}$ we have seen that the value of his share would be Rs. 10-13 per acre and after paying the assessment Rs. 6-13 per acre or Rs. 204-6 altogether. This gives a monthly income of Rs. 17.

(iii) The same owner cultivating 10 acres himself and having 20 acres cultivated by haris. This is probably the most typical case. Even when a small holder does not cultivate his own lands personally, he very probably cultivates for some one else and the effect is the same. At any rate it is always open to him to do so.

Net profit on 10 acres according to (i)	...	...	Rs. 200
Net profit on 20 acres given to haris according to (ii)	...	...	...
Rs. 6-13 x 20	...	...	Rs. 136-4
			...
TOTAL	...	...	Rs. 336-4
			<i>or</i>
			Rs. 28 per month.

I therefore think that though the rice rate could not well be put higher than Rs. 4 yet this is not too high. Of course this calculation ignores *dubari*. But rice is not invariably followed by *dubari* even in Dadu and in any case the rice rate should not be so high as to exclude the possibility of a livelihood from rice cultivation alone.

Bimoki.

The difference between the *bimoki* rate and rice rate can hardly be less than one rupee if the rates are to be at all proportionate to the consumption of water. It remains to test the rate by the average profit of the zamindar. Probably in an ordinary year the outturn of *juar* would average 25 *kasas* to 30 per acre. The price of *juar* I take at Rs. 50 to guard against any subsequent decline in prices. It is not likely to fall lower.

Then—

Case (a) Produce	...	...	...	25 <i>kasas</i> .
Zamindar's share at $\frac{1}{3}$	...	...	...	12 $\frac{1}{2}$ "
Deduct 1 <i>kasa</i> for <i>rajkharch</i>	...	...	...	11 $\frac{1}{2}$ "
Value = Rs. 9-9 assessment at $\frac{1}{3}$	...	...	...	Rs. 3-3
Case (b) Produce	...	...	...	30 <i>kasas</i> .
Zamindar's share at $\frac{1}{3}$	...	...	...	15 "
Deductions for <i>rajkharch</i>	...	...	...	1 $\frac{1}{2}$ "
				...
				Balance
				Value = Rs. 11-12 assessment
				at $\frac{1}{3}$
				Rs. 3-14
Case (c) Produce	...	...	...	30 <i>kasas</i> .
Zamindar's share at $\frac{1}{3}$	...	...	...	12 "
After deductions, say	...	...	...	11 "
Then value = Rs. 9-2 assessment at $\frac{1}{3}$	...	...	...	Rs. 3

The *rajkharch* is of course heavier on the better crops than on the poorer ones.

Again if we take the case of a man who owns and cultivates 10 acres of *moki juar*:

Outturn	...	300 <i>kasas</i>	Deductions—	
			Seed at 1 <i>kasa</i> per acre	10
Deduct	...	25 <i>kasas</i>	<i>Rajkharch</i>	15
		275 <i>kasas</i>		25

			Rs. a.
Value at Rs. 50	...	...	229 2
Assessment	...	...	30 0
Annual income	...	...	199 2
Monthly ...	...	...	16 9

It would therefore seem that the bimoki rate is also about right.

Kharif Lift.

At a moderate calculation the average lift juar crop will, I believe, produce 45 or 50 kasas per acre. At the lower rate the zamindar's $\frac{1}{3}$ share is 15 kasas and at the higher $16\frac{2}{3}$ kasas. (In the northern dehs where the *batai* share is higher the outturn is less.)

If this be compared with case (b) in the bimoki calculation it is clear that lift could bear a higher rate than Rs. 2-8.

But it is an accepted principle that the difference between moki and charkhi should be as great as possible. Moreover there are two intermediate rates for moki madad charkhi and charkhi madad moki to be inserted. Since then bimoki could not be raised, the charkhi rate had to be kept low. Even now there is a difference of 6 annas only between the two. But this well represents the relative condition of charkhi and moki in the taluka. Moki like

the rice is mostly situated on lowlying lands near the Nara or in *dhoros** near the river and is exceedingly liable to damage from excessive watering and floods. From this of course the lift lands are safe and the effect of a low inundation is rather to restrict the area of lift cultivation than to cause a general failure of the crop, unless indeed the water is high at first but fails unusually early.

* Depressions.

Bosi and Sailabi.

The rate is the same as that proposed for moki kharif and is also the same as the sailabi and bosu rate under the old 1st class rates.

Rabi Lift.

For this I propose the same rate as for sailabi and bosu madad charkhi. I see no reason why a crop receiving a cold weather supply should be assessed at the same rate as bosu crops which take less water, are less productive, and are to some extent dependent on rain. It is true that the *batai* rate for lift is lower than for bosu and sailabi, but then the lift crops are much more productive and the *batai* for lift rabi is the same whether it was previously watered as sailabi or bosu or not. No doubt a single wheel can water a much larger area if it has been previously flooded before sowing. But on the other hand lands which are constantly flooded by sailab are often much overgrown with weeds and there is greater expense involved in preparing them for cultivation. The true charkhi rabi lands on the Nara and elsewhere are among the best and most paying in the taluka. If 40 kasas be taken as the average outturn for lift wheat, we get the following calculation:—

Zamindar's share at $\frac{1}{3}$	...	...	... 13 $\frac{1}{3}$ kasas.
After deduction of <i>rajkhara</i>	...	...	... 12 kasas.
Value at Rs. 80	...	...	... Rs. 16
Assessment at $\frac{1}{3}$ of the net assets	...	...	... Rs. 5-5

Thus a Rs. 4 rate is certainly not too high, especially if the definitions of charkhi rabi and bosu given in my proposed rule 14 be approved. (See Appendix A.) For the effect of these definitions will be that all the worst crops which receive no water after sowing will be considered as bosu and will not be affected by this 4 Rs. rate.

Gardens.

The gardens should pay according to the methods of irrigation employed, is a principle which was accepted by Government in the Jacobabad Settlement and followed in the more recent settlements of this district. They will of course be liable to a dubari rate also. In this taluka gardens are usually cultivated with lift on a canal or a well (most often on a well).

Now well cultivation will pay the kharif lift rate, whether it be kharif or rabi (*vide* Commissioner's Special Circular 59, paragraph 6). If therefore a garden be cultivated on a well in rabi only as is usual in this taluka, there will

be a loss of 12 annas in the old 1st group dehs, 8 annas in the 2nd and 4 annas in the 3rd. But if it be cultivated in rabi on a canal, there will be an increase of 12 annas in the old 1st group and one rupee in the second. If it is cultivated on a canal in both kharif and rabi, the new method of assessment will give an increase of Rs. 1-4 in the old 1st group and Rs. 1-8 in the 2nd. Lastly, if it be cultivated in kharif on a canal and in rabi on a well, or if melons be cultivated as a sailabi adhawah crop, there will be a decrease of 4 annas only in the old group 1, and no change in the old group 2.

Kachas.

The only change proposed in the kaacha rates is the abolition of the special rate for "other crops ploughed." To retain the special rate would be, I think, to make a mere crop distinction which is contrary to the principles of an irrigation settlement. Of course it is true that in the kachas ploughed

* Gram. * chana ahur and jambho are occasionally bad, especially when grown on land which is being cleared of jungle. But this applies also to paka sailabi lands. And on the other hand the ploughed crops of chana, ahur, etc., are often quite as profitable as ploughed wheat. I do not see how allowance can be made for the poor crops without under-rating the good, nor do I believe the good are less frequent than the bad.

Dubari.

The unwatered dubari has been raised to 8 annas, as is usual in recent settlements. There is little watered dubari in Dadu taluka. What there is can, I think, easily afford to pay the Rs. 2 rate.

Combined rates.

I propose that all dehs should pay the lift + flow rate except the following which will be assessed at flow + lift.

Pir Ganto.	Khairō.
Bughban.	Juberji.
Kandi.	Kinjhar.

In all these the bimōki considerably exceeds the lift area. There are 4 others (Tagc, Khairo, Palha and Khasa Chandia) where the bimōki is slightly in excess, but the difference is hardly great enough to warrant their inclusion.

Barani.

Occasionally in years of poor inundation and good rainfall, such as 1907-08, one or two fields are cultivated as rel barani. The crops are always of the worst possible description and I consider that the 8 annas rate proposed for Johi and Sehwan talukas might well be extended to Dadu also. I propose that no remission should be given. The reasons which necessitated so low a rate in Johi are discussed in the Johi report. I don't think there is any danger of an attempt to evade the fallow rules by means of this. It would not be worth any man's while to take the trouble to plough and sow the field merely to avoid the fallow assessment. It might be well however to provide that the fallow assessment shall in no case be calculated as a barani assessment even if the number was last cultivated as barani.

Financial Results.

16 and 17.—The financial results of the proposed settlement are shown in Appendices XIV and XVI. On the surveyed lands (including dubari) there is an estimated increase of Rs. 14,204 or 11.32 per cent. When the unsurveyed lands are added, the increase becomes Rs. 15,610 or 11.79 per cent. This increase is, I think, justifiable on the ground both of improvements in the Nara and the Upper Nur wah and of the rise of the prices. In Appendix XIV the gardens have been taken at the chahi or kharif lift rate. There are very few true gardens in the taluka, and most of the garden cultivation consists of onions and other mahsuli crops grown on wells. The percentage of increase in the individual dehs are for the most part comparatively small except in those of the old 3rd group, where they vary from 31 per cent. to 49 per cent. The reasons for placing these dehs on a level with those of the old 1st group have already been stated in paragraph 14. The old rates in this group were exceedingly low, far below anything in Sehwan or Kakar taluka.

Average of rates.

18. The average of rates under each kind of assessment in the proposed

settlement as compared with the average under the old is shown in Appendix XIV. The only decrease is under the head of gardens (10 annas) and charkhi madad moki (2 annas). And in fact the decrease under gardens may be less than appears from Appendix XIV, for there will certainly be a few garden numbers cultivated with Indus water in rabi. Under rice there is an increase of 12 annas which is in accordance with the policy followed in all modern settlements, with the profitable character of the crop and with the excessive amount of water it requires for its cultivation. The reasons against any higher increase have been given already. Under bimoki and charkhi there is an increase of 4 annas. This is quite as much as is justifiable in the case of bimoki. For charkhi the increase is somewhat small, but as I have explained in paragraph 15 the charkhi rate could not have been put any higher. Under rabi lift the increase is Rs 1.2 according to Appendix XIV. It must however be remembered that if the proposed definitions are accepted, the area under rabi lift will be much smaller than it is now, and that therefore the apparent increase under this head is to some extent fictitious. For many crops of the kind now assessed as charkhi will in future be dealt with as bosi only.

The other rates seem to call for no comment.

General remarks.

19. The proposed rates and grouping have been forwarded to the Collector for publication as is required by Government Resolution No. 517 of 21st January 1897.

Guarantee.

I propose that the settlement be guaranteed for a period of 10 years as is usual in Sind.

Changes in the dehs.

- (i) There are at present 2 dehs named Dubi in this taluka, one in tapo Dadu and another in tapo Pat, which occasions a good deal of confusion. I propose that the latter (*i. e.*, in tapo Pat) be renamed Dhoro Damrio. This seems to have been its original name for it appears in old deh maps. It is the name of a *dhoro* which passes through the deh.
- (ii) I propose that Paki Sita and Kachi Sita be made into two entirely different dehs. At present they have separate maps, their survey numbers are numbered separately and some of the village books are maintained separately for each. Other books are however kept jointly for the two which occasions unnecessary confusion. They are essentially distinct, for the one consists entirely of paka land, the other of paka-kacha land.

The same state of affairs now exists in Pambi for a small area of kacha in front of Pambi has recently been surveyed. But this is not large enough to form into an independent deh, and I propose that it should be entirely amalgamated with Pambi and the survey numbers be numbered consecutively after those of Pambi.

A list of karias with the rebate proposed for each is appended.

Certain rules proposed for the administration of the settlement in the 3 talukas of the division are given in an extra Appendix A, with remarks.

The following are the accompaniments to the report :—

- Map showing proposed groupings.
- Irrigational map.
- Appendices from III to XVI.
- Appendix A.

I have the honour to be,

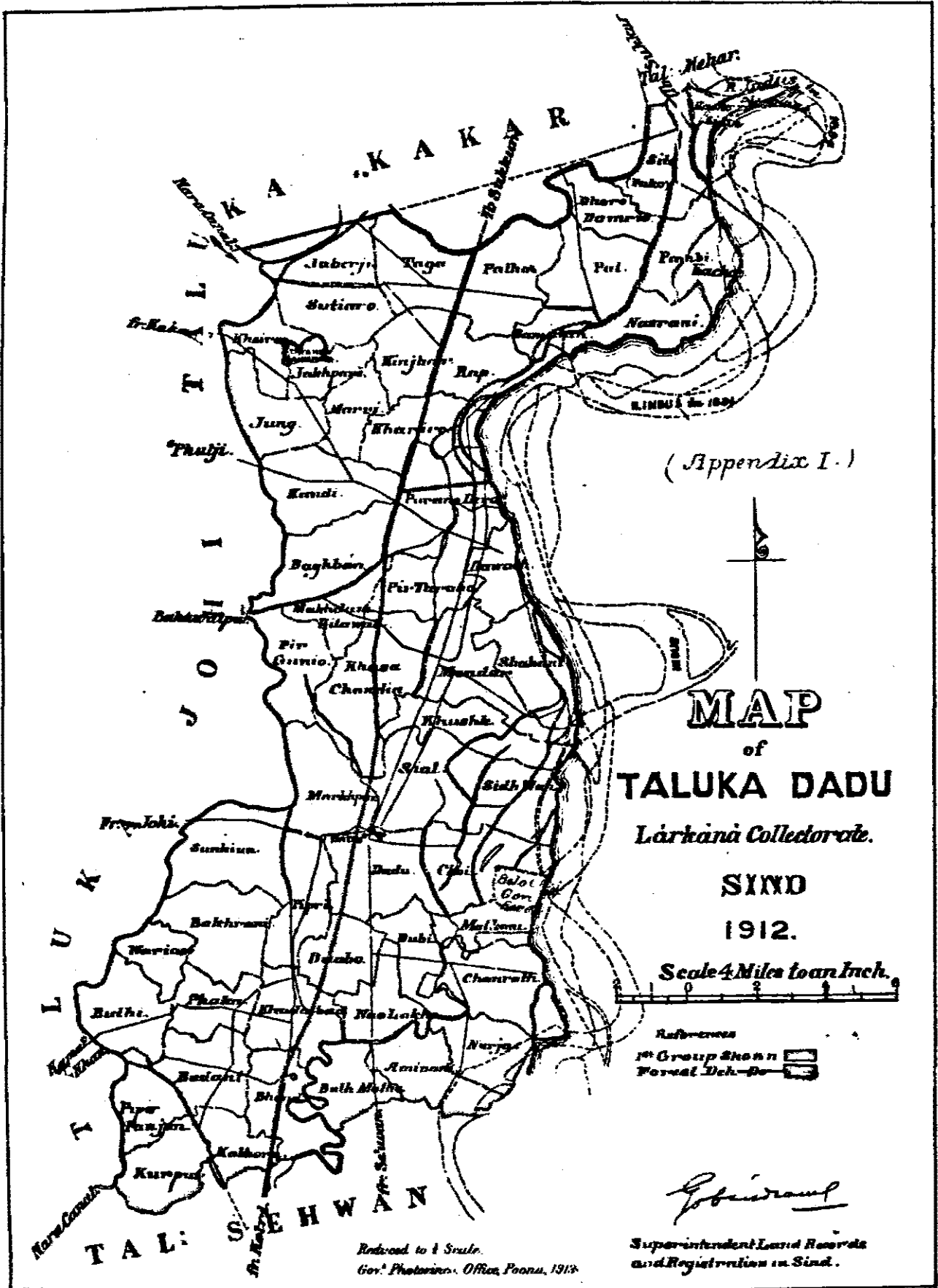
Sir,

Your most obedient servant,

S. H. COVERNTON,
Settlement Officer, Schwan.

Through



The Collector of Larkana.



(Appendix I.)

MAP
of
TALUKA DADU
Larkana Collectorate.
SINDH
1912.

Scale 4 Miles to an Inch.

References
1st Group shown 
Forest Deh—do 

G. G. G. G.

Superintendent Land Records
and Registration in Sindh.

Reduced to 1/2 Scale.
Govt. Photodup. Office, Poona, 1912.

APPENDIX III.

STATEMENT showing the present groupings in the Dadu taluka.

No.	Name of Deh.	No.	Name of Deh.	No.	Name of Deh.
	<i>1st group.</i>		<i>1st group—continued.</i>		<i>2nd group.</i>
1	Pipri.	21	Puranodero.	40	Dadu.
2	Choi.	22	Kharira.	41	Dubi.
3	Malkani.	23	Rap.	42	Nao Lakho.
4	Badani.	24	Kinjhar.	43	Duabo.
5	Kurpur.	25	Maewi.	44	Khudabad.
6	Pipir-Panjan.	26	Jung.	45	Phaka.
7	Bakhrani.	27	Jakhpari.	46	Kalhora.
8	Wariaso.	28	Khero.	47	Khasa Chandia.
9	Buthi.	29	Sutiaro.	48	Khushk.
10	Sunhiun.	30	Juberji.	49	Mondar.
11	Markhpur.	31	Pat.		
12	Pir Gunio.	32	Taga.		<i>3rd group.</i>
13	Sial.	33	Palha.		
14	Sidh wah.	34	Dubi.	50	Nurja.
15	Shahani.	35	Nasrani.	51	Chanrath.
16	Dawach.	36	Samuhin.	52	Aminani.
17	Pir Taraho.	37	Sita.	53	Buth Malho.
18	Makhdam Sahib.	38	Pambi.	54	Bhand.
19	Baghban.	39	Ghalu.		Belo Choi (Forest).
20	Kandi.				

APPENDIX III-A.

STATEMENT showing proposed groupings in the Dadu taluka.

No.	Name of Deh.	No.	Name of Deh.	No.	Name of Deh.
	<i>1st group.</i>		<i>1st group—continued.</i>		<i>1st group—continued.</i>
1	Pipri.	20	Kandi.	38	Pambi.
2	Choi.	21	Puranodero.	39	Dadu.
3	Malkani.	22	Kharira.	40	Dubi.
4	Badani.	23	Rap.	41	Nao Lakho.
5	Kurpur.	24	Kinjhar.	42	Duabo.
6	Pipir-Panjan.	25	Marvi.	43	Khudabad.
7	Bakhrani.	26	Jung.	44	Phaka.
8	Wariaso.	27	Jakhpari.	45	Kalhora.
9	Buthi.	28	Kheiro.	46	Khasa Chandia.
10	Sunhiun.	29	Sutiaro.	47	Khushk.
11	Markhpur.	30	Juberji.	48	Mondar.
12	Pir Gunio.	31	Pat.	49	Nurja.
13	Sial.	32	Taga.	50	Chanrath.
14	Sidh wah.	33	Palha.	51	Aminani.
15	Shahani.	34	Dhoro Damrio (Dubi).	52	Buth Malho.
16	Dawach.	35	Nasrani.	53	Bhand.
17	Pir Taraho.	36	Samuhin.	54	Kashho Sita.
18	Makhdam Bilawal.	37	Pako Sita.		Belo (Choi (Forest)).
19	Baghban.				

S. H. COVERNTON,

Settlement Officer, Sehwan.

APPENDIX IV.

STATEMENT showing the details of population in taluka Dadu.

Taluka.	Religion.	Males.	Females.	Total.
		1901.		
Dadu ...	Hindu ...	3,018	2,399	5,417
	Muhammadan ...	27,112	22,777	49,889
	Other castes ...	96	52	148
		30,226	25,228	55,454*

*These figures were received in the taluka office duly approved from the census office, but the Provincial table, Part III shows 55,318.

APPENDIX V.

STATEMENT showing the occupation of people in taluka Dadu.

Taluka.	No. of surveyed villages.	Occupation.	Number.	
			No.	Per cent.
Dadu ...	55	Agricultural ...	10,946	19.74
		Partly agricultural ...	974	1.75
		Non-agricultural ...	43,534	78.51
			55,454	100

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX VI.

STATEMENT showing sales in the Dadu taluka.

Year.	Class.	No. of cases.	Area.	Total sum-	Sale	Total	Average
				for which sold.	rate per acre.	assess-ment.	rate per acre.
			A. g.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
1892-1893	A.—By agriculturists to non-agriculturists ...	39	786 32	24,253 7	30 13	2,065 4	2 10
	B.—By non-agriculturists to agriculturists ...	4	20 32½	478 8	22 13	64 8	2 10
	C.—Between agriculturists ...	21	115 29½	3,321 14	28 2	303 11	2 10
	D.—Between non-agriculturists ...	2	23 25	670 0	36 13	61 15	2 10
1893-1894	A.—By agriculturists to non-agriculturists ...	43	574 36½	13,108 1	22 13	1,560 0	2 10
	B.—By non-agriculturists to agriculturists ...	17	98 29½	2,432 10	25 15	245 15	2 10
	C.—Between agriculturists ...	38	277 39½	7,665 14	27 9	729 12	2 10
	D.—Between non-agriculturists ...	2	14 7	517 0	36 15	37 8	2 10
1894-1895	A.—By agriculturists to non-agriculturists ...	49	835 1½	24,437 9	29 4	2,191 15	2 10
	B.—By non-agriculturists to agriculturists ...	9	64 2½	5,190 4	81 1	163 2	2 10
	C.—Between agriculturists ...	20	191 82	9,686 11	50 8	503 10	2 10
	D.—Between non-agriculturists ...	13	211 29½	6,985 12	33 0	555 11	2 10
1895-1896	A.—By agriculturists to non-agriculturists ...	109	910 5	31,469 7	34 10	2,389 1	2 10
	B.—By non-agriculturists to agriculturists ...	7	68 5½	2,387 3	42 7	178 13	2 10
	C.—Between agriculturists ...	26	303 14½	7,403 11	25 1	796 5	2 10
	D.—Between non-agriculturists ...	10	188 19½	4,189 2½	22 5	494 2	2 10
1896-1897	A.—By agriculturists to non-agriculturists ...	143	2,003 11½	65,316 12	42 10	5,258 10	2 10
	B.—By non-agriculturists to agriculturists ...	10	76 27	2,331 0	30 14	201 4	2 10
	C.—Between agriculturists ...	49	303 19½	8,663 7	28 9	796 10	2 10
	D.—Between non-agriculturists ...	19	214 24½	7,484 11	34 9	563 6	2 10
1897-1898	A.—By agriculturists to non-agriculturists ...	113	1,255 25	35,644 7	28 6	3,295 15	2 10
	B.—By non-agriculturists to agriculturists ...	22	174 29½	6,772 15	33 12	458 9	2 10
	C.—Between agriculturists ...	31	207 19½	7,796 0	37 8	544 9	2 10
	D.—Between non-agriculturists ...	14	126 35	4,612 6	36 5	332 15	2 10
1898-1899	A.—By agriculturists to non-agriculturists ...	120	1,442 2½	51,656 14	35 13	3,785 7	2 10
	B.—By non-agriculturists to agriculturists ...	23	190 84	5,833 1	30 4	500 14	2 10
	C.—Between agriculturists ...	43	320 38	11,054 13	34 9	842 1	2 10
	D.—Between non-agriculturists ...	21	304 21½	8,026 14	26 4	799 5	2 10
1899-1900	A.—By agriculturists to non-agriculturists ...	146	1,509 24	54,847 5	36 4	3,961 11	2 10
	B.—By non-agriculturists to agriculturists ...	9	52 25½	1,211 8	22 15	188 1	2 10
	C.—Between agriculturists ...	34	219 35½	7,944 4	32 0	577 5	2 10
	D.—Between non-agriculturists ...	11	200 13½	4,116 10	20 9	525 14	2 10
1900-1901	A.—By agriculturists to non-agriculturists ...	161	2,677 38½	65,254 0	24 2	7,029 8	2 10
	B.—By non-agriculturists to agriculturists ...	10	69 2	2,358 8	34 2	181 4	2 10
	C.—Between agriculturists ...	46	351 39	10,656 3	30 18	923 13	2 10
	D.—Between non-agriculturists ...	23	437 20½	13,181 6	30 0	1,148 6	2 10
1901-1902	A.—By agriculturists to non-agriculturists ...	105	865 22	33,156 12	38 5	2,273 1	2 10
	B.—By non-agriculturists to agriculturists ...	12	146 3	10,875 0	74 8	333 4	2 10
	C.—Between agriculturists ...	31	309 24	6,396 14	22 10	812 10	2 10
	D.—Between non-agriculturists ...	15	90 36½	3,577 2	39 5	288 9	2 10
1902-1903	A.—By agriculturists to non-agriculturists ...	85	819 19½	34,082 3	41 9	2,151 1	2 10
	B.—By non-agriculturists to agriculturists ...	15	100 0½	3,326 1	33 4	262 8	2 10
	C.—Between agriculturists ...	20	144 28½	5,486 14	37 13	379 12	2 10
	D.—Between non-agriculturists ...	18	246 3½	12,094 5	49 8	645 15	2 10
1903-1904	A.—By agriculturists to non-agriculturists ...	37	621 14½	3,72,307 5	453 5	2,156 1	2 10
	B.—By non-agriculturists to agriculturists ...	15	114 13½	4,272 0	37 6	300 1	2 10
	C.—Between agriculturists ...	21	128 2½	4,204 0	32 14	336 2	2 10
	D.—Between non-agriculturists ...	27	290 4½	11,396 0	41 6	761 8	2 10
1904-1905	A.—By agriculturists to non-agriculturists ...	31	536 28½	24,880 14	43 5	1,408 12	2 10
	B.—By non-agriculturists to agriculturists ...	18	169 8½	5,733 9	33 14	444 2	2 10
	C.—Between agriculturists ...	16	111 34½	2,997 6	26 13	293 8	2 10
	D.—Between non-agriculturists ...	20	431 86½	13,279 10	29 1	1,107 6	2 10
1905-1906	A.—By agriculturists to non-agriculturists ...	30	541 32½	26,754 5	49 3	1,422 4	2 10
	B.—By non-agriculturists to agriculturists ...	13	127 27½	4,555 14	35 11	335 1	2 10
	C.—Between agriculturists ...	26	140 5½	5,378 10	38 6	367 13	2 10
	D.—Between non-agriculturists ...	10	242 39½	7,350 0	30 4	637 14	2 10
1906-1907	A.—By agriculturists to non-agriculturists ...	42	244 30½	14,035 8	57 6	642 6	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	60	448 6	15,270 13	33 10	1,176 8	2 10
1907-1908	A.—By agriculturists to non-agriculturists ...	52	411 14½	19,079 0	46 6	1,079 12	2 10
	B.—By non-agriculturists to agriculturists ...	17	143 30	7,169 10	48 5	399 6	2 10
	C.—Between agriculturists ...	46	254 16	12,911 12	50 13	867 12	2 10
	D.—Between non-agriculturists ...	10	130 15	3,420 0	19 0	473 7	2 10

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX VII.

STATEMENT of sub-letting in the Dadu taluka.

Year.	Class.	No. of cases.	No. of acres sub-let.	Sum for which sub-let.	Rate per acre.	Total assessment.	Average rate of assessment per acre.
			A. a.	Rs. a.		Rs. a.	Rs. a.
1892-93	A.—By agriculturists to non-agriculturists ...	10	596 14½	4,550 0	7 10	1,565 8	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1893-94	A.—By agriculturists to non-agriculturists ...	7	794 23	2,596 0	8 4	2,085 10	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	1	285 20	3,500 0	12 4	749 8	2 10
1894-95	A.—By agriculturists to non-agriculturists ...	...	...	...	...	...	...
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	1	278 7	3,000 0	10 18	730 8	2 10
1895-96	A.—By agriculturists to non-agriculturists ...	8	234 25	1,300 0	5 9	616 14	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	1	172 18	3,200 0	18 10	451 8	2 10
1896-97	A.—By agriculturists to non-agriculturists ...	1	228 20	100 0	0 7	801 2	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	1	494 0	45,000 0	91 2	1,296 12	2 10
1897-98	A.—By agriculturists to non-agriculturists ...	...	...	...	...	...	...
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	1	951 30	500 0	1 7	921 6	2 10
1898-99	A.—By agriculturists to non-agriculturists ...	2	794 21	6,500 0	8 2	2,086 14	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	1	159 38	5,000 0	31 4	420 0	2 10
1899-1900	A.—By agriculturists to non-agriculturists ...	4	344 38½	1,350 0	8 15	905 17	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	8	44 17	100 0	2 4	115 8	2 10
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1900-01	A.—By agriculturists to non-agriculturists ...	11	6,271 21½	8,777 6	1 6	16,464 0	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	2	258 32	355 14	1 8	679 14	2 10
	D.—Between non-agriculturists ...	1	351 8	482 12	1 6	921 6	2 10
1901-02	A.—By agriculturists to non-agriculturists ...	8	240 19	1,780 0	7 7	630 0	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	1	16 15	54 6	3 6	42 15	2 10
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1902-03	A.—By agriculturists to non-agriculturists ...	7	689 20	2,648 0	8 12	1,909 14	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	2	75 25	1,100 0	14 8	199 8	2 10
1903-04	A.—By agriculturists to non-agriculturists ...	12	2,032 5	8,178 0	4 0	5,334 8	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	1	48 10	179 0	4 2	112 14	2 10
1904-05	A.—By agriculturists to non-agriculturists ...	7	728 30	5,855 0	6 10	1,913 10	2 10
	B.—By non-agriculturists to agriculturists ...	1	50 10	100 0	2 0	131 4	2 10
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1905-06	A.—By agriculturists to non-agriculturists ...	1	34 28½	695 0	19 14	91 14	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1906-07	A.—By agriculturists to non-agriculturists ...	2	207 30	500 0	2 13	343 6	2 10
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1907-08	A.—By agriculturists to non-agriculturists ...	17	3,918 1½	13,121 11	8 6	10,274 4	2 10
	B.—By non-agriculturists to agriculturists ...	1	2,375 0	625 0	0 4	6,283 14	2 10
	C.—Between agriculturists ...	9	3,573 7	5,080 0	1 7	9,879 2	2 10
	D.—Between non-agriculturists ...	...	...	...	...	...	...

S. H. COVERNTON,
Settlement Officer,
Sehwan.

APPENDIX VIII.

STATEMENT showing mortgages in the Dadu taluka.

Year.	Class.	No. of cases.	Total number of acres.	Sum for which mortgaged.		Mortgage rate per acre.	Total assessment.	Average rate of assessment per acre.
				A. g.	Ba. a.			
1892-93	A.—By agriculturists to non-agriculturists ..	136	4,032 30½	39,362 14	9 13	10,507 2	2 10	
	B.—By non-agriculturists to agriculturists ..	15	216 4½	2,750 0	12 12	567 5	2 10	
	C.—Between agriculturists ..	6	230 3¼	1,352 12	5 14	605 15	2 10	
	D.—Between non-agriculturists ..	...	...	...	...	...	...
1893-94	A.—By agriculturists to non-agriculturists ..	96	2,680 38	27,528 10	10 4	7,037 6	2 10	
	B.—By non-agriculturists to agriculturists ..	9	17 35	440 0	22 3	46 13	2 10	
	C.—Between agriculturists ..	16	169 16	2,890 0	15 5	497 2	2 10	
	D.—Between non-agriculturists ..	...	...	...	...	...	...
1894-95	A.—By agriculturists to non-agriculturists ..	92	3,107 5	39,144 0	12 10	8,156 3	2 10	
	B.—By non-agriculturists to agriculturists ..	18	290 22	2,932 6	12 10	695 2	2 10	
	C.—Between agriculturists ..	11	283 35¼	3,720 0	13 2	745 2	2 10	
	D.—Between non-agriculturists ..	...	...	...	...	...	...
1895-96	A.—By agriculturists to non-agriculturists ..	153	4,259 32	47,522 3	11 3	11,181 14	2 10	
	B.—By non-agriculturists to agriculturists ..	11	242 11¼	3,111 0	12 14	696 0	2 10	
	C.—Between agriculturists ..	9	27 25½	1,910 0	8 12	571 3	2 10	
	D.—Between non-agriculturists ..	...	...	...	...	...	...
1896-97	A.—By agriculturists to non-agriculturists ..	121	4,488 2¼	44,504 11	9 15	11,782 6	2 10	
	B.—By non-agriculturists to agriculturists ..	1	3 10	120 0	36 15	8 8	2 10	
	C.—Between agriculturists ..	13	27 13	3,224 12 3	12 3	649 3	2 10	
	D.—Between non-agriculturists ..	11	168 7	7,705 0	45 14	441 7	2 10	
1897-98	A.—By agriculturists to non-agriculturists ..	131	3,953 29¼	43,695 12	11 1	10,378 8	2 10	
	B.—By non-agriculturists to agriculturists ..	12	195 19	3,150 8	16 2	513 1	2 10	
	C.—Between agriculturists ..	3	207 39¼	1,900 0	9 2	546 0	2 10	
	D.—Between non-agriculturists ..	...	...	...	...	...	...
1898-99	A.—By agriculturists to non-agriculturists ..	82	1,656 30¼	22,305 0	13 8	4,348 15	2 10	
	B.—By non-agriculturists to agriculturists ..	1	8 20	275 0	32 6	21 10	2 10	
	C.—Between agriculturists ..	14	245 24¼	3,944 0	16 0	644 11	2 10	
	D.—Between non-agriculturists ..	3	81 27	1,740 0	21 4	214 5	2 10	
1899-1900	A.—By agriculturists to non-agriculturists ..	102	2,325 2¼	25,994 12	11 6	5,842 2	2 10	
	B.—By non-agriculturists to agriculturists ..	14	154 18¼	3,136 0	20 4	405 7	2 10	
	C.—Between agriculturists ..	7	196 15	2,678 0	13 10	515 7	2 10	
	D.—Between non-agriculturists ..	...	...	...	...	...	...
1900-01	A.—By agriculturists to non-agriculturists ..	85	3,336 36¼	37,618 4	8 4	8,759 6	2 10	
	B.—By non-agriculturists to agriculturists ..	5	25 10	950 0	37 10	66 4	2 10	
	C.—Between agriculturists ..	11	974 18¼	11,185 3	11 8	2,557 15	2 10	
	D.—Between non-agriculturists ..	...	...	...	...	...	...
1901-02	A.—By agriculturists to non-agriculturists ..	41	1,177 8	11,423 4	9 11	3,090 2	2 10	
	B.—By non-agriculturists to agriculturists ..	3	81 35	673 0	8 3	214 13	2 10	
	C.—Between agriculturists ..	1	8 15	170 0	20 5	21 15	2 10	
	D.—Between non-agriculturists ..	...	...	...	...	...	...
1902-03	A.—By agriculturists to non-agriculturists ..	18	554 32¼	5,367 4	9 10	1,455 11	2 10	
	B.—By non-agriculturists to agriculturists ..	1	12 15¼	122 2	9 10	32 8	2 10	
	C.—Between agriculturists ..	1	16 31	164 2	9 10	43 15	2 10	
	D.—Between non-agriculturists ..	1	7 5	70 8	9 10	18 11	2 10	
1903-04	A.—By agriculturists to non-agriculturists ..	39	632 21¼	10,330 0	14 14	1,817 14	2 10	
	B.—By non-agriculturists to agriculturists ..	6	96 32¼	1,437 14	14 14	254 1	2 10	
	C.—Between agriculturists ..	3	89 87¼	595 10	14 14	104 12	2 10	
	D.—Between non-agriculturists ..	...	...	...	...	...	...
1904-05	A.—By agriculturists to non-agriculturists ..	23	646 24¼	10,101 9	15 10	1,697 4	2 10	
	B.—By non-agriculturists to agriculturists ..	2	15 14	234 5	15 10	39 8	2 10	
	C.—Between agriculturists ..	7	110 34	1,730 7	15 10	290 14	2 10	
	D.—Between non-agriculturists ..	...	...	...	...	...	...
1905-06	A.—By agriculturists to non-agriculturists ..	18	539 3¼	6,145 2	10 7	1,546 6	2 10	
	B.—By non-agriculturists to agriculturists ..	1	10 10	119 6	11 15	26 14	2 10	
	C.—Between agriculturists ..	2	25 10	228 2	11 4	68 4	2 10	
	D.—Between non-agriculturists ..	6	302 23¼	3,403 6	11 4	794 4	2 10	
1906-07	A.—By agriculturists to non-agriculturists ..	20	462 30¼	5,287 4	10 15	1,267 2	2 10	
	B.—By non-agriculturists to agriculturists ..	...	...	...	...	...	...
	C.—Between agriculturists ..	9	150 37	2,643 0	17 1	396 1	2 10	
	D.—Between non-agriculturists ..	...	...	...	...	...	...
1907-08	A.—By agriculturists to non-agriculturists ..	33	664 10	9,787 5	14 13	1,743 10	2 10	
	B.—By non-agriculturists to agriculturists ..	15	242 37	3,473 0	14 5	637 9	2 10	
	C.—Between agriculturists ..	...	...	...	...	...	...
	D.—Between non-agriculturists ..	...	...	...	...	...	...

S. H. COVERNTON,
Settlement Officer,
Schwan.

APPENDIX IX.

STATEMENT of AGRICULTURAL STOCK in the Dadu taluka of the Larkana district.

1	PLOUGH CATTLE.			BULLS FOR BREEDING PURPOSES ONLY.		OXEN AND BUFFALOES USED FOR OTHER PURPOSES.		MILK CATTLE.		YOUNG STOCK.		11	12	13	14	15	16	17	18	FLOVERS.		CARRIAGES.		23
	Oxen.	He-buffaloes.	Bulls.	Bull buffaloes.	Oxen.	Buffaloes.	Cows.	She-buffaloes.	Calves.	Buffaloe calves.	Total of columns 1 to 10.									Horses.	Ponies.	Mules.	Donkeys.		Sheep.	Goats.	Camels.	Small.	Large.	Riding carts.	Carts used for carrying loads.
1901	1	61	61	80	1	10,148	9,081	7,632	1,733	38,468	794	19	23	1,969	2,849	20,410	1,644	7,190	107	

APPENDIX X.

STATEMENT showing WELLS in the Dadu taluka.

Year.	No. of deh.	NO. OF WELLS USED FOR DRINKING.		NO. OF WELLS USED FOR IRRIGATION.		TOTAL.	AREA OF CULTIVATION UNDER WELLS ALONE OR AIDED BY WELLS.	
		In use.	Disused.	In use.	Disused.		On wells alone.	Aided by wells.
1892-93	40	66	...	398	...	464	200 18	966 0
1893-94	40	64	...	353	...	417	771 33	296 30
1894-95	41	70	...	352	...	422	376 4	669 22
1895-96	41	68	...	371	...	439	1,608 7	104 17
1896-97	42	60	...	406	...	465	1,951 22	290 0
1897-98	42	51	...	425	...	476	1,758 17	292 8
1898-99	44	20	...	516	...	556	2,244 36	229 9
1899-1900	46	20	...	605	...	625	2,505 35	698 31
1900-1901	47	20	...	641	...	661	882 4	1,425 35
1901-1902	47	14	...	672	...	686	2,062 26	700 0
1902-1903	47	9	...	516	...	525	306 0	2,902 32
1903-1904	47	28	...	602	...	630	2,056 7	206 4
1904-1905	48	28	...	543	...	571	2,506 34	439 23
1905-1906	50	27	...	673	...	700	1,356 32	1,137 5
1906-1907	52	27	...	727	...	754	1,521 37	798 11
1907-1908	52	27	...	779	...	806	1,869 39	1,428 10

The taluka authorities do not report any of these wells as disused at the present time but this appears to me exceedingly doubtful.

S. H. COVERNTON,
Settlement Officer,
Sehwan.

APPENDIX XI.

STATEMENT of CROPS in the Dadu taluka (average of the last 5 years) from 1903-1904 to 1907-1908.

Kind of Crop.	YEARLY CULTIVATED AREA.					TOTAL.	AVERAGE.	PERCENTAGE.
	1903-1904.	1904-1905.	1905-1906.	1906-1907.	1907-1908.			
<i>Kharif.</i>								
	A. g.	A. g.	A. g.	A. g.	A. g.	A. g.	A. g.	
Juar	22,738 39	20,849 26	24,030 13	22,955 12	18,611 32	109,186 12	21,837 11	50.54
Bajri	3,463 15	3,691 13	2,578 7	2,471 38	3,828 39	15,343 32	3,188 31	7.38
Rice	918 31	2,761 11	3,064 7	3,322 13	2,844 9	12,920 31	2,586 6	5.98
Other grains	237 12	84 30	115 22	116 22	103 22	656 28	131 14	.30
Pulses	133 11	149 24	108 39	104 31	187 24	684 9	136 34	.31
Garden vegetable products	94 27	20 8	194 12	15 15	48 19	363 1	76 24	.18
Condiments and spices ... ..	...	...	...	...	...	...	...	...
Sugarcane ... ..	...	...	...	...	...	...	...	...
Sesame (Sir)	110 19	118 4	121 19	168 11	171 1	689 14	137 33	.32
Cotton	32 17	22 1	10 27	47 25	37 5	149 35	29 39	.07
Fibres	10 19	15 22	24 14	13 20	20 32	81 27	16 28	.04
Other kinds	4 0	...	...	...	...	4 0	0 32	...
TOTAL KHARIF	27,743 30	27,632 29	30,248 0	29,214 27	25,873 33	140,712 29	28,142 22	65.12
<i>Rabi.</i>								
Wheat	11,375 26	8,399 22	10,187 27	10,093 11	6,372 22	46,428 28	9,295 80	21.16
Barley	849 17	573 23	774 19	1,324 25	768 38	4,391 2	858 8	1.99
Pulses	1,306 6	1,039 5	1,094 15	1,708 2	886 25	6,034 13	1,206 34	2.79
Garden produce	59 33	214 25	95 29	231 19	196 0	797 26	159 21	.37
Tobacco	2 24	11 19	34 26	28 18	19 7	96 14	19 11	.05
Indian hemp, drugs and narcotics ... ..	...	...	0 1	...	...	0 1	...	...
Condiments and spices	0 32	4 18	3 30	50 27	5 12	61 39	12 16	.03
Starches	0 1	0 1	...	0 1	...	0 3	0 1	...
Jambho	2,746 32	1,164 37	1,798 36	2,533 15	2,614 14	10,558 14	2,171 27	5.03
Sarih	709 31	782 13	845 17	1,219 36	1,000 29	4,500 6	912 1	2.11
Other kinds of oilseed dyes	353 33	60 21	416 34	693 8	517 25	2,062 1	412 16	.95
Miscellaneous	11 7	13 31	42 16	50 38	31 1	149 13	29 34	.07
TOTAL RABI	17,416 2	12,283 15	15,294 10	17,934 0	12,412 13	75,340 0	15,067 39	34.88
GRAND TOTAL	45,159 32	39,916 4	45,542 10	47,148 27	38,285 36	216,052 29	43,210 21	100

S. H. COVERNTON,
Settlement Officer,
Sehwan.

STATEMENT showing area of cultivated land (excluding jagir and forest and including dular) in the first and three quinquennial periods of

Name of Dist.	Year.	Gardens.		KHARIF.												Total.	
				RICE.		OTHER CROPS.		LEFT.		LEFT ADDED BY FLOW.		WELLS.		BARANI.			
				Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.		
		A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs.
1st group.																	
Pipri	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1907-1898	...	...	22 85	71 13	123 3	309 14	844 25	1,940 10	50 20	136 10	...	...	...	...	14 34	
	1898-1899 to 1902-1903	...	...	23 16	70 11	11 13	20 3	876 19	2,016 3	38 7	67 10	...	...	...	...	21 30	3 30
	1903-1904 to 1907-1908	6 7	19 11	23 5	72 15	6 7	15 6	659 17	1,909 15	23 17	68 9	...	...	...	...	53 24	9 19
Choi	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1894-1898	...	...	...	...	36 31	101 5	403 35	938 12	81 11	85 3	...	...	...	...	93 4	5
	1899-1903	...	...	...	...	11 30	31 15	829 17	1,471 11	80 33	83 15	...	...	...	...	201 0	1 32
	1904-1908	21 30	76 15	1 8	3 15	...	...	741 23	1,730 5	...	...	1 6	2 12	...	...	115 12	11 10
Malkani	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1894-1898	...	...	...	...	...	...	172 16	363 8	8 26	10 0	...	...	...	...	65 0	0 34
	1899-1903	...	...	...	...	...	...	177 10	422 12	12 18	33 15	...	...	...	...	209 14	3 31
	1904-1908	6 9	20 4	...	...	...	...	217 26	517 13	1 15	5 4	...	...	8 22	11 9	187 16	5 21
Badoni	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1894-1898	...	...	...	...	13 1	34 9	606 38	2,074 12	70 0	186 12	...	...	1 21	2 13	297 31	20 12
	1899-1903	...	...	2 12	7 3	1 6	3 1	653 37	1,436 9	11 33	31 13	...	...	...	...	18 16	7 3
	1904-1908	31 7	101 4	...	...	3 35	10 6	607 24	1,005 15	11 36	31 9	63 14	189 10	...	...	82 6	6 6
Kurpur	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1894-1898	...	...	725 29	2,233 15	27 33	73 6	518 3	1,113 15	9 22	23 12	...	...	...	...	0 4	35 1
	1899-1903	...	...	785 10	2,209 8	25 17	66 6	479 37	1,240 13	9 37	27 2	...	...	...	...	26 19	1 4
	1904-1908	4 15	13 5	690 38	2,074 4	98 6	230 14	455 29	996 6	23 32	66 1	...	...	...	...	46 29	12 21
Pipripanjan	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1894-1898	...	...	316 38	1,018 1	33 33	90 9	346 7	776 10	19 26	58 1	...	...	...	...	51 35	55 30
	1899-1903	...	...	278 25	900 1	50 6	136 10	441 22	981 13	30 11	81 13	...	...	...	...	19 18	8 10
	1904-1908	4 1	12 6	151 23	510 5	105 4	296 3	473 7	1,039 10	22 25	66 12	...	...	...	...	105 0	3 24
Makhrani	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1894-1898	...	...	24 34	76 5	59 8	154 5	984 12	2,117 3	80 12	202 1	...	...	...	...	59 20	55 25
	1899-1903	...	...	19 14	59 6	77 10	199 15	965 20	2,75 13	37 15	54 3	...	...	...	...	81 25	2 18
	1904-1908	28 20	86 11	17 33	54 9	50 26	121 5	851 4	1,624 13	35 35	217 5	27 17	72 7	...	...	131 54	1 27
Warase	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1894-1898	...	...	38 15	124 8	69 24	191 3	107 13	397 5	68 9	190 4	...	...	...	...	25 32	1 9
	1899-1903	...	...	25 35	87 7	68 31	166 5	565 4	964 2	65 23	233 0	...	...	...	...	12 13	0 1
	1904-1908	7 33	25 12	47 27	155 1	62 11	171 7	349 33	736 15	159 26	459 14	...	...	...	...	24 30	6 9

Name of dist.	Year.	KHARIF.															
		GARDENS, &c.		RICE.		OTHER CROPS.		LEYS.		LEFT AIDS BY FLOW.		WHEAT.		BARLEY.		LONG.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
1st group—continued.		A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.
	Buthi ...	1892-1893
	1893-1894	111 7	254 12	210 0	620 11	419 21	669 12	76 0	212 1	
	1897-1898 to 1899-1899	46 23	125 15	230 14	772 11	589 11	1,300 11	300 21	561 2	
Banbhra ...	1892-1893	
1893-1894	...	...	19 24	60 11	268 32	722 1	447 14	1,057 0	125 24	334 6	...	...	...	...	...
1902-1903 to 1903-1904	...	...	8 30	20 15	46 16	145 14	179 39	476 7	592 21	1,327 5	288 12	685 4	...	...	...
Markhpur ...	1892-1893	
1893-1894	...	...	...	...	82 22	189 12	156 33	126 4	255 7	571 15	131 34	339 10	...	...	...
1902-1903 to 1903-1904	68 89	275 2	275 4	722 5	942 24	777 0	100 25	415 12	1 20	3 9	2 21	4 7	
Pir Guho ...	1892-1893	
1893-1894	...	...	...	...	218 18	692 12	447 25	1,305 14	80 2	181 10	21 21	84 3	...	...	...
1902-1903 to 1903-1904	...	...	...	...	8 21	27 2	891 28	1,247 0	461 2	1,280 14	85 23	184 0	...	...	...
Kial ...	1892-1893	
1893-1894	...	...	...	...	0 20	1 10	142 28	381 14	276 11	1,858 0	140 3	371 3	...	...	...
1902-1903 to 1903-1904	...	...	...	...	0 20	1 9	32 10	89 4	800 2	1,979 2	76 12	202 14	2 25	7 14	...
Sidwahab ...	1892-1893	
1893-1894	...	...	...	...	69 23	122 8	320 12	622 15	122 32	354 15	...	...	...	...	...
1902-1903 to 1903-1904	17 20	57 1	3 18	9 5	704 24	1,825 15	12 25	27 5	0 10	1 1	
Chabani ...	1892-1893	
1893-1894	...	...	...	...	...	...	12 20	32 9	682 20	1,577 10	119 2	312 4	...	...	...
1902-1903 to 1903-1904	...	...	...	...	61 29	182 12	...	...	470 22	1,109 14	2 10	0 12	1 9	2 15	...
Dawnah ...	1892-1893	
1893-1894	...	...	...	...	...	...	...	...	342 4	772 5	2 27	2 5	10 26	25 2	...
1902-1903 to 1903-1904	...	...	...	...	...	...	...	...	301 20	461 15	...	...	1 12	2 2	...
Pir Taraho ...	1892-1893	
1893-1894	...	...	...	...	3 12	12 7	26 12	69 8	219 7	1,122 1	25 7	72 5	12 12	49 2	...
1902-1903 to 1903-1904	...	...	...	...	...	...	...	...	445 0	1,014 4	27 7	72 2	12 20	28 12	...

Name of Dist.	Year.	KHARIF.																	
		Gardens.		RooS.		OTHER FLOW.		LIFF.		LIFF AIDED BY FLOW.		WELLS.		BARANI.		LIFT.			
		Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.
		A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.
1st group— continued. Makhdu Sahib.	1892-1893																		
	1893-1894			2 14	7 0	10 58	29 1	41 10	91 5	31 54	57 7							18 57	39 1
	to 1897-1898																	8 28	11 2
	1898-1899			18 29	46 5	41 17	110 8	169 11	360 7	38 26	75 4	0 20	1 8					9 2	26 1
	to 1903-1904	1 8 0 4	3 13 0 8	39 34	125 1	49 33	116 1	175 24	394 13	40 23	109 3							39 14	119
1907-1908																		3 18	1 4
Bagban	1892-1893																		
	1893-1894			66 9	212 9	707 9	1,886 0	165 13	414 9	177 10	463 4	6 1	18 9	0 22	1 0			3 4	0 1
	to 1897-1898																	15 38	46 1
	1898-1899			60 1	256 0	669 16	1,736 4	189 1	424 5	375 27	728 2	1 13	5 1					10 15	30 11
	to 1902-1903	5 0 0 22	16 0 0 5	150 5	479 10	734 14	1,959 3	309 24	453 12	304 23	536 6							40 37	118 1
1903-1904																		3 16	0 2
1907-1908																			
Kandi	1892-1893																		
	1893-1894			116 33	368 14	608 4	1,394 3	297 21	688 2	144 29	389 9	1 12	3 5					82 22	245
	to 1897-1-98																	19 6	6 4
	1898-1899			85 20	271 6	633 10	1,423 3	277 14	641 5	149 32	402 12							23 37	70
	to 1902-1903																	0 24	0 4
1903-1904	7 38 1 0	25 6 1 6	166 6	527 10	668 23	1,524 0	307 18	710 1	158 18	411 11	1 0	2 4					140 38	419 1	
1907-1908																		4 3	1 2
Paranodero	1892-1893																		
	1893-1894			53 7	171 7	237 6	707 2	141 23	330 4	105 20	267 10							46 26	127 1
	to 1897-1-98																	1 57	0 1
	1898-1899			53 5	73 10	160 33	442 11	166 17	391 10	110 2	301 12							106 16	283 1
	to 1902-1903	1 30 0 7		51 28	166 13	95 30	263 10	179 0	434 7	133 35	365 15							77 28	230 1
1903-1904																			
1907-1908																			
Kharira	1892-1893																		
	1893-1894			160 23	503 7	696 1	1,927 12	83 9	77 3	78 6	194 11							23 2	68 1
	to 1897-1898																	1 10	0 11
	1898-1899			124 21	393 7	663 13	1,704 7	133 3	310 8	64 9	171 7	0 20	1 13					32 1	115 1
	to 1902-1903	5 14 16 9		78 52	232 15	435 23	1,139 3	99 99	244 2	103 23	265 2							52 36	111 11
1903-1904																		0 22	0 2
1907-1908																			
Bap	1892-1893																		
	1893-1894			174 5	536 10	156 27	410 3	77 25	169 0	108 21	273 7							7 21	26 11
	to 1897-1898																		
	1898-1899			97 30	300 8	128 24	328 2	136 1	228 4	119 25	303 6							17 4	30 4
	to 1902-1903																		
1903-1904			30 31	97 9	133 2	333 9	148 6	337 5	61 22	202 4							10 25	30 1	
1907-1908																			
Kinjhar	1892-1893																		
	1893-1894			217 35	979 8	627 24	1,361 9	13 26	39 1	93 6	155 4							10 1	37 11
	to 1897-1898																		
	1898-1899			137 35	423 12	553 24	1,449 11	20 2	62 13	149 4	372 1							26 33	87 7
	to 1902-1903																		
1903-1904			133 31	393 13	509 21	1,325 0	13 13	26 7	108 18	265 6							16 25	39 1	
1907-1908																			
Matri	1892-1893																		
	1893-1894			9 8	26 2	33 16	64 9	94 25	204 14	66 22	171 2							188 32	31 0
	to 1897-1898																	37 14	107 4
	1898-1899			6 23	29 12	34 33	91 12	114 3	251 4	47 31	121 3							1 30	0 7
	to 1902-1903																		
1903-1904			11 20	38 11	25 26	73 12	161 39	399 6	25 24	72 19							62 26	161 3	
1907-1908																		0 26	0 4
Jung	1892-1893																		
	1893-1894			41 7	122 4	184 15	500 4	165 21	447 14	123 15	339 2							96 16	275 1
	to 1897-1898																	28 17	3 12
	1898-1899			5 27	13 3	99 30	271 6	262 23	576 3	120 35	354 2							70 8	200 12
	to 1902-1903																		1 25	0 7
1903-1904	3 20 0 14	10 5	38 26	116 5	152 27	414 11	263 36	627 9	107 5	238 3							73 13	207 3	
1907-1908																		0 11	0 11

Village of Dist.	Year.	KHARIF.															
		Gardens.		Rice.		Orchard grow.		Live.		LIVE AIDED BY FLOW.		Walls.		Bamboo.		Live.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
1st group—continued.		A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.
Jakhrai	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	...	...	...	...	3 6	7 6	4 5	11 4	...	...	...	...	19 89	58 1
	1898-1899 to 1902-1903	...	...	...	...	...	...	4 36	11 0	4 3	11 2	...	...	...	...	52 24	153 14
	1903-1904 to 1907-1908	...	...	...	...	...	...	6 31	16 2	0 18	1 5	...	...	...	...	32 22	98 1
																1 4	0 0
Khatro	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	10 89	24 11	195 26	559 9	54 35	125 0	147 35	401 18	1 22	2 10	...	...	2 75	0 1
	1898-1899 to 1902-1903	...	...	13 14	43 7	77 14	206 10	115 0	274 2	156 33	425 4	0 18	1 1	...	...	51 31	163 11
	1903-1904 to 1907-1908	0 9	0 12	28 15	93 8	146 0	393 12	82 16	187 2	141 36	292 14	0 18	1 1	...	...	64 39	184 1
																0 22	0 0
Suliano	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	2 6	16 6	68 27	184 2	117 22	272 10	29 9	106 15	...	...	...	...	11 0	3 1
	1898-1899 to 1902-1903	...	...	7 80	25 5	108 22	281 0	98 10	231 12	27 20	74 8	0 6	0 6	...	...	76 6	228 1
	1903-1904 to 1907-1908	...	...	26 34	97 5	50 9	127 4	82 19	197 4	27 11	73 11	...	...	...	...	101 0	206 1
																2 21	3 1
Juberji	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	13 22	49 14	157 37	420 0	131 27	308 1	161 29	436 9	0 10	0 10	...	...	3 24	1 1
	1898-1899 to 1902-1903	...	...	35 22	114 7	193 5	539 11	165 23	389 8	229 2	646 13	...	...	...	...	8 9	27 0
	1903-1904 to 1907-1908	9 19	11 5	109 26	355 8	229 19	702 5	159 17	385 11	172 14	464 6	2 25	2 10	...	...	12 17	35 0
																0 4	0 0
Pat	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	42 29	131 5	32 16	83 2	74 7	163 14	19 29	60 5	2 32	6 11	...	...	124 11	380 1
	1898-1899 to 1902-1903	...	...	128 16	397 4	29 12	76 0	89 11	196 1	7 38	20 4	0 38	2 4	...	...	250 22	712 0 2
	1903-1904 to 1907-1908	1 5	2 10	103 12	307 4	35 20	80 12	62 27	139 16	11 4	29 6	0 22	2 4	...	...	268 22	768 2 1
																6 21	2 1
Toga	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	59 14	188 5	77 39	209 15	66 11	83 0	38 36	229 8	...	...	...	...	0 25	1 1
	1898-1899 to 1902-1903	...	...	65 24	275 6	74 22	200 5	38 23	89 0	41 25	111 0	...	...	...	...	1 1	2 0
	1903-1904 to 1907-1908	...	...	80 2	227 2	104 16	281 0	46 1	105 9	24 38	93 7	...	...	...	...	1 17	7 1
Falho	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	89 9	253 1	21 34	59 2	69 20	225 9	59 2	159 11	...	...	...	...	253 28	719 1
	1898-1899 to 1902-1903	...	...	139 5	420 15	24 22	65 14	57 6	130 12	41 0	109 10	...	...	...	...	253 5	908 1
	1903-1904 to 1907-1908	1 20	5 1	49 29	159 2	27 4	154 2	42 15	92 9	25 29	151 12	0 26	2 1	...	...	255 29	1,008 2 1
																1 0	0 2
Dubi	1892-1893	...	...	...	...	12 18	27 6	31 15	70 7	186 25	527 3	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	31 22	99 7	26 22	71 6	101 29	224 4	120 23	252 1	...	...	...	...	0 17	1 1
	1898-1899 to 1902-1903	...	...	51 29	192 12	35 18	94 6	165 21	321 9	54 15	142 2	...	...	...	...	10 22	31 1
	1903-1904 to 1907-1908	2 24	9 2	44 28	140 7	46 9	122 6	105 12	229 9	97 1	221 4	...	...	...	...	2 2	5 11
Naraul	1892-1893	...	...	...	...	...	...	...	...	30 1	60 8	...	...	...	...	...	...
	1893-1904 to 1897-1898	...	...	...	...	1 4	2 12	56 16	215 14	9 23	25 11	...	...	...	...	14 25	44 1
	1898-1899 to 1902-1903	...	...	0 21	1 10	5 11	12 2	101 0	222 7	20 4	52 10	...	...	...	...	56 1	100 11
	1903-1904 to 1907-1908	...	...	9 7	0 9	0 17	1 2	184 15	228 12	44 2	122 1	...	...	2 26	2 1	126 21	222 11
																0 12	0 1

RAIL																		TOTAL.		
ROAD.		ROAD AIDED BY STATE.		SEABOARD.		GAILLARD AIDED BY STATE.		WESPA.		KACRAS.		AREA.		ASSESSMENT.		ASSESSMENT.		TOTAL.		
Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	
A. G.	Rs. A.	A. G.	Rs. A.	A. G.	Rs. A.	A. G.	Rs. A.	A. G.	Rs. A.	A. G.	Rs. A.	A. G.	Rs. A.	A. G.	Rs. A.	A. G.	Rs. A.	A. G.	Rs. A.	
...	71 11	286 18	
...	...	1 16	5 10	67 34	172 7	63 24	245 7	...	...	...	...	...	...	...	...	...	...	149 8	500 8	
0 20	0 12	...	...	80 24	208 12	81 32	224 7	...	...	...	...	...	...	...	...	...	...	282 38	771 12	
...	25 27	81 11	84 2	211 18	...	...	...	...	...	...	...	...	...	...	118 28	411 13	
...	782 20	2,608 1	
18 26	8 8	14 30	88 14	188 2	404 12	134 38	615 6	2 22	7 10	...	...	...	...	...	...	...	...	736 0	2,104 14	
30 4	88 3	19 25	84 8	2 15	7 0	71 2	268 12	10 18	31 6	...	...	...	...	...	...	...	...	548 16	1,550 7	
46 28	132 3	30 34	32 4	7 31	31 13	134 7	508 12	14 1	40 13	...	...	...	...	...	...	...	...	665 35	2,026 0	
...	568 28	1,900 8
13 13	30 13	8 13	25 3	147 0	439 11	87 23	396 5	10 25	31 14	...	...	...	...	...	...	...	...	588 13	1,788 1	
38 28	118 6	7 7	23 11	168 29	602 15	94 15	373 4	3 31	8 7	...	...	...	...	...	...	...	...	600 22	1,830 7	
...	1,066 10	3,297 14
...	1,079 8	3,042 13
...	788 33	2,173 10
...	942 27	2,617 10
...	568 26	2,240 10
...	586 31	1,963 6
...	782 29	2,156 9
...	697 32	2,056 0
...	866 25	1,103 1
...	353 36	996 0
...	286 34	788 11
...	282 16	820 0
...	907 0	2,760 2
...	820 7	2,801 4
...	845 11	2,530 9
...	808 13	2,438 11
...	386 26	1,185 0
...	304 13	974 4
...	368 3	948 14
...	458 28	1,190 7
...	1,286 28	4,326 3
...	1,085 0	3,161 1
...	680 16	2,519 14
...	681 28	1,607 18

Name of Doh.	Year.	Gardens.		KHARIP.															
				RICH.		OTHER FLOW.		LIFT.		LIFT AIDED BY FLOW.		WELLS.		BARAK.		LIFT.			
		Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.
1st group—continued.		A. G.	Rs. a.	A. G.	Rs. a.	A. F.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.
Mamuhia	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	68 38	208 0	21 2	54 8	0 25	1 5	4 11	11 18	...	...	...	...	...	...	64 4	286 10
	1898-1899 to 1902-1903	...	...	3 20	10 11	43 5	110 15	4 19	10 10	9 16	25 4	...	...	...	...	...	...	53 35	184 1
	1903-1904 to 1907-1908	...	...	...	...	35 19	91 8	27 14	66 12	15 20	28 3	...	...	...	...	...	...	51 6	143 1
Sita	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	29 8	91 6	173 27	452 8	441 6	1,015 3	163 13	492 2	0 14	0 13	...	...	...	...	42 17	133 4
	1899-1899 to 1902-1903	...	...	25 2	78 11	129 10	340 6	561 3	1,333 6	144 15	379 15	5 17	13 14	...	...	...	...	62 26	186 1
	1903-1904 to 1907-1908	11 27	46 1	29 23	93 9	143 18	378 13	600 32	1,367 11	191 25	510 2	5 36	16 3	...	...	...	...	50 12	189 1
Fambli	1892-1893	...	...	...	...	...	...	10 20	27 0	36 30	103 0	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	15 38	46 14	0 30	1 15	101 13	215 9	16 18	41 2	...	...	...	...	...	...	33 84	95 11
	1899-1899 to 1902-1903	...	...	30 27	92 4	10 26	27 5	176 27	386 14	15 29	47 10	...	...	...	...	...	...	63 31	186 1
	1903-1904 to 1907-1908	4 18	10 9	40 15	120 1	28 10	72 7	134 21	295 4	54 37	134 5	...	...	...	...	...	...	65 37	243 1
Ghala	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	...	...	...	...	...	...	1 20	3 18	...	...	...	...	...	...	11 23	62 1
	1899-1899 to 1902-1903	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1903-1904 to 1907-1908	Eroded	in	1893-1900.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL OF 1st GROUP.	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,646 27	530 10
	1893-1894 to 1897-1898	...	...	2,844 2	8,951 0	5,015 39	14,961 3	10,124 33	23,050 3	2,761 23	7,329 11	43 30	103 3	4 7	7 6	2,288 14	6,719 0	161 37	83 15
	1899-1899 to 1902-1903	...	...	2,720 32	8,368 9	5,074 19	13,522 5	11,855 1	27,199 1	8,014 25	6,039 14	35 33	97 7	2 21	4 7	2,586 3	8,398 12	90 20	59 7
	1903-1904 to 1907-1908	344 20	1,107 16	2,942 9	9,022 5	5,164 17	13,720 13	11,960 8	27,296 3	3,128 13	8,300 10	57 5	145 2	9 20	22 0	3,693 37	10,416 11	114 24	66 20
2nd group.																			
Dadu	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	...	...	5 21	13 0	913 15	1,962 6	4 9	10 2	...	...	...	...	...	...	5 19	14 1
	1899-1899 to 1902-1903	...	...	...	...	3 10	6 11	940 21	1,936 6	...	...	0 23	1 4	...	...	...	...	14 53	28 8
	1903-1904 to 1907-1908	4 24	14 2	...	...	...	...	793 28	1,608 0	...	...	...	...	...	...	...	...	19 34	58 6
Dubi	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	...	...	19 27	48 0	697 1	1,416 5	0 13	0 13	...	...	...	...	...	...	6 7	16 9
	1899-1899 to 1902-1903	...	...	...	...	...	...	686 21	1,306 10	...	...	...	...	...	...	...	...	8 23	21 14
	1903-1904 to 1907-1908	1 38	6 13	...	...	...	...	606 20	1,227 6	0 20	1 1	...	...	...	...	...	...	13 16	38 7
Nao Lakho	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	7 20	21 13	3 20	8 12	603 9	1,263 4	75 13	166 4	...	...	0 18	0 13	...	...	61 12	166 2
	1899-1899 to 1902-1903	...	...	...	...	3 30	14 6	603 10	1,279 0	0 27	1 11	...	...	...	...	...	...	24 34	38 13
	1903-1904 to 1907-1908	43 1	114 5	5 5	6 13	0 28	2 6	635 7	1,340 9	0 19	22 11	...	...	...	...	...	...	29 7	77 1

Name of dist.	Year.	GARDENS, &c.		KHARIF.														
				Rice.		Other Flow.		Linn.		LIFE AIDED BY FLOW.		Walls.		Banks.		Linn.		
				Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.
A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	
Dudha	1892-1893
	1893-1894 to 1897-1898	...	...	4 5	12 7	2 15	6 15	500 23	1,022 1	97 32	136 7	...	...	...	...	15 28	40 1
	1898-1899 to 1902-1903	...	...	16 23	44 5	0 34	2 2	537 26	1,109 9	2 26	6 10	...	...	...	...	21 4	54 1
	1903-1904 to 1907-1908	21 32	57 9	0 27	2 18	...	...	483 38	908 15	2 38	9 15	...	...	...	...	26 33	68 11
Khandab.	1892-1893
	1893-1894 to 1897-1898	...	...	30 38	62 6	11 17	27 10	509 15	1,046 12	28 26	91 2	...	...	...	...	63 6	134 1
	1898-1899 to 1902-1903	...	...	19 34	49 5	5 2	12 2	551 10	1,137 0	5 26	14 8	...	...	...	...	26 34	62 11
	1903-1904 to 1907-1908	41 24	112 1	17 22	53 5	4 4	9 15	553 15	1,241 3	8 9	19 3	...	...	...	...	64 36	155 6
Phaka	1892-1893
	1893-1894 to 1897-1898	...	...	4 36	14 9	22 14	66 13	572 37	1,187 12	5 15	15 4	...	...	...	...	9 16	24 1
	1898-1899 to 1902-1903	...	...	4 36	14 11	...	...	528 1	1,181 0	18 5	44 9	...	...	...	...	28 23	57 2
	1903-1904 to 1907-1908	14 3	41 5	1 9	2 11	...	...	570 32	1,178 3	17 1	40 13	1 27	3 9	...	...	50 26	120 0
Kalhon	1892-1893
	1893-1894 to 1897-1898	...	...	...	...	...	...	500 13	937 4	23 9	52 7	...	...	...	...	13 36	33 11
	1898-1899 to 1902-1903	...	...	...	...	...	...	369 24	995 6	...	...	0 34	2 4	...	...	18 16	40 9
	1903-1904 to 1907-1908	3 6	9 5	...	...	...	...	375 21	718 8	...	...	...	...	...	...	48 23	117 3
Khosla Chundia.	1892-1893
	1893-1894 to 1897-1898	...	...	...	...	332 2	795 3	407 14	825 6	118 30	221 1	0 15	0 13	...	...	22 24	57 11
	1898-1899 to 1902-1903	...	...	1 6	3 7	337 15	804 8	328 16	667 0	148 9	346 6	...	...	...	...	18 6	45 5
	1903-1904 to 1907-1908	9 26	29 9	11 26	32 13	334 22	801 9	286 13	602 15	130 2	306 15	...	...	...	...	27 32	70 14
Khushk	1892-1893
	1893-1894 to 1897-1898	...	...	...	...	64 7	158 14	335 1	665 9	139 10	337 6	...	...	...	...	2 39	7 9
	1898-1899 to 1902-1903	...	...	...	...	23 25	59 10	403 26	812 13	97 22	239 9	...	...	...	...	27 26	65 12
	1903-1904 to 1907-1908	16 26	50 1	...	...	10 31	26 14	308 24	1,025 6	40 4	98 7	1 10	2 10	1 22	3 7	45 29	113 11
Mondar	1892-1893
	1893-1894 to 1897-1898	...	...	...	...	39 20	98 4	522 36	1,055 8	33 21	82 1	4 20	9 8	...	...	14 25	43 5
	1898-1899 to 1902-1903	...	...	...	...	14 21	34 13	536 3	1,090 14	24 27	60 9	4 2	8 11	...	...	28 8	69 4
	1903-1904 to 1907-1908	49 20	144 8	...	...	9 19	22 3	523 27	1,206 16	17 19	41 12	...	...	3 6	5 8	32 8	85 3
TOTAL OF 2ND GROUP.	1892-1893
	1893-1894 to 1897-1898	27 19	211 2	500 22	1,210 7	5,562 2	11,223 3	506 27	1,222 0	4 35	16 4	0 18	0 13
	1898-1899 to 1902-1903	43 19	131 13	230 37	624 4	5,546 27	11,318 13	298 14	712 13	6 12	12 3
	1903-1904 to 1907-1908	202 22	572 9	34 19	109 7	359 24	962 15	5,283 5	11,025 0	226 24	541 14	2 27	6 3	5 4	8 15

RAH.																TOTAL.		
BOUL.		BOUL. AIDED BY LIFT.		SALLAMI.		SAYRADI AIDED BY LIFT.		WELLS.		KAGHAS.		AREA.		ASSESSMENT.		TOTAL.		
AREA.	ASSESSMENT.	AREA.	ASSESSMENT.	AREA.	ASSESSMENT.	AREA.	ASSESSMENT.	AREA.	ASSESSMENT.	AREA.	ASSESSMENT.	AREA.	ASSESSMENT.	AREA.	ASSESSMENT.	AREA.	ASSESSMENT.	
A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	446 10	908 8
14 8	7 4	...	...	4 11	11 12	4 33	15 14	37 8	97 12	...	...	...	...	...	...	636 38	1,388 11
...	...	...	...	3 18	2 8	2 4	7 10	41 1	115 10	...	...	...	...	...	...	628 17	1,340 9
...	...	...	...	0 30	2 1	...	...	54 19	137 7	...	...	...	...	...	...	558 18	1,207 4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	742 35	1,651 8
17 20	10 12	...	...	35 3	65 11	7 35	37 6	28 30	227 5	...	...	...	...	...	...	753 7	1,628 5
...	...	...	...	2 27	1 7	0 4	0 2	10 4	...	...	...	...	...	...	...	52 38	3 14
0 25	0 3	...	...	4 29	12 15	4 12	15 8	147 58	393 11	...	...	...	...	...	...	755 27	1,709 0
...	...	...	...	0 6	0 2	...	...	12 29	...	...	...	...	...	...	...	12 28	3 11
...	...	...	...	5 18	15 0	...	...	94 28	243 5	...	...	...	...	...	...	791 33	1,774 4
...	...	...	...	...	...	...	...	10 12	2 14	...	...	...	...	...	...	10 11	10 11
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	446 10	1,101 12
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22 26	22 0
...	...	...	...	195 33	548 13	11 6	56 6	24 17	63 12	...	...	...	...	...	...	648 14	1,945 2
...	...	...	...	12 12	5 3	...	...	6 1	...	...	...	...	...	...	...	50 13	6 8
11 13	21 3	6 9	22 0	...	...	2 32	10 3	52 19	137 12	...	...	...	...	...	...	791 24	1,579 10
2 4	1 15	...	...	...	...	...	...	4 12	...	...	...	...	...	...	...	12 26	6 8
...	705 32	1,532 10
...	...	...	...	...	...	...	...	50 14	131 1	...	...	...	...	...	...	6 33	7 1
...	556 14	1,187 8
...	66 2	22 2
...	...	...	...	11 38	30 12	6 17	18 3	16 14	42 9	...	...	...	...	...	...	671 10	1,114 14
...	...	...	...	0 2	0 10	...	...	2 30	...	...	...	...	...	...	...	4 0	0 12
...	...	...	...	1 0	2 9	...	...	28 17	74 11	...	...	...	...	...	...	416 11	818 7
...	...	...	...	...	...	...	...	6 20	...	...	...	...	...	...	...	6 36	0 11
...	...	...	...	1 20	4 14	...	...	26 16	68 14	...	...	...	...	...	...	457 3	922 15
...	...	...	...	...	...	...	...	0 34	...	...	...	...	...	...	...	5 27	3 4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,698 35	3,689 8
27 22	55 8	...	...	...	...	...	4 30	5 3	1 20	...	...	...	...	...	...	64 2	62 0
149 10	301 11	16 19	48 12	153 12	414 2	88 14	230 10	19 19	35 5	...	...	...	...	...	...	1,278 15	3,092 1
0 23	0 8	...	...	24 17	6 6	...	...	4 25	...	...	...	...	...	...	...	30 4	7 4
145 12	354 12	6 18	21 15	9 11	6 11	...	...	27 23	72 1	...	...	...	...	...	...	1,012 7	2,247 2
1 5	1 4	...	...	...	...	...	...	4 25	...	...	...	...	...	...	...	6 15	1 7
120 12	335 2	12 27	27 11	...	...	...	...	14 23	28 2	...	...	...	...	...	...	961 72	2,252 10
6 22	1 4	...	...	...	...	...	...	2 14	...	...	...	...	...	...	...	7 10	3 4
...	1,607 27	3,698 8
...	...	...	...	242 21	57 0	...	...	...	...	...	...	...	...	...	...	43 21	57 0
1 14	3 11	...	...	712 27	1,324 4	...	...	15 12	40 6	0 8	0 2	...	...	...	...	1,269 29	2,127 12
...	...	...	...	21 27	12 5	...	...	1 19	...	...	...	...	...	...	...	22 21	16 7
59 2	241 10	...	...	110 22	301 1	0 22	2 4	26 17	25 11	...	...	...	...	...	...	720 2	1,647 7
0 15	0 5	1 12	3 11	0 8	0 12	...	...	2 25	...	...	...	...	...	...	...	5 21	5 2
44 25	122 9	6 22	24 15	61 20	169 2	...	...	71 19	170 10	...	...	...	...	...	...	810 16	1,917 12
0 20	0 15	...	...	2 6	2 12	...	...	2 22	4 6	...	...	...	...	...	...	17 4	11 12
...	1,245 5	3,418 4
...	...	...	...	66 2	21 6	...	...	...	...	...	...	...	...	...	...	177 26	42 2
128 23	322 14	1 9	4 7	712 11	1,208 11	2 25	10 7	22 7	69 5	...	...	...	...	...	...	1,472 1	3,520 7
...	...	...	...	25 12	6 6	2 22	2 2	5 24	...	...	...	...	...	...	...	28 12	8 2
226 11	734 16	2 12	12 12	22 2	22 7	1,017 2	2,262 2
4 5	2 2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15 17	4 2
22 12	241 2	1 11	2 6	62 6	162 7	6 22	22 14	112 25	224 2	...	...	...	...	...	...	277 28	2,227 2
2 22	2 2	...	...	0 11	0 5	...	...	15 21	2 7	...	...	...	...	...	...	20 22	7 10
...	9,372 16	21,425 10
...	232 24	261 10
272 21	712 4	12 22	24 4	1,277 21	3,077 2	105 24	301 7	255 22	242 12	0 9	0 2	...	...	...	...	9,442 27	21,528 6
1 11	0 16	...	...	24 22	24 2	2 22	1 5	42 2	...	...	...	...	...	...	...	122 27	42 2
542 12	1,442 5	12 2	24 4	155 11	421 2	11 24	42 10	620 22	1,710 12	2 22	2 4	...	...	...	...	7,212 7	17,400 2
2 22	4 2	1 12	2 11	0 14	1 6	...	...	22 17	...	...	...	...	...	...	...	100 22	27 2
272 4	722 2	12 22	24 0	124 2	222 11	2 22	22 14	622 6	1,624 0	2 22	2 4	...	...	...	...	1,622 14	16,624 2
5 12	5 5	...	...	2 17	2 1	...	...	70 0	12 2	...	...	...	...	...	...	122 21	69 2

Name of Deb.	Year.	KHABIF.															
		Gardens.		Rice.		Orchard grow.		Lime.		Left Aided by Flow.		Walls.		Dahan.		Lime.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
3rd group.		A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.
Kurja	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	...	...	...	...	271 10	478 18	1 3	2 6	...	...	...	...	29 28	66 7
	1898-1899 to 1902-1903	...	...	...	...	...	...	314 11	562 8	...	...	...	...	...	...	198 82	262 6
	1903-1904 to 1907-1908	2 32	7 11	...	...	...	...	287 1	445 2	...	...	...	...	...	...	127 5	281 4
Chaurath	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	1 7	8 8	0 17	1 0	91 19	168 12	24 11	51 11	...	...	...	...	64 33	129 1
	1898-1899 to 1902-1903	...	...	...	...	...	...	74 19	138 16	16 10	80 9	2 4	4 13	...	...	77 34	178 7
	1903-1904 to 1907-1908	0 31	2 8	...	...	...	...	96 29	175 2	...	...	...	...	...	...	66 20	149 13
Aminani	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	...	...	0 14	14 3	143 22	266 8	...	...	...	...	...	...	...	...
	1898-1899 to 1902-1903	...	...	...	...	0 22	1 3	119 39	222 11	2 0	4 5	...	...	...	...	46 27	98 3
	1903-1904 to 1907-1908	6 21	16 2	...	...	1 23	4 10	106 38	199 0	2 8	4 15	...	...	...	...	40 32	110 13
Buth Malho.	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	...	...	5 33	13 6	484 18	861 14	7 26	17 1	...	...	...	...	24 6	32 1
	1898-1899 to 1902-1903	...	...	...	...	1 11	2 11	353 6	654 3	0 30	1 2	...	...	...	...	15 39	26 4
	1903-1904 to 1907-1908	20 17	48 5	...	...	...	...	324 16	605 11	1 10	2 13	...	...	4 6	7 4	22 20	45 8
Iband	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	5 23	10 0	2 10	4 13	779 31	1,408 15	48 25	106 4	...	...	...	...	97 29	23 10
	1898-1899 to 1902-1903	...	...	3 10	8 11	4 20	9 11	594 34	1,081 6	3 39	8 14	...	...	...	...	89 8	30 4
	1903-1904 to 1907-1908	31 8	67 5	0 29	1 16	3 20	7 9	645 31	1,018 3	2 20	5 10	...	...	0 17	0 13	65 2	142 1
TOTAL 3RD GROUP.	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1893-1894 to 1897-1898	...	...	4 35	12 8	14 34	32 6	1,740 30	3,179 9	51 25	177 6	...	...	...	...	198 24	420 1
	1898-1899 to 1902-1903	...	...	3 10	8 11	5 13	13 5	1,468 29	2,867 8	22 29	45 1	2 4	4 12	...	...	296 30	602 3
	1903-1904 to 1907-1908	51 29	131 10	0 29	1 15	5 2	12 3	1,307 33	2,426 2	5 56	12 6	...	...	4 23	8 1	381 8	729 4
TOTAL OF MALUKA.	1892-1893	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,261 28	609 10
	1893-1894 to 1897-1898	...	...	2,936 18	9,079 5	6,181 23	16,204 6	17,427 26	37,503 15	3,949 35	8,730 1	46 25	113 8	4 24	8 3	2,677 5	7,640 10
	1898-1899 to 1902-1903	...	...	2,706 21	8,519 0	5,471 29	14,470 2	18,831 27	41,175 4	3,865 29	8,867 12	46 16	104 6	2 21	4 7	5,397 31	9,600 0
	1903-1904 to 1907-1908	602 31	1,517 13	2,977 17	9,124 11	5,529 13	14,595 15	18,647 6	40,700 5	3,360 24	8,855 14	00 2	151 2	19 7	39 0	4,334 21	1,228 4

Note.--Details for 1892-93 being wrong only the total for each deb is shown.

APPENDIX XIII.

STATEMENTS showing demands and realisations in Dadu taluka from 1892-1893 to 1907-1908.

Year.	Gross demand.		Remission.		Collection.		Arrears.			
	Rs.	a.	Rs.	a.	Rs.	a.	Rs.	a.	p.	
1892-93	1,86,322	10	1,751	10	1,84,275	0	0	296	0	0
1893-94	1,88,532	11	2,248	0	1,86,263	7	0	21	4	0
1894-95	2,04,714	0	10,022	6	1,93,656	8	0	1,035	2	0
1895-96	98,838	12	871	3	97,387	5	0	580	4	0
1896-97	1,26,472	11	1,027	13	1,25,194	8	0	250	6	0
1897-98	1,52,490	12	1,740	0	1,47,088	2	0	3,662	10	0
1898-99	1,18,305	9	6,214	14	1,09,346	2	0	2,744	9	0
1899-1900	1,12,342	11	15,506	5	96,620	3	11	216	2	1
1900-01	1,52,463	4	2,453	12	1,48,251	10	6	1,757	13	6
1901-02	1,41,363	14	10,300	3	1,30,774	8	0	289	3	0
1902-03	85,464	3	13,428	8	70,372	9	0	1,663	2	0
1903-04	1,37,529	5	1,601	0	1,33,654	14	0	2,273	7	0
1804-05	1,19,798	11	14,794	11	1,01,773	0	6	3,230	15	6
1905-06	1,37,827	3	3,676	1	1,33,831	6	0	319	12	0
1906-07	1,40,918	7	2,122	0	1,38,706	3	0	90	4	0
1907-08	1,10,792	11	4,866	14	1,05,676	1	0	249	12	0
Total	22,14,177	6	92,625	4	21,02,871	7	11	18,680	10	1
Average	1,38,386	1	5,769	1	1,31,429	8	0	1,167	8	0

S. H. GOVERNTON,
Settlement Officer,
Sehwan.

APPENDIX XIV.

APPENDIX

STATEMENT showing the results of the proposed rates as compared with cultivation of the last 5 years beginning

Name of tal.	Year.	KHA											
		GARDENS.			RICE.			OTHER CROPS.			LIVS.		
		Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.
		A.	Rs. a.	Rs.	A.	Rs. a.	Rs.	A.	Rs. a.	Rs.	A.	Rs. a.	Rs.
Pipri	Present	0	3 4	19	23	3 4	75	0	3 13	18	600	2 6	2,042
	Proposed	...	2 8	15	...	4 0	92	...	3 0	18	...	2 8	1,150
Chot	Do.	24	3 4	78	1	3 4	3	...	...	...	741	2 6	1,732
	Do.	...	2 8	60	...	4 0	3	...	...	...	...	2 8	1,822
Malkani	Do.	0	3 4	30	...	...	...	...	...	...	318	2 6	518
	Do.	...	2 8	15	...	...	...	...	...	...	...	2 8	546
Badani	Do.	31	3 4	101	...	...	...	4	3 13	11	608	2 6	1,658
	Do.	...	2 8	77	...	...	...	...	3 0	13	...	2 8	1,745
Kurpur	Do.	4	3 4	13	661	3 4	2,146	83	3 13	248	450	2 6	1,083
	Do.	...	2 8	10	...	4 0	2,644	...	3 0	294	...	2 8	1,140
Pipri Panjan	Do.	4	3 4	13	152	3 4	494	105	3 13	280	478	2 6	1,135
	Do.	...	2 8	10	...	4 0	608	...	3 0	315	...	2 8	1,195
Bakhtani	Do.	23	3 4	91	18	3 4	59	61	3 13	140	651	2 6	2,031
	Do.	...	2 8	70	...	4 0	72	...	3 0	163	...	2 8	2,129
Wariso	Do.	8	3 4	26	49	3 4	156	63	3 13	170	330	2 6	764
	Do.	...	2 8	20	...	4 0	192	...	3 3	186	...	2 8	823
Botli	Do.	10	3 4	32	43	3 4	156	319	3 13	692	608	2 6	1,444
	Do.	...	2 8	25	...	4 0	192	...	3 0	657	...	2 8	1,520
Sunbun	Do.	7	3 4	23	46	3 4	150	180	3 13	395	534	2 6	1,411
	Do.	...	2 8	17	...	4 0	184	...	3 0	540	...	2 8	1,468
Marakhpur	Do.	7	3 4	23	193	3 4	627	230	3 13	770	232	2 6	696
	Do.	...	2 8	16	...	4 0	772	...	3 0	840	...	2 8	732
Pir Ganda	Do.	9	3 4	29	392	3 4	1,274	461	3 13	1,323	86	2 6	303
	Do.	...	2 8	22	...	4 0	1,568	...	3 0	1,443	...	2 8	315
Sial	Do.	18	3 4	62	...	...	...	24	3 13	66	679	2 6	2,089
	Do.	...	2 8	43	...	...	...	...	3 0	73	...	2 8	2,197
Sidwah	Do.	18	3 4	58	...	...	...	3	3 13	9	705	2 6	1,674
	Do.	...	2 8	45	...	...	...	...	3 0	9	...	2 8	1,738
Shahani	Do.	62	3 4	169	...	...	...	...	...	...	471	2 6	1,119
	Do.	...	2 8	130	...	...	...	...	...	...	...	2 8	1,177
Dawach	Do.	24	3 4	78	...	...	...	...	...	...	203	2 6	480
	Do.	...	2 8	60	...	...	...	...	...	...	...	2 8	505
Pir Tarabo	Do.	33	3 4	124	0	3 4	36	18	3 13	49	413	2 6	981
	Do.	...	2 8	85	...	4 0	36	...	3 0	54	...	2 8	1,038
Makhdam Sahib	Do.	1	3 4	3	40	3 4	130	43	3 13	118	176	2 6	419
	Do.	...	2 8	2	...	4 0	163	...	3 0	129	...	2 8	440
Baghban	Do.	5	3 4	16	150	3 4	497	734	3 13	2,018	303	2 6	693
	Do.	...	2 8	13	...	4 0	600	...	3 3	2,203	...	2 8	507
Kandi	Do.	6	3 4	26	166	3 4	540	669	3 13	1,865	307	2 6	729
	Do.	...	2 8	20	...	4 0	664	...	3 3	1,707	...	2 8	706
Paranodaro	Do.	2	3 4	7	53	3 4	169	96	3 13	264	179	2 6	435
	Do.	...	2 8	6	...	4 0	208	...	3 0	268	...	2 8	448
Kharis	Do.	5	3 4	16	74	3 4	240	436	3 13	1,199	100	2 6	297
	Do.	...	2 8	13	...	4 0	296	...	3 0	1,306	...	2 8	260
Bop	Do.	...	...	...	21	3 4	68	183	3 13	365	148	2 6	351
	Do.	...	...	...	...	4 0	84	...	3 0	369	...	2 8	370
Kinjhar	Do.	...	...	...	127	3 4	413	510	3 13	1,492	18	2 6	31
	Do.	...	...	...	...	4 0	508	...	3 0	1,630	...	2 8	32
Marvi	Do.	...	...	...	12	3 4	39	30	3 13	83	162	2 6	432
	Do.	...	...	...	...	4 0	48	...	3 0	90	...	2 8	455
Jung	Do.	4	3 4	13	87	3 3	120	152	3 13	421	254	2 6	606
	Do.	...	2 8	10	...	4 0	146	...	3 0	459	...	2 8	636
Jachhari	Do.	...	...	...	...	...	...	...	...	...	7	2 6	17
	Do.	...	...	...	...	...	...	...	...	...	...	2 8	18
Kharo	Do.	...	...	...	23	3 4	91	146	3 13	402	82	2 6	196
	Do.	...	...	...	...	4 0	113	...	3 0	436	...	2 8	205
Satiaro	Do.	...	...	...	29	3 4	94	50	3 13	139	68	2 6	197
	Do.	...	...	...	...	4 0	118	...	3 0	150	...	2 8	207
Juberji	Do.	3	3 4	10	110	3 4	358	264	3 13	609	189	2 6	378
	Do.	...	2 8	7	...	4 0	440	...	3 0	692	...	2 8	398
Pat	Do.	1	3 4	3	103	3 4	336	38	3 13	99	63	2 6	149
	Do.	...	2 8	2	...	4 0	416	...	3 0	108	...	2 8	167

M.P.

LIST AIDED BY FLOW.			FLOW AIDED BY LIST.			WELLS.			BARAZZ.		
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.
A.	Rs. p.	Rs.	A.	Rs. p.	Rs.	A.	Rs. p.	Rs.	A.	Rs. p.	Rs.
38	2 12	91	...	...	...	...	...	...	...	...	...
...	2 10	87	...	2 12	...	...	...	...	...	...	...
...	...	...	...	...	...	1	2 6	3	...	...	...
...
2	2 12	5	...	...	...	...	...	...	4	1 12	7
...	2 10	6	...	...	...	...	...	...	...	0 8	2
12	2 12	33	...	...	...	...	...	...	...	...	...
...	2 10	31	...	...	...	...	...	...	...	...	...
24	2 12	68	...	...	...	...	...	...	...	...	...
...	2 10	63	...	...	...	...	...	...	...	...	...
33	2 12	91	...	...	...	...	...	...	...	...	...
...	2 10	87	...	...	...	...	...	...	...	...	...
88	2 12	238	...	...	...	27	2 6	64	...	...	...
...	2 10	226	...	...	...	...	2 8	61	...	...	...
100	2 12	440	...	...	...	...	...	...	...	...	...
...	2 10	420	...	...	...	...	...	...	...	...	...
332	2 12	913	...	...	...	...	...	...	...	...	...
...	2 10	871	...	...	...	...	...	...	...	...	...
398	2 12	737	...	...	...	...	...	...	...	...	...
...	2 10	703	...	...	...	...	...	...	...	...	...
172	2 12	473	...	...	...	...	...	...	...	...	...
...	2 10	463	...	...	...	...	...	...	...	...	...
115	2 12	516	...	...	...	...	...	...	...	...	...
...	...	...	116	2 12	316	...	...	...	...	...	...
46	2 12	127	...	...	...	2	2 6	6	5	1 12	5
...	2 10	121	...	...	...	...	2 8	5	...	0 8	1
12	2 12	35	...	...	...	1	2 6	3	...	...	...
...	2 10	34	...	...	...	...	2 8	3	...	...	...
2	2 12	5	...	...	...	1	2 6	2	...	...	...
...	2 10	5	...	...	...	...	2 8	2	...	...	...
...	...	...	...	...	...	1	2 6	2	...	...	...
...	...	...	...	...	...	...	2 8	2	...	...	...
18	2 12	46	...	...	...	11	2 6	26	...	...	...
...	2 10	47	...	...	...	...	2 8	25	...	...	...
41	2 12	113	...	...	...	...	...	...	...	...	...
...	2 10	108	...	...	...	...	...	...	...	...	...
205	2 12	564	...	...	...	...	...	...	...	...	...
...	...	...	205	2 12	564	...	...	...	...	...	...
153	2 12	421	...	...	...	1	2 6	3	...	...	...
...	...	...	153	2 12	421	...	2 8	2	...	...	...
134	2 12	368	...	...	...	...	...	...	...	...	...
...	2 10	352	...	...	...	...	...	...	...	...	...
109	2 12	300	...	...	...	...	...	...	...	...	...
...	...	...	109	2 12	300	...	...	...	...	...	...
82	2 12	220	...	...	...	...	...	...	...	...	...
...	2 10	216	...	...	...	...	...	...	...	...	...
105	2 12	289	...	...	...	...	...	...	...	...	...
...	...	...	105	2 12	289	...	...	...	...	...	...
29	2 12	80	...	...	...	...	...	...	...	...	...
...	2 10	78	...	...	...	...	...	...	...	...	...
107	2 12	284	...	...	...	...	...	...	...	...	...
...	2 10	281	...	...	...	...	...	...	...	...	...
...
143	2 12	391	...	...	...	1	2 6	3	...	...	...
...	2 10	373	...	...	...	...	2 8	2	...	...	...
27	2 12	74	...	...	...	...	...	...	...	...	...
...	2 10	71	...	...	...	...	...	...	...	...	...
172	2 12	473	...	...	...	2	2 6	10	...	...	...
...	...	...	172	2 12	473	...	2 8	10	...	...	...
11	2 12	30	...	...	...	1	2 6	2	...	...	...
...	2 10	28	...	...	...	...	2 8	3	...	...	...

LITT.			DOWL.			POST AIDED BY LITT.			RAILWAY.		
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.
A.	Rs. p.	Rs.	A.	Rs. p.	Rs.	A.	Rs. p.	Rs.	A.	Rs. p.	Rs.
54	3 0	182	5	3 0	15	...	...	...	6	3 0	84
...	4 0	216	...	3 0	15	...	...	...	...	3 0	24
149	3 0	438	93	3 0	279	5	4 0	20	237	3 0	681
...	4 0	584	...	3 0	279	...	4 0	20	...	3 0	681
157	3 0	471	...	...	...	...	...	...	379	3 0	637
...	4 0	628	...	...	...	...	...	...	...	3 0	637
21	3 0	246	2	3 0	6	...	...	...	...	...	...
...	4 0	328	...	3 0	6	...	...	...	...	...	...
49	3 0	147	14	3 0	42	5	4 0	20	38	3 0	99
...	4 0	196	...	3 0	42	...	4 0	20	...	3 0	99
105	3 0	316	8	3 0	24	9	4 0	28	44	3 0	133
...	4 0	420	...	3 0	24	...	4 0	28	...	3 0	133
123	3 0	398	59	3 0	159	6	4 0	24	2	3 0	6
...	4 0	528	...	3 0	159	...	4 0	24	...	3 0	6
95	3 0	285	96	3 0	198	5	4 0	20	...	...	...
...	4 0	380	...	3 0	198	...	4 0	20	...	...	...
151	3 0	546	216	3 0	648	9	4 0	36	1	3 0	3
...	4 0	728	...	3 0	648	...	4 0	36	...	3 0	3
178	3 0	534	85	3 0	196	35	4 0	140	0	3 0	27
...	4 0	712	...	3 0	196	...	4 0	140	...	3 0	27
84	3 0	102	101	3 0	303	123	4 0	492	4	3 0	12
...	4 0	136	...	3 0	303	...	4 0	492	...	3 0	12
80	3 0	180	107	3 0	321	152	4 0	608	3	3 0	9
...	4 0	240	...	3 0	321	...	4 0	608	...	3 0	9
94	3 0	282	92	3 0	186	...	...	...	103	3 0	306
...	4 0	376	...	3 0	186	...	...	...	...	3 0	306
180	3 0	567	35	3 0	75	7	4 0	28	109	3 0	327
...	4 0	756	...	3 0	75	...	4 0	28	...	3 0	327
123	3 0	398	50	3 0	150	13	4 0	52	24	3 0	72
...	4 0	528	...	3 0	150	...	4 0	52	...	3 0	72
238	3 0	684	...	...	...	...	...	...	1	3 0	3
...	4 0	912	...	...	...	...	...	...	...	3 0	3
76	3 0	228	19	3 0	57	...	...	...	24	3 0	102
...	4 0	304	...	3 0	57	...	...	...	...	3 0	102
39	3 0	117	14	3 0	42	20	4 0	80	28	3 0	114
...	4 0	156	...	3 0	42	...	4 0	80	...	3 0	114
40	3 0	120	197	3 0	591	39	4 0	152	129	3 0	417
...	4 0	160	...	3 0	591	...	4 0	152	...	3 0	417
141	3 0	423	41	3 0	123	4	4 0	16	167	3 0	501
...	4 0	564	...	3 0	123	...	4 0	16	...	3 0	501
79	3 0	234	249	3 0	747	49	4 0	196	29	3 0	87
...	4 0	312	...	3 0	747	...	4 0	196	...	3 0	87
30	3 0	117	351	3 0	1,053	9	4 0	34	62	3 0	186
...	4 0	156	...	3 0	1,053	...	4 0	34	...	3 0	186
11	3 0	83	273	3 0	1,119	6	4 0	24	6	3 0	24
...	4 0	111	...	3 0	1,119	...	4 0	24	...	3 0	24
11	3 0	83	425	3 0	1,275	...	...	...	7	3 0	21
...	4 0	111	...	3 0	1,275	...	...	...	...	3 0	21
48	3 0	144	47	3 0	141	47	4 0	188	15	3 0	45
...	4 0	192	...	3 0	141	...	4 0	188	...	3 0	45
73	3 0	219	49	3 0	147	35	4 0	140	11	3 0	33
...	4 0	292	...	3 0	147	...	4 0	140	...	3 0	33
33	3 0	99	...	...	...	...	...	...	28	3 0	78
...	4 0	132	...	...	...	...	...	...	...	3 0	78
85	3 0	195	45	3 0	135	21	4 0	84	8	3 0	24
...	4 0	260	...	3 0	135	...	4 0	84	...	3 0	24
101	3 0	303	40	3 0	120	7	4 0	28	127	3 0	381
...	4 0	404	...	3 0	120	...	4 0	28	...	3 0	381
12	3 0	36	148	3 0	444	4	4 0	16	2	3 0	6
...	4 0	48	...	3 0	444	...	4 0	16	...	3 0	6
209	3 0	607	38	3 0	108	19	4 0	76	17	3 0	51
...	4 0	808	...	3 0	108	...	4 0	76	...	3 0	51

XIV.

the existing rates in each village of Dadu taluka, on the basis of the average from 1903-1904 to 1907-1908.

BANDARI AIDED BY LEYS.			WILKIN.			KOCKAR.			TOTAL.		INCREASE OR DECREASE.		INCREASE OR DECREASE PER CEN.		Average assessment.	
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Assessment.	Increase.	Decrease.	Increase.	Decrease.		
...	...	...	41	2 0	87	...	...	...	1,038	2,541	170	...	7 04	...	{ 2 7
...	...	...	...	2 0	106	...	...	...	...	3,740	...	...	...	...	{ 2 10
...	4 0	353	20	2 0	87	...	...	...	1,364	3,053	233	...	6 08	...	{ 2 15
...	4 0	353	...	...	70	...	...	...	...	2,904	...	...	...	...	{ 2 14
...	4 0	364	1	2 0	2	...	...	...	789	2,334	174	...	7 02	...	{ 2 16
...	4 0	364	...	...	2	...	...	...	...	2,366	...	...	...	...	{ 2 8
...	...	...	63	2 0	140	...	...	...	602	2,304	153	...	6 94	...	{ 2 7
...	...	...	...	...	148	...	...	...	...	2,357	...	...	...	...	{ 2 10
...	4 0	40	14	2 0	28	...	0 11	...	1,308	2,030	621	...	15 77	...	{ 2 14	
...	4 0	40	...	...	35	...	0 12	...	...	4,557	...	...	...	...	{ 2 6
...	4 0	72	7	2 0	17	...	...	...	908	2,618	268	...	11 36	...	{ 2 11
...	4 0	72	...	...	17	...	...	...	...	2,916	...	...	...	...	{ 2 0
...	...	...	22	2 0	123	...	...	...	1,308	2,919	245	...	7 58	...	{ 2 0
...	...	...	...	...	130	...	...	...	...	2,584	...	...	...	...	{ 2 12
...	...	...	2	2 0	21	...	...	...	790	2,081	163	...	7 70	...	{ 2 11
...	...	...	...	...	22	...	...	...	...	2,254	...	...	...	...	{ 2 14
...	...	...	...	...	22	...	...	...	...	...	...	...	...	...	...
...	4 0	4	6	2 0	14	...	...	...	1,038	4,393	301	...	6 84	...	{ 2 11
...	4 0	4	...	...	15	...	...	...	...	4,599	...	...	...	...	{ 2 14
...	4 0	4	12	2 0	21	...	...	...	1,306	2,747	262	...	7 70	...	{ 2 11
...	4 0	4	...	...	22	...	...	...	...	4,039	...	...	...	...	{ 2 14
...	4 0	8	12	2 0	21	...	...	...	1,218	2,527	261	...	7 40	...	{ 2 14
...	4 0	8	...	...	22	...	...	...	...	2,788	...	...	...	...	{ 2 7
...	...	...	...	...	...	...	...	...	1,406	4,263	479	...	11 23	...	{ 2 1
...	...	...	...	...	...	...	...	...	...	4,742	...	...	...	...	{ 2 0
...	4 0	16	111	2 0	264	...	0 11	...	1,247	2,406	168	...	5 60	...	{ 2 6	
...	4 0	16	...	...	277	...	0 12	...	...	2,696	...	...	...	...	{ 2 13
...	4 0	2	24	2 0	27	...	...	...	1,096	2,841	267	...	6 30	...	{ 2 11
...	4 0	2	...	...	30	...	...	...	...	2,108	...	...	...	...	{ 2 13
...	4 0	2	...	...	30	...	...	...	786	2,066	157	...	7 50	...	{ 2 10
...	4 0	2	...	...	35	...	...	...	...	2,223	...	...	...	...	{ 2 13
...	
...	...	...	37	2 0	183	...	0 11	...	534	1,431	245	...	17 13	...	{ 2 11
...	...	...	...	...	183	...	0 22	...	...	1,676	...	...	...	...	{ 2 2
...	...	...	32	2 0	185	...	...	...	...	...	...	...	...	...	{ 2 9
...	205	716	1,640	127	...	6 57	...	{ 2 11
...	...	...	...	...	...	...	...	...	...	1,661	...	...	...	...	...
...	4 0	24	...	...	...	...	...	...	430	1,164	66	...	6 24	...	{ 2 12
...	4 0	24	...	...	...	...	...	...	...	1,280	...	...	...	...	{ 2 6
...	4 0	48	35	2 0	83	...	...	...	1,728	4,688	363	...	7 45	...	{ 2 13
...	4 0	48	...	...	87	...	...	...	...	6,251	...	...	...	...	{ 2 1
...	4 0	324	66	2 0	164	...	...	...	1,662	4,785	448	...	9 46	...	{ 2 13
...	4 0	324	...	...	173	...	...	...	...	5,183	...	...	...	...	{ 2 1
...	4 0	116	1	2 0	2	...	...	...	898	2,615	147	...	6 62	...	{ 2 0
...	4 0	116	...	...	2	...	...	...	...	2,782	...	...	...	...	{ 2 1
...	4 0	236	15	2 0	36	...	...	...	1,266	2,844	216	...	8 02	...	{ 2 14
...	4 0	236	...	...	39	...	...	...	...	5,680	...	...	...	...	{ 2 1
...	4 0	23	...	...	...	...	...	...	...	...	...	...	...	...	...
...	4 0	23	...	...	...	...	...	...	...	2,242	...	...	...	...	{ 2 13
...	...	...	...	...	...	...	...	...	...	2,311	...	...	...	...	{ 2 16
...	
...	...	...	...	...	...	...	...	...	1,128	2,464	235	...	6 78	...	{ 2 14
...	...	...	...	...	...	...	...	...	...	2,699	...	...	...	...	{ 2 1
116	4 0	484	4	2 0	9	...	...	...	530	1,825	64	...	5 16	...	{ 2 1
...	4 0	464	...	...	10	...	...	...	...	1,708	...	...	...	...	{ 2 4
...	4 0	1,038	3	2 0	7	...	...	...	973	2,883	166	...	5 19	...	{ 2 1
...	4 0	1,428	...	...	7	...	...	...	...	2,140	...	...	...	...	{ 2 4
...	4 0	216	...	...	...	...	...	...	120	410	24	...	9 20	...	{ 2 7
...	4 0	216	...	...	...	...	...	...	...	444	...	...	...	...	{ 2 11
...	4 0	536	14	2 0	33	...	...	...	886	2,086	116	...	5 55	...	{ 2 1
...	4 0	536	...	...	35	...	...	...	...	2,304	...	...	...	...	{ 2 0
...	4 0	376	6	2 0	7	...	...	...	601	1,238	142	...	7 73	...	{ 2 1
...	4 0	376	...	...	8	...	...	...	...	1,981	...	...	...	...	{ 2 8
...	4 0	4	28	2 0	50	...	...	...	...	...	...	...	...	...	...
...	4 0	4	...	...	32	...	...	...	...	2,619	...	...	...	...	{ 2 10
...	4 0	4	...	...	32	...	...	...	...	2,202	...	...	...	...	{ 2 0
...	4 0	244	10	2 0	45	...	0 11	...	608	2,142	410	...	19 14	...	{ 2 1	
...	4 0	244	...	...	47	...	0 12	...	...	2,552	...	...	...	...	{ 2 11

114.

LIFT ADDED BY WAGON.			FAOW ADDED BY LIFT.			WALLE.			BARREZ.		
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.
35	3 13	38	..	..	..	..	..	..	..	..	..
..	3 10	38	..	..	..	..	..	..	..	..	..
58	3 13	164	..	..	..	..	..	..	..	..	..
..	3 10	166	..	..	..	..	..	..	..	..	..
67	3 13	267	..	..	..	..	..	..	..	..	..
..	3 10	253	..	..	..	..	..	..	..	..	..
44	3 13	121	..	..	..	..	..	..	6	1 13	5
..	3 10	115	..	..	..	..	..	..	..	0 8	3
16	3 13	64	..	..	..	..	..	..	..	..	..
..	3 10	53	..	..	..	..	..	..	..	..	..
103	3 13	326	..	..	..	6	3 6	14	..	..	..
..	3 10	304	..	..	..	..	3 6	18	..	..	..
45	3 13	161	..	..	..	..	..	..	..	..	..
..	3 10	144	..	..	..	..	..	..	..	..	..
..
..
1	3 8	3	..	..	..	..	..	..	..	..	..
..	3 10	3	..	..	..	..	..	..	..	..	..
10	3 8	25	..	..	..	..	..	..	..	..	..
..	3 10	25	..	..	..	..	..	..	..	..	..
4	3 8	10	..	..	..	..	..	..	..	..	..
..	3 10	11	..	..	..	..	..	..	..	..	..
4	3 8	20	..	..	..	..	..	..	..	..	..
..	3 10	21	..	..	..	..	..	..	..	..	..
15	3 8	43	..	..	..	..	..	..	..	..	..
..	3 10	45	..	..	..	..	..	..	..	..	..
..
..
130	3 8	325	..	..	..	..	..	..	..	..	..
..	3 10	321	..	..	..	..	..	..	..	..	..
40	3 8	100	..	..	..	1	3 6	3	..	1 13	3
..	3 10	105	..	..	..	..	3 6	3	..	0 8	1
14	3 8	42	..	..	..	..	..	..	3	1 13	5
..	3 10	45	..	..	..	..	..	..	..	0 8	3
..
..
1	3 4	2	..	..	..	..	..	..	4	1 13	7
..	3 10	3	..	..	..	..	..	..	..	0 8	2
3	3 4	3	..	..	..	..	..	..	..	..	..
..	3 10	3	..	..	..	..	..	..	..	..	..
..
..
2	3 4	4	..	..	..	..	..	..	..	..	..
..	3 10	5	..	..	..	..	..	..	..	..	..
3,361	3 13	9,183	689	..	..	60	3 6	141	19	1 11	35
2,503	3 10	6,507	..	3 13	2,303	..	3 6	150	..	0 8	12
..
..

LIVE.			HOM.			BOAT AIDED BY LIFE.			SAVING.		
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.
A.	Rs. a.	Rs.	A.	Rs. a.	Rs.	A.	Rs. a.	Rs.	A.	Rs. a.	Rs.
2	2 0	6	7	2 0	21	...	...	...	2	2 0	6
...	4 0	8	...	2 0	21	...	...	...	...	2 0	6
85	2 0	1,068	12	2 0	26	20	2 0	100	42	2 0	120
...	4 0	1,424	...	2 0	26	...	4 0	100	...	2 0	120
2	2 0	6	111	2 0	233	14	2 0	26	11	2 0	23
...	4 0	8	...	2 0	233	...	2 0	26	...	2 0	23
127	2 0	281	12	2 0	24	2	2 0	2	126	2 0	252
...	4 0	508	...	2 0	24	...	2 0	2	...	2 0	252
51	2 0	153	...	...	...	20	2 0	20	12	2 0	24
...	4 0	204	...	...	...	...	2 0	20	...	2 0	24
86	2 0	168	158	2 0	459	...	...	...	1,645	2 0	4,538
...	4 0	224	...	2 0	459	...	...	...	...	2 0	4,538
86	2 0	258	74	2 0	222	4	2 0	16	102	2 0	216
...	4 0	344	...	2 0	222	...	2 0	16	...	2 0	216
20	2 10	52	2	2 12	5	...	...	...	1	2 12	2
...	4 0	80	...	2 0	5	...	...	...	...	2 0	2
12	2 10	24	...	...	...	...	...	...	...	...	...
...	4 0	52	...	...	...	...	...	...	...	...	...
29	2 10	78	2	2 12	8	...	...	...	...	...	...
...	4 0	116	...	2 0	8	...	...	...	...	...	...
37	2 10	97	2	2 12	8	...	...	...	1	2 12	2
...	4 0	148	...	2 0	8	...	...	...	...	2 0	2
55	2 10	171	2	2 12	6	...	...	...	5	2 12	15
...	4 0	260	...	2 0	6	...	...	...	...	2 0	15
51	2 10	184	...	...	...	...	...	...	...	...	...
...	4 0	246	...	...	...	...	...	...	...	...	...
48	2 10	126	2	2 12	6	...	...	...	2	2 12	6
...	4 0	192	...	2 0	6	...	...	...	...	2 0	6
28	2 10	78	126	2 12	347	11	2 10	40	...	...	...
...	4 0	112	...	2 0	378	...	2 0	44	...	...	...
46	2 10	121	45	2 12	124	7	2 10	27	62	2 12	171
...	4 0	184	...	2 0	133	...	2 0	28	...	2 0	186
82	2 10	64	20	2 12	247	1	2 10	4	62	2 12	172
...	4 0	129	...	2 0	270	...	2 0	4	...	2 0	186
127	2 4	288	...	...	...	...	...	...	12	2 12	23
...	4 0	506	...	...	...	...	...	...	...	2 0	27
23	2 4	52	4	2 12	11	...	...	...	1	2 12	2
...	4 0	82	...	2 0	12	...	...	...	...	2 0	2
65	2 4	145	1	2 12	5	...	...	...	12	2 12	22
...	4 0	250	...	2 0	5	...	...	...	...	2 0	26
88	2 4	148	...	...	...	...	...	...	2	2 12	14
...	4 0	264	...	...	...	...	...	...	...	2 0	15
50	2 4	112	...	...	...	...	...	...	1	2 12	2
...	4 0	200	...	...	...	...	...	...	...	2 0	2
A. 334	2 14	12,615	2,512	2 0	10,472	229	2 14	2,788	2,061	2 0	10,942
...	4 0	17,338	...	2 0	10,548	...	4 0	2,793	...	2 0	10,933
...	...	...	...	...	...	...	...	...	2,008	0 4	874
...	...	...	...	...	...	...	...	...	528	2 0	1,212
...	...	...	...	...	...	...	...	...	2,026	0 8	1,044

RI.									TOTAL.		INCREASE OR DECREASE.		INCREASE OR DECREASE PER CEN.		Average assessment.
SARLARI LINED BY LINE.			WELLS.			KOCHAR.			Area.	Assessment.	Increase.	Decrease.	Increase.	Decrease.	
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.							
A.	Rs. a.	Rs.	A.	Rs. a.	Rs.	A.	Rs. a.	Rs.	A.	Rs.					Rs. a.
7	4 0	25	0	2 0	25	...	...	...	322	334			10-79	...	{ 2 14 3 3
...	4 0	25	...	2 0	25	...	...	...	...	324			...	...	{ 3 3 3 11
169	4 0	636	...	...	...	...	...	...	608	1,351	403		15-79	...	{ 3 3 3 11
...	4 0	636	...	...	...	...	...	...	...	2,954			...	...	{ 3 3 3 11
...	...	...	3	2 0	7	...	...	...	427	1,333	47		9-61	...	{ 2 14 3 0
...	...	...	3	2 0	7	...	...	...	...	1,350			...	...	{ 3 0 3 0
43	4 0	168	3	2 0	7	...	0 11	...	602	1,634	159		9-30	...	{ 2 14 3 2
...	4 0	168	3	2 0	7	...	0 12	...	...	1,633			...	...	{ 3 2 3 2
202	4 0	408	...	...	...	...	...	...	270	603	61		9-78	...	{ 3 2 3 2
...	4 0	403	...	...	...	...	...	...	...	953			...	...	{ 3 2 3 2
125	4 0	500	34	2 0	81	...	...	...	2,897	8,342	161		1-38	...	{ 2 14 2 15
...	4 0	500	...	2 0	85	...	...	...	...	8,353			...	...	{ 2 14 2 15
24	4 0	96	3	2 0	7	...	...	...	559	1,609	199		8-07	...	{ 2 14 3 2
...	4 0	96	...	2 0	8	...	...	...	...	1,739			...	...	{ 3 2 3 2
...	...	...	63	2 2	113	...	...	...	...	1,654	560		18-38	...	{ 2 2 3 2
...	...	...	...	2 0	122	...	...	...	...	2,164			...	...	{ 3 2 3 2
...	...	...	62	2 2	110	...	...	...	...	1,442	268		18-44	...	{ 2 2 3 2
...	...	...	...	2 0	130	...	...	...	...	1,708			...	...	{ 2 2 3 2
...	...	...	108	2 2	217	...	4 0 10	...	...	1,819	280		10-43	...	{ 2 2 3 2
...	...	...	...	2 0	245	...	0 12	...	...	2,119			...	...	{ 2 2 3 2
...	...	...	64	2 2	115	...	...	...	...	1,285	259		10-53	...	{ 2 2 3 2
...	...	...	...	2 0	135	...	...	...	...	1,523			...	...	{ 2 10 3 2
...	...	...	95	2 2	203	...	...	...	...	1,777	324		10-79	...	{ 2 10 3 11
...	...	...	...	2 0	237	...	...	...	...	2,121			...	...	{ 2 11 3 11
...	...	...	60	2 2	106	...	...	...	...	1,544	301		19-49	...	{ 2 2 3 10
...	...	...	...	2 0	125	...	...	...	...	1,815			...	...	{ 3 2 3 10
...	...	...	27	2 2	57	...	...	...	...	999	318		21-23	...	{ 2 3 3 11
...	...	...	...	2 0	68	...	...	...	...	1,317			...	...	{ 2 11 3 11
...	...	...	15	2 2	32	...	...	...	...	2,340	399		10-19	...	{ 2 7 3 13
...	...	...	...	2 0	37	...	...	...	...	2,726			...	...	{ 3 7 3 13
...	...	...	71	2 2	151	...	...	...	...	1,685	311		12-76	...	{ 2 5 3 11
...	...	...	...	2 0	178	...	...	...	...	2,163			...	...	{ 2 5 3 11
7	2 10	25	117	2 2	248	...	...	...	...	2,783	321		14-69	...	{ 2 5 3 11
...	4 0	25	...	2 0	268	...	...	...	...	2,653			...	...	{ 2 5 3 11
...	...	...	5	1 14	9	...	...	...	...	600	276		47	...	{ 2 1 3 0
...	...	...	...	2 0	12	...	...	...	...	1,178			...	...	{ 3 0 3 0
...	...	...	58	1 14	100	...	...	...	...	837	297		51-36	...	{ 1 15 2 9
...	...	...	...	2 0	132	...	...	...	...	1,104			...	...	{ 2 9 3 9
3	3 6	3	69	1 14	130	...	...	...	...	1,414	501		35-45	...	{ 1 15 2 10
...	4 0	3	...	2 0	173	...	...	...	...	1,915			...	...	{ 1 15 2 10
3	3 6	3	19	1 14	30	...	...	...	...	374	180		49-73	...	{ 2 1 3 1
...	4 0	3	...	2 0	40	...	...	...	...	560			...	...	{ 3 1 3 1
...	...	...	6	1 14	7	...	...	...	...	351	159		45-29	...	{ 2 0 3 15
...	...	...	...	2 0	10	...	...	...	...	510			...	...	{ 2 0 3 15
1,574	4 0	6,291	1,617	2 4	3,608	...	17 0 11	12	46,615	1,24,710	12,618		10-11	...	{ 2 11 3 15
...	4 0	6,296	...	2 8	4,042	...	...	...	...	1,37,328			...	...	{ 3 11 3 15
...	...	...	...	...	...	...	...	...	...	2,636	1,580		...	...	{ ... ...
...	...	...	...	...	...	...	...	...	...	674			...	...	{ ... ...
...	...	...	...	...	...	...	...	...	...	2,260			...	...	{ ... ...
...	...	...	...	...	...	...	...	...	...	1,25,384	14,304		11-22	...	{
...	...	...	...	...	...	...	...	...	...	1,39,568			...	...	{ ... ...

Note.—Gardens have been calculated at the kharif lift rate as most of the garden cultivation in this taluka is on wells in rabi.

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX XV.

List of prices current in the Dadu taluka.

Year.	SUARL			RICE (CHAVVTAN).			WHEAT.		Barley.	Kung.	Matar.	Chana.	Marih.	Jambho.	Tir.	Ahar.	INDIGO.		COTTON.		TOBACCO.	
	White.	Red.	Bajri.	Sugarcst 1st sort.	Sethria 2nd sort.	Red (Lact) 3rd sort.	1st sort.	2nd sort.									1st sort.	2nd sort.	Cleaned.	Uncleaned.	White.	Black.
	Per maund.	Per maund.	Per maund.	Per maund.	Per maund.	Per maund.	Per maund.	Per maund.									Per maund.	Per maund.	Per maund.	Per maund.	Per maund.	Per maund.
1899-1900	Rs. 8	Rs. 4	Rs. 14	Rs. 0	Rs. 14	Rs. 2	Rs. 14	Rs. 12	Rs. 14	Rs. 2	Rs. 2	Rs. 3	Rs. 7	Rs. 2	Rs. 4	Rs. 6	Rs. 16	Rs. 4	Rs. 5	Rs. 10	Rs. 0	Rs. 12
1900-1901	Rs. 7	Rs. 3	Rs. 13	Rs. 15	Rs. 11	Rs. 13	Rs. 12	Rs. 7	Rs. 4	Rs. 11	Rs. 15	Rs. 3	Rs. 1	Rs. 12	Rs. 7	Rs. 15	Rs. 16	Rs. 15	Rs. 4	Rs. 4	Rs. 9	Rs. 11
1901-1902	Rs. 1	Rs. 14	Rs. 6	Rs. 10	Rs. 0	Rs. 0	Rs. 15	Rs. 14	Rs. 1	Rs. 12	Rs. 13	Rs. 13	Rs. 4	Rs. 12	Rs. 9	Rs. 12	Rs. 17	Rs. 11	Rs. 11	Rs. 6	Rs. 6	Rs. 10
1902-1903	Rs. 0	Rs. 13	Rs. 5	Rs. 15	Rs. 5	Rs. 5	Rs. 13	Rs. 11	Rs. 3	Rs. 14	Rs. 14	Rs. 11	Rs. 0	Rs. 12	Rs. 7	Rs. 12	Rs. 17	Rs. 10	Rs. 6	Rs. 6	Rs. 6	Rs. 12
1903-1904	Rs. 11	Rs. 12	Rs. 0	Rs. 2	Rs. 1	Rs. 2	Rs. 14	Rs. 12	Rs. 12	Rs. 14	Rs. 11	Rs. 0	Rs. 0	Rs. 11	Rs. 9	Rs. 11	Rs. 21	Rs. 2	Rs. 9	Rs. 8	Rs. 11	Rs. 11
1904-1905	Rs. 0	Rs. 13	Rs. 4	Rs. 14	Rs. 1	Rs. 13	Rs. 0	Rs. 12	Rs. 15	Rs. 3	Rs. 12	Rs. 10	Rs. 2	Rs. 13	Rs. 11	Rs. 0	Rs. 17	Rs. 12	Rs. 15	Rs. 15	Rs. 5	Rs. 10
1905-1906	Rs. 1	Rs. 15	Rs. 5	Rs. 11	Rs. 3	Rs. 2	Rs. 1	Rs. 15	Rs. 3	Rs. 4	Rs. 5	Rs. 11	Rs. 14	Rs. 10	Rs. 9	Rs. 9	Rs. 19	Rs. 15	Rs. 11	Rs. 4	Rs. 7	Rs. 10
1906-1907	Rs. 12	Rs. 10	Rs. 1	Rs. 8	Rs. 15	Rs. 9	Rs. 0	Rs. 15	Rs. 4	Rs. 4	Rs. 5	Rs. 12	Rs. 1	Rs. 4	Rs. 7	Rs. 4	Rs. 19	Rs. 8	Rs. 11	Rs. 13	Rs. 11	Rs. 13
1907-1908	Rs. 15	Rs. 12	Rs. 8	Rs. 7	Rs. 8	Rs. 5	Rs. 2	Rs. 1	Rs. 14	Rs. 4	Rs. 9	Rs. 11	Rs. 13	Rs. 4	Rs. 6	Rs. 8	Rs. 20	Rs. 2	Rs. 14	Rs. 2	Rs. 2	Rs. 12

APPENDIX XVI.

STATEMENT showing the general financial results of the proposed settlement of the Dadu taluka based on the average of the past 5 years from 1903-1904 to 1907-1908.

	Present settlement.	Proposed settlement.	Increase.	Increase per cent.
	Rs.	Rs.	Rs.	
Surveyed lands	1,25,384	1,39,588	14,204	11.32
Unsurveyed lands	6,939	8,345	1,406	20.26
TOTAL	1,32,323	1,47,933	15,610	11.79

S. H. COVERTON,
Settlement Officer, Sehwan.

APPENDIX A.

Special rules for the revised irrigational settlement of Sehwan, Johi and Dadu talukas.

Rule 1.—These rules shall apply to Sehwan, Dadu and Johi talukas only.

The ordinary rules for remissions and for the administration of irrigational settlements shall remain in force except in so far as they may be modified by any of the rules here following.

Application :
Former rules how far maintained.

Rule 2.—Rule No. 4 of the fallow rules (Special Circular No. 20, page 152) shall not apply to barani lands which obtain no black water or hill-stream irrigation and have no registered water-supply from a canal or the river nor to the lands on the Manchhur referred to in Rule 4 following.

Fallows.

Rule 3.—If lands to which a registered source of water-supply from a canal or the river has been assigned are cultivated as barani and afterwards remain uncultivated for 5 years, then the fallow assessment to which they become liable in the 5th year shall not be the barani assessment but that chargeable on the description of irrigated cultivation last carried on in the field.

Rule 4.—The special Manchhur remission rules printed on page 165 of the Commissioner's Special Circulars (No. 2) will continue in force for all lands whose registered source of water-supply is from the Manchhur. Remissions under these rules will also be given in the same way for portions of survey numbers remaining uncultivated owing to flooding by the Manchhur even though their registered source of irrigation is not the Manchhur.

Remissions.

Rule 5.—In barani lands which have received no black water or hill-stream irrigation the existing practice will be continued of remitting the assessment on uncultivated portions of survey numbers provided that the uncultivated area is at least $\frac{1}{2}$ of the area of the survey number.

Rule 6.—Remissions on barani cultivation in all lands assessed at one rupee per acre and under shall (on account of the low rates of assessment) not ordinarily be granted. But in exceptional cases where the general nature of the calamity seems to demand a large measure of remission or postponement, the Mukhtyarkar shall prepare a statement showing in annas the general conditions of each deh, and this statement shall be tested by the Assistant or Deputy Collector and its results, with the Collector's recommendation, reported to the Commissioner.

All lands assessed at over 1 rupee per acre shall be entitled to the benefit of the remission rules.

Rule 7.—(In modification of rules 4 and 6 on pages 572—574 of Special Circulars, No. 59).

Except in the purely barani lands referred to in Rule 8 and in the kachas referred to in Rule 10, if a number which has been cultivated in kharif is cultivated again in the succeeding rabi then it will be charged according to the rates fixed in the settlement for dubari cultivation. Gardens will form no exception to this rule.

Dubari.

If the second crop is watered with well water only (but the first crop received Indus water), then the dubari crop will be charged as unwatered (i.e., at 8 annas). But if both first and second crops received well water only no charge will be made for dubari crop.

Rule 8.—In barani lands which have received no black water or hill-stream irrigation, no dubari assessment will be taken if jambho, sariha or other crops usually grown in rabi be sown in a field which is cultivated in kharif also, but the whole will be treated as a single crop. But if a number sown as barani is accidentally flooded in kharif with Indus water and is subsequently cultivated as sailabi in rabi then the barani rate will be charged in kharif and the full sailabi rate in rabi. If a field is cultivated in kharif with barani and in rabi with hill-stream then in all dehs the dubari crop will be charged the difference between the kharif assessment and the rabi + dubari assessment.

Rule 9.—In the kachho and the barani lands of Schwan taluka, arhari* crops will be free from assessment provided they merely spring up from the stubble of kharif crops previously reaped, or are grown in a number already cultivated in the preceding kharif or adhawa.† Adhawa crops (i. e., those succeeding rabi and preceding kharif) will be liable to assessment, but if a number be cultivated both in adhawa and also in the succeeding kharif it will pay only a single assessment for both.

* A season intermediate between kharif and rabi.

† Late spring crop.

Rule 10.—In irrigated lands if a crop ordinarily grown in rabi is sown at the same time with and mixed with a kharif crop, no dubari will be taken but the whole will be treated as a single kharif crop.

Rule 11.—The special unploughed rate for the Manchhur will apply to all lands which have actually been watered from the Manchhur and not merely to those whose registered source of irrigation is the Manchhur.

Assessment.

Rule 12.—A clearance allowance of 3 annas per acre will continue to be given on lands watered by the Raj wah and other hill flood canals in group II of Johi taluka. But no allowance will be given in group III on account of the lowness of the assessment.

Rule 13.—In the amended rule 6 printed on page 574, Special Circulars, the words "Gardens will however, etc.," down to "natural source" shall be omitted, and the following substituted in their place, "gardens will be assessed according to the method of irrigation adopted."

Rule 14.—The following definitions shall be in force in these talukas and the assessment charged in accordance with them;—

(i) *Rabi bosi* refers to land which receives an artificial supply of water for rabi cultivation whether by wheel or mok‡ at any time before the sowing of the seed and which receives no water after the sowing.

‡ Flow.

(ii) *Rabi sailabi* refers to land which has received natural moisture only whether by flooding or by percolation.

(iii) *Rabi lift* refers to land which receives water for rabi cultivation by lift after the seed has been sown, and which had not previously been flooded by natural means or by an artificial mok.§

§ Flow channel.

(iv) *Rabi flow* refers to lands which receives an artificial supply of water by a mok for rabi cultivation after the seed has been sown.

(v) *Sailabi madad charkhi* refers to land which before sowing received a supply of water by natural flooding and after sowing received an artificial lift supply.

(vi) *Bosi madad charkhi* is the same but with the words "artificial flooding from a mok" substituted for "natural flooding."

Lands watered before sowing by wheel or flow, from a canal, etc., which after sowing receive well water only will be assessed as bosi.

Adhawa sailabi will be assessed as rabi sailabi in surveyed lands and as "rabi ploughed" in unsurveyed kachas.

Rule 15.—No rebate allowance will be given on unwatered sailabi cultivation.

Remarks.

Rules 2, 4, 5 and 10 merely continue the existing practice of the division, but rule 5 extends to the whole division a concession that for some obscure reason has hitherto been confined to Johi taluka. Rules 4 and 11 make provision for the variations of the Manchhur and the fact that lands may be flooded by it although according to the Settlement Register they have different source of water-supply. When this happens their position is exactly the same as that of other Manchhur lands and it would be unfair to treat them differently. The necessity for rule 6 is explained in the Johi report. The rule is a modification of the rule in force in the Desert taluka of Thar and Parkar. Rules 7 and 13 modify the rules in the Special Circulars to suit the proposed rates for dubari. Clearly if gardens are to be assessed according to the method of irrigation, there is no reason to continue their exemption from dubari. I see no reason why a number watered in kharif with river water should not pay the unwatered dubari rate even if the dubari crop is on a well. I think the dubari crop must gain some advantage from having had a watering in kharif from a canal. Such dubari crops are usually garden crops and as such even under the old

settlement they had to pay the difference between the kharif rate and the garden rate. As this special rate has now been abolished, these crops can well afford to pay the 8 annas dubari rate. But when both crops are grown on well water only there seems no ground for making any alteration in the present custom of taking no assessment for the dubari; especially as this custom is in accordance with the orders of Government.

Rule 8.—The necessity of this rule is shown in paragraph 9 (i) of the Johi report. At present if the jambho, etc., is sown at the same time with the late juar, it is usually entered as kharif, though not invariably. If it is sown among the standing crop before harvest it is usually entered as dubari. Obviously it is almost impossible for the tapadar to know if the seed was sown along with the juar or somewhat later and he has to depend on the statements of haris. In any case this jambho crop is usually poor and often consists only of a few scattered plants.

The effect of rules 7 and 8 in the 2nd group of Johi has been explained in the report. It will be the same in all other hill-stream dehs; *i. e.*, if barani is followed by hill-stream dubari the total assessment will always equal the hill-stream rabi + 8 annas. And as the kharif barani crop must always be of much less importance than the hill-stream dubari this seems to be fair enough. It would obviously be absurd to charge only the kharif rate + a dubari rate, for the total would then be less than the rabi hill-stream alone.

Rule 9.—That arhari crops should be free of assessment is in accordance with the Commissioner's standing orders. The proviso appears necessary to avoid the necessity of a definition of arhari as distinguished from the late kharif crops which would be difficult. The rule will prevent a khatedar from being charged merely because last year's stubble has sprouted and it also maintains the principle that dubari should in no case be charged in barani lands.

So too to charge dubari on the kharif because of a previous adhawa would be unfair. Except in very rare cases the adhawa crop is grown and cut for fodder only, but it is always allowed to spring up again in the following kharif as a grain crop if it receives enough water. If it does not get water and does not develop grain in kharif that is no reason for not charging the assessment once. The effect is precisely the same as if the kharif crop had been sown and failed and remissions in such cases have been abolished in Rule 5 except in the 2nd group of Johi. In that group the khatedar can petition for remission as usual on the adhawa.

The state of affairs referred to in rule 10 is confined to riverside lands, generally to kachas or kacha-paka lands.

The necessity for rule 3 is explained in the Dadu report.

Rule 14.—These definitions will relieve from the high rabi charkhi rates all those crops which get no water after sowing. These are as a rule oilseeds. Their condition and appearance is precisely similar to that of flow hosi crops and I see no reason why they should be rated higher than flow hosi or why the rates for real charkhi should be lowered on their account. The question whether a crop has received water after sowing or not seems to me more important than the question whether it received its water in September or November. The definitions given are almost the same as those given by Mr. Wali Muhammad in the Kandhkot report, which were apparently accepted as correct. I have only omitted the words "once only" from definition No. 1. Mr. Wali Muhammad had made no provision for a crop receiving two waterings before sowing and none afterwards. It may be added that while it can be seen at a glance whether a crop has been watered after sowing or not, it is impossible to discover whether the water was given in September or November.

Melons are cultivated as sailabi in kacha and kacha-paka lands near the river in adhawa, *i. e.*, they are sown in May and the produce gathered about the beginning of July. The rabi sailabi rate seems the most appropriate for the cultivation.

Rule 15.—In this division, if a number has as its registered source of water-supply a canal on which rebate is given, it appears to have been customary in some cases at least to give it the rebate even when cultivated as sailabi. But the sailabi watering is purely natural and even accidental and requires no clearance of karias to make it possible. In fact as a rule it does not even come through karias and I see no reason why the rebate should be given.

S. H. COVERNTON,
Settlement Officer, Schwan.

No. 1698 of 1909.

*Executive Engineer's office,
Camp Puranodero, 6th April 1909.*

From

B. KRISHNARAO, Esquire,
Executive Engineer, Western Nara,

To

THE SETTLEMENT OFFICER, SEHWAN DIVISION.

Sir,

With reference to your No. 20, dated the 3rd November 1908, calling for a report on the irrigation of the Sehwan division, I have the honour to state as follows:—

2. From the attached summary account of the working of main and branch canals during the period of current settlement it will be observed that the river changed its course very often, although during the last 5 years it has been fairly steady and favourable as far as Western Nara, Pritchard Canal and their branches are concerned. The smaller canals, *viz.*, Marviwah, Upper Nurwah, Kolab Sial, Phitto and Chario Wahur which take off direct from the river, suffer very much due to the vagaries of the river and their satisfactory working cannot invariably be relied upon. All these canals appear to have worked fairly satisfactorily, specially during the latter part of the period under report even in years of low inundation; the probable reason seems to be that owing to a more favourable set of the river higher F. S. levels are obtainable with respect to Bukkur readings than was formerly the case, as shown by the statement of comparative Bukkur and Baksho Jamali (a gauge on Western Nara, mile 102 in deh Shahmorio) readings, attached hereto.

3. A separate list of the improvements carried out during the period under consideration is attached and the effects of these improvements are described below:—

Western Nara.—Construction of New Akil mouth and its widening to 80 feet in 1903 and 1904 respectively could not materially improve the supply in the canal portions comprised in Sehwan division, but its further widening to 125 feet in 1905 has considerably helped to improve the supply in the portion referred to above by giving about 200 cusecs increased discharge.

Before however the construction of Pritchard Canal, the Western Nara in the portion under consideration was practically a failure and after water was admitted into Pritchard Canal in 1890 the supply in Western Nara became favourable and large areas of waste land began to be cultivated and flow cultivation considerably increased and the height of lift irrigation was materially reduced.

These improvements have materially improved the supply of all deha within the irrigation boundary of Western Nara and its branches shown on the tracings attached; so much so that the W. L. obtainable is 4 feet higher than in former years with comparatively increased discharges.

Dingriwah.—New cut to Dingriwah was dug in 1902 and had the effect of giving adequate supply to the lands dependent on the canal.

Lohriwah.—This canal was originally a zamindari karia which was taken over in 1892 and improved at a cost of Rs. 9,088. The effect of this was to give a better assured supply to the lands within its irrigation boundary as per tracing attached. Large areas on Lohri Dhoro have moreover been coming under cultivation.

Pritchard Canal.—Was newly constructed in 1890 mainly as a feeder to Western Nara. New feeder to the dhand feeding the Pritchard Canal excavated in 1903 helped to give a better supply, but has during the past 3 years failed to fulfil its purpose owing to changes in the course of the river.

In the year 1903 the widening of tail portion of Pritchard Canal was undertaken with a view to reduce the velocity in Pritchard Canal and thereby prevent the deposit of silt in the Western Nara just above where Pritchard Canal tailed into it. This improvement had no direct effect however as regards irrigation advantages in the Sehwan-Dadu sub-division.

Juberji branch ex Pritchard Canal.—Was newly excavated in 1901. It is a branch of Pritchard Canal and was intended to serve as a feeder and to improve the supply in the tail portion of Kudanwah in deh Juberji of Dadu taluka and has considerably benefited the cultivation in the deh.

Marviwah—Old mouth of this canal having proved a failure a new mouth was given to it in 1903-04 which had the effect of removing causes of complaint as regards deficient supply. Of late years the new mouth has however been adversely affected due to the changes in the course of the river.

Regulator at its head was constructed in 1894. This helped materially to regulate the supply in the canal according to requirements and to prevent its lands from being damaged by river floods flowing unchecked into the Marviwah.

Upper Nurwah.—Upper Nurwah was widened in 1891 to improve the supply and the canal was extended in 1892 and made to tail into Ghariwah. These improvements had the effect of augmenting the supply in this canal as well as in Ghari and Wadhu canals and helped to slightly raise the water level in them. There has been an increase in the irrigated area of Upper Nurwah only.

Conversion of the old road bridge near Dadu on Upper Nurwah into a regulator in 1892 had the effect of raising the water level in dehs Kasachandia and Markhpur, whereby considerable areas are saved even at times of deficiency in the canal and are usually brought under "flow."

Extension of the mouth in 1904-05 and cutting a new mouth in 1907-1908 were intended only to restore the canal to its working order as it had been adversely affected by changes in the course of the river.

4. Water is as a rule fairly evenly distributed over the lands within the irrigation boundaries of each of the three talukas under report. In years of low inundation the distribution is regulated as far as this is practicable. The lands on right bank of Western Nara and more particularly Lohriwah in Johi taluka are liable to be swept over by hill torrents. The area within the boundary of Manchhur Lake is as a rule submerged during the abkalani and is therefore mainly brought under rabi cultivation. The area under this head has nearly doubled and the kharif area has nearly quadrupled during the period under consideration, while about 2,000 acres of land have come under rice cultivation.

Owing to the higher water level now obtainable as indicated in paragraph 2 above the Western Nara, the Pritchard Canal, and their branches have been greatly benefited. The area under flow has considerably increased and the height of lift correspondingly reduced. Moreover large areas formerly under lift have been brought under rice cultivation.

Similarly the lands dependent on upper Nurwah are benefited though to a smaller extent. With a higher water level and regulation at the tail regulator there has been a general increase of cultivation.

Marviwah.—Shows a general increase of flow and rice irrigation while the area under lift has remained fairly steady. On this canal the advantage of higher water level more than compensates for the disadvantage arising from an unfavourable mouth.

Kolab Sial and its branches Ghariwah and Wadhawah.—Appeared to have worked fairly satisfactorily. The area under kharif on Kolab Sial has increased somewhat during recent years, whereas there is practically little flow irrigation.

Phitta Canal.—On this canal the kharif area has remained steady while there is a slight increase in rice area.

During the year 1907-08 however the low inundation and unfavourable set of the river affected these minor canals taking off direct from the river, and the areas under cultivation show a considerable falling off.

5. A statement showing the variation in the areas under different kinds of cultivation is attached. The statement is based on figures obtained from the records of the taluka offices. The figures cannot be taken to be absolutely correct as they had to be extracted by darogas of this department. They afford however a general indication of the growth of cultivation on the different canals.

6. Statements of the average annual cost of canal clearance and maintenance of bunds and extensions and improvements are attached. A statement of wells in each taluka required by the Special Circular also accompanies.

Accompaniments.

1. Statement of gauge readings.
2. List showing improvements.
3. Statement showing length of canals and expenditure incurred.
4. Statement of wells.
5. Statement of each kind of irrigation.
6. Summary of working of canals.
7. 3 plans.

I have the honour to be,
Sir,
Your most obedient servant.

B. KRISHNARAO,
Executive Engineer, Western Nars.

Summary of the working of canals in Sehwan division, compiled from the records of the Executive Engineer, Western Nara.

WESTERN NARA.

1890.—The canal did not on the whole work satisfactorily although water level was higher by about $1\frac{1}{2}$ ' due to Pritchard Canal having been newly excavated for the purpose owing to the late rise and early fall of the river and unfavourableness of the set of the river at its mouth.

1891.—Although the inundation was unusually low and short the canal worked fairly well. This was due to the favourable change of the river at the mouth of the Akil dhand feeding it. The high flow lands however suffered on account of lower level of water in the canal.

1892.—The canal worked satisfactorily, due to flood water through Pritchard Canal entering it, and high lands on its banks were cultivated for the first time for some years past but heavy hill floods damaged the crops.

1893.—The canal was not bunded at the mouth and continued to flow till the middle of November. In spite of the river having fallen in July and August which had a detrimental effect on the rice crop in the upper reaches of the canal the water-supply in the canal below Kakar was better than in any year throughout the season due to flood water brought down by Pritchard Canal.

1894.—There was an abundant supply in the canal throughout the season. The Lashari flood entering into the canal broke out on either side cutting large gaps in the banks and thus swamped the cultivation excepting some high lands and those protected by bunds.

1895.—The supply was deficient due to low and fluctuating inundation although the river was favourable.

1896.—The canal worked pretty well although the inundation was comparatively low and only of an average duration. The river having gone down much earlier than usual want of water was felt at the close of the season. Some high flow lands suffered from draught and some near the tail of the canal were submerged by the overflow of water from Manchhur Lake.

1897.—There was an abundant supply of water throughout the inundation. The hill torrents overflowed the Manchhur and submerged all the land on both banks of the canal as far as the mouth of Muhammad Ali wah.

1898.—The inundation being low and the river unfavourable the canal did not work satisfactorily although its supply was partially augmented by that of Pritchard Canal.

1899.—In spite of the low inundation the canal worked fairly well owing to favourable conditions at mouth. The fall of the river towards the end of the season however had a disastrous effect on the crops which were partially saved by allowing the canal to be bunded up at about 3 miles above Daimi Miani and also at Aroni.

1900.—The inundation was good but river unfavourable, the canal however worked satisfactorily throughout the season. This was mainly due to Lashari floods entering through Pritchard Canal.

1901.—The supply level in the Nara was lower than that of the previous year. In spite of the fluctuating nature of the inundation the canal worked fairly well. This was mainly due to Nangeshah floods finding their way into it through Pritchard Canal.

1902.—The working of the canal was extremely unsatisfactory owing to the double misfortune of a low inundation and the unfavourable set of the river which caused heavy silt deposits at its mouth. Crops were however saved to a certain extent by bunding up the canal at Aroni.

1903.—The inundation was good and the working of the canal this year can on the whole be said to have been very satisfactory. The supplementary new mouth—40 feet wide from the Akil dhand—came into operation during the season and materially augmented the supply.

1904.—The supplementary mouth was widened to 80 feet and towards the end of July the old mouth was abandoned. The canal worked fairly well in spite of low inundation as it was materially helped by Pritchard Canal. The tail portion however suffered a little.

1905.—The new Akil mouth was further widened to 125 feet and was opened on the 4th June. The canal owing to the improvements effected and the excellent inundation worked exceedingly well.

1906.—The canal worked remarkably well throughout the season, the river being favourable.

1907.—In spite of low level of water in river the canal worked satisfactorily throughout the season as the river was favourable.

1908.—The canal worked remarkably well throughout the season, the river being favourable.

LOHRIWAH.

1893.—Water sufficient.

1894.—The head regulator remained partially closed. The supply let down into the canal was quite sufficient to meet the requirements.

1895.—The lands on the canal suffered to a little extent owing to the low level of the river.

1896.—Breaches were caused in the first 3 miles of the canal by the hill torrents from Nai Gaj during the months of June, July and August, but the breaches on both the banks were promptly closed to prevent water from going to waste and only 5 openings on the right bank left for the passage of hill flood water into the canal. This increased the cultivation but the fall of the water in September affected the crops to a certain extent.

1897.—Water supply abundant with the exception of the latter part of the season when the cultivators saved the crops by erecting a second set of wheels. Hill torrents entered into the canal from Nai Gaj on the 19th August but the volume of water was not great.

1898.—The canal on the whole worked satisfactorily. Hill floods entered into the canal through the karias at mile 3 right bank on 23th May.

1899.—Water supply good with the exception of the latter part of the season when special measures such as "chabbing" were resorted to for saving crops from withering.

1900.—Water supply sufficient throughout the season. The hill floods came down this year as well and the head regulator remained closed until they subsided.

1901.—Water supply sufficient with the exception of the latter part of the season. Hill floods came this year also.

1902.—The hill floods from Gaj Nai supplemented the water supply in the canal which thus worked satisfactorily.

1903.—Supply quite sufficient throughout the season.

1904.—Water supply good up to the end of August, after which special measures had to be resorted to which saved the cultivation to a great extent.

1905.—The canal worked very well.

1906.— Do. do.

1907.—Worked satisfactorily. Hill torrents did much damage and cut the embankments on either side.

1908.—Worked satisfactorily. Hill torrents breached the canal in several places but no damage was done to crops.

KUDANWAH.

1890.—Water supply poor throughout the season.

1891.—Owing to low inundation the canal did not work well. The supply in the tail was supplemented from the Pritchard Canal which not only increased the cultivation but helped the crops greatly.

1892.—The supply was quite sufficient throughout the season.

1893.—Water supply was ample. River floods submerged almost all the land except high-lying lands on its banks.

1894.—Water supply was ample. Its lower part was everywhere out up by the crossing of floods.

1895.—As the zamindars expressed not to cultivate land in its first 6 miles the new mouth was closed and the old cleared and opened to reduce the discharge entering the canal to lessen the danger to embankments. Subsequently new mouth was opened but the river fell too low to be of any great use. The tail supply was supplemented by a cut from the Pritchard Canal.

1896.—Water supply deficient. The tail supply was supplemented from the Pritchard Canal.

1897.—Received ample supply of water.

1898.—The canal suffered owing to low inundation. The tail supply was supplemented from the Pritchard Canal and Khudawah also rendered material help to its cultivation from mile 11 to 15.

1899.— Do. do. do.

1900.—The water supply in the canal was not up to the requirements and this rendered it necessary to supplement the supply in its lower reaches from Pritchard Canal and Khudawah.

1901.—Owing to unsatisfactory working of the tail of this canal in Dadu taluka a new cut was made from Pritchard Canal to feed it, and the whole including its lower portion was called Juberji branch which worked satisfactorily.

JUBERJI BRANCH.

1902.—It did not work satisfactorily owing to low inundation.

1903.—Received an abundant supply of water throughout the season.

1904.—Up to 20th July water was sufficient for lift. Owing to chabbing the tail of the canal there was abundant supply from end of July to end of August and consequently all lands got flow supply. In September owing to fall in river the supply was deficient and crops would have suffered but for the closing of the stop gate regulator on Pritchard Canal.

1905.—Worked satisfactorily.

1906.—It worked very satisfactorily.

1907.—It worked well.

1908.—Worked satisfactorily and no deficiency was felt.

KAROWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.—Water supply good throughout the season.

1893.—Water supply abundant.

1894.—Worked fairly well.

1895.—Worked fairly well.

1896.—Worked well.

1897.—Water-supply ample throughout the season.

1898.—The canal worked fairly well and there was sufficient water for the cultivation.

1899.—The canal suffered owing to low level of water in Nara in the end of August.

1900.—There was sufficient supply of water in the canal throughout the season. Crops suffered in places owing to giving water beyond requirements.

1901.—Water supply sufficient for lift irrigation.

1902.—After ceasing to flow two or three times it ceased altogether on 25th September. Crops were greatly helped both by backwater from Ghari and regulation of the Sonmiani sluice.

1903.—The canal flowed uninterruptedly throughout the season and water supply was sufficient for all land dependent on it which is lift.

1904.—There was a good supply in the canal up to 3rd week of August, when some deficiency was felt owing to silting at the head. This was cleared and a better supply thus admitted into the canal.

1905.—Water supply ample.

1906.— Do. do.

1907.—The supply was fair throughout the season.

1908.—The supply in the canal was good up to the end of September.

LOWER NURWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.—Water supply fairly good throughout the season.

1893.—Water supply abundant.

1894.—Worked satisfactorily.

1895.—Worked well. It materially assisted the Phito when river fell.

1896.—Worked well.

1897.—Water-supply sufficient except at the latter part of the season and the closing of Sonmiani sluice assisted by rains saved the crops from withering.

1898.—Received a fair supply. Artificial measures had had to be resorted to for saving flow cultivation.

1899.—There was a fair supply of water in the canal. Crops at tail only suffered a little.

1900.—There was sufficient supply of water throughout the season. Crops suffered in places owing to giving water beyond requirements.

1901.—Water supply sufficient for lift irrigation.

1902.—It did not work well. Crops helped by floods entered the Nara through Lohriwah and regulation of the Sonmiani sluice over Nara.

1903.—The supply in the canal was good throughout the season.

1904.—The supply in the canal was good up to 3rd week of August but poor afterwards up to the middle of September. Special measures had to be resorted to for saving the crops.

1905.—Water supply sufficient.

1906.— Do. do.

1907.—The supply was fair throughout the season.

1908.—Worked satisfactorily.

NEW GARIBI, OLD GARIBI AND ALIGUNJ.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.— Do. do.

1893.—Water supply abundant.

1894.—Cultivation submerged by Lashari floods.

1895.—Worked very well.

1896.—Worked well.

1897.—Received an ample supply of water.

1898.—There was sufficient supply of water throughout the season.

1899.—They received a good supply, except towards the end of August when the supply failed and the flow crops suffered.

1900.—There was a good supply of water throughout the season. Dry crop suffered to a certain extent from excess of water.

1901.—Received good supply up to the first fortnight of September. Crops being sown late suffered to an extent.

1902.—Water supply deficient owing to low inundation.

1903.—The water supply was good throughout the season and no deficiency was felt.

1904.—The supply in the canal was good up to first week of August but deficient afterwards.

1905.—Water supply sufficient.

1906.— Do. do.

1907.—Worked satisfactorily.

1908.—The supply was good throughout the season.

DINGRIWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.—Water supply somewhat deficient in the beginning of the season only. Rain floods damaged the crops.

1893.—Water supply abundant.

1894.—Heavy hill torrents joined with the river floods submerged almost all the cultivation except high-lying patches.

1895.—Water distributed to the best advantage by tightly closing the regulating sluice at about half its length by turns.

1896.—Worked well.

1897.—Water supply ample. Lift cultivation in the last 4 miles of the canal was damaged by hill torrents.

1898.—Owing to rapid fall of river and Nara sufficient level of water could not be maintained for all the time and crops suffered in consequence.

1899.—The supply was not good and the crops suffered in consequence.

1900.—The supply in the canal was sufficient throughout the season. Some crops suffered from excess of water.

1901.—Owing to unsteady nature of the supply in the Nara the supply in the canal was not on the whole satisfactory.

1902.—Water supply inadequate.

1903.—The canal worked fairly well.

1904.—The supply in the canal was good up to the 1st week of August and chabbing the canal at mile 6-0 greatly helped the crops.

1905.—The canal worked most satisfactorily.

1906.—The supply was sufficient throughout the season.

1907.—The supply in the canal was good throughout the season.

1908.—Worked satisfactorily throughout the season.

MAKAKIWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.— Do. do. do. Rain water damaged the crops.

1893.—Water supply abundant.

1894.—Water supply sufficient. Heavy hill torrents joined with river floods submerged almost all the cultivation except high-lying patches.

1895.—Worked very well.

1896.—Worked well.

1897.—There was a good supply throughout the season. Crops on its right bank were damaged by Manehhur flood.

1898.—There was a fair supply throughout the season. Crops below mile 8 suffered for lack of water.

1899.—Owing to low inundation the supply was not good. Crops suffered!

1900.—Received a good supply throughout the season. Some crops suffered from excess of water.

1901.—Worked satisfactorily.

1902.—The supply in the canal was very poor.

1903.—There was a sufficient supply of water throughout the season.

1904.—The supply was good throughout the season.

1905.—The canal worked very satisfactorily.

1906.—It worked satisfactorily.

1907.— Do. do.

1908.—Supply was very good throughout the season.

MUHAMMAD ALI WAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.— Do. do. do. do. , but cultivation in low lands was damaged by rain water.

1893.—Water supply abundant.

1894.—Water supply sufficient. Floods damaged the crops in its first two miles.

1895.—Worked very well.

1896.—Worked well.

1897.—There was a good supply throughout the season.

1898.—There was a fair supply throughout the season. Late crops suffered a little owing to fall of water in September.

1899.—Supply not good. Cultivation suffered to some extent owing to lack of water.

1900.—The water supply was quite enough throughout the season. Dry crop suffered to an extent from excess of water.

1901.—Received a satisfactory supply throughout the season.

1902.—There was abundant supply in the canal.

1903.—The canal worked well throughout the season.

1904.—The supply in the canal was good up to the end of July and fair in the month of August and first few days of September. Chahi at mile 1/3 was allowed to save the rice crops.

1905.—The canal worked very satisfactorily.

1906.—It worked satisfactorily.

1907.— Do. do.

1908.—Supply in the canal was good throughout the season.

SAKROWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.— Do. Rain floods damaged the crops.

1893.—Water supply abundant.

1894.—Water supply sufficient. Rain water joined with floods submerged almost all cultivation except high-lying patches.

1895.—Cultivation suffered to an extent during the latter part of the season owing to the supply being cut off by the Nara Baid sluice.

1896.—Worked well.

1897.—Water supply sufficient. Cultivation damaged by Manchhur floods.

1898.—Water supply deficient.

1899.—Water supply fair due to low inundation. High lands suffered.

1900.—Water supply sufficient. Cultivation on its left bank submerged by Manchhur flood.

1901.—Received a fair supply throughout the season.

- 1902.—Water supply deficient.
 1903.—The canal received a good supply throughout the season.
 1904.—The canal on the whole worked well. Crops being chiefly rice the supply was not equal to the heavy demand.
 1905.—The supply in the canal was satisfactory.
 1906.—Supply sufficient.
 1907.—Supply very satisfactory.
 1908.—Supply was very good, but cultivation was submerged by hill torrents during July and August.

KUR AKTAR.

- 1890.—Water supply poor throughout the season.
 1891.—Water supply sufficient throughout the season.
 1892.— Do. do. do. Rain floods damaged the crops.
 1893.—Water supply abundant.
 1894.—All cultivation submerged owing to overflow of Manchhur.
 1895.—Worked well.
 1896.—Worked well. Hill torrents damaged the cultivation on the right bank.
 1897.—The supply was good throughout the season. Cultivation was submerged by Manchhur flood.
 1898.—Received a fair supply throughout the season.
 1899.—Water supply fair. High lands suffered.
 1900.—Water supply sufficient. Cultivation on its right bank was submerged by Manchhur flood.
 1901.—Received a fair supply throughout the season.
 1902.— Do. do.
 1903.—The canal flowed excellently throughout the season.
 1904.—The canal on the whole worked well throughout the season.
 1905.—The supply in the canal was very satisfactory.
 1906.—Supply sufficient.
 1907.—Supply very satisfactory.
 1908.—Supply very good.

CHARIO WAHUR, ARAL AND DUNSTER.

- 1890.—Water supply poor throughout the season owing to low inundation.
 1891.—Water supply fair throughout the season.
 1892.— Do. do.
 1893.—Water supply good throughout the season.
 1894.—Water supply abundant. Karampur flood passed into the canal.
 1895.—Water comparatively low owing to low inundation.
 1896.—Water supply ample. River floods burst into the canal.
 1897.—Water supply was ample and the floods passed down the canal.
 1898.—The canal worked fairly well but there was no cultivation owing to fear of lands being flooded.
 1899.—There was a very good supply in the canal.
 1900.—In consequence of the general complaint of low level of water in Manchhur, bunds were put up near Sehwan across Chario Wahur and Aral with a view to force more water up the Aral and Dunster into the Manchhur Lake. The canals worked very well throughout the season.
 1901.—The canals had sufficient supply of water throughout the season.
 1902.—The supply in the canals was good throughout the season.
 1903.—There was a very good supply throughout the season.

1904.—The supply in the canals was good throughout the season and the canals worked satisfactorily.

1905.—The canals worked very satisfactorily.

1906.—The canals worked very well.

1907.—The supply in the canal was good throughout the season.

1908.—Water supply sufficient. Rains and river spill water submerged the crops.

MANCHHUR LAKE.

1890.—Received little help from Nara and other feeders due to low inundation and absence of rains. Hill torrents in the beginning of December came down with great force and submerged rabi crops.

1891.—Received supply from Nara, Chario Wahur, Aral and Dunster. No hill floods.

1892.—Unprecedented local rainfall together with hill floods raised the level to the highest mark on record.

1893.—No hill floods except early in July. Area submerged for rabi was much less than last year.

1894.—Hill torrents joined with river floods raised the water level considerably.

1895.—Water in the lake rose but little owing to low inundation and absence of rain.

1896.—Owing to river having maintained its high level for about 2 months and the hill floods which came 3 times in the season large quantity of water entered the lake.

1897.—River floods aided by hill torrents raised the level of water considerably.

1898.—Received a little supply of water owing to low inundation and absence of rains.

1899.—It did not receive sufficient water owing to low inundation and absence of rains.

1900.—Received a very good supply. The rise was chiefly due to the construction of bunds across Chario Wahur and Aral. The drainage in the beginning was not satisfactory, but after the fall of river on the 1st October water was drained off rapidly and a very large area was made available for rabi.

1901.—Large area was brought under rabi as the drainage through Aral was satisfactory.

1902.—Rains and canal water flooded large areas in the dhand and the area under rabi was comparatively large but less than in the last year in spite of low inundation.

1903.—This dhand was well filled this year and rabi area was fairly great, and about 3,000 acres more than in the previous year.

1904.—Water through the Aral and Nara filled the lake. Owing to the earlier backflow of water into the river the cultivation increased by about 4,000 acres more.

1905.—The Manchhur flood was one of the highest on record and the area under rabi was comparatively large though somewhat less than in the previous year.

1906.—The Manchhur got filled from the river and hill torrents and high water mark was higher than previous year which was record, but there was a slight fall in the area under rabi.

1907.—Owing to low inundation the canals did not bring in much water but hill torrents greatly helped in filling up the lake and there was a large falling off in the area under rabi.

1908.—The river water and hill torrents submerged large areas of the lake. The lake was drained off fairly well.

UPPER NURWAH.

- 1890.—There was ample water in spite of the low inundation.
- 1891.—There was a fair supply of water in the canal. The river being unfavourable the canal ceased flowing early in the season.
- 1892.—Worked fairly well.
- 1893.—The supply was fairly good in the beginning, but river went low in August when rotation was resorted to which materially saved the crops.
- 1894.—The canal maintained a very good supply throughout the season.
- 1895.—River eroded above and below the mouth. The canal dried 4 times during the season. Water supply was deficient.
- 1896.—It worked well.
- 1897.—Water supply plentiful except towards the end of the season when rains assisted the crop.
- 1898.—There was a good supply of water throughout the season.
- 1899.—Water supply deficient owing to low inundation.
- 1900.—There was sufficient water in the canal throughout the season.
- 1901.—The canal suffered owing to late rise and unfavourable set of the river. Efforts were however made to utilize the reduced supply to the greatest advantage by regulation.
- 1902.—The supply was sufficient throughout the season in spite of low inundation due to favourable set of the river.
- 1903.—The supply in the canal was excellent throughout the season.
- 1904.—The supply in the canal was deficient throughout the season owing to the dhand feeding it having heavily silted.
- 1905.—In spite of the mouth of the canal being improved the supply in the canal was not so good as to meet the demands of flow cultivation towards the end of July, but the rise in the river in September saved the situation.
- 1906.—The Wahur feeding the canal was cut into by the erosion of the river. Worked very satisfactorily.
- 1907.—Supply in the canal was deficient owing to its mouth having been cut into and eroded away by river.
- 1908.—A new mouth which was completed during the year gave a very satisfactory supply throughout the season.

KOLAB SIAL.

- 1890.—There was sufficient supply in the canal throughout the season.
- 1891.—Water supply deficient and crops would have perished had not supply been augmented from Western Nara.
- 1892.—Deficiency was felt in the early part of the season but there was ample supply available later on to the end of the season.
- 1893.—The canal worked fairly well till the fall of river in August when Nara water was admitted to augment the supply.
- 1894.—The canal maintained a very good supply throughout the season.
- 1895.—Water supply deficient. It dried several times when the river fell very low. Crops suffered.
- 1896.—Worked well.
- 1897.—Received a good supply throughout the season.
- 1898.—Owing to low inundation the supply was limited throughout the season.
- 1899.—It did not work well and deficiency was felt towards the end of the season. To remedy this a bund across its feeder Wahur was allowed, which not only saved the standing crops on the canal itself but greatly benefited the crops along its branches Ghari and Wadhu.
- 1900.—The supply in the canal was sufficient throughout the season.
- 1901.—Worked fairly well throughout the season.

1902.—The supply was fair. Chahi across the Wahur feeding it increased the supply in the canal which benefited the crops on the canal itself and its branches.

1903.—The supply was very good throughout the season.

1904.—The supply was fair throughout the season.

1905.—The canal worked satisfactorily.

1906.—Supply sufficient.

1907.—Supply in the canal was deficient owing to the low inundation throughout the season.

1908.—Supply was very good throughout the season.

WADHUWAH AND GHARIWAH BRANCHES OF KOLAB SIAL.

1890.—There was a fair supply in the canals throughout the season. Late crops partly suffered due to sudden fall of the river.

1891.—Water supply deficient. Crops would have perished but for a supply having been given for 3 days from Western Nara.

1892.—A deficiency was felt in the early part of the season but there was ample supply of water for the rest of the season.

1893.—Fall of river in August was compensated for letting in surplus water from Nara into it.

1894.—The canals maintained a very good supply throughout the season. The surplus water was discharged into the Duabo dhand.

1895.—Water supply deficient. They ceased flowing several times during the season whenever the river fell very low.

1896.—Worked well.

1897.—Water supply good throughout the season.

1898.—Water supply sufficient for lift crop. Late crops suffered owing to fall of river in September.

1899.—Supply scanty owing to low inundation.

1900.—Received a sufficient supply of water throughout the season.

1901.—Worked fairly well throughout the season.

1902.—The supply in the canals was fair.

1903.—The supply was sufficient throughout the season.

1904.—The supply in the canals was fair in the first four miles and poor further down due to unsatisfactory inundation.

1905.—The canals worked satisfactorily.

1906.—Supply sufficient.

1907.—Supply deficient owing to low inundation throughout the season.

1908.—Supply good throughout the season.

PHITTA CANAL.

1890.—There was a good supply in the canal in the early part of the season but the river went on changing its course from its right to left bank and back again causing very heavy silt deposits at its mouth. Great portion of cultivation was saved by bringing water into the canal from the dhand at its mouth.

1891.—Supplied partly from river direct and partly from Nara. The Karampur flood coming in towards the tail gave a high level and plenty of water.

1892.—The canal worked very well. The supply was augmented from Nara in the early part of the season and from end of July more than sufficient was obtained from its mouth owing to favourable change in the river.

1893.—The supply was good and high up to 2nd August when the river began to fall but its supply was augmented from Western Nara and the flood standing in the large dhand near its mouth.

1894.—The canal maintained a very good supply throughout the season.

1895.—The canal did not suffer, notwithstanding low inundation, the river being favourable. The supply from Nara greatly assisted the crops.

1896.—Worked well.

1897.—Water supply good throughout the season. Rains also assisted the crops. Lands in its last 10 miles were submerged by Karampur floods. River was only quarter of a mile from its tail.

1898.—Received sufficient supply of water throughout the season. Late crops below mile 11 suffered.

1899.—The supply was deficient due to low inundation and the unfavourable set of the river.

1900.—The supply in the canal was sufficient throughout the season.

1901.—The supply in the canal had to be supplemented from Nara to meet the deficiency due to unfavourable set of the river.

1902.— Do. do. do.

1903.—The supply in the canal was poor up to the middle of July, but subsequent rise of the river changed the state of things for the better.

1904.—The supply in the first 8 miles was fair and below 8th mile to the tail the supply was deficient.

1905.—River unfavourable and supply deficient but was augmented from Western Nara with good results.

1906.—The supply in the canal was fairly sufficient. It was moreover augmented from Western Nara.

1907.—The supply in the canal was fair and supplemented by the Nara branches Lower Nurwah and Muhammad Ali wah.

1908.—The supply in the canal was good throughout the season.

PRITCHARD CANAL.

1890.—Opened for the first time on 14th July. At the time of opening the river was cutting away its right bank at the village of Nao Goth one-quarter mile below the canal mouth, the erosion then worked up-stream and cut away rapidly. Of the original line of canal half a mile was eaten away by river. It augmented the supply in the Nara by $1\frac{1}{2}$ ft.

1891.—Owing to erosion 3,700 feet at mouth were removed by river and silt to a depth of 7 feet accumulated. The canal assisted the Nara as long as it flowed. It had ceased to flow from 29th June to 1st July and finally ceased flowing on 7th October. The river was unfavourable and the supply fluctuating and somewhat deficient.

1892.—Water supply deficient up to 14th July. Since August the head regulator remained closed till the end of season owing to floods from Rajana bunds entering into the canal. This considerably augmented the supply in Western Nara.

1893.—Remained entirely or partially closed nearly all the season. Served as an escape during Lashari floods, saving a large part of Mehar and Kakar from being submerged.

1894.—Until the end of June water was not required. Early in July the floods cut into the canal at 19th mile rendering necessary the closing of the head regulator.

1895.—Water supply fair although the inundation was low and fluctuating.

1896.—Water supply sufficient till 20th August, after which the river began to fall and the canal ceased to flow on 1st September. Crops however did not suffer much.

1897.—The canal was regulated according to requirements of the Nara and it worked fairly well.

1898.—In spite of low inundation the canal worked well owing to favourable position of its mouth.

1899.—The canal worked satisfactorily for the first two months and then the river began to fall which told heavily on the crops in its upper reaches.

1900.—The canal remained fully open up to 19th July 1900, and afterwards it was kept closed owing to breach having occurred in the canal and subsequently to the water not being required in the Nara. Some cultivation was damaged by Lashari floods.

1901.—The head regulator remained open until the 1st August when it was closed as the level exceeded that of the designed supply 10 feet. Nangeshah floods augmented the supply in Western Nara which saved the crops in its tail portion.

1902.—The canal worked extremely unsatisfactorily throughout the season in consequence of the unfavourable position of the Wahur feeding it and low inundation.

1903.—The river was unfavourable at first, but after 20th June its set was favourable and the inundation on the whole good. The canal worked well and helped Western Nara considerably.

1904.—The canal worked satisfactorily throughout the season although the inundation was not good. This was due to favourable set of the river.

1905.—Worked very well but was not so much utilized as in the past for supplementing the supply in the Western Nara as it brought down ample supply of its own due to further widening of its New Akil mouth to 125 feet bed width.

1906.—It worked very satisfactorily. Full supply, *viz.*, 10 feet could not be admitted into the canal as there was abundant supply in the Nara and 9.50 was the level of the whole season.

1907. The canal worked satisfactorily. Was regulated according to the requirements of the Nara as the latter canal had ample supply of its own.

1908.—The canal worked satisfactorily. Owing to water not being required in the Nara the supply had to be cut off at the head regulator. The river was favourable.

ESCAPE CHANNEL.

1895.—Received a moderate supply of water owing to low inundation.

1896.—Water supply good. Canal ceased to flow on 1st September and cultivation saved by erecting wheels on dhands.

1897.—Good supply of water passed down the canal which assisted the crops.

1898.—There was ample supply of water throughout the season.

1899.— Do. do. do.

1900.—There was ample supply of water throughout the season. It served as an escape at times of high level of water in Nara.

1901.—Received a good supply of water. Relieved its feeder when there was surplus water in it during August.

1902.—It did not work satisfactorily throughout the season owing to low inundation.

1903.—Received abundant supply of water throughout the season.

1904.—Received an abundant supply throughout the season.

1905.—Worked satisfactorily.

1906.— Do.

1907.— Do.

1908.— Do.

MARVIWAH.

1890.—Worked very well notwithstanding poor inundation.

1891.—Erosion at its mouth caused the canal to dry earlier in the season.

1892.—In the beginning supply was deficient but gradually improved. This was due to the character of inundation. Floods submerged all cultivations in low ground.

1893.—River eroded about $2\frac{1}{2}$ miles of the canal. Owing to the approach of river it maintained a very high level of water which overflowing its banks passed towards Phulji station.

1894.—About a mile of the canal at its mouth was eroded away. Flood after crossing the Pritchard Canal flowed back from the tail which necessitated closing of the head regulator except for short intervals to save crops in the upper reaches of the canal.

1895.—Water was admitted according to requirements and there was no complaint of deficiency. No erosion at its mouth. It worked satisfactorily.

1896.—Worked very well.

1897.—Worked satisfactorily.

1898.—Water supply scanty owing to low inundation.

1899.—It worked fairly well.

1900.—It worked very satisfactorily.

1901.—Owing to the active erosion of the dhand above the mouth of the canal a large deposit of silt was formed near the mouth resulting in the supply being cut off earlier than usual.

1902.—Owing to the extremely low inundation and unsatisfactory mouth of the canal the canal worked badly. The canal after ceasing to flow twice finally stopped flowing on 24th August.

1903.—The canal worked exceptionally well but owing to erosion at its mouth its first mile was silted and the canal ceased flowing on 6th September. It again flowed on 13th and finally stopped flowing 10 days afterwards.

1904.—It worked satisfactorily throughout the season.

1905.—Supply sufficient.

1906.—Worked very satisfactorily.

1907.—The canal suffered greatly as it ceased flowing thrice during the season owing to the fluctuations in the river.

1908.—The canal worked much better than last year.

B. KRISHNARAO,

Executive Engineer, Western Nara.

STATEMENT of comparative maximum gauge readings of Bukkur and Baksho Jamali.

Year.	Bukkur.	Baksho Jamali.	Year.	Bukkur.	Baksho Jamali.
1887 ...	16.6	9.80	1898...	13.4	11.70
1888 ...	14.4	8.80	1899...	13.4	11.80
1889 ...	16.6	12.40	1900...	14.5	12.60
1890 ...	16.0	11.80	1901...	16.4	12.70
1891 ...	14.8	12.00	1902...	13.4	9.40
1892 ...	16.7	13.80	1903...	16.8	11.90
1893 ...	15.8	13.90	1904...	15.8	11.60
1894 ...	16.4	13.90	1905...	16.7	13.10
1895 ...	15.3	13.30	1906...	16.6	13.90
1896 ...	15.8	13.40	1907...	13.7	14.20
1897 ...	17.9	13.20	1908...	16.1	14.40

LIST showing improvements made in Dadu, Johi and Sehwan talukas since the introduction of the current settlement, 1890-91 to 1907-08.

Serial No.	Names of works.	Cost of outlay.	When completed.
		Rs.	
1	Improving supply of Upper Unerwah ...	14,136	March 1891.
2	Excavating an extension of the Upper Nurwah to the Ghari wah, Dadu taluka.	15,636	February 1892.
3	Additions and alterations to the old bridge over Upper Nurwah for regulation of water ...	457	September 1892.
4	Excavation of Lohriwah ...	9,088	March 1893.
5	Excavation of Pritchard canal ...	3,32,128	March 1894.
5-A	Constructing head regulator over Marvi wah ...	3,832	March 1894.
6	Improvements at the mouth of the Aral wah ...	8,993	March 1901.
7	Making a new out to Dingri wah ...	5,931	February 1903.
8	Widening Pritchard canal from stop gate regulator at mile $\frac{21}{1}$, and its junction with Western Nara ...	6,385	July 1903.
9	Excavating Juberji branch 4, Pritchard canal ...	3,497	March 1904.
10	Construction of a new mouth to Marvi wah ...	2,460	March 1904.
11	Constructing a new Akil mouth to Western Nara ...	1,45,127	July 1905.
12	Extending the mouth of Upper Nurwah ...	1,805	October 1905.
13	Widening New Akil mouth to Western Nara to 80 ft. bed width ...	71,168	November 1905.
14	Construction of a new mouth to the Wahur feeding Pritchard canal, Wahur and Marni wah ...	18,231	March 1906
15	Cutting a new mouth to Upper Nurwah...	2,000	November 1908.
16	* Widening New Akil mouth to 125 ft. bed width ...	1,61,691	

* In progress, practically completed.

B. KRISHNARAO,
Executive Engineer, Western Nara.

Statement showing length of canals and expenditure incurred in maintenance (works) of canal and bunds in Dadu, Johi and Sehwan talukas from 1907-1908.

Name of canal or bund.	Length of canal or bund in miles.	Talukas in which each canal passes.	EXPENDITURE ON MAINTENANCE (WORKS) OF CANALS FOR SEASONS.																	Total of 19 years.	Average.	Remarks.		
			1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.	1906-07.	1907-08.	1908-09.	1899-1900.	1900-1901.	1901-1902.	1902-1903.	1903-1904.	1904-1905.	1905-1906.	1906-1907.				1907-1908.	
Upper bund	700		Rs. 341	Rs. 289	Rs. 206	Rs. 166	Rs. 195	Rs. 982	Rs. 255	Rs. 709	Rs. 204	Rs. 103	Rs. 454	Rs. 327	Rs. 329	Rs. 302	Rs. 281	Rs. 172	Rs. 511	Rs. 5,876	Rs. 554			
Upper Nara	150.75		2,896	7,763	7,025	7,354	1,260	15,135	9,188	3,764	3,340	3,548	3,538	10,754	18,509	10,162	9,339	9,401	7,250	9,515	17,931	7,131		
Lower Nara	19.23		3,021	1,210	1,514	2,374	3,037	2,508	2,783	3,240	4,525	3,817	3,541	3,558	1,545	1,960	2,000	2,759	1,399	2,872	49,078	2,599		
Jawah	8.90				1,504	822	779	1,102	770	512	161	412	179	268	508	278	290	242	102	222	8,363	854		
Lower Nara	3.75		423	353	325	444	508	759	592	467	850	578	578	897	690	105	471	293	129	606	8,914	490		
Lower Nara	3.25		1,815	800	891	1,129	997	895	612	555	1,168	1,332	835	1,149	659	565	990	608	678	779	16,835	920		
Garibi	4.12		734	712	290	534	188	854	329	213	835	695	493	354	269	442	374	735	765	899	10,333	574		
Garibi	3.0		327	129	173	339	450	374	252	260	463	295	472	390	265	22	166	130	78	80	4,742	263		
Garibi	4.0		171	64	101	...	157	36	152	74	465	181	403	430	87	167	105	263	108	190	3,742	195		
Garibi	3.96		...	267	288	...	272	712	710	885	660	1,067	1,625	1,446	2,825	1,859	1,839	1,849	490	1,340	15,746	1,102		
Garibi	11.50		637	714	589	556	885	1,167	491	792	732	1,063	1,243	979	790	1,096	893	642	766	522	14,230	794		
Garibi	4.50		...	323	481	450	584	529	391	497	591	626	617	730	883	771	542	406	392	394	8,567	432		
Garibi	3.25		...	3	363	604	778	618	629	576	1,054	870	408	395	429	586	425	373	406	328	204	6,867	432	
Garibi	3.50		410	152	394	457	1,309	604	2,509	1,463	800	475	423	831	478	459	374	341	342	298	12,000	833		
Garibi	4.12		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Garibi	17.0		...	4,793	1,347	1,351	...	827	1,700	1,545	770	...	220	1,246	945	1,009	754	682	747	625	1,178	19,592	1,237	
Garibi	13.50		44	840	159	...	241	80	223	198	228	299	305	399	218	121	224	133	303	402	4,528	249		
Garibi	3.75		1,465	3,571	488	525	614	615	321	1	91	1,697	322	549	372	504	515	305	270	13,119	713			
Garibi	16.63		1,955	4,267	2,850	3,427	3,723	4,178	3,580	3,677	1,349	2,945	1,654	1,301	679	1,080	125	317	1,920	40,977	3,327			
Garibi	8.00		1,869	1,163	1,095	1,140	1,079	2,178	1,926	1,725	1,882	1,632	1,412	1,519	1,059	1,250	769	790	694	653	24,608	1,572		
Garibi	6.00		905	1,041	790	1,091	854	1,528	1,641	1,313	1,372	1,108	1,409	1,269	1,194	1,201	844	1,163	874	721	20,197	1,011		
Garibi	8.13		683	838	611	758	531	830	826	849	816	915	945	1,126	1,149	1,005	801	1,304	347	736	14,337	774		
Garibi	40.83		1,367	1,470	839	1,388	898	1,002	676	519	1,013	1,321	1,022	1,111	874	803	218	674	314	1,239	17,070	948		
Garibi	24.50		18,279	9,677	13,318	3,443	4,698	2,115	5,964	6,437	3,321	1,057	3,624	2,299	2,108	3,066	2,322	1,585	1,643	12,258	87,523	4,663		
Garibi	1.82		...	2,167	...	369	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Garibi	18.26		1,925	1,050	450	1,059	998	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

B. KRISHNARAO,

Executive Engineer, Western Nara.

The expenditure shown does not include cost of establishment.

STATEMENT showing information regarding wells in Sehwan, Dadu and Johi talukas.

Names of dehs.	No. of wells.	Depth of water below ground level.	Sweet or salt.	REMARKS.
<i>Taluka Sehwan.</i>				
		Ft.		
Kalo Bhuri ...	4	20 to 25	Sweet	Rabi.
Bhan ...	27	25 to 35	"	"
" ...	1	28	Saltish	"
" ...	1	37	Sweet	Kharif and rabi.
Arazi ...	9	12 to 15	"	Rabi.
Tando Shahbazi ...	2	12	"	"
Bakhtawarpur ...	4	11 to 24	"	"
Saidabad ...	1	24	"	"
" ...	1	18	"	Kharif and rabi.
Baid ...	1	12	"	Rabi.
" ...	1	7	Saltish	"
Sultanpur ...	2	25 to 30	Sweet	"
Wahur ...	8	23 to 35	"	"
" ...	1	31	"	Rabi and kharif.
Gaher ...	1	23	"	Rabi.
Akhtar ...	3	14 to 28	"	"
Arbi ...	1	14	"	"
" ...	1	22	"	Rabi and kharif.
Bambha ...	1	15	"	"
" ...	7	19 to 24	"	Rabi.
Talti ...	2	21 to 23	"	Kharif and rabi.
" ...	1	24	Saltish	"
" ...	3	25	Sweet	Rabi.
Chana ...	4	21 to 25	"	2 rabi and 2 kharif.
Karani ...	2	22	"	Rabi.
TOTAL ...	89	...	...	...
<i>Taluka Johi.</i>				
Johi ...	11	20 to 30	Sweet	Rabi.
" ...	1	38	"	Rabi and kharif.
Vageji ...	2	10 to 18	"	Rabi.
Gaha ...	2	24	"	"
" ...	1	24	"	Kharif and rabi.
Dara Machi ...	2	25	"	Rabi.
Channa ...	1	17	"	"
Jharri Jadoshahid ...	1	12 to 15	Brackish	"
Phulji ...	1	"	Sweet.	"
Shah Morio ...	1	"	do.	"
Bahawalpur ...	5	"	do.	"
TOTAL ...	28	...	...	...
<i>Taluka Dadu.</i>				
Khudabad ...	8	20 to 25	Sweet	Rabi.
Bhand ...	25	20 to 25	"	"
Buth Malho ...	2	25	Saltish	"
" ...	10	25	Sweet	"
Kurpur ...	4	20 to 25	"	"

Names of dehs.	No. of wells.	Depth of water below ground level.	Sweet or salt.	REMARKS.
<i>Taluka Dadu—contd.</i>		Ft.		
Sial ...	39	20 to 30	Sweet	Rabi.
" ...	3	20 to 27	"	Kharif and rabi.
Sidhwah ...	9	10 to 20	"	Rabi.
Chaurath ...	18	15 to 30	"	"
Malkani ...	4	28'	"	"
Dubi ...	21	20 to 30	"	"
" ...	2	15 to 20	"	"
Nurja ...	2	25	"	"
Aminani ...	6	30 to 35	"	"
Naulakho ...	33	25 to 35	"	"
Dusbo ...	19	25 to 30	"	"
Markhpur ...	10	25 to 28	"	"
Dadu ...	31	20 to 30	"	"
" ...	2	30	"	Kharif and rabi.
Khasachandia ...	17	25 to 30	"	Rabi.
Shabani ...	11	20 to 25	"	"
Dawach ...	23	15 to 24	"	"
Pir Tarho ...	37	25 to 30	"	"
Piper Panjan ...	5	18 to 20	"	"
Badani ...	25	24 to 27	Sweet	"
" ...	3	"	Brackish	"
" ...	1	"	Slightly saltish	"
Phaka ...	23	20 to 32	Sweet	"
Kalharo ...	9	24 to 28	"	"
" ...	2	25	Brackish	"
Pirgunio ...	5	20 to 25	Sweet	"
Pipri ...	27	20 to 30	"	"
Shahmir ...	9	13 to 16	"	"
Buthi ...	7	17 to 20	"	"
Bakhrani ...	41	20 to 26	"	"
Waryaso ...	3	10 to 13	"	"
Juberji ...	21	15 to 20	"	"
Sutiaro ...	10	"	"	"
Marvi ...	7	"	"	"
Khiaro ...	5	"	"	"
Jung ...	3	12 to 15	"	"
Kandi ...	5	"	"	"
" ...	4	15 to 20	"	"
Baghban ...	14	12 to 15	"	"
Makhdum Bilawal ...	6	12 to 15	5 Sweet 1 Brackish.	"
Taga ...	4	15 to 20	Sweet	"
Palha ...	4	"	"	"
Pat ...	31	"	"	"
Sita ...	25	"	"	"
Karro ...	6	"	"	"
Pir Tarho ...	2	"	"	"
Puranadero ...	1	"	"	"
TOTAL ...	644	...	...

NOTE.—There is an increase of 292 wells in the Division, more especially in Dadu taluka and the quantity of water available in them generally is sufficient for irrigational purposes though some of the wells are silted up and require clearance.

B. KRISHNARAO,
Executive Engineer, Western Nara.

STATEMENT of each kind of irrigation in Sehwan, Dadu and Johi talukas during the years 1891-92 to 1907-08.

Name of Canal	1891-92	1892-93	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-00	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08	
Western Main	Lift	8,971	179	...	3,489	3,947	5,147	3,881	7,018	58,186	4,861	7,883	4,455	8,054	5,738	5,126	...	
	Flow	...	...	...	1,281	3,548	3,223	3,199	5,355	5,323	2,398	2,398	7,514	5,506	5,804	7,893	...	
	Rabi	665	3,740	509	14,101	3,338	3,599	3,658	2,902	5,361	5,077	1,378	9,094	6,350	10,229	10,229	...	
Kathi	Lift	495	...	...	530	479	437	606	395	417	475	554	507	512	633	276	453	...
	Flow	35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	246	14	23	67	170	...	...	...	...	...	...	...	...	...
Lower New and Old	Lift	1,625	...	...	1,323	2,780	2,091	1,787	2,248	2,133	1,779	1,434	...	1,783	1,550	2,107	1,740	...
	Flow	226	...	...	314	38	126	126	138	160	100	199	...	112	57	59	59	...
	Rabi	...	...	...	45	58	58	201	54	54	46	...	...	24	54	57	29	...
New and Old	Lift	1,573	...	...	1,389	387	1,970	1,901	1,308	1,935	1,192	1,043	1,591	1,272	1,577	1,560	1,904	...
	Flow	...	...	...	197	69	121	135	89	67	95	100	...	...	43	98	47	...
	Rabi	...	...	...	3,930	27	4	53	6	...	823	194	...	...	570	510	...	...
Alighani	Lift	993	...	...	626	1,907	693	544	613	655	343	587	601	307	419	410	677	...
	Flow	...	...	...	53	...	6	6	6	...	11	...	...	...	...	...	...	...
	Rabi	...	...	...	427	81	...	36	...	...	135	...	...	...	...	...	...	...
Makhi	Lift	3,232	2,776	2,283	1,093	2,363	2,542	6,176	2,510	1,729	1,847	...	685	1,786	2,094	2,121	2,096	...
	Flow	357	687	371	255	19	163	35	123	68	221	1,558	...	232	155	310	269	...
	Rabi	1,034	4,307	911	2,945	66	1,791	4,902	29	55	919	...	18	345	236	286	300	...
Makhi	Lift	663	781	652	793	795	870	601	921	693	615	634	707	776	653	726	570	...
	Flow	589	375	330	657	613	693	608	469	536	686	644	523	630	499	462	617	...
	Rabi	135	98	110	205	29	29	66	43	...	233	...	...	67	95	146	169	...
Kur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ari	Lift	1,972	1,473	29,310	1,842	2,970	2,404	2,402	1,841	2,177	2,247	...	59	1,509	2,417	2,243	...	1,844
	Flow	...	348	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	6,206	5,555	7,063	4,559	11,006	7,895	11,094	3,322	4,769	6,164	2,208	3,702	4,941	4,271	...	5,284	...
Dudhar	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Quarto	Lift	63	88	...	...	18	81	25	4	61	71	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	218	184	369	228	43	238	235	48	100	66	...	...	...	...	...	...	...
Upper	Lift	1,547	...	...	2,907	2,410	2,553	1,944	2,447	2,623	1,920	1,929	2,740	2,784	3,231	2,494	2,502	...
	Flow	897	...	...	1,752	766	2,509	3,429	1,434	689	2,374	1,533	1,790	2,161	1,331	2,387	1,043	...
	Rabi	...	...	...	2,410	475	1,064	1,937	573	64	1,561	2,372	101	2,163	358	1,140	1,908	...
Kothi	Lift	2,199	...	...	311	752	1,570	1,539	2,116	1,183	1,618	939	1,097	2,142	1,799	1,546	1,878	...
	Flow	...	...	...	327	...	171	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	3,989	1,842	921	1,967	496	496	1,274	2,108	507	1,478	297	1,072	904	...
Ghriti	Lift	943	...	...	804	789	980	...	701	973	564	646	661	644	415	818	623	...
	Flow	80	...	...	100	...	...	...	...	...	103	184	...	...	...	...	...	...
	Rabi	...	...	...	268	...	...	...	...	...	81	10	...	...	...	...	...	...
Wahli	Lift	1,370	...	...	1,570	1,805	1,031	906	1,242	1,337	1,464	1,203	1,688	1,579	1,779	1,443	1,373	...
	Flow	97	...	...	69	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	440	...	20	132	...	...	242	...	...	...	...	...	...	...
Fiko	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mandhar	Lift	648	...	...	393	804	193	913	345	101	730	1,179	...	996	1,136	793	1,134	1,220
	Flow	...	...	...	165	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	8,339	...	10,518	16,955	10,506	14,911	12,708	11,723	15,338	21,560	19,787	14,562	17,989	21,201	19,164	19,299	...
Satio	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Harvi	Lift	...	...	...	811	978	810	911	891	818	677	706	418	420	901	845	740	...
	Flow	...	...	...	226	61	273	272	179	219	323	227	187	503	170	374	345	...
	Rabi	...	...	...	994	1,004	680	355	967	603	688	957	476	1,312	1,051	754	671	...
Pichhodi	Lift	...	...	...	840	598	809	224	112	384	156	155	105	56	178	129	156	...
	Flow	...	...	...	17	109	17	178	14	175	229	...	...	...	...	...	...	...
	Rabi	...	...	...	2,702	453	519	482	572	426	469	...	...	...	...	...	...	...
Jubari	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lo hi	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Italic figures show cultivation on escape channel.

B. KRISHNARAO,
Executive Engineer, Western Na

No. 6825 OF 1909.

PUBLIC WORKS DEPARTMENT.

*Superintending Engineer's office, I. B. B. D.**Camp Sukkur, 7th December 1909.*

From

D. W. HERBERT, Esquire,
 Superintending Engineer,
 Indus Right Bank Division,

To

THE COLLECTOR OF LARKANA.

SIR,

I have the honour to return herewith the accompaniments to your No. 5373, dated the 16th September last, and to express my regret at the delay, specially as I find that I can add very little useful information to the full account already given by (Mr. Covernton and the) Executive Engineer regarding the irrigation in these talukas.

2. It would appear that the flooding of the lands by the Escape channel described in paragraph 6 of Mr. Covernton's report on the Dadu taluka can be remedied to a great extent, but proposed works cannot be taken into account.

3. With reference to paragraph 8 of your report on the Johi taluka I understand that the one-tenth of the consolidated assessment is supposed to represent what the land would yield without irrigation, i.e., it would be the average assessment on the whole area not merely on the cultivated area.

4. With regard to the clearance rebate, I understand that this is supposed to be given only when the cost of clearance is excessive, but in the lists of karias attached to the report I find a considerable number only one-quarter mile long.

5. The widening of the Western Nara Canal in 1905 to 125 feet bed width is said to have benefited these talukas. This canal has been working very satisfactory for the last six years, but this year (1909) the gauge reading at the head regulator of the Akil mouth suddenly fell from 10.9 feet on the 19th September to 2.1 feet on the 23rd of that month, the Bukkur gauge readings on those dates being 11.10 and 7.4 feet. Whereas with 7.4 feet on the Bukkur gauge on the 23rd September of the previous year the head regulator gauge read 8.8 feet. This falling off in the supply is due to the Indus having receded for several miles and thrown up large areas of kachas opposite the mouth of the canal. I have recently inspected the position and found the conditions for the Nara supply to be very bad indeed. In fact the canal is completely cut off from the river at present when the Bukkur gauge reads below 8 to 10 feet. Al., the dhands bringing down water from the north are completely silted up at their heads.

The tail of the Akil dhand has also been silted up in a length of nearly a mile. Taking the present difficulties about funds and labour into account, it is probable that all that will be done this year, is to make a cut through the silted portion of the tail of the dhand, and so supply the canal from a back-water two miles long, which of course means a considerable reduction in the water level at the mouth of the canal. This cut also may silt up towards the close of the inundation and it is improbable that the supply in the river during September will be as favourable as it was last year. The Pritchard Canal however ensures a fair supply for the talukas under consideration.

6. Owing to the present very unfavourable position of the river at the head of the canal, the time does not appear opportune for any considerable

enhancement of the assessments and I would point out that in the 3rd group of the Dadu taluka it is proposed to increase the rate for rabi lift from Rs. 2-4-0 to Rs. 4 or by 77 per cent. which appears excessive.

I have the honour to be,

Sir,

Your most obedient servant,

D. W. HERBERT,
Superintending Engineer,
Indus Right Bank Division.

Accompaniments above referred to sent by registered parcel.

No. 7163 OF 1909.

REVENUE DEPARTMENT.

Collector's office,

Camp Larkana, 11th December 1909.

Passed on.

The rebates on short karias are in Johi, where the land is up-hill and clearance greatly needs encouragement.

The bad prospects of the Nara would have to be considered if the proposed assessment were a full one; but it is avowedly pitched much lower than the actual value of the crops would justify in order to allow for precarious water-supply. The previous settlement was made at a time when the Nara was much worse than it is likely to be again.

C. M. BAKER,
Collector of Larkana.

No. 7166 of 1909.

REVENUE DEPARTMENT.

Collector's Office,
Camp Larkana, ^{18th September} 1909.
_{11th December}

From

C. M. BAKER, Esquire, B.A., I.C.S.,
Collector of Larkana;

To

THE COMMISSIONER IN SIND.

SIR,

I have the honour to forward Mr. Covernton's Settlement proposals for Dadu taluka.

2. I am glad to say that on this occasion I need not trouble you with any adverse criticism or alternative proposals. Mr. Covernton consulted me frequently while he was considering his proposals for these three talukas; and being already in agreement as to the general principles we had little difficulty in agreeing about the details.

3. The most noticeable feature of Mr. Covernton's proposals for Dadu is their extreme simplicity. There are some talukas in Sind where five groups are not too many: but Dadu is, I think, obviously a one group taluka. The lower group dehs certainly have a small water-supply and a good deal of unoccupied land. But the water-supply is fairly constant; lift dehs of this kind are really better off than flow dehs on long canals, where a fall in the river may destroy the whole crop. The soil is naturally good and only the good parts are cultivated. The result is that these dehs grow some of the finest *juari* in Sind. In an irrigation settlement we need not concern ourselves much with the uncultivated and therefore unassessed lands, as long as our rates are not so high as to check extension of cultivation. In lands of this sort extension is merely a question of water-supply. If there is not enough water extension is undesirable; if there is enough, then four times the proposed assessment would not check it.

4. Instead of evolving his settlement rates from his inner consciousness in the old-fashioned way, Mr. Covernton has followed a more practical method. He has taken the trouble to find out what the crops are really worth to the zamindar, and then fixed, or at least tested his rates by reference to the figures thus arrived at; his assumption being that the assessment should be about one third of the net produce (in other words of the zamindar's share). The question is whether this assumption is justified. There are no Government orders as to what the standard should be and I believe no other Sind Settlement Officer except myself has ever considered the question. The standard on which I used to base calculations was $\frac{2}{3}$ of the zamindari share; but I regarded that rather as a maximum and tried to keep well within it.

In the 'zamindari' provinces of India the standard is commonly $\frac{1}{2}$ or $\frac{2}{3}$ of the zamindar's 'assets.' But then these assets are mostly in the form of cash-rent and the figures represent what the zamindar actually gets. In Sind our figures can only be estimates and averages and we must have one rate for bad fields and good fields in the same deh. It follows that our standard must be lower.

Mr. Covernton's standard of $\frac{1}{3}$, which has the advantage of differing little from prevailing rates in Sind, seems to me a fair one. It is true that the Mirs took $\frac{1}{3}$ of the *gross* produce and do so still; but that was $\frac{1}{3}$ of the *actual* gross produce as it really was each year; they did not attempt to take in a bad year $\frac{1}{3}$ of what the gross produce would be in a normal year. Besides, the high rate was a good deal toned down by concessions on one side and speculation on the other.

5. As regards the question of rates I agree entirely with Mr. Covernton's proposals, which are based on very careful inspection. Those dehs which he proposes to raise, as well as many others, I visited in company with him at harvest time.

I have rarely seen finer jari crops than I have seen near Dadu during the last three years. I have already expressed the opinion that it is unnecessary under an irrigational settlement to put a deh in a low group merely because it is irrigated by lift and partly unoccupied. The water-supply in some cases is not very extensive; but it can hardly be called precarious. The canals being lift canals all along cannot be drained dry by rice cultivation or breaches above as the lift parts of many Upper Sind canals are. Besides, the soil is so good that the light rate proposed for lift cultivation will be no hardship even in a poor year. The greatest rise is 10 annas an acre, and the highest lift rate is Rs. 2-8: whereas in a normal year the zamindar's share could seldom be less than Rs. 15 an acre.

6. The rise in the rice rate is considerable, but the rate is still very low from an irrigation point of view, being much less than double the dry crop rate.

7. The rise in the rabi lift rate seems to require no justification, when the rates of all other talukas in Sind are considered. It is probable that in the former settlement of this taluka this rate was kept low because certain lands were included which are watered by lift only before sowing and get no water afterwards. But these are of course really 'bosi' lands, and will be assessed as such in future. The real rabi lift lands, which are mostly on the Nara bank, are about as profitable as any lands in Sind, and can easily pay Rs. 4, as they do in other talukas.

8. I do not agree with the proposal that the settlement should be guaranteed for 10 years only. I have ventured to submit on former occasions that the revision of rates at such short intervals, revision being usually the same thing as enhancement, causes a feeling of insecurity among landowners which is most regrettable both from the agricultural and the political point of view. In the present case the usual reasons for a short guarantee simply do not exist. There is not the least chance of any irrigational improvement until the Right Bank Canal is made; and that canal will not affect Dadu taluka within the next 20 years. I therefore recommend a guarantee of 20 years.

I have the honour to be,

Sir,

Your most obedient servant,

C. M. BAKER,

Collector of Larkana.

No. 133 of 1909.

REVENUE DEPARTMENT.

Settlement office,

Larkana, 23rd April 1909.

From

S. H. COVERNTON, Esquire, I. C. S.,
Settlement Officer, Sehwan,

To

THE COMMISSIONER IN SIND.

SIR,

In accordance with the orders contained in Government Resolution No. 1/39 of 30th September 1908, I have the honour to submit proposals for a settlement of Sehwan taluka.

Physical Features, etc.

2. The area of Sehwan taluka including the hill dehs is 1272.91 square miles. Its greatest length is about 50 miles and its greatest width about 25. The north-eastern portion of the taluka consists for the most part of high charkhi* lands depending for their water-supply on the Phitto and Dunster wahs and the river. In the east there is a narrow belt of lowlands bordering on the Indus. In the west and centre on the bank of the Nara and the shores of the Manchhur, and on both sides of the Aral the land is low and most of it is flooded during the summer by the Manchhur and by the spill of the Nara and Aral.

The greater part of the taluka to the south of the Sehwan-Jhangar-Shah Hassan road is dependent on rainfall or on springs which are fed by rain. Much of it is occupied by hills in which there is very little cultivation. The Khirthar and Bhit ranges on the west and the Mairiri range on the east form the borders of the taluka, and between them lies the Badro hill. The cultivation lies chiefly in the valleys of the Naing (between the Bhit and Badro) and the Bandhri nai (between the Badro and the Lakhi hills).

The population of the taluka is 53,513 or 42 to the square mile. The chief towns are Sehwan (5,241), Bubak (3,300), Jhangar (1,626), Arazi (1,493), Talti (1,321) and Bhan (1,426).

The rainfall in the past 15 years has been as follows:—

1893-94 to 1897-98.	1898-99 to 1902-03.	1903-04 to 1907-08.
In. cts. 6 10	In. cts. 2 89	In. cts. 4 36

The taluka includes 67 dehs including Duridero Jagir and Belo Khairodero, which is entirely forest. Deh Kacho Sehwan was transferred to Hyderabad district in 1894-95. The apparent increase in the total area of the taluka since Mr. Berrie wrote his report is due to the fact that the whole area of the unsurveyed dehs has now been brought into the total, whereas Mr. Berrie included only their cultivated portions. Deh Bed was also transferred from Dadu to Sehwan at the beginning of the settlement in accordance with Mr. Berrie's recommendations.

Markets.

3. The only markets of any importance are Bubak and Sehwan. The majority of the zamindars here as in other talukas dispose of their grain to local grain-dealers and a large proportion of it is consumed locally. But some

of the Karachi firms have or have had agents in the taluka who buy partly from zamindars and partly from banias, and there are a few zamindars (chiefly of bania origin) who transport their own grain to Karachi. The grain of the Sehwan and Jhangar circles is as a rule brought to Sehwan and that of Bhan and Bubak circles to Bubak or Bubak road station and Bhan.

Communications.

4. The North-Western Railway line to Shikarpur and Sukkur passes through the most populous and best cultivated part of the taluka. There are stations at Bhan, Bubak road and Sehwan, and from the latter station there is a short branch line to a goods station within the town. All parts of the taluka are now connected with each other and the railway by roads of the usual unmetalled type—but some of them have no bridges across the large canals, and are therefore less useful than they otherwise might be. The taluka has ample means of communication with Dadu taluka, but with Johi it is connected only by a single road from Bhan to Johi town (for the Daimji Miani bridge is of very limited use). Of course boats are constantly plying between Bubak or Miani Arbi Sarai and Shah Hasan, but the traffic with Johi taluka is of importance for the purposes of the Johi settlement rather than that of Sehwan. Two roads only lead into Karachi district; the trunk road to Lakhi besides the railway is a good one and there is a considerable amount of traffic along it, but the hill road to Karachi and Karchat is a rough track which is seldom used for transport.

Grain is usually conveyed on camels or donkeys, but bullock carts are found in the large towns. Five new roads have been constructed during the settlement. One of these merely supplied a gap in the trunk road to Dadu, several miles of which had been eroded. The others are—

- | | |
|--------------------------|---------------------------------|
| (i) Talti to Bilawalpur. | (iii) Karampur to Talti. |
| (ii) Bhan to Manahiun. | (iv) Bubak to Miani Arbi Sarai. |

Manufactures and Industries.

5. There is no industry in the taluka which has any connection with agriculture and no important industry of any description.

Irrigation.

6. The Executive Engineer has submitted a single report for all three talukas, and this, together with the various statements drawn up by him, will be found at the end of the Dadu report. He has given a separate map for Sehwan taluka which is attached to this report.

(i) Manchhur—Colonel Haig's settlement report for 1876 (paragraphs 7 to 14) contains a full description of the physical features of the Manchhur and Aral depression, and the effects produced on the lake by the hill floods and the variations of the Indus. The river is now further than ever from Sehwan town and the Aral still fails to fulfil its two-fold function of a supply and drainage channel. But although the "problem of the Manchhur" is still unsolved, it no longer takes the shape in which it appeared to Mr. Berrie in 1889. At that time it seems there was a danger that the lake would disappear altogether, for the Aral was silting up and the Nara working badly. For a time this seems to have been averted by heavy rain floods and by the improvement in the Nara after the Pritchard canal began to work properly. But it was found that owing to the silting of the Aral and Dunster the water that entered through the Chario wah and the New Cut ran back to the river through the Lakhi channel of the Aral. To prevent this ever since the year 1900 at the beginning of each inundation a band has been placed across the Lakhi channel of the Aral and the Chario wah (old channel), thus leaving open during the inundation only the New Cut from the Chario wah into the Aral (which is not marked distinctly in the Executive Engineer's map). The band across the Aral is removed each year at the close of the inundation. The effect of this arrangement is that the Manchhur now receives a very large supply of water from the river. At the same time since 1905 the Nara has improved still further and now continues flowing late into the rabi season; and in the last three years the lake has been swollen by rain floods from the frontier hills and the hill country to the south. Unfortunately no means has yet been found of draining off the water again as quickly as is needed at

the end of the inundation. Until the band is removed no water can begin to flow out from the lake. And even if it is removed at the right time yet if the river remains high it may happen that the New Cut brings in more water than the Sehwan-Lakhi Aral can drain away and the rest flows westwards into the Manchhur. The result of this is that the lowest lands in the Manchhur dehs never dry up at all or else appear too late for successful cultivation. These lands especially on the northern side of the lake are thickly covered every year with grass weeds and rushes. The process of clearing them is not only difficult and expensive but also takes a considerable amount of time and there is very little time to spare after the lands have appeared. The Executive Engineer hardly refers to this difficulty in draining the lake. In fact he says that in the current year (1908-09) it "drained off fairly well." This is hardly correct. When I was at Shah Hasan and Daim-ji-Miani in February 1909 I still found water standing in lands which two years before were certainly under cultivation. And not only in most of the lower dehs of Johi taluka but also in Maheji, Fazulani, Yakubani, Bubak, Trehni and other dehs of Sehwan there were large areas which dried up too late for cultivation. In fact a good deal of Trehni, Dabhri, Shah Hassan and Kot Barocho has not dried up yet and probably will not do so at all this year. The Dunster, the Chario wah and so much of the Aral as is not swamped in the Manchhur work well enough as irrigation canals in kharif and afford an almost perennial supply in rabi. In his report the Executive Engineer includes the Chario wah among those small canals which "cannot be relied upon," but this is hardly borne out by the notes made on the working of these three canals for each year of the settlement.

(ii) The most important of the Sehwan canals after the Aral and Manchhur is the Nara, with its branches the Kur Aktar and Makiki (which latter again branches into two, the Muhammad Ali wah and the Napat wah with its continuation the Wahur wah). The Executive Engineer points out that before the construction of the Pritchard wah in 1890 as a feeder to the Nara, the latter canal was practically a failure. After the Pritchard wah was opened the supply in the Nara greatly improved for several years, but it still was liable to be affected by unfavourable changes in the set of the river as, e. g., in the year 1898, and to this cause, it would seem, is due the decline in the cultivation area from the year 1896-97. The construction of the Akil mouth in 1903 had no practical effect on this taluka, but its widening to 125 feet in 1905 improved still further the Nara and its branches and rendered the assistance of the Pritchard almost superfluous. A new feeder at the mouth of the latter canal constructed in 1903 had no permanent effect on the Sehwan taluka. In the past few years the Nara and its branches have been practically independent of the vagaries of the river so far as a Sind canal can be and the only ground of complaint in the dehs through which it passes is that they sometimes get too much water especially in the bimoki and rice lands. The Makiki (under which the Executive Engineer includes the Napat and Wabur canals) has varied with the vicissitudes of the Nara, but both it and the Muhammad Ali now give a perfectly satisfactory supply. Complaints have sometimes been raised about the needles set up on the Makiki, but I do not think they have had any justification. The Kur Aktar has also worked well in recent years but the rice lands upon it are usually flooded from the Manchhur and Nara. The Phitto in the

* Depression.

north of this taluka lies at the bottom of a deep dhor* so far below the general level of the land that the cultivation nowhere extends very far from its banks and there are few karias leading out of it which are maintained in repair. But it is fed not only by the Lower Nur wah in Dadu taluka but the Muhammad Ali wah from the Nara, and in this taluka has a very fair supply which lasts late into the rabi season. Its tail lands are apt to be flooded from the river in kharif but these floods produce very good rabi crops.

No other improvements have affected Sehwan taluka besides those here mentioned.

The average annual cost of canal clearance, etc., for the whole division is shown in the papers attached to the Dadu report. The figures have been given by the Executive Engineer jointly for the three talukas, and as both the Phitto and Nara serve more than one taluka it is impossible to give separate figures.

The cultivation under each kind of irrigation is shown in Appendix XII. In the year 1907-08 the inundation was exceptionally low and the figures for that year are not typical of the taluka. But in the previous 5 years 26.3 per cent. of the total cultivation of the taluka was kharif lift and 35.7 per cent. was sailabi. Sailabi crops are found chiefly in the dehs besides the Nara, the Manchhur, the Aral and the river. Kharif lift occurs everywhere but especially in the high lands in the centre to the north of the Dunster. There is but little rice; its area is only 10.5 per cent. of the total cultivation and it is practically confined to the Nara Valley and Manchhur. Bimoki is even less frequent and exists only near the Nara and upper part of the Muhammad Ali wah. Rabi lift is 8.4 per cent. and watered sailabi 8.5 per cent. of the whole cultivated area. Kharif lift has remained almost stationary and sailabi has declined during the settlement. The latter fact is partly due to the erosion of riverside lands. The area of rice has increased by about 1,200 acres during the settlement, chiefly in the Manchhur dehs where it has been encouraged by the high level of the Manchhur in late years. Manchhur rice is generally most unsuccessful but any other cultivation in the lowest lands is often quite impossible. The increase does not seem to be due to the improvements in the Nara for in the best Nara dehs rice has been stationary or has declined.

The Executive Engineer's map attached to this report shows the area under each canal. But the area now flooded every year from the Manchhur is considerably larger than that shown by him, though of course it is not easy to draw a line between the Manchhur flood and the Aral spill.

The number of wells intended for irrigation has increased from 35 in 1890 to 155 in 1907-08, but of this number only 50 were actually in use in the latter year although the inundation was a poor one. The figures given by the Executive Engineer in his list of wells appear to be incomplete. The crops commonly grown on wells in this taluka are wheat and garden crops and are usually excellent. Water is generally found as a rule from 15 to 25 feet, but occasionally it is as low as 30 or 35 feet. The increase in the number of wells in the taluka during the settlement has been continuous (except the very dubious figures for 1891-92 and 1892-93) and is remarkable. According to Appendix X however there has been a decrease in the number actually used for irrigation during the past few years. One reason for this may perhaps be found in the complaints I have heard from some zamindars that a well is apt to get out of working order before it has earned any large profit on the capital invested in sinking it. But whatever may be the truth of this it is certain that the area which can be cultivated on a well is much smaller than that irrigable from a wheel on a canal, and for this reason both zamindars and haris prefer to use a wheel on a canal if they can only be certain of a fairly constant supply in rabi. Thus the decrease in the number of wells used in the last few years is very probably due in great part to the improvement in the Nara and consequently in the Phitto, especially as it has been accompanied by an increase in the area of rabi lift.

History of the current settlement.

7. The current settlement which is the 1st irrigational settlement of the taluka was introduced in 1890 as a temporary experiment. In 1899 it was finally sanctioned and guaranteed for a period ending with the year 1899-1900. At the same time some modifications were made in the barani rates and the lease system was introduced into the hill dehs.

Mr. Berrie estimated the annual net collections under his proposed settlement at Rs. 94,786. According to Appendix XIII the average gross demand during the settlement has been Rs. 1,46,928 and the average of collections is Rs. 1,33,039. But the figures for outstanding balances shown in the appendix include a considerable amount of remissions sanctioned and collections made after the close of each year. If the figures for these be added to those in columns 3 and 4, the average of actual remissions from the gross demand is Rs. 11,076 and that of actual collections is Rs. 1,35,701, a very remarkable increase on Mr. Berrie's estimate. This is due to the fact that Mr. Berrie greatly under-estimated the area of cultivation which even in 1890-91 was 12,000 acres in excess of his figures and continued to increase during the first 5 years of the settlement. He also seems to have made no allowance for dubari.

Reasons for remission are shown in the table below.

Statement showing reasons of remission in Sehwan taluka:—

Year.	Deficient water supply.	Locusts.	Fire.	Floods.	Other reasons.	Fallow assessment.	Remission of portions of Nos. under Manohur water.	Insects.	Frost.	Kahr.	Sand.	Diluvion.	Total.
1890-1891	...	...	...	...	...	...	...	...	...	...	...	...	...
1891-1892	386 8	...	...	...	...	...	187 8	695 3	1,066 9	...	...	...	3,755 9
1892-1893	1,371 13	...	450 0	729 2	19 0	200 0	1,019 1	303 0	34 5	...	...	...	4,226 14
1893-1894	47 0	2,054 3	...	3,147 1	74 11	453 8	773 3	2,303 1	3,534 16	11 0	...	...	12,531 16
1894-1895	491 0	2,049 1	...	2,573 8	...	...	4,928 0	628 7	6,080 15	...	...	...	22,531 16
1895-1896	2,038 14	638 2	...	63 0	...	...	2,012 0	572 7	...	81 4	...	...	6,890 14
1896-1897	5,300 7	571 0	...	2,080 10	309 0	...	78 10	1,498 4	...	1,410 6	...	...	12,136 7
1897-1898	107 13	207 0	...	11,048 5	3,338 0	...	2,598 14	410 0	4,447 11	384 6	...	...	22,543 1
1898-1899	4,351 15	21 4	...	...	...	...	3,608 12	693 10	...	8 5	51 2	...	8,690 0
1899-1900	12,044 9	68 7	58 8	40 1	106 10	...	860 15	15 10	341 12	196 10	65 3	...	14,490 5
1900-1901	1,305 16	4,235 11	...	40 9	610 6	...	2,842 0	1,325 16	...	225 1	242 12	...	10,698 5
1901-1902	3,380 3	119 13	...	161 10	...	4,663 5	1,608 4	1,208 13	...	...	...	118 15	11,267 15
1902-1903	12,083 14	132 9	...	...	346 3	...	...	...	237 14	...	...	88 1	13,768 3
1903-1904	1,514 0	65 6	...	3,377 2	...	1,049 9	1,399 10	...	...	...	...	64 9	7,480 3
1904-1905	1,984 15	...	...	900 12	...	5,724 2	824 11	...	13,764 9	...	...	...	23,208 5
1905-1906	742 4	301 0	...	748 13	268 10	2,233 1	746 4	960 4	...	225 11	...	...	6,296 15
1906-1907	191 5	737 1	...	3,634 10	213 9	1,325 9	633 2	...	...	55 8	...	...	6,089 12
1907-1908	466 13	9 4	...	493 9	103 12	...	988 13	...	...	...	...	...	1,747 8

This statement refers only to the figures shown in column 3 of Appendix XIII. If the average amount of zerab and diluvion and naubati remissions be deducted, the annual average of remissions is only Rs. 8,442 or 5.74 per cent. of the gross demand.

The coercive processes employed are shown below.

Statement showing coercive processes resorted to in the Sehwan taluka during the current settlement beginning from 1890-1891 to 1907-1908.

Year.	143, LAND REVENUE CODE. NOTICES.			146, LAND REVENUE CODE.			FORFEITURES AND SALES OF MOVABLE PROPERTY, SECTION 154, LAND REVENUE CODE.			SALES OF IMMOVABLE PROPERTY, SECTION 155, LAND REVENUE CODE.			FORFEITURES FOR NON-PAYMENT OF FALLOW ASSESSMENT.						
	Cases.	Amount of arrears.	Notice fees.	Cases.	Arrears.	Amount levied.	Cases.	Arrears for which forfeiture was resorted to.	Arrears for which sale was resorted to.	Amount realized.	Cases.	Arrears for which sale was resorted to.	Amount realized.	Forfeiture.		Returned to the owners.		Ultimately lapsed to Government.	
														Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
90-1891	396	7,010 13 9	149 0	...	...	...	3	295 5	...	...	...	...	41	390 0	900 8	...	...	390 0	970 8
91-1892	292	4,615 9 0	126 8	...	...	...	...	...	...	...	...	...	11	118 15	266 0	...	...	118 15	296 0
92-1893	410	10,549 11 0	169 8	...	...	...	...	...	...	...	...	...	30	237 10	553 6	...	...	237 10	553 8
93-1894	572	11,992 11 5	240 0	...	...	...	3	519 15	...	...	...	...	79	2,004 15	5,314 0	...	...	2,004 15	5,314 0
94-1895	853	19,509 0 0	281 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
95-1896	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
96-1897	476	9,796 2 3	211 4	...	...	...	1	19 7	...	...	...	...	5	78 0	145 12	...	...	78 0	145 12
97-1898	643	23,407 2 1	371 4	...	...	...	1	51 10	51 10	3 8 3	...	...	55	909 19	2,292 10	...	...	909 19	2,292 10
98-1899	706	13,416 5 5	293 8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
99-1900	581	9,346 12 9	238 4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
00-1901	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
01-1902	789	27,410 10 5	346 12	...	...	...	...	...	...	...	...	...	132	2,050 17	5,569 6	852 12	925 1	1,608 5	4,668 6
02-1903	708	22,193 4 4	294 12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
03-1904	675	21,296 5 0	303 12	...	...	...	...	...	...	...	...	...	70	468 9	1,408 10	125 7	369 2	373 2	1,049 2
04-1905	757	31,058 0 7	339 4	...	...	...	1	251 13	251 13	69 1 0	...	...	236	3,623 1	7,747 10	694 4	2,022 2	1,826 27	5,725 2
05-1906	786	35,622 3 3	343 9	...	...	...	...	...	...	...	...	...	154	1,539 2	3,828 5	618 30	1,545 4	620 12	3,283 1
06-1907	729	48,623 0 8	331 4	118	1,104 15	194 15	...	...	...	...	...	...	100	811 8	2,164 5	204 14	838 12	616 36	1,526 9
07-1908	637	5,193 9 8	297 4	29	...	49 0	3	266 7	270 3	308 0 0	...	...	...	...	...	...	...	...	...

There are nearly Rs. 2,700 still outstanding on account of the past six years.

Arable Area.

8. The occupied area of the taluka is now almost exactly the same as in 1890-91. It is at present 44.3 per cent. of the total area of the surveyed dehs as, opposed to 42.3 per cent. in 1890-91. That there has been so little change in this respect is largely due to the fact that Fallow Rule No. 4 does not apply to the Manchhur or barani* lands which together form a large part of the taluka.

A decrease in the occupied area has principally occurred in the riverside dehs where it is due to erosion. The increases are small and call for no comment except in Shahgarh dhandan (460 acres) and Maheji (nearly 700). In the former,

deh land originally classed as uncultivable has been broken up for cultivation. In the latter, new lands have been taken up chiefly because there is no other new land available. In 1890-91 the area of cultivation was greatly in excess of the figures shown in Mr. Berrie's report for 1888-89. During the first 5 years of the settlement cultivation continued to increase probably on account of the improvement in the Nara after opening of the Pritchard wah in 1890. But since 1896-97 the area has again steadily decreased owing to the vagaries of the Nara and the river. Last year it was lower even than in 1888-89 but of course 1907-08 was a year of exceptionally low inundation and cannot be regarded as typical of the state of the taluka. The details for each deh are given in Appendix XII. In the 2nd group the decrease began in 1891-92 and has continued steadily ever since. This seems to be due to changes in the course of the river and to erosion.

Crops.

9. *Methods of cultivation.*—The area of the various kinds of crops grown in the taluka is shown in Appendix XI. The methods of cultivation are those employed in other parts of the district and call for no special remarks. It may however be noted that rice is to a very large extent sown broadcast (as in Johi and Dadu). No new staples have been introduced. The Sehwan Municipality once experimented in their garden with Egyptian cotton but it proved a failure. The principal crops of the taluka are juar, wheat, jambho, rice and ahur. Barley is grown especially in the kachas and on the Manchhur, and matar and chana* are grown as sailabi crops chiefly near the river. All the other ordinary crops are grown. Sugarcane exists only in a few gardens on the Dunster. Bhang is grown under license in the Bubak gardens. There is also a small area of cotton grown principally in barani or hill-stream lands.

*Matar is a kind of small pea or vetch, chana=gram.

Outturn and varieties.

(i) Rice.

10. Lari is almost the only variety grown in this taluka, doubtless on account of its powers of withstanding floods. Rice cultivation in Sehwan presents much the same features as in Dadu and Johi. Even in the best rice dehs the fields are liable to overwatering and there is little control over the supply of water. In the dehs on the Manchhur and the Nara tail the rice is always flooded. In Bilhan I saw a rice crop being reaped from boats this year. In such fields the rice is almost totally destroyed and even in the higher lands it is much overgrown with weeds and rushes and the produce is comparatively small. In Bed and Saidabad and parts of Supar, the crops are about as good as in Dadu, and their average outturn is, I should think, about the same, i.e., 35 kasas or perhaps 40. In the lower dehs the rice is no better than in Johi taluka. Unfortunately I reached the taluka after the crops had been reaped and before they were ready for *batai*,† and when I returned in February the grain had in most cases been removed. One number in deh Bed on which an experiment was performed by the Mukhtyarkar gave 60 kasas to the acre. Another in deh Gaher in 1906 gave 61 kasas. On the other hand the average of 9 numbers in deh Arbi this year was only 18 kasas to the acre, although in one field the outturn was as high as 30 kasas and in another 28 to the acre.

†Division of produce between zamindar and hari, etc.

(ii) Juar.

This year the juar crop was not so good in Sehwan (except near Bhan) as in the south of Dadu. But this was chiefly due to the ravages of the caterpillar. In an ordinary year the outturn is probably much the same in both. A field of moki‡ juar in Bed gave 35 kasas to the acre—this was decidedly a good crop. I doubt if the average moki crop even in an ordinary year produces more than 25 kasas to the acre or at most 30. The charkbi crops, in which I was able to test the outturn, all gave very poor results. Gaher gave 14 and 20 kasas, Talti gave 17, Jhandani 15, and a field in Arazi only 10. In all these cases however the

‡Irrigated by flow.

crops had been much injured by caterpillars and in Arazí by drabh* grass also.

*A coarse grass which is not easy to eradicate.

A *batai* statement received from the Manager, Incumbered Estates, gave the outturn of 5 numbers in Tando Shahbazi last year as 27, 25, 52, 20 and 42½ kasas per acre respectively or an average of 33 kasas per acre. Tando Shahbazi is not a particularly good deh and I have no doubt in many the average would be as high as 45 kasas.

The Gumrach hill-stream this year produced only 4 kasas of juar and 1½ of tir per acre. In Kai the contents of one *dera* of hill-stream juar worked out to 19 kasas per acre; but there were other fields which produced next to nothing.

In Nar Pir Arr which is also a hill-stream deh, one *dera* gave 30 kasas and another 17, and in Naing the average of six fields came to 18 kasas per acre.

(iii) *Wheat.*

The wheat was hardly ripe at the time this report was being written and therefore only two experiments have been possible. But an examination of *batai* books, the Manager's *batai* sheets and experiments by former Assistant Collectors show the following results in Sehwan and Dadu talukas:—

Deh.	Irrigation.	Outturn per acre.
Markhpur (Dadu)...	Chahi (kacha well) ...	55½.
Buthi (Dadu) ...	Charkhi aided by well ...	16 kasas.
" ...	" " ...	28 kasas.
" ...	Charkhi ...	44 kasas.
Bagh Yusif (Sehwan) (Average of 6 numbers.)	Charkhi (1906-07 or 1907-08).	8½ kasas.
Bagh Yusif (1909)	Sailabi + charkhi ...	20 kasas.
" ...	" } 1906-07	8½ kasas.
" ...	" } or	
" ...	Sailabi } 1907-08	14½ kasas.
Chachh ...	" ...	20 kasas.
Dhand Karampur ...	" ...	33½ kasas.
Sehwan (1909) ...	" ...	40 kasas.

(Decidedly good crop for sailabi.)

The Bagh Yusif results for previous years do not at all agree with the appearance of most of the crops this year. But in one of the years referred to, the wheat was damaged by rust and in another by the low inundation. The charkhi numbers were also, I believe, affected by kalar. The 20-kasa number experimented on this year was only a mediocre crop. The charkhi crops this year must have been over 40 kasas. They were certainly better than the Sehwan sailabi number given above.

Deh.	Irrigation.	Rate per acre.	Remarks.
(iv) <i>Jambho.</i>			
Sehwan ...	Sailabi ...	10 kasas ...	Crop only moderate.
Bubak ...	" ...	12½ " ...	Fairly good crop for sailabi.
Buthi (Dadu)	Bosi ...	8 " ...	
Kharizo (Dadu)	" ...	30 " ...	Very good crop.
(v) <i>Sariha.</i>			
Pipri (Dadu)	Charkhi ...	23 " ...	(The part reaped was very good.)
(vi) <i>Ahur.</i>			
Buthi (Dadu)	Chahi ...	11½ " ...	
" ...	" ...	8 " ...	

Prices.

11. Retail prices are shown in Appendix XV. If this Appendix has been correctly maintained (as to which I have doubts), it would seem that prices fell steadily from 1899 to 1904-05 and that it is only in the last 8 years that a rise has again set in. The price of juar is represented as being lower in 1907-08 than in 1899-1900 which does not seem very probable. Wholesale prices in the rabi of 1907-08 and the beginning of kharif 1908-09 were on an average as follows :—

	Rabi, 1907-08.		Kharif, 1908-09.
	Rs.		Rs.
Wheat,	100 per kharar		Rice (Lari), 50 per kharar.
Ahur,	108 "		Bajhri, 80 "
Jambho } Sariha }	110 "		Juar, 73 "

There is not the least doubt that wholesale prices have risen enormously in the past few years, e.g., in 1902-03 the price of juar varied between Rs. 30 and Rs. 40 per kharar.

Value of land.

12. The following statement shows the sales of land by auction for Civil Court decrees in the years 1905, 1906 and 1907. No earlier figures are available.

Deb.	Year.	Area.	Amount.			Rate per acre.	
			A. g.	Rs.	a.	p.	Rs.	a.
Nar Pir Arr	... 1905	60 0	1,158	9	4	19	6
Khabrot	... "	8 25	690	0	0	80	0
Fazlani	... "	2 21	1,050	0	0	415	13
Rohiri	... "	4 5	128	0	0	30	1
Dhal	... 1906	10 0	157	0	0	15	12 (is the leased deb).
Bajar	... "	2 16	123	4	0	51	4
Bilawalpur	... "	9 25	264	11	0	27	8
Bhutra	... 1907	3 23	126	14	0	35	0
Rohiri	... "	4 7½	125	0	0	30	0

Appendices VI, VII and VIII show returns of sales, mortgages and leases in the Sehwan taluka and the average price. I also give some individual instances of sales selected from the sub-registrar's records or obtained from other sources such as the Record of Rights.

Deb.	Irrigation.	Rate per acre.
		Rs.
A. Manchhur—		
Yakubani	... Sailabi	... 128
Fazulani	... Sailabi and charkhi kharif.	... 80
Pir Hasan	... Sailabi + charkhi	... 62
Bilhan	... Rice or sailabi	... 74
Khabrot	... Rice	... 50
Bajar	... Sailabi near Aral	... 110
B. Nara lands—		
Bed	... Charkhi + moki	... 60
Supar	... Rabi charkhi...	... 66
On Wahur wah		
Nara—		
Wahur	... Charkhi	... 30
Sultanpur	... Charkhi	... 53
Dal ...	... Charkhi	... 28

Deh.		Irrigation.		Rate per acre.	
				Rs.	
C. Phitto wah—	Bambha	...	Charkhi	...	32
	Talti	...	Charkhi	...	45
	Kalubhori	...	Charkhi	...	24
D. Dunster wah—	Tando Shahbazi...	...	Charkhi	...	48
E. Riverside lands—	Duridero	...	Jagir	...	71
	Jhandani	...	Sailabi	...	37

Judging partly by these figures and partly by the estimates of others, I should be inclined to put the average price of lands in the taluka as follows:—

	Rs.	Rs.
Near Nara	...	50 to 80
Manohur	...	80 to 100 according to position, etc.
Riverside land	...	30 to 80
Hill-streams and kacha wells	...	15 to 30
Well lands	...	50 to 100
Centre of taluka...	...	30 to 50. But near Bubak land is worth Rs. 100 per acre even if it be not one of the gardens.
Bubak gardens	...	400 to 600
Barani	...	10 to 15

Tenures.

The relations between haris and zamindars are on the whole satisfactory and applications under section 86 of the Land Revenue Code are very rare. But occasionally there is a difficulty in obtaining haris, especially in the barani dehs which have been very largely deserted by their inhabitants who have departed in search of new lands on the Nasrat and Jamrao. Maurusi haris are not found in any deh except Bandhri where their existence is recorded by the Record of Rights.

Batai rates.—These are shown in the table below. They vary greatly in different localities:—

Band Barani.

In some dehs	...	$\frac{1}{2}$ zamindar $\frac{1}{2}$ hari
		or
		$\frac{1}{3}$ " $\frac{2}{3}$ "
In Naghawal	...	If hari builds bands, zamindar $\frac{1}{4}$, hari $\frac{3}{4}$. If zamindar builds bands, zamindar $\frac{2}{3}$, hari $\frac{1}{3}$.

Kacha wells.

Hari $\frac{3}{4}$, zamindar $\frac{1}{4}$.

Hill-streams.

Bandhri	...	Hari $\frac{3}{4}$, zamindar $\frac{1}{4}$.
Gamrach	...	Hari $\frac{2}{3}$, zamindar $\frac{1}{3}$.
Kai and Naing	...	Hari $\frac{1}{2}$ zamindar $\frac{1}{2}$. (Zamindar pays all expenses and provides cattle and seed.)
Barki	...	Zamindar $\frac{1}{2}$, hari $\frac{1}{2}$. (Hari provides everything.)

Wheel cultivation.

Talti and neighbourhood.	Zamindar $\frac{1}{4}$, hari $\frac{3}{4}$.
Centre of taluka	... Zamindar $\frac{1}{3}$, hari $\frac{2}{3}$.
Manohur	... Zamindar $\frac{1}{3}$, hari $\frac{2}{3}$, as a rule,
Sometimes for sailabi madad charkij	... Zamindar $\frac{2}{5}$, hari $\frac{3}{5}$.
Bubak gardens	... Zamindar $\frac{1}{3}$, hari $\frac{2}{3}$.

Without wheel (rice, bimoki, sailabi, etc.)

Talti, etc. ...	... Zamindar $\frac{1}{3}$, hari $\frac{2}{3}$.
Centre of taluka	... Zamindar $\frac{1}{3}$, hari $\frac{1}{3}$.
	or
	zamindar $\frac{2}{3}$, hari $\frac{2}{3}$.
In Bagh Yusif ...	Zamindar $\frac{1}{3}$, hari $\frac{2}{3}$.
On Manchhur (usually) ...	Zamindar $\frac{1}{2}$, hari $\frac{1}{2}$.
(but for lands cultivated	
two years in succession)	Zamindar $\frac{2}{5}$, hari $\frac{3}{5}$.
(and for lands very foul	
with weeds)	... Zamindar $\frac{1}{3}$, hari $\frac{2}{3}$.

In dehs Bhan and Sheikh a system of cash-rents, together with a fixed amount of corn also exists as well as the *batai* system. The most usual rents are Rs. $2\frac{1}{2} + 2\frac{1}{2}$ kasas or Rs. $1\frac{1}{2} + 1\frac{1}{2}$ kasas per jireb according to the distance of the land from the Muhammad Ali wah. A further 4 kasas per jireb is sometimes paid to the zamindar for the expense of clearing the jungle. The large zamindars have each year a few "Sir" numbers in which the zamindar pays all expenses and supplies the bullocks. For the actual labour of cultivation he engages a hari who receives $\frac{1}{2}$ or $\frac{1}{3}$ of produce as wages. A system of *batai* leases also exists in the taluka, chiefly among small zamindars without capital and big zamindars without energy or capacity. But even the best adopt it if they can for risky lands. As described to me the arrangement is that the zamindar takes $\frac{1}{2}$ of the zamindari share and pays $\frac{1}{2}$ of the assessment. The bania pays the rest and takes the other half of the *batai*, and also pays all the expenses of clearance and advances takavi without interest to the haris. Thus the zamindar reduces his income by half and gains in return nothing except a complete freedom from all risk and from responsibilities of his position. If there were any great risk attending the cultivation of the lands it is extremely unlikely that any bania would take up the lease at any rate on those terms. The ordinary cash leases also exist—their conditions are the same as in other talukas.

Condition of cultivating classes.

13. The haris in this taluka are comparatively poor—much poorer than in the Mail country for example. Many of these are in debt to banias and suits against them in the Civil Court are frequent.

A very large proportion of the lands in Sehwan taluka has passed from the hands of Musalmans to Hindu banias, but the process of transfer is slower now than in former years. Between 1897-98 and 1901-02 an average of 1,182 acres a year were sold to banias. In the last 5 years the average was 671 acres. Many of the larger Musalman zamindars are however still deeply in debt and others have only cleared themselves by parting with their lands. The Hindu zamindars are as a rule prosperous but then they usually combine agriculture with retail trade and sometimes with money-lending.

The following statement shows the size of various *khatas* (within the limits of a deh) and the proportion of Musalmans to Hindus.

	UNDER 5 ACRES.		FROM 5 ACRES TO 25 ACRES.		FROM 25 ACRES TO 100 ACRES.		FROM 100 ACRES TO 500 ACRES.		ABOVE 500 ACRES.		TOTAL.	
	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.
1890-1891 ...	838	...	1,472	6	630	1	148	4	12	5	3,100	16
Hindu ...	301	...	513	1	228	...	65	...	3	1	1,108	2
Musalman ...	537	...	960	5	402	1	83	4	10	4	1,992	14
1907-1908 ...	750	4	1,505	3	634	...	191	3	9	7	3,089	17
Hindu ...	330	...	780	1	284	...	120	...	4	1	1,518	3
Musalman ...	420	4	725	2	350	...	71	3	5	6	1,571	15

According to this the number of Hindu khatedars is now 49.14 per cent. of the total number, whereas in 1890-91 it was 35.64 per cent. And *khata*s of less than 25 acres are now 73 per cent. of the total as compared with 74.51 per cent. in 1890-91. The figures are not very instructive because many persons own land in more than one deh and of course the "registered khatedar" has very often no interest whatever in the land. Unfortunately however the Record has no index and it would have been impossible for the tapadars to have worked out the figures from the various scattered entries in addition to all their ordinary work. Nevertheless I think that the proportion of small zamindars in Sehwan is still large, especially in the tapas of Bhan and Talti, though it appears to be diminishing. The decrease in their numbers would seem to show that the peasant proprietor is no more successful than the great landowner in keeping out of the money lender's clutches. This must be due partly to their own lack of energy and inability to combine with each other, and partly to lack of capital. No doubt the Manchhar zamindar suffers considerably in bad seasons especially of late years, and the other parts of the taluka do not allow a large profit to be made from agriculture. But I doubt whether the banias would be so ready to invest their money in land in almost every part of the taluka, unless some profit could be made out of it.

No improvements have been effected by zamindars in Sehwan taluka, and in many parts they have failed to keep in repair karias already existing. In this respect the banias are as much to blame as the Musalmans. Most of the lands round Talti are now in the hands of the banias and yet a large part of that deh remains uncultivated simply because they will not take the trouble to clear their karias. And this is not due to lack of capital for some of them are comparatively wealthy men.

Proposed grouping.

14. It should first be explained that I propose that the two large dehs of Bubak and Yakubani should be split into 3, a new deh being formed out of the north-eastern portion of Yakubani and north-western portion of Bubak. This will include all the garden lands and the best of the other lands in the existing dehs of Bubak and Yakubani. The garden and rabi charki lands are about the best in the division. The sailabi lands being at some distance from the Manchhar are not flooded every year and therefore when they do receive a sailab they are free from weeds and produce very excellent crops. This new deh (of which a map is attached) I propose to call Bubak. The remainder of the old Bubak (which will now be called Jaheja) consists partly of kalarati* lands in the north-east which usually produce inferior crops; and partly of the lower sailabi lands which are flooded every year and in consequence are covered with weeds and grass and produce little or nothing. The remainder of Yakubani (which will still retain that name) will also consist of the lower sailabi lands. A large part of both these dehs never comes out of water at all. The new Bubak will be in group I, Jaheja and Yakubani in group II.

Group I.		Group I—continued.	
Name.	Old group.	Name.	Old group.
1. Sehwan	I	13. Sheikh	I
2. Chhach	I	14. Bed	I
3. Dhand Karampur	I	15. Akatar	I
4. Chana	I	16. Supar	I
5. Lashari	I	17. Wahur	I
6. Karampur	I	18. Gaher	I
7. Shahgarh-Dhandan	I	19. Jafarabad	I
8. Talti	I	20. Bubak (new)	I
9. Kalubhori	I	21. Arazi	I
10. Bambha	I	22. Dal	I
11. Bhan	I	23. Karani	I
12. Saidabad	I	24. Bakhtawarpur	I

Group I—continued.			Group II.		
Name.	Old group.		Name.	Old group.	
25. Sultanpur ...	I		42. Arbi ...	I	
26. Tando Shabbazi ...	I		43. Abad ...	I	
27. Bagh Yusif ...	I		44. Maheji ...	I	
28. Rohri ...	I		45. Fazulani ...	I	
29. Bilhani ...	II		46. Yakubani ...	I	
30. Nar Pir Arr ...	I		47. Jaheja ...	I	
31. Bandri ...	I		48. Bilhan ...	I	
32. Naing ...	I		49. Khabrot ...	I	
33. Kai ...	II		50. Bhutra ...	I	
34. Naghawal ...	I		51. Theri ...	I	
35. Duridero Jagir ...	...		52. Akri ...	I	
36. Bilawalpur ...	II		53. Kachi ...	II	
37. Jatoi ...	II		54. Wanecha ...	I	
38. Khairodero ...	I		55. Bajar ...	I	
39. Jhandani ...	I		56. Pir Hasan ...	I	
40. Dhal } Leased dehs ... {	I		57. Jhangar ...	I	
41. Chorlo } Leased dehs ... {	II		58. Kot Barocho ...	I	
			59. Trenhi ...	I	
			60. Gamrach ...	I	
			61. Munhmukhri ...	II	
			62. Barki ...	II	
			63. Tal (Abad Jabal) ...	II	
			64. Maliriri } Leased dehs ... {	II	
			65. Radhak } Leased dehs ... {	II	
			66. Badro } Leased dehs ... {	II	
			67. Kandhi } Leased dehs ... {	II	

Promotions from 2nd to 1st group.

Bilawalpur and Jatoi are both situated on the edge of a *wahur*. Their kharif crops are certainly not very good, but they are also not very extensive. And the greater part of these two dehs is flooded in the inundation and produces very excellent sailabi crops in rabi provided the season is a favourable one. A rabi cold weather supply from the *wahur* and its branches is available in many parts.

Shahgarh Dhandan also receives an ample sailabi from the river and the Talti dhand. When the sailab supply fails, it has still a never failing charkhi rabi supply from the Talti dhand. Kai has an excellent supply of water from a hill-stream and as a rule its crops are at least as good as in the neighbouring deh of Naing. The position of Khairodero and Jhandani appeared somewhat doubtful. Both have a very respectable water-supply (chiefly sailabi) from a *wahur*,* and in this respect they are at least as well as Aminani and Nurja in Dadu taluka.

Jhandani is very much overgrown with weeds and jungle and probably for this reason there is not much wheat grown in it. But the soil is good enough and the matar and chana crops appear to be as good as in most dehs. The lift juar crops round the villages of Babruin and Budhar are also very fair as a rule. In Khairodero the soil is somewhat sandy, but the cultivation is very largely sailabi, and if the deh be placed in the 1st group there will be an increase of 2 annas only on the sailabi and watered sailabi crops and on these reasons I have raised them to the 1st group. Had they remained in the 2nd there would have been a considerable decrease on the sailabi crops and for this I do not think there is sufficient reason. The increase in kharif charkhi will be considerable but I think not more than they can bear. Bilhani contains only kaacha wells and barani crops and the rates for these are the same in both groups.

2nd group.

This consists principally of Manchhur dehs, the condition of which is much the same as that of the Manchhur dehs in Johi. As has been pointed out in paragraph 6 the lands on the verge of the Manchhur are submerged every

inundation and not only are the rice crops destroyed but the rabi lands are so thickly covered with grass weeds and rushes that it is difficult to grow a successful sailabi crop. Even on the southern shore, which is for some reason less weedy than the others, the unploughed sailabi crops are often of little value except fodder, the ploughed crops are very thin and poor and the sailabi madad charkhi crops are not much better than sailabi crops elsewhere. The work of clearing the fields of weeds, if possible at all, involves considerable trouble and expense. In Trenhi and Kot Barocho, Pir Hasan, Jaheja, Yakubani, Fazulani, Maheji and Bilhan, a large area remains submerged for years together. In some of these dehs remissions are usually high and the rice where it exists is always very bad. For these reasons it appeared desirable to put all the Manchhur dehs in a lower group and on a level with the Johi dehs. Kachhi and Akri are both largely barani dehs but their northernmost parts are flooded by the Manchhur. In Akri there are only 28 irrigated rayati numbers and of these 18 were this year cultivated as unploughed sailabi for which there is a special rate. But in the ploughed lands the crops were decidedly poor and in future years the ploughed area might be more extensive. It therefore seems advisable to reduce it to the 2nd group. In Kachhi the irrigated area is also small but it is more remote from the Aral and Manchhur flood than Akri. There is however a good deal of kalar in the higher irrigated parts. In a high inundation its kharif crops are destroyed by flooding and its sailabi is poor. In a low inundation its sailabi lands do not receive sufficient water. In Bajar and Wanecha the northern lands were this year mostly unploughed, and as is usual with such lands almost unproductive. The ploughed crops in Wanecha were in most fields as poor as those of Akri and Kachhi; in Bajar they were slightly better. Both dehs contain a large area of charkhi kharif which in most years is fairly good, and for this reason I was at one time inclined to leave them in group I. But the kharif is liable to be flooded in a high inundation, and as the conditions of sailabi cultivation are essentially the same in these and all other Manchhur dehs, I think it would be wiser to accord the same treatment to all. In Khabrot and Bhutra the lower lands have suffered very greatly from constant flooding and from growth of weeds and jungle and a great deal of the sailabi is usually poor. The northern parts of these dehs consist largely of kalar land.

In Abad there is a great deal of very bad rice and some sailabi which is also poor enough. The rice in this and the other Manchhur rice dehs is always overflowed and foul with rushes and weeds. Its condition is precisely similar to that of the rice in Johi taluka which has been described in the Johi report. Dubari crops are rarely grown either because Lari rice ripens so late that there is no time after harvest to grow dubari; or more probably because owing to the weeds and the hardness of the soil when it has once "set," the land has to be ploughed in February to prepare it for the coming kharif.

Arbi is not strictly a Manchhur deh. But it has a very large area of rice which is flooded from the Nara in much the same way as the Manchhur dehs and its rice fields are also full of weeds. The average outturn of 9 fields, whose produce I found in a *dero* in this deh, was only 18 kasas per acre. In the centre of the deh there is a great deal of kalar which seriously injures the crops in that neighbourhood. In the east the soil and water-supply are both good, but considering the condition of the rice lands I think the deh should go into group II.

Jhangar very rarely has any irrigated crops. Considering its distance from the Manchhur the water-supply must always be inadequate and the crops poor. The irrigated parts of Theri are flooded by the Aral and Dadeji dhoro and of late years it has become thickly covered with weeds and rushes in some parts and with drab in others. Its kharif area is insignificant, its sailabi and aided sailabi crops are poor, and the fields near the Sehwan road have a poor and thin soil. Much of the deh is a jagir, the lease of which was taken up by a syndicate from the Collector under whose protection the jagir is. The syndicate lost so heavily both over the barani and the irrigated parts that they had to apply to the Commissioner for a reduction of the lease money, which they obtained. The rayati parts of the deh are no better than the jagir though they may be better managed. The only cultivation in Muhmukhri is in one small

field on a hill-stream in a distant corner of the deh close under the Badro hill. The water does not seem to be deficient, but the soil is rather thin and stony and the place remote. Gamraoh has a rather precarious hill-stream supply

from one small *soahi** and the outturn of its kharif hill-stream crops this year was much lower than in other dehs (see paragraph 9). Barki is often uncultivated. When there is any cultivation it is in rabi on the surplus water of a stream which comes out of deh Naing. The cultivated fields are thickly covered with kalar deposited by this stream and the crops are very poor. There are one or two dehs whose position appeared somewhat doubtful at first. Bagh Yusif should be an excellent deh for it lies between 2 perennial canals and is near the town of Sehwan. But it is much overgrown with drabh grass and there is also a good deal of kalar in some parts and for this reason many of the crops, especially the sailabi in the centre and south of the deh, are in most years decidedly bad. But on the other hand the charkhi and sailabi madad charkhi crops on the Dunster and near Bagh Yusif village are this year decidedly good and even the sailabi in places is fair. This proves that kalar and drabh do not make it impossible to grow good crops in the deh, and as the water-supply is always good I think the deh should remain in the 1st group. There is a marked contrast between its condition and that of its neighbour Bhutra. The poor sailabi crops will in any case receive relief by the reduction of the 1st group sailabi rate from Rs. 3-4 to Rs. 3 (see 15) and the rabi charkhi area is too extensive to be ignored.

Sehwan in some respects resembles Theri. It also is much overgrown with drabh and the soil of the lands near Sehwan-Bajar road is both shallow and poor. On the other hand it is even nearer the town than Bagh Yusif and it has good rabi cultivation along the bank of the Aral, especially on the Lakhi road. The proportion of good lands to the bad is higher than in Theri and for these reasons I have left it in the first group.

Arazi and Tando Shahbazi have been much overgrown with drabh of late years and a large area in both dehs has gone out of cultivation. But Arazi and most of Tando Shahbazi seem to be free from kalar and in an ordinary year they can produce fairly good crops as is shown by the outturn of fields in Tando Shahbazi given above. The water-supply of the kabuli lands is as good as that in most 1st group dehs and they are not subject to such disastrous floods as the Manchhur dehs. Tando Shahbazi usually has some very fair rabi crops on the Dunster.

Gaher has had high remissions in the past. Its rice lands amount to 129 acres and these are of course liable to be flooded if the inundation is high. But on the other hand a high inundation produces very fair sailabi crops and it is too far from the Manchhar to be in danger of constant overflowing. Even the rice is at times very good; in 1906 a rice experiment in this deh showed an outturn of 61 kasas per acre. In the east of the deh the rabi and lift crops on the Gaher dhand or dhoro are good, and as the rice is only a small part of the total cultivation of the deh, I think there is no need to reduce it to the 2nd group.

15.—

Rates.

Irrigation.	Proposed rates, group I.		Old rates in each of old groups.		Difference.		Proposed rates, group II.		Difference.		
	Rs.	a.	Rs.	a.	Rs.	a.	Rs.	a.	Rs.	a.	
Rice	4	0	I II	3 3	+0 +1	10 0	3	0	I II	+0 +0	0 0
Bimaki	3	0	I II	2 2	+0 +0	2 2	3	0	I II	-0 Nil	0 0
Charki madad moki	2	10	I II	2 2	Nil +0	0 0	2	2	I II	-0 -0	0 0
Kharif charkhi	3	0	I II	2 2	+0 +0	2 2	3	0	I II	-0 Nil	0 0
Rabi, bost, moki and sailabi	3	0	I II	3 2	-0 +0	4 2	3	0	I II	-0 -0	10 0
Bost, moki and sailabi aided by lift	3	0	I II	4 3	-0 +0	4 2	3	0	I II	-0 -0	10 0
Rabi lift	4	0	I II	3 2	+1 +1	0 0	3	0	I II	+0 +0	0 10

Irrigation.	Proposed rates, group I.	Old rates in each of old groups.	Difference.	Proposed rates, group II.	Difference.
	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
Gardens ...	According to mode of irrigation.	Rice ...	See remarks ...	{ According to mode of irrigation.	See remarks
* See below special watered dubari rate for Hubak and Jafarabad.	Watered* ...	0 4	+1 12	0 0	+1 12
	Unwatered hill-stream dubari and kacha well dubari ...	0 8	+0 4	0 8	+0 4
Barani kharif and rabi	0 8 and no remissions.	Barani kharif ...	1 0	-0 8	0 8
		Barani rabi I ...	1 4	-0 12	0 8
		Barani rabi II ...	1 0	-0 8	0 8
		Barani kharif I ...	1 12	-1 4	0 8
		Barani kharif II ...	1 8	-1 0	0 8
Black water and hill-stream (flow) kharif and rabi	1 12	Kharif I ...	1 8	+0 4	1 4 { Kharif I-0 4 II nil Rabi I-0 12 II-0 8
		Kharif II ...	1 4	+0 8	
		Rabi I ...	2 0	-0 8	
		Rabi II ...	1 12	Nil	
Kacha wells in barani lands and lift on hill-stream kharif and rabi	1 4	Kharif I ...	1 8	-0 4	1 4 { Same as above
		Kharif II ...	1 4	Nil	
		Rabi I ...	2 0	-0 12	
		Rabi II ...	1 12	-0 8	
Wells (including kacha wells in irrigated lands)	Kharif lift ...	Same as kharif lift	Nil	Kharif lift	Nil
<i>Special rates (kachas).</i>					
Kharif	2 0	2 8	Nil		
Rabi ploughed of all kinds	2 0	Wheat and barley ... 3 0	Nil		
Rabi unploughed of all kinds	1 8	Other crops ploughed 2 12 Do. unploughed 1 8	Nil +0 8		
<i>Manchhur.</i>					
Unploughed sailabi of all kinds	{ Both groups 1 8	Unploughed ahur ... 2 8	Nil		
Ploughed sailabi of all kinds	I 2 0	Other do. crops ... 2 4	-1 12		
Ordinary sailabi	II 2 8	Ploughed ahur ... 2 0	In new group I ... +1 0 " " II ... +0 8 " " I ... -0 4 " " II ... -0 12		
*Special watered dubari rate for Hubak and Jafarabad	2 8	Other do. crops ... 2 4			

Note.—Barani groves and kachas (other than rent free huris) to be assessed as is now the practice at 1/4 the bimoki rate, i.e., group I, 1/8 annas, group II 1/10, and huris given under Special Circular 2 (pages 66-79) will remain free of assessment.

The 1st class irrigated rates are the same as those proposed for Dadu and the 2nd class rates are those proposed for Johi taluka. They have already been discussed in the Johi and Dadu reports and it seems unnecessary to repeat here at length the arguments in their favour.

The 1st class rice dehs are all on the Nara in the north-west corner of the taluka and their condition is practically the same as that of the Dadu rice dehs. Only the coarser varieties are grown, and there is the same difficulty in controlling and regulating the supply of water that is felt in Dadu; but they are free as a rule from the disastrous floods which destroy the rice in the dehs of the new 2nd group. The position of the latter both as regards rice and sailabi cultivation is very much the same as that of the Johi dehs and the rates have accordingly been assimilated to those of Johi.

In the 1st group the increase on the old 1st group dry crop kharif rates is very slight and as the kharif lift rate in Dadu is certainly low, I see no reason to suppose the rate will be too high in Sehwan. It did not seem possible to put the bimoki rate any higher, for the bimoki crops in Sehwan are never very good and are certainly no better than those in Dadu. And with a low bimoki rate a high kharif charkhi rate is impossible. In order to assimilate the rates to those of Dadu taluka, the sailabi and sailabi madad charki rates of the 1st class dehs have been reduced by 4 annas. The bosi and sailabi lands of this taluka are in no way superior to those of Dadu. Oilseed crops especially, even in the 1st group dehs, are often very poor, and even if the crop is fairly good in quality there are many bare patches producing nothing. It would not be fair to base the sailabi and bosi assessment on the good wheat crops without considering the poorer oilseeds.

Apart from this there appears no sound reason why bosi cultivation should be charged any higher rate than bimoki kharif of which it is the counterpart. If there is any difference the advantage seems to be with bimoki which is at any rate more certain. And sailabi cultivation though profitable enough in favourable circumstances is always risky. This change involves a 12 annas reduction in the dehs reduced from group I to II. But this seems to be justified by the precarious character of sailabi cultivation on the Manchhur and by the reason which have been given for putting them in group II. The

2nd group kharif lift rate remains unaltered, but this means a reduction of 6 annas for the dehs reduced from group I. This reduction is certainly less necessary than that on sailabi and rice but cannot well be avoided. The dehs could hardly be placed in the 2nd group for the purposes of rice and sailabi and in the 1st for the dry crop rates. Nor does it seem possible to raise the 2nd class dry crop rates. This would bring them much too near to the rice rates, and it would also be hardly fair in essentially poor dehs like Theri and Kachhi. Even in Bajar, Wanecha and Pir Hasan although the kharif lift can be very good, yet in years of high inundation it is liable to be flooded for it is impossible to know before hand exactly how high the lake will rise.

Rabi lift is being raised all round and is put on a level with sailabi lift. The reasons for this are given in the Dadu report. *I.e., bosi which has been given by a wheel. Rabi charkhi in this taluka is as a rule quite as good as in Dadu, especially if the bad "charkhi bosi" crops are treated as bosi according to the definitions proposed in Rule 14 of Appendix A. The rabi charkhi gardens at Bubak and the charkhi wheat numbers which are grown beside them are among the most fertile lands in the district. The *batai* rate for charkhi and for bosi or sailabi aided by charkhi is usually the same.

As in other talukas I propose that gardens should be assessed according to the method of irrigation employed. Almost all of the true gardens in this taluka receive charkhi canal supply in winter, but onions are often grown on a well in late rabi and melons are grown as sailabi in adhanwa.† The result of the proposed change will be as follows in the 1st group dehs—

- (i) If a garden is cultivated in kharif with lift canal water and in rabi with a well, or if melons are grown as a sailabi adhanwa crop there will be a decrease of one rupee on the old rates (lift 2-8+8 annas as dubari=Rs. 3-0 rabi sailabi rate=Rs. 3 old garden rate Rs. 4-0). If it be cultivated in rabi alone on a well the decrease will be Rs. 1-8.
- (ii) If it be cultivated with rabi lift on a canal there will be no change in the ordinary dehs. In the old deh of Yakubani there was a special garden rate of Rs. 4-8, and in the old Bubak deh and Jafarabad Rs. 5-0. On these there will be a decrease of 8 annas and one rupee respectively.
- (iii) If it is cultivated with both kharif and rabi on a canal it will now pay Rs. 4-8, i. e., there will be an increase of 8 annas in ordinary dehs. There will also be an 8 annas increase in the old Yakubani numbers and no change in the old Bubak numbers and Jafarabad if the special watered dubari rate is approved for those dehs.

About $\frac{2}{3}$ of the gardens round Bubak are cultivated with rabi lift only and about $\frac{1}{3}$ with both kharif and rabi lift on a canal. The decrease in these is unfortunate, but I do not see how it can be avoided without abandoning the principle of assessing all numbers according to the method of irrigation employed. There is no doubt the old special garden rates were opposed to the spirit of an irrigational assessment and were to some extent a tax on industry and on superior methods of cultivation, for the fertility of these garden numbers is due largely to the greater care and labour and expense with which they are cultivated. It is not possible to propose a special rabi charkhi rate for Jafarabad and Bubak, because there is also a large amount of charkhi wheat in the deh and this can hardly be rated higher than Rs. 4-0. I think however it would not be unfair to propose a special watered dubari rate of Rs. 2-8 for the new deh Bubak and Jafarabad. This will make the combined kharif lift and dubari Rs. 5-0 as opposed to Rs. 4-0 for rabi lift. The kharif garden crops are certainly worth the extra rupee. Watered dubari crops are in almost every case in gardens in these two dehs. I can discover no difference at all between gardens which are now in Yakubani and those in the existing deh of Bubak. In Fazulani they have long since ceased to exist.

Barani.

This rate is the same as is proposed for the Johi group III (B) dehs. The reasons for adopting this very low rate are given in the Johi report. Barani cultivation in Sehwan is no more successful than in Johi as a rule, although it is much less extensive. Remissions are seldom applied for or given but, whatever the reason for this may be, it is certainly not due to the superiority of the crops. In Kai (which is a hill-stream deh) I discovered that many of the khatedars were under the impression that no remission could be given on un-irrigated lands and possibly the owners of barani lands have been under a similar misapprehension. In any case I can see no good reason for making a distinction between Sehwan and Johi.

Hill-stream.

There seems no reason why the rabi rate should be higher than the kharif. The rabi crops enjoy no special advantage over the kharif and the water-supply is the same for both. A supply of water from the Indus in the cold weather is certainly a privilege which should be paid for but these streams are exactly the same all the year round. I have therefore fixed a single rate for both intermediate between the old 1st class kharif and rabi rates. Hill-streams are less productive than the water of the Indus, partly no doubt because they are not laden with silt and partly because they usually wash down kalar into the fields. Each field has to wait its turn and sometimes several days elapse between each watering. The dehs are remote from any market or railway and for all these reasons it seems inadvisable to raise the rate.

Kacha wells.

I propose to fix a lower rate for kacha wells in barani lands. Of course this rate will not apply to kacha wells in irrigated lands which should pay the ordinary well rates. There seems to have been some confusion on this point during the current settlement. The crops grown on kacha wells in barani lands are usually quite as good as those on the hill-streams, but the cultivation is more expensive and troublesome. They are often very deep. I saw one which was said to be 30 feet and looked more and a good deal of it was through hard rubble or rock. They may last as long as an ordinary puka well, but they may also at any time be filled up by a torrent from the hills. They are both constructed and maintained by the haris and their cost does not therefore directly affect the assessment, but it is reflected in the lowness of the zamindar's *batai* share, *i.e.*, $\frac{1}{4}$. The only lift crop on a hill-stream I have seen was in deh Dhal which is under a lease. But if it ever exists in a settled deh it can most conveniently be assessed at the same rate as the kacha wells.

The kacha rates are the same as those proposed for Dadu and the Manchhur special rates will be the same as in Johi. The reasons for the changes which have been made are given in the Johi and Dadu reports.

I propose that all the dehs of the taluka should pay the charkhi madad moki rate for combined irrigation. There are only two, Supar and Bed, in which the bimoki area usually exceeds the lift and in both these the difference is slight.

Leased dehs.

I would recommend that the system of leases introduced into these dehs by Sir Evan James be maintained. They are all remote from the head-quarters of any tapa. If the ordinary acreage assessment system were introduced it would not only give a great deal of unnecessary trouble to the inhabitants, who would have to journey down to Jhangar, Trenhi, Bajar or Theri or even Sehwan, whenever they wished to see the tapadar; but it would also greatly increase the work of the tapadars themselves. In fact it would probably require an increase in their numbers and thus prove more expensive than it was worth. I propose to reduce the rate from 12 annas to 8 annas per acre for dehs Badro and Kandi, Radhak and Maliriri. There is obviously no reason to charge a higher rate on band barani in these dehs than in the settled dehs. In Maliriri the kharif cultivation (when there is any) is all band barani and the crops are most miserable. There is one rabi field at the foot of the eastern hills which I

have not seen, but I believe this is also band barani and not on a spring. In Badro the cultivation is also band barani, but in Kandi there is a small hill-stream on which rabi crops are sometimes grown in one or two fields. In Radhak there is also a small hill-stream which gives an extremely exiguous supply to 3 or 4 fields. The rest of the cultivation is band barani. In Dhal most of the cultivation is on hill-stream but there is also some barani. Judging by the last 2 years the former is decidedly good, the latter very poor. This year out of 82½ acres 75 acres were watered by hill-stream. As the whole amount of lease money has to be paid whether there is any cultivation or not, I think the rate of one rupee fixed by Sir Evan James is a fair one. In Chorlo this year 30 per cent. of the total cultivated area received black water. In this deh the spring is in the bed of a *nai* and seems to be somewhat less certain than that of Dhal. The barani crops this year and last were good and there were even excellent crops of barani wheat. On the other hand there were two years in which there was no cultivation at all, and no doubt the barani crops in many years are far from good. I think the present 12 annas rate all round should be maintained in this deh; it would hardly be fair to assess it at the same rate as Dhal, for a much larger proportion of its cultivation is purely barani and yet the 8 annas rate would be rather too low.

There are certain fields on top of the Badro mountain which were originally jagirs, but having lapsed to Government they are now outside the lease and pay ordinary rates according to the cultivation. This is obviously inconvenient for they are less accessible than most of the leased lands. I would therefore propose their inclusion in the lease. The owners do not show any strong objection to this proposal.

None of these should be rated higher than 8 annas for the crops are of the poorest kind.

The grazing fees I propose to leave as at present except in Maliriri. In this deh there is little grazing and Sind cattle seldom, if ever, enter the deh, whereas in the other dehs cattle from Sehwan, Jhangar, etc., are taken up into the hills to graze and the lessees collect fees from their owners at the rates sanctioned in the sanads. I have not been able to discover on what principle the grazing fees were fixed, but they appear to be judiciously moderate and I think might be left unchanged except in the old anuas. These have been altered in order to make the total lease money an even number of rupees. The result of these proposals is shown below:—

Deh.	Cultivated area in Sir E. James' statement.		Average area of milch-pasture for the last 8 years 1890-91 to 1908-09.		RATE PER ACRE.		TOTAL CULTIVATION RES.		GRAZING RES.		TOTAL AMOUNT OF LEASE MONEY PER YEAR.		DIFFERENCE.	REMARKS.						
	A.	S.	A.	S.	Present.	Proposed.	Present.	Proposed.	Present.	Proposed.	Present.	Proposed.								
Radhak	11	30	0	12	0	8	8	18	5	7	3	3	12	0	9	0	— 3			
Maliriri	3	37	0	12	0	8	2	15	1	0	1	1	4	0	1	0	— 3			
Dhal	80	3	0	1	0	1	80	1	64	0	15	15	15	7	105	0	80	0	— 25	
Chorlo	105	14	0	12	0	12	79	13	48	4	10	4	19	14	20	0	53	0	— 37	
Do. (Rayati deids)	0	8	1	14
Badro Jahab and Kandi	100	17	0	12	0	8	22	3	33	4	12	15	12	3	25	0	40	3	— 47	
Do. (Rayati fields)	0	8	3	9
TOTAL	320	21	106	17	...	...	...	...	...	...	...	...	306	0	191	0	— 115		

I have no changes to propose in the wording of the sanads. The persons to whom the leases should be offered are as follows:—

Radhak	... Zunu Khan Shahani	... The present holder and son of Ali wd. Singhar the former lessee.
Maliriri	... Sao Khan Gabol	... The original lessee.
Dhal	... Maula Baksh Khan Gabol	... The present holder and son of Faiz Muhammad the former lessee.
Chorlo	... Dherak Khan Gabol	... The original lessee.
Badro and Kandi	... Fatch Khan Gabol	... The original lessee.

There are various co-sharers in the leases by private agreement but it seems unnecessary to record their names in the lease.

Financial Results.

16 and 17.—The result of the proposed settlement in the surveyed dehs of the taluka including the dubari figures is an annual revenue of Rs. 1,35,395, i.e., there will be a net decrease of Rs. 4,839 or 3.45 per cent. This estimate does not take into consideration the effect of the changes in the special rates of the Manchhur and of the special watered dubari rate in the gardens of Bubak and Jafarabad since for both of these there are no figures available. In fact all gardens have been taken at the rabi charkhi rate as a mean between kharif lift+watered dubari on the one hand and rabi sailabi or rabi chahi* or

*Well.

kharif lift watered dubari on the other. The number of gardens watered from canals is much larger in this taluka than in Dadu.

When the figures for unsurveyed cultivation and the leased dehs (as shown in Appendix XVI) are included, the result will be Rs. 1,38,963, showing a decrease of Rs. 4,894 or 3.40 per cent. I do not see how the decrease could well be avoided. Although the condition of Sehwan taluka is on the whole inferior to that of Dadu, its lands have hitherto been assessed in many cases at considerably higher rates. This was especially the case in the sailabi and sailabi madad charkhi rates, the reduction of which in Sehwan is partly responsible for the decrease in that taluka. Any attempt to equalise these rates in the two talukas must necessarily involve either a decrease in Sehwan or an increase in Dadu which did not appear justifiable. In the second place the precarious character of the cultivation on the Manchhur and in barani lands seemed to call for a specially lenient treatment and provision for this has been made by lowering the Manchhur dehs to the 2nd group and by the reduction of the barani rates.

In Dadu taluka which has practically no barani and is not liable to disastrous floods except the small area below the Escape channel no such reasons for a reduction existed.

The increase and decrease in most of the individual dehs is small. In Lashari the increase amounts to 13½ per cent., in Jafarabad to 13 per cent., in Saidabad 12½ per cent. and in Supar 12 per cent. This increase is due to the fact that the cultivation in these dehs consists largely either of rice or rabi charkhi, both of which in my humble opinion are well able to bear the proposed enhancement. The raising of Jhandani and Kai to the 1st group produces an increase of 14 per cent. in both dehs. The position of Jhandani has been discussed in paragraph 14. The condition of Kai is in no way inferior to that of its neighbour Naing, and I know of no reason why it should hitherto have been assessed at a low rate. The reduction of the Manchhur dehs has produced a decrease varying from 4 per cent. to 18 per cent. according to the proportion of sailabi and sailabi madad charkhi which they contain—for it is on these crops that the decrease is largest. In Akri (where the cultivation is almost sailabi or barani) the decrease amounts to 25½ per cent., and in Kachhi which was already in the 2nd group it is as much as 32 per cent., but the bulk of the cultivation in this deh is barani. The reduction in the rate on kacha wells in barani lands will cause a decrease of 36 per cent. for Rohri, 35½ per cent. in Bandri, 21½ per cent. in Bilhan and 31 per cent. in Jhangar. The lowering of Gamrach to the 2nd group, together with the reduction in the barani rate, will produce a decrease of 50 per cent., but the area of cultivation is so small that the decrease is in fact of little importance.

18. The average rate on each head of irrigation both under the present and the proposed settlement are shown in Appendix XIV. On rice there will be an increase of 6 annas. That the increase is so small is due to the fact that more than half of the rice in this taluka is liable to be flooded by the Manchhur and its cultivation is carried on under very unfavourable circumstances. There will be an increase of one anna in bimoki, 5 annas in kharif hill-stream, 13 annas in rabi lift and 8 annas in wells. Kharif lift remains unchanged. There will be a decrease of 2 annas in lift aided by flow, 4 annas in kharif kacha wells, 10 annas in kharif barani, 8 annas in sailabi and sailabi madad charkhi,

4 annas in bosi and rabi hill-stream, 12 annas in bosi madad charkhi and rabi kacha wells, and one rupee in rabi barani. According to the Appendix, bosi madad charkhi is confined to the 2nd group and this is the reason for the heavy decrease in the average rate, but I suspect that there may have been some confusion between watered sailabi and watered bosi. In any case its area is insignificant.

Miscellaneous.

19. *Guarantee.*—I recommend that the settlement be guaranteed for a period of 10 years as is usual in Sind.

Publication.

A vernacular notification showing the existing and proposed rates and groupings and the average rate per acre in each deh and inviting objections has been forwarded for publication to the Collector.

Changes in dehs.

I propose no alterations in the dehs except at Buhak (see paragraph 14). But I think the name Abad Jabal might be altered with advantage. The deh was called by Colonel Haig "Abad" which he says was its original makani name. The word "Jabal" was added afterwards to distinguish it from Abad in tapo Gaher. As the deh is never cultivated and is uninhabited and as it lies in the plain at the foot of the hills, the present name is rather a misnomer. I suggest that it be called "Tal" which is the name of a *makan* in the deh in which there was once some cultivation.

I append a list of karias with the present and proposed clearance allowance on each. No change is proposed in the rates of rebate.

A number of rules proposed for the administration of the settlement are given in an extra Appendix A.

The following are the accompaniments to the report—

Map showing proposed groupings.

Irrigational map.

Appendices from III to XVI.

Appendix A (Proposed rules for the administration of the settlement, with remarks.)

I have the honour to be,

Sir,

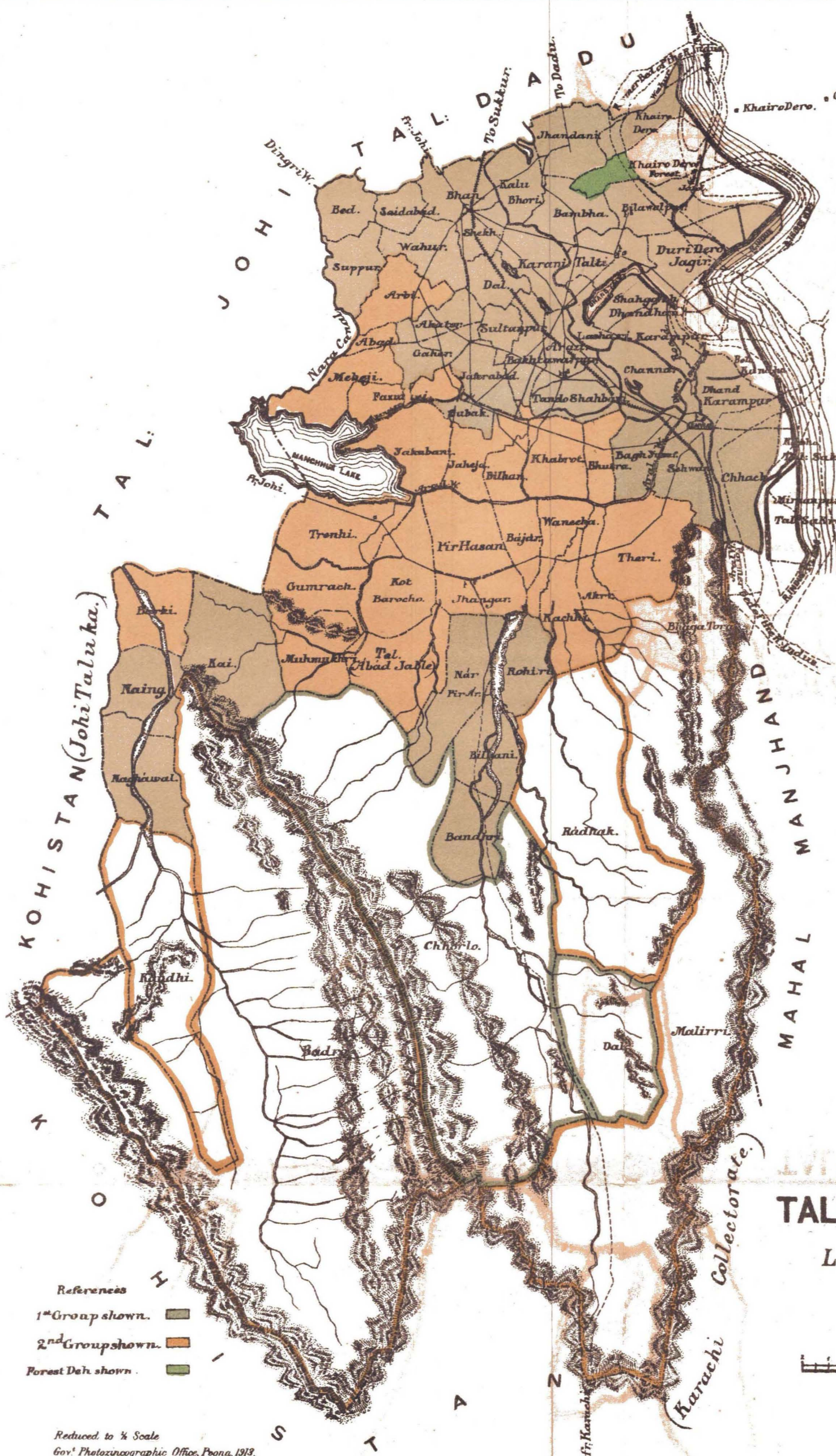
Your most obedient servant,

S. H. COVERNTON,

Settlement Officer, Sehwan.

Through

The Collector of Larkana,



(Appendix I)



MAP
of
TALUKA SEHWAN

Larkana Collectorate.

SIND
1912

Scale 4 Miles to an Inch

Gobindram
Superintendent Land Records
and Registration in Sind.

- References
- 1st Group shown.
 - 2nd Group shown.
 - Forest Deh shown.

Reduced to 1/2 Scale
Gov. Photographic Office, Poona, 1913.

APPENDIX III.

Statement showing the present groupings in the Sehwan Taluka.

No.	Name of deh.	No.	Name of deh.	No.	Name of deh.
<i>1st group.</i>			<i>2nd group.</i>		
1	Sehwan.	24	Yakubani.	47	Shahgarh Dhandhan.
2	Chhach.	25	Arazi.	48	Jhandani.
3	Dhand Karampur.	26	Dal.	49	Bilawalpur.
4	Chana.	27	Karani.	50	Jatoi.
5	Lashari.	28	Bakhtawarpur.	51	Khairodera.
6	Karampur.	29	Sultanpur.	52	Kachi.
7	Talti.	30	Tando Shahbazi.	53	Bilhani.
8	Kalu Bhoi.	31	Khabrot.	54	Munhmukhri.
9	Bambha.	32	Bagh Yusif.	55	Kai.
10	Bhan.	33	Bhutra.		
11	Saidabad.	34	Bilhan.		<i>Unsurveyed.</i>
12	Sheikh.	35	Theri.		
13	Bed.	36	Akri.	56	Nar Pir Arr.
14	Akatar.	37	Bajar.	57	Naghawal.
15	Supar.	38	Wanecha.	58	Dhal.
16	Arbi.	39	Rohiri.	59	Maliriri.
17	Wahur.	40	Bandri.	60	Radhak.
18	Gahar.	41	Jhangar.	61	Chorlo.
19	Maheji.	42	Kot Barocho.	62	Barki.
20	Abad.	43	Pir Hassan.	63	Badro.
21	Fazlani.	44	Tribni.	64	Abad Jahal.
22	Jafarabad.	45	Gamrach.	65	Kandhi.
23	Bubak.	46	Naing.		

APPENDIX III-A.

STATEMENT showing the proposed groupings in the Sehwan taluka.

Serial No.	Name of deh.	Serial No.	Name of deh.	Serial No.	Name of deh.
<i>1st group.</i>		<i>1st group—continued.</i>		<i>2nd group—continued.</i>	
1	Sehwan.	25	Sultanpur.	41	Yakubani.
2	Chhach.	26	Tando Shahbazi.	42	Jaheja.
3	Dhand Karampur.	27	Bagh Yusif.	43	Bilhan.
4	Chana.	28	Jhandani.	44	Khabrot.
5	Lashari.	29	Khairodera.	45	Bhutra.
6	Karampur.	30	Rohiri.	46	Theri.
7	Shahgarh Dhandhan.	31	Bilhani.	47	Akri.
8	Talti.	U. S.	Nar Pir Arr.	48	Kachhi.
9	Kalu Bhoi.	32	Bandri.	49	Wanecha.
10	Bambha.	33	Naing.	50	Bajar.
11	Bhan.	34	Kai.	51	Pir Hassan.
12	Saidabad.	U. S.	Naghawal.	52	Jhangar.
13	Sheikh.	Jagir	Daridero Jagir.	53	Kot Barocho.
14	Bed.	35	Bilawalpur.	54	Tribni.
15	Akatar.	36	Jatoi.	55	Gamrach.
16	Supar.	Leased	{ Dhal	56	Munhmukhri.
17	Wahur.		{ Chorlo.	U.S.	Barki.
18	Gahar.			U.S.	Tal (Abad Jahal).
19	Jafarabad.			Leased.	{ Maliriri.
20	Bubak.				{ Radhak.
21	Arazi.	37	Arbi.		{ Badro.
22	Dal.	38	Abad.		{ Kandhi.
23	Karani.	39	Maheji.		
24	Bakhtawarpur.	40	Fazlani.		

S H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX IV.

STATEMENT showing the details of population in Sehwan taluka.

Taluka	Religion.	Males	Females	TOTAL
Sehwan	Hindu	5,141	4,818	9,959
	Musalman	23,710	19,791	43,501
	Other castes	36	17	53
	GRAND TOTAL	28,887	24,626	53,513

APPENDIX V.

STATEMENT showing the occupation of people in Sehwan taluka.

Taluka.	No. of dehs.	Occupation.	NUMBER.		REMARKS.
			No.	Per cent.	
Sehwan	68	Agricultural	25,708	48.03	Note.—Statement No. 6 for 1901 maintained in the taluka office does not show figures of partly agricultural people, but the statement for 1891 shows 5,049 for this class and the Mukhtyarkar puts this figure for 1901 roughly at 6,000.
		Partly agricultural	6,000	11.21	
		Non-agricultural	21,805	40.76	
		GRAND TOTAL	53,513	100	

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX VI.

STATEMENT showing SALES in the Sehwan taluka.

Year.	Class.	No. of Cases.	Area.		Total sum for which sold.		Sale rate per acre.		Total assessment.		Average rate per acre.
			A. g.	Ra. a.	Ra. a.	Rs. a.	Ra. a.	Rs. a.			
1896-1897.	A.—By agriculturists to non-agriculturists ...	90	1,017 18	4,258 2	41 2	3,924 11	2 14				
	B.—By non-agriculturists to agriculturists ...	7	66 29	3,728 12	55 14	192 10	2 14				
	C.—Between agriculturists ...	35	225 8	9,421 7	41 14	616 14	2 14				
	D.—Between non-agriculturists ...	32	278 20	5,547 7	33 8	802 2	2 14				
1897-1898.	A.—By agriculturists to non-agriculturists ...	37	1,517 3	50,355 0	33 3	4,361 6	2 14				
	B.—By non-agriculturists to agriculturists ...	13	74 39	6,425 0	72 5	215 10	2 14				
	C.—Between agriculturists ...	24	298 20	9,231 0	30 15	559 10	2 14				
	D.—Between non-agriculturists ...	29	411 2	21,353 0	51 15	1,181 10	2 14				
1898-1899.	A.—By agriculturists to non-agriculturists ...	123	912 36	38,557 13	42 4	2,624 9	2 14				
	B.—By non-agriculturists to agriculturists ...	17	120 17	5,799 5	48 2	315 0	2 14				
	C.—Between agriculturists ...	68	247 31	7,333 2	31 8	713 0	2 14				
	D.—Between non-agriculturists ...	47	216 22	10,813 4	50 4	621 0	2 14				
1899-1900.	A.—By agriculturists to non-agriculturists ...	160	1,148 13	58,332 1	50 13	3,701 7	2 14				
	B.—By non-agriculturists to agriculturists ...	23	146 18	6,846 11	46 12	420 0	2 14				
	C.—Between agriculturists ...	37	147 17	5,529 0	38 0	422 10	2 14				
	D.—Between non-agriculturists ...	35	772 5	37,283 0	48 5	2,239 0	2 14				
1900-1901.	A.—By agriculturists to non-agriculturists ...	145	1,335 11	51,102 12	38 4	3,839 9	2 14				
	B.—By non-agriculturists to agriculturists ...	15	95 20	6,317 0	66 2	270 0	2 14				
	C.—Between agriculturists ...	46	257 8	7,889 12	30 11	738 14	2 54				
	D.—Between non-agriculturists ...	37	779 3	36,732 5	47 3	2,239 10	2 14				
1901-1902.	A.—By agriculturists to non-agriculturists ...	146	865 27	39,377 8	45 7	2,438 13	2 14				
	B.—By non-agriculturists to agriculturists ...	17	210 11	6,537 8	31 1	603 12	2 14				
	C.—Between agriculturists ...	43	118 30	8,335 6	32 12	336 6	2 14				
	D.—Between non-agriculturists ...	35	631 20	36,733 14	58 3	1,817 0	2 14				
1902-1903.	A.—By agriculturists to non-agriculturists ...	33	853 9	42,270 11	49 9	2,453 1	2 14				
	B.—By non-agriculturists to agriculturists ...	18	132 11	11,827 14	89 7	379 8	2 14				
	C.—Between agriculturists ...	7	180 29	4,675 0	25 15	520 6	2 14				
	D.—Between non-agriculturists ...	34	292 17	24,434 14	83 15	839 8	2 14				
1903-1904.	A.—By agriculturists to non-agriculturists ...	74	733 1	45,198 2	57 12	2,251 3	2 14				
	B.—By non-agriculturists to agriculturists ...	10	104 39	3,656 0	34 13	301 14	2 14				
	C.—Between agriculturists ...	6	20 23	1,139 0	55 6	60 6	2 14				
	D.—Between non-agriculturists ...	33	248 6	17,170 0	69 3	713 0	2 14				
1904-1905.	A.—By agriculturists to non-agriculturists ...	53	533 12	22,352 14	41 15	1,533 4	2 14				
	B.—By non-agriculturists to agriculturists ...	19	236 20	10,374 0	46 0	671 8	2 14				
	C.—Between agriculturists ...	22	194 29	7,231 4	37 0	560 10	2 14				
	D.—Between non-agriculturists ...	43	409 6	24,755 4	61 6	1,150 0	2 14				
1905-1906.	A.—By agriculturists to non-agriculturists ...	49	434 13	20,096 4	46 4	1,248 11	2 14				
	B.—By non-agriculturists to agriculturists ...	16	120 28	7,768 4	64 5	347 14	2 14				
	C.—Between agriculturists ...	19	207 11	7,784 3	37 6	595 2	2 14				
	D.—Between non-agriculturists ...	39	719 13	24,954 4	34 1	2,067 2	2 14				
1906-1907.	A.—By agriculturists to non-agriculturists ...	54	2,202 30	74,898 11	34 0	6,361 15	2 14				
	B.—By non-agriculturists to agriculturists ...	9	64 19	2,661 4	48 13	155 4	2 14				
	C.—Between agriculturists ...	12	78 23	3,714 14	50 3	212 12	2 14				
	D.—Between non-agriculturists ...	25	155 9	16,399 3	105 15	446 10	2 14				
1907-1908.	A.—By agriculturists to non-agriculturists ...	56	672 3	27,420 3	40 13	1,942 0	2 14				
	B.—By non-agriculturists to agriculturists ...	14	173 27	7,221 2	41 2	500 4	2 14				
	C.—Between agriculturists ...	32	435 21	16,901 6	34 12	1,397 4	2 14				
	D.—Between non-agriculturists ...	13	216 14	11,180 0	51 12	621 0	2 14				

S. H. COVERNTON,

Settlement Officer, Sehwan.

APPENDIX VII.

STATEMENT of sub-letting in the Sehwan taluka.

Year.	Class.	No. cases.	Number of acres sub-let.	Sum for which sub-let.	Rate per acre.	Total assessment.	Rate of assessment per acre.
			A. g.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
1897-1898..	A.—By agriculturists to non-agriculturists ...	5	838 25	330 5	3 15	2,410 12	2 14
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	1	373 0	400 0	1 1	1,072 6	2 14
1898-1899..	A.—By agriculturists to non-agriculturists ...	4	937 18	6,736 0	10 9	1,898 14	2 14
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	1	134 15	200 0	1 9	885 4	2 14
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1899-1900..	A.—By agriculturists to non-agriculturists ...	6	7,061 36	16,591 0	2 6	20,808 14	2 14
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	2	89 16	1,125 0	29 0	112 2	2 14
1900-1901..	A.—By agriculturists to non-agriculturists ...	20	3,450 0	6,831 2	1 5	12,506 4	2 14
	B.—By non-agriculturists to agriculturists ...	1	23 10	200 0	9 0	575 0	2 14
	C.—Between agriculturists ...	3	3,137 19	14,960 0	1 13	23,393 14	2 14
	D.—Between non-agriculturists ...	1	76 15	125 0	1 10	218 8	2 14
1901-1902..	A.—By agriculturists to non-agriculturists ...	10	2,933 9	8,322 5	2 15	8,145 8	2 14
	B.—By non-agriculturists to agriculturists ...	1	43 20	116 11	2 6	189 7	2 14
	C.—Between agriculturists ...	2	608 3	1,050 0	1 11	1,748 0	2 14
	D.—Between non-agriculturists ...	2	333 4	260 0	0 12	957 6	2 14
1902-1903..	A.—By agriculturists to non-agriculturists ...	...	...	...	...	...	...
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1903-1904..	A.—By agriculturists to non-agriculturists ...	13	11,003 0	16,455 5	1 8	31,633 10	2 14
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	2	207 39	890 0	4 4	898 0	2 14
1904-1905..	A.—By agriculturists to non-agriculturists ...	9	740 18	2,974 8	4 0	2,128 0	2 14
	B.—By non-agriculturists to agriculturists ...	4	869 35	2,075 0	2 6	2,501 4	2 14
	C.—Between agriculturists ...	5	675 5	1,050 0	1 8	1,940 10	2 14
	D.—Between non-agriculturists ...	4	3,040 8	790 0	0 3	8,840 0	2 14
1905-1906..	A.—By agriculturists to non-agriculturists ...	5	243 34	935 0	3 14	701 8	2 14
	B.—By non-agriculturists to agriculturists ...	1	52 23	1,200 0	23 15	3,450 0	2 14
	C.—Between agriculturists ...	1	5 13	400 0	80 0	15 0	2 14
	D.—Between non-agriculturists ...	2	116 26	495 0	4 5	336 6	2 14
1906-1907..	A.—By agriculturists to non-agriculturists ...	10	311 25	4,676 0	5 2	2,623 0	2 14
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1907-1908..	A.—By agriculturists to non-agriculturists ...	3	139 11	1,640 0	11 13	399 10	2 14
	B.—By non-agriculturists to agriculturists ...	1	1,025 30	595 0	0 8	2,849 13	2 14
	C.—Between agriculturists ...	5	177 36	1,745 0	9 13	511 12	2 14
	D.—Between non-agriculturists ...	3	528 33	743 0	1 6	520 14	2 14

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX VIII.

STATEMENT showing mortgages in Sehwan taluka.

Year.	Class.	No. of cases.	Total		Mortgage rate per acre.	Total assess-ment.		Average rate of assessment per acre.
			number of acres.	Sum for which mortgaged.		Rs. a.	Rs. a.	
			A. g.	Ra. a.	Ra. a.	Ra. a.	Ra. a.	
1896-1897.	A.—By agriculturists to non-agriculturists ...	68	2,837 19	89,816 18	14 0	8,157 12	2 14	
	B.—By non-agriculturists to agriculturists ...	3	20 24	677 0	32 4	59 4	2 14	
	C.—Between agriculturists ...	17	227 12	10,579 8	46 5	852 8	2 14	
	D.—Between non-agriculturists ...							
1897-1898.	A.—By agriculturists to non-agriculturists ...	40	835 82	21,231 0	25 6	2,402 7	2 14	
	B.—By non-agriculturists to agriculturists ...	2	22 13	526 0	23 10	64 2	2 14	
	C.—Between agriculturists ...	23	401 12	16,227 0	40 7	1,153 12	2 14	
	D.—Between non-agriculturists ...							
1898-1899.	A.—By agriculturists to non-agriculturists ...	40	592 81	14,800 14	24 15	1,704 4	2 14	
	B.—By non-agriculturists to agriculturists ...	3	176 87	3,485 0	19 12	508 11	2 14	
	C.—Between agriculturists ...	17	345 87	16,510 12	47 12	984 9	2 14	
	D.—Between non-agriculturists ...							
1899-1900.	A.—By agriculturists to non-agriculturists ...	63	2,702 25	27,029 11	10 0	7,770 0	2 14	
	B.—By non-agriculturists to agriculturists ...	5	235 35	2,031 0	8 9	678 2	2 14	
	C.—Between agriculturists ...	28	232 34	13,239 14	56 13	669 3	2 14	
	D.—Between non-agriculturists ...							
1900-1901.	A.—By agriculturists to non-agriculturists ...	68	1,110 20	26,412 6	23 12	3,192 11	2 14	
	B.—By non-agriculturists to agriculturists ...	1	23 10	800 0	13 0	66 14	2 14	
	C.—Between agriculturists ...	1	5 0	166 0	33 0	14 6	2 14	
	D.—Between non-agriculturists ...	28	268 86	11,772 12	43 12	774 1	2 14	
1901-1902.	A.—By agriculturists to non-agriculturists ...	31	422 81	11,051 6	25 8	1,215 8	2 14	
	B.—By non-agriculturists to agriculturists ...	1	3 15	178 0	52 3	9 11	2 14	
	C.—Between agriculturists ...	5	136 26	3,150 0	23 0	392 14	2 14	
	D.—Between non-agriculturists ...							
1902-1903.	A.—By agriculturists to non-agriculturists ...	19	1,028 5	11,883 12	11 9	3,212 14	2 14	
	B.—By non-agriculturists to agriculturists ...	2	108 15	2,709 0	25 1	311 9	2 14	
	C.—Between agriculturists ...							
	D.—Between non-agriculturists ...							
1903-1904.	A.—By agriculturists to non-agriculturists ...	23	212 15	8,661 0	40 14	810 10	2 14	
	B.—By non-agriculturists to agriculturists ...	1	4 35	235 0	48 2	14 0	2 14	
	C.—Between agriculturists ...	15	479 37	1,841 6	3 13	1,379 12	2 14	
	D.—Between non-agriculturists ...							
1904-1905.	A.—By agriculturists to non-agriculturists ...	30	369 18	7,268 0	19 11	1,154 7	2 14	
	B.—By non-agriculturists to agriculturists ...	1	15 15	900 0	19 7	44 3	2 14	
	C.—Between agriculturists ...	8	303 12	5,355 15	17 11	872 0	2 14	
	D.—Between non-agriculturists ...							
1905-1906.	A.—By agriculturists to non-agriculturists ...	27	399 0	9,931 7	24 14	1,147 2	2 14	
	B.—By non-agriculturists to agriculturists ...	2	21 31	400 0	18 2	62 10	2 14	
	C.—Between agriculturists ...	5	81 33	3,574 0	43 9	235 10	2 14	
	D.—Between non-agriculturists ...							
1906-1907.	A.—By agriculturists to non-agriculturists ...	17	321 21	10,038 0	31 2	924 6	2 14	
	B.—By non-agriculturists to agriculturists ...							
	C.—Between agriculturists ...							
	D.—Between non-agriculturists ...							
1907-1908.	A.—By agriculturists to non-agriculturists ...	26	562 16	18,117 9	31 2	1,671 5	2 14	
	B.—By non-agriculturists to agriculturists ...	2	7 5	800 0	114 5	20 8	2 14	
	C.—Between agriculturists ...	4	46 0	4,723 0	102 10	132 4	2 14	
	D.—Between non-agriculturists ...							

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX IX.

STATEMENT of agricultural stock in the Sehwan taluka of the Larkana district.

PROVEN CATTLE.		BULLS FOR BREEDING PURPOSES ONLY.		OXEN AND HE-BUFFALOES USED FOR OTHER PURPOSES.		MILCH CATTLE.		YOUNG STOCK.		Total of columns 1 to 10.	Horses.	Ponies.	Mules.	Donkeys.	Sheep.	Goats.	Camels.	Pigeons.		Cats.	
Oxen.	He-buffaloes.	Bulls.	Bull-buffaloes.	Oxen.	He-buffaloes.	Cows.	She buffaloes.	Calves.	Buffalo-calves.									Small.	Large.	Riding carts.	Carts used for carrying loads.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1,923	3	53	15	101	3	9,979	9,994	5,397	1,079	27,996	730	27	3	1,901	17,804	16,375	1,769	4,623	...	1	...

These figures were collected by the taspadar after special enquiry for the purpose of this settlement. But they have only very limited means of finding out the true figures. Those for columns 3, 4 and 5 are probably much too low.

APPENDIX X.

STATEMENT showing wells in the Sehwan taluka.

Year.	No. of dehs.	No. OF WELLS USED FOR DRINKING.		No. OF WELLS USED FOR IRRIGATION.		TOTAL.	Area of cultivation under wells alone and aided by wells.	
		In use.	Disused.	In use.	Disused.			
							A.	g.
1890-1891	...	24	39	...	35	...	74	501 6
1891-1892	...	24	25	...	108	...	133	627 7
1892-1893	...	23	48	...	97	...	145	468 3
1893-1894	...	21	57	...	26	...	83	118 8
1894-1895	...	21	17	...	28	29	74	127 20
1895-1896	...	22	17	...	33	27	77	126 5
1896-1897	...	21	17	...	45	17	79	171 4
1897-1898	...	21	40	...	51	10	101	163 17
1898-1899	...	22	29	...	45	28	102	213 34
1899-1900	...	22	25	...	46	38	109	179 6
1900-1901	...	22	28	...	27	67	122	131 32
1901-1902	...	23	28	...	72	35	135	334 11
1902-1903	...	23	28	...	74	35	137	336 13
1903-1904	...	24	28	...	84	46	158	451 29
1904-1905	...	25	29	...	77	57	163	351 32
1905-1906	...	25	29	...	68	69	166	103 10
1906-1907	...	26	29	...	49	93	171	161 15
1907-1908	...	28	29	...	59	96	184	266 7
TOTAL	...	417	542	...	1,024	647	2,213	4,837 19

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX XI.

Statement of crops in Sehwan taluka (on average of the last 5 years) from 1902-1903 to 1906-1907.

Kind of crop.	YEARLY CULTIVATED AREA.					Total.	Average.	Percentage.
	1902-1903.	1903-1904.	1904-1905.	1905-1906.	1906-1907.			
<i>Kharif.</i>	A. S.	A. S.	A. S.	A. S.	A. S.	A. S.	A. S.	
Juar ...	12,398 9	12,672 12	12,440 18	12,777 13	12,594 1	62,682 5	12,536 1	20.00
Bajri ...	1,284 29	644 28	768 3	733 14	517 11	3,946 9	789 25	1.80
Rice ...	2,400 29	5,468 22	4,208 0	2,754 14	5,993 9	22,909 31	4,582 21	10.44
Other grains ...	9 35	19 25	89 7	16 24	9 5	143 14	28 27	0.06
Pulses ...	15 15	9 19	...	77 14	4 31	108 39	31 16	0.05
Garden vegetable product	152 5	122 5	73 0	98 33	82 33	583 39	106 32	0.24
Condiments and spices	5 25	2 25	...	...	...	8 10	1 26	0.004
Sugar-cane ...	16 35	17 19	18 25	10 6	20 27	81 31	16 30	0.03
Bamboo (Tis) ...	218 17	132 34	80 29	40 1	35 20	510 21	102 4	0.23
Cotton ...	99 14	127 12	163 27	117 5	46 32	547 11	109 12	0.24
Fibres ...	14 16	11 17	12 1	5 16	9 7	52 17	10 19	0.03
Other kinds ...	...	...	...	...	12 27	12 27	2 32	0.005
Total ...	17,305 20	21,197 13	17,636 23	18,618 23	20,333 14	94,711 16	18,942 12	43.25
<i>Rabi.</i>								
Wheat ...	12,654 16	12,022 9	12,403 19	17,312 31	15,651 17	68,104 5	16,629 33	37.92
Barley ...	131 37	315 10	691 10	615 10	739 30	2,633 17	526 26	1.22
Pulses ...	220 0	2,679 01	2,217 24	1,947 34	2,691 25	9,927 34	1,926 23	4.52
Garden produce	386 5	321 33	437 34	463 33	202 23	1,792 23	353 21	0.81
Tobacco ...	109 5	111 9	117 10	45 15	134 23	615 26	103 7	0.24
Indian Hemp, drugs and narcotics	84 24	87 21	84 20	116 7	112 29	465 7	97 1	0.22
Condiments and spices	1,000 0	165 11	127 15	152 23	236 6	1,671 21	324 12	0.77
Starches	...	...	...	...	...	...	...	...
Jambho ...	2,620 2	1,465 39	2,773 22	2,324 17	3,955 37	15,360 37	3,072 7	5.11
Sariba ...	183 25	183 11	809 32	407 15	303 23	1,639 26	377 29	0.85
Other kinds of oil seeds	...	1,441 38	918 17	3,123 12	3,361 27	8,905 15	1,781 2	4.05
Other kinds of dyes	...	...	...	0 2	...	0 2	...	...
Miscellaneous ...	22 1	21 22	16 21	...	...	50 4	12 1	0.08
Total ...	17,608 5	25,726 26	26,678 1	26,795 8	27,726 0	124,596 37	24,879 15	56.73
Grand Total ...	26,907 25	46,923 39	44,314 23	45,413 29	48,059 14	219,308 15	43,821 27	100

S. H. CONVENTON,
Settlement Officer, Sehwan.

XII.

SEHWAN.

shown in italic figures), in each surveyed village of the Sehwan taluka under each kind of irrigation current settlement with the assessment thereon.

RABI.																				TOTAL.	
LOCH.		BOSI INCLUDING MORE.		BOSI AIDED BY LIFT.		SAILANI.		SAILANI AIDED BY LIFT.		WHELS.		BARANI.		KACHA WHELLS.		HILL STREAMS.		Area.	Assessment.		
Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.				
A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.		
179 0	633 0	...	...	...	...	226 22	726 8	12 0	50 8	...	...	...	...	...	...	...	...	703 37	2,056 0
4 18	2 12	...	...	...	...	62 26	22 7	...	...	...	...	...	...	...	...	...	...	57 13	25 3
52 17	249 0	...	...	...	...	583 0	1,816 14	104 36	699 2	1 36	7 6	...	...	...	...	...	...	1,194 13	3,524 14
7 6	1 15	...	...	...	...	71 31	20 9	27 39	7 6	...	...	...	...	...	...	...	...	102 36	29 14
40 34	122 9	...	...	...	...	299 13	951 13	121 4	615 1	0 4	0 7	...	...	...	...	...	...	749 23	2,266 3
2 27	2 6	...	...	...	...	51 19	15 0	29 29	10 7	...	...	...	...	...	...	...	...	87 32	27 19
108 30	320 15	0 22	2 13	...	...	120 1	422 12	90 39	286 15	...	...	...	...	0 12	1 1	...	0 6	642 27	1,935 5
5 6	1 1	...	...	...	...	1 36	7 3	...	...	...	...	...	...	...	...	...	...	7 6	12 6
132 25	400 14	...	...	...	...	29 10	101 1	1 20	6 6	...	...	...	...	...	...	...	...	368 5	1,025 6
4 25	7 2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4 25	17 2
7 10	22 0	...	...	...	...	2,392 5	7,774 0	22 15	98 0	...	...	...	...	...	...	...	...	2,724 5	8,632 0
2 35	2 12	...	...	...	...	129 27	55 1	2 20	1 14	...	...	...	...	...	...	...	...	151 12	69 12
6 2	12 6	...	...	...	...	2,405 20	7,809 4	50 39	216 12	...	...	...	...	...	...	2 2	1 10	2,532 37	8,221 7
2 12	1 6	...	...	...	...	22 29	10 10	1 0	0 8	...	...	...	...	...	...	...	...	42 2	12 3
25 17	55 4	...	...	...	...	2,304 17	7,424 4	52 12	226 10	...	...	...	...	...	...	10 10	7 11	2,857 17	8,594 15
7 1	2 6	...	...	...	...	15 22	7 13	2 22	3 1	...	...	...	...	...	...	...	...	29 26	13 6
61 1	262 2	...	...	...	...	1,506 2	3,900 8	161 29	445 6	...	...	3 37	3 15	...	...	10 10	7 11	2,153 7	6,740 15
49 19	45 6	1 2	0 14	...	...	17 2	12 5	...	...	...	...	...	...	...	...	...	...	51 15	61 9
179 27	520 1	...	...	4 30	20 3	522 18	1,724 15	...	...	...	...	...	...	...	...	...	...	1,020 28	3,281 9
12 20	24 0	...	...	...	...	11 20	20 7	...	...	...	...	...	...	...	...	...	...	22 0	64 2
7 26	22 0	...	...	...	...	2,142 12	7,028 4	22 0	106 0	...	...	...	...	...	...	...	...	2,722 2	8,421 13
...	...	...	...	...	...	169 15	51 12	11 35	3 0	...	...	...	...	...	...	...	...	174 2	64 12
...	...	...	...	...	...	2,013 30	6,421 5	24 11	225 12	...	...	...	...	...	...	...	...	2,237 15	7,124 14
...	...	...	...	...	...	114 22	39 10	...	...	...	...	...	...	...	...	...	...	114 21	29 10
9 8	27 7	...	...	...	...	1,017 22	5,509 13	17 9	73 4	0 22	2 5	...	...	...	...	...	...	1,392 4	4,475 11
11 17	4 8	...	...	...	...	22 7	11 1	...	...	...	...	...	...	...	...	...	...	49 24	15 4
60 8	180 10	5 2	16 7	...	...	625 22	2,295 6	20 27	122 7	...	...	2 32	2 12	...	...	...	...	1,223 4	3,721 9
1 22	4 15	6 15	21 0	...	...	52 16	29 4	...	...	...	...	...	...	...	...	...	...	62 15	25 2
26 28	72 2	...	...	...	...	29 15	129 0	27 26	117 6	...	...	...	...	...	...	...	...	628 13	1,926 15
14 20	21 1	...	...	...	...	25 21	22 7	...	...	...	...	...	...	...	...	...	...	49 11	49 2
72 11	225 0	...	...	...	...	1,210 15	4,214 8	...	...	...	...	...	...	...	...	...	...	1,700 21	5,322 0
...	...	...	...	...	...	42 22	14 14	...	...	...	...	...	...	...	...	...	...	42 22	14 14
23 4	127 0	...	...	...	...	1,407 1	4,505 11	97 32	414 10	...	...	...	...	...	...	...	...	1,974 9	6,169 10
5 15	2 7	...	...	...	...	5 22	2 2	4 5	2 1	...	...	...	...	...	...	...	...	12 2	7 10
142 7	427 0	...	...	...	...	620 10	3,014 4	117 3	426 6	...	...	...	...	...	...	...	...	1,640 8	5,169 4
6 22	2 6	...	...	...	...	25 6	2 15	4 24	1 2	...	...	...	...	...	...	...	...	28 15	12 2
192 12	571 2	...	...	...	...	592 20	1,922 7	24 29	267 4	1 7	2 7	0 25	0 14	...	...	...	...	1,429 26	4,293 1
22 2	7 12	...	...	...	...	50 5	12 14	1 21	0 8	...	...	...	...	...	...	...	...	27 29	24 2
160 15	500 12	...	...	...	...	122 4	602 9	52 10	222 12	...	...	...	...	...	...	...	...	241 24	2,512 2
22 20	30 2	...	...	...	...	5 20	1 10	7 15	2 2	0 15	3 14	...	...	...	...	...	...	26 20	27 12
191 20	573 0	...	...	...	...	421 22	1,262 0	120 25	522 0	...	...	...	...	...	...	...	...	772 27	2,522 0
1112 10	226 2	...	...	...	...	222 22	1,047 11	224 17	1,201 16	...	...	...	...	...	...	...	...	202 7	2,724 0
2 2	0 2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2 2	0 2
222 17	722 4	...	...	...	...	122 16	241 2	124 21	722 2	...	...	...	...	...	...	...	...	722 22	2,222 14
2 2	0 12	...	...	...	...	1 22	0 2	0 22	0 5	...	...	...	...	...	...	...	...	5 27	1 10
222 22	622 2	...	...	...	...	22 12	222 2	22 12	272 12	...	...	...	...	...	...	...	...	20 22	1,222 2
1 20	0 2	...	...	...	...	12 22	2 7	0 22	0 2	...	...	...	...	...	...	...	...	20 22	2 2
122 12	220 14	...	...	...	...	1 6	2 12	22 22	122 14	...	...	...	...	...	...	...	...	200 2	201 14
...	...	...	...	...	...	622 22	2,212 0	12 20	57 0	...	...	...	...	...	...	...	...	222 12	2,222 0
...	...	...	...	...	...	22 22	22 4	...	...	...	...	...	...	...	...	...	...	22 22	22 4
...	...	...	...	...	...	721 12	2,222 0	72 10	222 6	0 16	0 12	...	...	...	...	...	...	212 27	2,224 0
...	...	...	...	...	...	52 12	12 4	4 12	1 1	...	...	...	...	...	...	...	...	27 22	14 2
12 21	41 5	...	...	...	...	240 20	1,127 4	22 2	98 10	...	...	...	...	...	...	...	...	242 20	1,222 2
0 22	0 2	...	...	...	...	12 22	7 14	...	...	...	...	...	...	...	...	...	...	14 22	2 1
22 11	97 1	...	...	...	...	122 22	622 4	21 22	221 10	...	...	4 24	12 6	...	...	...	...	222 21	2,222 2
2 12	1 0	...	...	...	...	12 2	2 0	0 20	0 2	...	...	...	...	0 22	...	...	...	12 21	2 2
22 20	121 4	2 0	2 4	...	...	5 0	12 2	12 12	22 7	...	...	...	...	...	...	...	...	222 7	1,012 2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2 0	2 4
21 22	122 0	...	...	...	...	7 12	22 0	21 22	122 0	...	...	...	...	...	...	...	...	222 22	1,210 2
...	...	...	...	...	...	1 22	22 7	...	...	...	...	...	...	...	...	...	...	1 22	22 7
44 20	127 5	...	...	...	...	41 12	122 12	72 22	212 12	2 10	7 2	...	...	1 22	5 12	...	...	222 12	2,014 7
0 12	0 2	...	...	...	...	22 22	20 2	20 2	2 12	...	...	...	...	...	...	...	...	20 22	21 12
27 2	20 7	...	...	...	...	22 14	122 12	22 22	222 12	7 7	22 11	...	...	...	...	...	...	222 10	1,402 2
0 12	0 2	...	...	...	...	0 12	0 7	...	...	1 7	...	...	...	...	...	...	...	2 2	0 12
72 22	212 4	1 6	2 12	...	...	12 22	22 0	24 17	142 7	2 21	12 10	...	...	0 22	1 11	...	...	221 27	1,221 12
...	...	...	...	...	...	...	...	...	...	0 5	...	...	...	...	...	...	...	0 5	0 5
22 10	122 12	2 22	11 12	...	...	...	...	24 22	122 14	...	...	...	...	...	...	...	...	220 2	222 12
2 0	0 22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2 0	2 12

Name of dist.	Year.	KHARIF.															
		GARDENS.		RICE FLOW.		OTHER FLOW.		LIFT.		LIFT AIDED BY FLOW.		BARANI.		KACHH WATRS.		HILL STRM.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
Kain Bhari	1890-1891	2 5	8 0							414 20	995 0						
	1891-1892	2 36	11 0			4 3	11 6			523 26	1,218 6	10 0	25 14				
	1895-1896	2 36															
	1896-1897	4 23	18 5			1 13	3 11			466 37	1,098 10						
	1901-1902	8 15	33 15							472 18	1,102 7	4 23	13 4				
Bambha	1890-1891									611 0	1,440 0						
	1891-1892	1 14	5 8			6 3	15 9			489 31	1,091 10	97 34	287 10				
	1895-1896	2 17	11 6							603 33	940 1	14 29	36 13				
	1901-1902	0 30	3 0	2 34	3 10					430 23	996 4						
Bhaa	1890-1891									610 28	1,394 0						
	1891-1892	10 21	40 3	2 12	7 3	0 15	1 0			780 17	1,726 13	1 5	3 0				
	1895-1896	18 37	75 7	0 21	1 12	0 33	2 9			671 33	1,639 13	1 37	5 3				
	1901-1902	34 8	133 13			0 7	0 8			541 11	1,290 9	0 33	2 7				
Baidabad	1890-1891			432 18	1,388 8					101 5	240 0						
	1891-1892			269 2	869 2	37 33	106 10			300 28	629 5	12 19	32 6				
	1895-1896	1 0	4 6	367 21	1,214 17	52 13	145 13			110 37	236 3						
	1901-1902			297 17	943 8	61 15	171 14			117 17	279 3	12 10	49 13				
Bhalh	1890-1891									345 35	700 0						
	1891-1892	0 39	3 13							426 20	972 3						
	1895-1896	0 33	3 4							365 27	832 8	0 16	1 2				
	1901-1902									298 3	656 7						
Baid	1890-1891			760 28	2,550 0					378 15	861 0						
	1891-1892	2 27	10 19	711 23	2,352 0	32 7	231 14			194 33	440 5	48 3	119 9				
	1895-1896	2 30	9 15	787 18	2,633 0	169 20	309 7			153 35	381 15	126 9	325 13				
	1901-1902	0 5	0 8	469 29	1,542 8	231 5	660 10			293 27	476 11	192 2	405 8				
Baktar	1890-1891			23 35	78 6					384 1	895 0						
	1891-1892			31 34	107 13	1 0	8 7			289 24	604 14	23 29	69 5				
	1895-1896			30 33	124 5					229 3	536 0	8 15	23 1				
	1901-1902			6 16	21 10					260 11	603 6	3 9	3 9				
Arvi	1890-1891			467 15	1,541 0					397 0	777 0						
	1891-1892			363 10	1,368 3	19 37	54 10			208 29	463 5	11 37	30 6				
	1895-1896			479 3	1,578 3	23 32	66 10			266 12	471 15	46 5	123 9				
	1901-1902			424 39	1,409 4	17 39	47 13			273 26	481 1	56 3	127 3				

BABL																		Total			
LIVE.		BOAT INCLUDING MOOR.		BOAT STOKED BY LIVE.		SABAH.		SABAH AIDED BY LIVE.		WELLS.		BAMANG.		KACHA WELLS.		HILAP STRAMA.		Aves.	Assessment.		
Aves.	Assessment.	Aves.	Assessment.	Aves.	Assessment.	Aves.	Assessment.	Aves.	Assessment.	Aves.	Assessment.	Aves.	Assessment.	Aves.	Assessment.	Aves.	Assessment.				
800 15	3,088 0	...	...	...	...	187 35	804 0	19 25	88 0	...	...	...	...	...	...	...	...	11,34 38	8,389 0
168 30	488 8	...	...	...	...	953 1	2,773 10	183 38	772 5	...	...	...	...	...	...	...	...	1,317 4	4,215 8
126 4 2 28	372 10 0 4	...	...	...	...	347 2 2 25	4,005 0 5 2	208 24 2 28	881 2 0 11	...	...	...	...	...	...	...	...	2,007 8 5 10	6,185 14 5 1
120 3 18 1	628 0 4 11	...	...	...	...	1,578 30 10 28	4,558 2 5 6	326 17	1,347 15	...	...	...	...	...	...	...	...	2,284 33 28 57	7,030 2 2 2
87 10	291 12	...	...	...	...	807 22 20 15	3,584 5 8 4	91 15	288 19	...	...	...	...	...	...	...	...	1,053 17 20 15	3,476 4 8 4
87 25 19 21 8 12	188 0 200 9 0 11	...	...	...	...	10 10 79 28 8 30	23 0 263 3 8 14	19 30 51 5 0 17	84 0 212 7 0 3	...	...	...	...	...	...	...	...	385 32 284 4 29 14	985 8 1,550 8 5 1
26 17 8 2	78 8 1 5	...	...	...	...	68 9 19 11	216 13 5 3	23 36 2 8	85 15 1 14	7 30 5 7	21 19	...	...	...	...	...	...	587 20 41 2	1,005 10 2 2
8 34 4 0	28 14 0 2	...	...	...	...	11 32	29 7	4 27	21 10	7 37 2 15	19 7	1 14	3 1	...	...	...	...	304 19 16 18	763 10 0 2
6 5 28 8	17 10 19 7	...	...	...	...	8 25	2 18	...	...	14 25 35 6	...	3 5	7 7	...	...	...	...	213 25 16 8	754 2 18 7
88 14 26 34	188 0 264 11	...	...	...	...	3 30 21 15 4 19	11 0 87 7 2 0	43 1 1 21	174 3 0 14	0 30 2 3	...	...	...	...	...	...	...	432 30 139 28 5 4	1,023 0 1,534 1 2 25
88 19	254 4	...	...	...	...	43 23 14 21	133 1 5 9	15 21 0 23	83 12 0 4	8 3 13 10	...	...	...	...	...	...	...	658 18 15 14	1,067 2 5 15
84 19 0 25	288 11 0 2	...	...	...	...	4 22	12 3	...	...	13 13 28 4	...	...	...	...	...	...	...	488 0 0 35	1,033 12 0 9
82 20 3 5	248 6 4 12	...	...	...	...	...	...	...	...	7 15 17 8	...	...	...	...	...	...	...	443 35 3 5	1,045 7 4 22
80 0 19 0 88 33 8 22	118 8 2 8 280 12 2 0	...	...	...	...	28 14 6 20	75 2 2 15	87 32 4 17	239 10 1 8	...	...	...	...	...	...	...	...	410 3 2	1,338 0 13 0 2,280 13 6 5
89 12 5 5	284 10 0 25	43 28 3 13	138 8 0 12	94 19	140 3	12 31 0 23	28 13 0 5	0 30	344 28 10 21	2,101 15 2 4	
83 27 2 22	243 1 0 6	1 27	8 4	17 19 1 20	64 6 0 5	21 7	88 1	18 27 1 13	45 3	67	689 8 5 25	1,812 7 0 12	
88 0 5 5	167 12 1 12	10 30	34 15	1 10	3 13	5 20 18 11	717 15 6 5	1,716 14 1 12	
80 5 6 10 87 10 28 22	80 0 2 12 168 9 9 2	10 20 184 38 15 8	34 0 800 6 5 15	...	178 8 28 27 5 6	487 3 5 6	827 25 3 10 1,020 31 83 12	1,345 8 8 12 2,288 8 19 22	
18 20 4 13	48 4 0 2	148 3 17 22	471 5 6 3	84 34 24 10	187 9 0 14	3 3 2 20	3 6	646 15 49 30	1,724 14 13 4	
28 22 0 15	108 1 0 6	26 26	119 1	3 7	21 8	5 9 13 7	...	1 21	3 1	801 37 1 10	1,220 14 0 6	
48 30 7 20	172 14 2 7	492 15 6 20	1,748 8 2 7	
7 20 10 8	28 7	352 12 1 30 637 30 45 1	884 8 1,475 8 14 10
8 0	17 8	452 7 48 2	1,220 12 15 5
...	236 18 ...	871 2
...	375 6	885 2
876 11 3 21	850 8 3 7	17 19	58 9	894 15 3 21	2,235 0 5 7
882 28 12 28	808 1 8 2	308 18 58 29	868 12 28 0	121 21 2 22	514 8 2 10	1,272 20 28 19	3,908 57 28 19
167 12 11 8	801 10 7 7	169 31 16 17	510 14 4 8	48 2 28 10	196 15 8 5	0 25 0 22	2 7 0 8	722 5 42 21	2,927 8 15 15
236 34 6 2	871 8 3 4	27 12	73 14	3 8	12 10	6 21 1 4	1 4	485 14 3 25	1,740 15 5 5
140 8 8 25	445 3 0 6	562 5 4 25	1,428 2 5 8
152 20 14 15 80 35 4 17	550 0 8 14 288 8 2 2	0 26	2 0	1,499 35 24 25	4,873 9 5 12	88 16 28 27	262 0 8 2	1,985 0 14 16	6,328 8 3 14
28 20 3 11	107 8 1 2	1,110 28 23 5	3,521 15 6 0	184 19 19 21	711 15 8 2	1,476 3 23 27	4,258 8 10 5
87 27 1 5	200 12 0 10	287 20 26 17	3,319 8 30 8	141 28	808 7	1,828 8 27 23	4,884 14 22 12
6 0	14 5	217 26 25 29	900 9 7 2	311 26	1,215 5	1,149 26 25 29	3,322 8 7 8

Name of dist.	Year.	GARDENS.		KHARIF.															
				RICH FLOW.		OTHER FLOW.		LIFE.		LEFT AIDED BY FLOW.		BARANI.		KACHA WHEAT.		HILL STANDS.			
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
1st groups continued.		A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.
Bagh Yanil	1890-1891.	33 35	131 0	...	...	1 20	4 0	412 8	943 8	...	...	...	...	...	...	...	...	...	...
	1891-1892 to 1895-1896.	35 33	141 2	...	...	15 0	37 13	831 29	734 9	34 8	89 6	...	...	...	...	...	...	...	...
	1896-1897 to 1901-1902.	27 34 0 38	118 8	...	...	20 1	59 8	599 6	936 10	2 2	7 15	...	...	...	...	...	...	...	...
	1902-1903 to 1906-1907.	45 18 1 24	180 6	1 23	5 3	3 7	9 0	392 36	928 7	37 30	93 15	...	...	...	...	...	...	...	...
	1907-1908.	45 15	181 8	14 15	48 8	...	...	361 28	854 8	...	...	...	...	...	...	...	...	...	...
Bhatra	1890-1891.	...	...	...	...	...	...	300 0	458 8	...	...	...	...	...	...	...	...	...	...
	1891-1892 to 1895-1896.	7 19	27 8	...	...	1 20	4 13	174 25	403 14	2 1	7 11	...	...	...	...	...	...	...	...
	1896-1897 to 1901-1902.	2 2 2 27	8 3 1 4	...	...	14 22	41 13	193 7	447 2	2 7	5 11	...	...	...	...	...	...	...	...
	1902-1903 to 1906-1907.	9 6 1 27	26 6	51 29	166 3	7 3	20 5	195 14	400 5	15 2	39 6	...	...	...	...	...	...	...	...
	1907-1908.	4 20	17 7	...	...	2 10	6 8	107 25	247 13	14 20	38 1	...	...	...	...	...	...	...	...
Bilhan	1890-1891.	...	...	...	...	...	...	178 20	368 0	...	...	...	...	...	...	...	...	...	...
	1891-1892 to 1895-1896.	...	...	3 25	8 13	...	...	78 8	167 8	1 23	3 13	...	...	...	...	...	...	...	...
	1896-1897 to 1901-1902.	...	...	34 39	117 7	3 27	10 9	157 37	256 15	8 3	9 10	...	...	...	...	...	...	...	...
	1902-1903 to 1906-1907.	...	...	200 18	879 14	4 39	14 5	167 4	893 7	23 1	59 3	...	...	...	...	...	...	...	...
	1907-1908.	...	...	54 15	183 9	...	...	53 10	120 10	8 25	23 10	...	...	...	...	...	...	...	...
Thari	1890-1891.	...	...	...	...	...	...	198 5	258 0	...	...	...	...	...	...	...	...	...	...
	1891-1892 to 1895-1896.	1 29	6 13	...	...	26 20	78 13	29 28	70 3	...	...	...	...	...	...	...	...	...	...
	1896-1897 to 1901-1902.	2 27	10 11	...	...	10 12	29 10	43 33	104 1	9 7	24 2	...	...	...	...	...	...	...	...
	1902-1903 to 1906-1907.	5 2	20 9	...	...	8 1	43 1	64 22	154 5	6 12	16 8	9 0	2 3	...	...	...	...	...	...
	1907-1908.	...	...	...	...	7 35	21 15	33 0	90 5	...	...	...	...	...	...	...	...	...	...
Arvi	1890-1891.	...	...	...	...	...	...	39 5	82 0	...	...	...	...	...	...	...	...	...	...
	1891-1892 to 1895-1896.	...	...	...	...	7 14	21 3	3 35	14 0	...	...	34 22	28 3	...	...	...	...	...	...
	1896-1897 to 1901-1902.	...	...	...	...	7 20	22 5	7 28	18 5	...	...	16 8	17 15	...	...	...	...	...	...
	1902-1903 to 1906-1907.	...	...	...	...	...	...	...	...	...	...	14 20	16 3	...	...	...	...	...	...
	1907-1908.	...	...	...	...	...	...	...	...	...	...	23 5	41 8	...	...	...	...	...	...
Bajar	1890-1891.	...	...	...	...	...	...	198 30	469 0	...	...	...	...	...	...	...	...	...	...
	1891-1892 to 1895-1896.	...	...	...	...	1 8	3 6	292 24	623 8	1 2	2 10	89 24	100 13	...	...	...	...	...	...
	1896-1897 to 1901-1902.	...	...	...	...	3 21	9 13	345 35	793 8	20 18	51 8	11 23	14 2	...	...	...	...	...	...
	1902-1903 to 1906-1907.	...	...	68 35	195 8	12 4	34 13	236 3	652 10	44 28	118 4	27 27	46 6	...	...	...	...	...	...
	1907-1908.	...	...	9 30	32 15	1 20	4 5	297 0	677 2	15 30	41 8	34 0	42 10	...	...	...	...	...	...
Wanacha	1890-1891.	...	...	...	...	...	...	274 5	644 0	...	...	...	...	...	...	...	...	...	...
	1891-1892 to 1895-1896.	...	...	...	...	...	...	248 32	536 11	4 30	12 8	160 27	168 8	...	...	...	...	...	...
	1896-1897 to 1901-1902.	...	...	...	...	28 17	67 8	330 17	715 15	15 25	41 4	58 13	61 8	...	...	...	...	...	...
	1902-1903 to 1906-1907.	...	...	...	...	19 37	57 4	364 14	826 10	26 5	68 0	108 16	111 6	...	...	...	...	...	...
	1907-1908.	...	...	24 25	83 3	3 10	9 6	328 27	739 11	27 15	68 4	175 0	178 3	...	...	...	...	...	...
Bahiri	1890-1891.	...	...	...	...	...	...	...	...	...	...	...	...	104 26	168 0	...	...	...	...
	1891-1892 to 1895-1896.	...	...	...	...	...	...	...	...	...	...	329 5	424 13	48 39	78 13	...	...	...	...
	1896-1897 to 1901-1902.	...	...	...	...	...	...	...	...	...	...	152 25	218 14	171 30	252 7	...	...	...	...
	1902-1903 to 1906-1907.	...	...	...	...	...	...	...	...	...	...	96 19	131 6	119 18	179 8	...	...	...	...
	1907-1908.	...	...	...	...	...	...	...	...	...	...	192 21	241 7	35 28	53 9	...	...	...	...

Name of ch. b.	Year.	KHARIF.															
		GARDENS.		RICE FLOW.		OTHER FLOW.		LUPA.		LIFT AIDED BY FLOW.		BARANI.		KACHH WELTS.		HIND STRE.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
1st Group—continued.		A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.
Bandri	1890-1891.	...	...	...	...	...	...	...	...	...	...	...	...	48 5	78 8	...	...
	1891-1892 to 1895-1896.	...	...	...	...	...	...	...	...	...	...	...	...	41 34	62 11	15 4	26 8
	1896-1897 to 1901-1902.	...	...	...	...	...	...	...	...	...	...	...	...	30 21	44 14	38 30	50 7
	1902-1903 to 1906-1907.	...	...	...	...	...	...	...	...	...	...	...	...	38 8	32 15	51 19	77 4
	1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	38 21	42 5	48 38	65 12
Jhangar	1890-1891.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23 5	41 0
	1891-1892 to 1895-1896.	...	...	...	...	13 29	29 13	45 20	95 6	5 34	14 10	107 13	140 4	38 5	68 2	...	...
	1896-1897 to 1901-1902.	0 28	2 5	...	...	...	...	38 16	81 10	...	...	34 30	47 14	33 21	49 74	...	...
	1902-1903 to 1906-1907.	...	...	...	...	...	...	12 27	28 8	...	...	14 17	14 13	24 16	35 12	...	...
	1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kot Barocho	1890-1891.	...	...	...	...	...	...	12 25	29 0	...	...	15 35	19 8	...	...	...	...
	1891-1892 to 1895-1896.	4 28	3 0	...	...	1 18	3 6	80 4	190 2	18 16	78 0	13 12	15 8	...	...	...	...
	1896-1897 to 1901-1902.	6 28	28 12	3 19	8 6	...	...	124 4	318 11	9 0	28 10	0 13	0 7	...	...	...	...
	1902-1903 to 1906-1907.	0 38	3 6	36 10	123 0	...	...	133 35	233 0	...	...	14 16	14 7	...	...	...	...
	1907-1908.	...	...	...	...	...	...	146 15	358 14	...	...	20 35	22 2	...	...	...	...
Pir Haman	1890-1891.	...	...	...	...	...	...	456 37	1,018 0	20 26	53 0	...	...	...	...	...	...
	1891-1892 to 1895-1896.	26 28	105 3	1 28	2 3	9 22	26 10	424 28	953 3	53 16	136 13	18 3	12 11	...	...	...	...
	1896-1897 to 1901-1902.	34 26	137 15	...	...	...	...	657 26	1,469 15	28 0	68 5	85 16	65 8	...	...	...	...
	1902-1903 to 1906-1907.	10 3	40 3	257 17	879 6	1 18	4 3	795 18	1,795 15	1 28	4 1	48 0	48 0	...	...	...	...
	1907-1908.	...	...	53 35	161 12	...	...	727 4	1,801 15	21 10	52 6	...	...	...	...	...	...
Tribal	1890-1891.	...	...	...	...	...	...	31 34	114 3	...	...	...	...	...	...	...	...
	1891-1892 to 1895-1896.	7 6	28 2	...	...	...	...	43 4	106 18	6 16	17 0	41 32	48 15	...	...	...	...
	1896-1897 to 1901-1902.	1 20	7 0	10 6	24 5	...	...	73 37	169 13	...	...	18 3	21 15	...	...	...	...
	1902-1903 to 1906-1907.	3 31	15 0	160 28	610 0	...	...	33 19	226 10	...	...	46 27	59 2	...	...	...	...
	1907-1908.	...	...	...	...	...	...	104 9	239 9	...	...	44 18	48 4	...	...	...	...
Mumraah	1890-1891.	...	...	...	...	...	...	...	...	...	...	24 0	35 0	...	...	27 30	48 0
	1891-1892 to 1895-1896.	...	...	...	...	...	...	...	...	...	...	26 11	120 10	...	...	6 22	9 8
	1896-1897 to 1901-1902.	...	...	...	...	...	...	...	...	...	...	38 19	48 4	...	...	4 0	6 0
	1902-1903 to 1906-1907.	...	...	...	...	...	...	...	...	...	...	47 26	60 0	...	...	2 30	4 19
	1907-1908.	...	...	...	...	...	...	...	...	...	...	10 29	18 7	...	...	11 55	17 7
Naing	1890-1891.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	201 86	312 2
	1891-1892 to 1895-1896.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	178 28	267 14
	1896-1897 to 1901-1902.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	220 36	331 3
	1902-1903 to 1906-1907.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	189 11	282 8
	1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	148 33	223 1
Total of group	1890-1891.	914 18	1,264 8	3,798 28	12,474 0	109 0	305 0	11,852 26	27,521 15	77 15	266 0	24 0	35 0	169 35	268 8	229 26	344 2
	1891-1892 to 1895-1896.	107 13	2,212 9	2,998 5	8,995 3	480 13	1,247 14	11,146 20	25,698 14	766 16	1,912 8	896 26	1,122 12	94 2	164 7	125 23	372 4
	1896-1897 to 1901-1902.	3 28	3,264 11	4,314 26	14,008 7	581 27	1,945 1	10,633 2	26,471 9	521 26	1,355 3	428 0	544 1	238 31	362 13	226 28	347 0
	1902-1903 to 1906-1907.	34 27	3 2	4,822 18	16,324 14	389 38	1,938 0	21,591 0	26,874 13	806 3	2,287 6	463 16	535 1	195 7	229 3	129 20	288 1
	1907-1908.	14 35	3 2	4,368 21	14,519 13	382 37	1,064 4	3,683 23	27,826 15	542 24	1,361 8	1542 29	650 13	79 21	128 3	451 28	247 3
	1907-1908.	841 31	3,578 0	4,368 21	14,519 13	382 37	1,064 4	3,683 23	27,826 15	542 24	1,361 8	1542 29	650 13	79 21	128 3	451 28	247 3

MARI.

LIFT.		POST INCLUDING MOEL.		POST AIDED BY LIFT.		SAILANT.		SAILANT AIDED BY LIFT.		WALLE.		BARANL.		KACKA WALLE.		HILL STREAMS.		TOTAL.		
Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	
A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	
...	
431 38	1,366 8	...	...	...	...	38 10	125 0	...	...	...	...	107 28	179 0	0 14	0 11	...	...	608 14	1,022 6
53 14	169 7	...	...	...	...	480 33	1,392 2	160 19	680 11	...	...	...	...	...	...	...	...	710 24	2,420 13
8 13	2 8	...	...	...	...	18 15	8 4	1 29	0 11	...	...	...	...	...	...	...	...	21 18	18 9
44 25	134 0	...	...	...	...	387 8	1,165 12	294 3	1,123 3	...	...	...	...	...	...	...	...	828 21	2,000 13
24 17	73 4	...	...	...	...	155 0	488 1	381 30	1,518 0	...	...	0 19	0 8	...	...	...	...	728 34	3,551 9
11 24	4 1	...	...	...	...	5 19	1 11	...	...	...	...	...	...	...	...	...	...	17 4	6 12
...	...	48 37	181 7	...	...	134 5	419 8	238 35	1,014 5	...	...	...	...	...	...	...	...	592 35	1,906 2
775 22	3,311 8	...	...	...	...	60 28	187 0	3 30	13 0	...	...	218 3	261 0	...	...	...	...	1,573 27	3,948 8
24 50	8 8	...	...	...	...	40 5	10 0	...	...	...	...	...	...	...	...	...	...	764 0	40 0
152 6	435 0	...	...	...	...	617 8	1,933 15	562 32	2,308 13	...	...	...	...	...	...	...	...	1,932 9	5,904 7
12 17	2 15	...	...	...	...	34 8	14 4	78 33	28 12	...	...	...	...	...	...	...	...	136 13	40 12
128 3	306 15	...	...	...	...	840 24	2,827 4	628 37	2,612 14	...	...	4 8	4 2	...	...	...	...	2,426 28	7,552 16
40 87	18 0	...	...	...	...	77 23	22 15	21 23	22 0	...	...	...	...	...	...	...	...	200 3	57 5
173 38	603 10	...	...	...	...	682 31	2,294 15	607 28	2,368 9	...	...	33 28	32 10	...	...	...	...	2,609 16	7,966 8
121 24	44 3	...	...	...	...	183 22	55 5	...	...	...	...	...	...	...	...	...	...	285 16	79 8
...	...	...	...	...	...	389 31	888 2	438 5	1,830 2	...	...	...	...	...	...	...	...	1,608 5	4,874 5
...	...	...	...	...	...	90 5	24 9	79 2	19 13	...	...	...	...	...	...	...	...	169 7	42 5
290 23	618 1	...	...	...	...	65 20	210 0	12 16	53 0	...	...	282 37	434 6	...	...	...	...	602 8	1,423 10
29 33	10 7	...	...	...	...	...	...	...	...	...	...	7 35	...	...	...	...	...	27 34	10 7
42 1	123 0	...	...	...	...	352 15	1,115 3	88 7	261 11	...	...	6 38	23 5	...	...	...	...	561 34	1,719 2
10 25	5 0	...	...	...	...	1 2	1 5	0 32	0 11	...	...	1 21	0 11	...	...	...	...	14 10	8 1
43 20	126 8	...	...	...	...	498 27	1,643 10	316 18	498 15	...	...	9 19	14 1	...	...	...	...	738 38	2,320 16
9 0	1 12	...	...	...	...	24 30	9 6	1 3	0 4	...	...	0 9	0 3	...	...	...	...	25 2	11 10
58 8	165 16	...	...	...	...	328 12	1,031 14	182 23	371 13	...	...	16 26	17 0	...	...	...	...	908 17	2,887 14
18 20	5 11	...	...	...	...	14 1	4 13	...	...	...	...	1 24	1 5	...	...	...	...	22 5	11 14
4 35	20 2	...	...	...	...	295 24	967 9	188 18	714 10	...	...	...	...	...	...	...	...	819 24	3,079 13
...	...	...	...	...	...	15 14	6 3	...	...	...	...	...	...	...	...	...	...	15 14	6 3
...	...	...	...	...	...	...	...	...	...	...	...	51 23	84 11	...	17 5	24 0	...	120 18	188 11
...	...	...	...	...	...	...	...	...	...	...	...	15 19	6 8	...	22 30	7 4	...	37 32	13 12
...	...	...	...	...	...	...	...	...	...	...	...	9 24	16 8	...	19 38	39 2	...	130 15	182 7
...	...	...	...	...	...	...	...	...	...	...	...	8 4	0 8	...	4 15	9 0	...	6 19	5 5
...	...	...	...	...	...	...	...	...	...	...	...	27 19	48 14	...	18 28	33 1	...	88 39	136 3
...	...	...	...	...	...	...	...	...	...	...	...	0 31	0 3	...	3 32	1 0	...	4 22	1 3
...	...	...	...	...	...	...	...	...	...	...	...	9 32	18 0	...	30 10	69 0	...	91 19	142 10
...	...	...	...	...	...	...	...	...	...	...	...	1 12	1 4	...	1 25	0 11	...	3 7	1 15
...
...
...
...
...
...
...
7,242 39	21,804 15	...	...	...	...	14,301 28	45,838 15	919 33	3,839 13	27 25	51 8	868 8	1,382 4	248 24	551 11	3,009 24	541 13	40,565 8	1,16,220 2
372 5	120 10	79 5	30 8	...	...	1,480 7	474 7	36 15	11 9	...	...	27 7	19 2	48 0	20 7	27 0	9 4	2,040 10	632 14
3,243 89	8,561 13	0 28	2 0	...	...	22,927 5	71,379 14	5,387 35	22,611 3	15 23	47 7	271 11	420 14	123 15	1,571 15	934 27	846 11	42,383 34	1,27,925 14
325 23	127 11	...	...	...	...	1,827 6	494 0	413 0	116 11	9 27	0 6	42 36	22 11	30 35	16 5	10 25	8 9	2,404 20	753 5
2,450 22	7,876 7	180 32	871 14	...	...	20,284 7	63,426 0	4,944 25	1,722 3	121 21	1,345 0	192 22	375 11	201 22	408 7	2,330 32	669 12	45,540 5	1,38,300 3
427 10	121 10	...	...	...	...	1,238 22	424 15	512 19	145 7	19 33	0 2	23 30	18 2	68 3	29 10	5 21	1 17	2,422 2	734 5
2,890 10	10,255 11	184 6	894 12	37 0	1,188 0	15,163 0	47,265 0	3,572 25	14,255 2	221 9	568 9	180 6	236 13	242 15	465 8	802 27	723 13	43,115 21	1,27,200 11	
418 28	164 2	74 7	50 12	...	...	810 2	288 5	3 4	0 14	24 2	7 6	28 1	27 10	44 24	29 0	3 10	1 7	1,274 24	288 2
2,651 27	7,874 7	430 37	1,568 13	49 8	2,066 11	8,268 15	26,979 13	2,090 29	8,735 1	87 20	221 5	...	...	107 32	218 12	227 7	714 5	30,128 15	80,241 8
272 14	124 1	70 28	28 8	...	...	229 14	250 2	37 35	97 0	6 2	29 4	...	...	80 20	10 6	7 27	6 6	900 27	270 2

Name of tal.	Year.	KHARIF.															
		GARDWA.		RICE FLOW.		OTHER FLOW.		LOWL.		LEFT AIDED BY FLOW.		BARANI.		KACHA WELLS.		HILL SOUR.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
Ind group—continued.		A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.
Kal ...	1890-1891.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1891-1892 to 1895-1896.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1896-1897 to 1901-1902.	8 15	4 11	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1902-1903 to 1906-1907.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL OF IND GROUP.	1890-1901.	...	...	...	...	16 10	44 0	441 20	772 12	43 25	93 0	14 34	14 13	3 10	3 8	81 28	104
	1891-1892 to 1895-1896.	17 13	63 8	...	...	9 39	23 8	633 20	1,014 8	27 37	81 8	424 14	429 3	0 18	0 11	89 8	112
	1896-1897 to 1901-1902.	32 20	118 2	...	...	19 34	49 8	682 5	1,361 10	24 0	53 13	254 25	267 8	7 56	9 14	98 0	124
	1902-1903 to 1906-1907.	25 18	86 14	...	...	16 10	40 8	727 37	1,470 13	39 26	67 1	233 30	228 13	4 25	6 6	106 10	135
	1907-1908.	65 24	202 9	...	...	5 25	14 1	655 21	1,245 4	18 5	40 14	536 24	536 14	...	...	85 28	107
GRAND TOTAL OF TALUKA.	1890-1891.	314 19	1,364 8	3,763 29	12,474 0	127 10	249 0	12,354 16	23,369 11	121 0	299 0	38 34	40 13	172 8	300 0	211 14	463 1
	1891-1892 to 1895-1896.	531 23	2,275 9	2,996 5	9,945 3	460 10	1,271 4	11,670 6	26,634 6	784 13	1,974 0	1,321 7	1,553 0	94 27	115 3	277 6	388
	1896-1897 to 1901-1902.	855 38	3,507 19	4,214 20	14,008 7	601 21	1,694 3	11,205 7	25,773 3	845 29	1,589 0	203 25	811 9	246 25	362 16	225 28	464
	1902-1903 to 1906-1907.	34 27	3 3	4,822 18	16,324 14	700 8	1,993 3	12,323 27	25,245 10	919 22	2,354 7	330 0	753 14	199 32	299 3	302 0	425
	1907-1908.	697 16	2,780 9	4,359 26	14,519 13	983 18	1,108 5	10,533 4	24,083 3	570 39	1,423 6	1,123 23	1,217 11	79 21	119 5	247 11	342 3

BAHL																				Total	
MIRA		BOAT INCLUDING MOKI		BOAT AIDED BY LIFE		GALLABE		SAYBANE AIDED BY LIFE		WELLS		BARABE		KACHA WELLS		HILL STRAND		Area	Assessment		
Area	Assessment	Area	Assessment	Area	Assessment	Area	Assessment	Area	Assessment	Area	Assessment	Area	Assessment	Area	Assessment	Area	Assessment				
A. G.	Ha. a.	A. G.	Ha. a.	A. G.	Ha. a.	A. G.	Ha. a.	A. G.	Ha. a.	A. G.	Ha. a.	A. G.	Ha. a.	A. G.	Ha. a.	A. G.	Ha. a.	A. G.	Ha. a.		
...		
...	4,497 37	12,368 12	66 15	282 0	...	...	198 25	298 10	2 18	5 0	112 2	190 0	5,444 21	14,184 14		
...	63 98	23 9	...	...	...	...	14 34	5 19	...	...	...	...	71 16	30 5		
...	5,314 7	9,270 1	201 4	783 1	0 20	0 13	220 39	289 4	1 12	2 12	123 12	220 7	5,038 1	12,368 0		
...	19 9	5 4	9 6	2 15	2 23	...	14 28	5 8	...	...	...	...	62 19	17 15		
...	2,318 14	6,663 10	180 0	666 5	7 36	10 13	11 31	19 0	3 6	5 15	190 39	228 15	2,866 13	9,936 10		
...	66 23	21 12	20 15	3 14	3 17	...	3 13	1 2	2 0	0 0	4 22	1 6	39 36	21 12		
...	1,601 23	4,564 14	414 21	1,603 2	25 12	74 0	30 31	46 14	4 33	8 4	143 10	200 0	2,523 21	6,145 10		
...	51 5	33 5	0 24	0 5	2 27	...	19 20	6 8	0 21	0 9	2 26	1 14	63 30	55 4		
...	204 23	528 7	28 30	66 1	3 12	5 12	2 25	13 15	2 10	3 15	127 12	275 2	2,270 28	4,487 8		
...	45 37	21 14	...	4 5	...	...	24 0	23 12	...	...	...	...	123 2	60 4		
...	12,799 20	59,055 11	688 8	4,121 12	27 25	51 8	1,036 28	1,679 14	251 9	5,554 11	415 26	771 13	45,999 26	1,30,404 14		
...	1,504 2	499 0	38 15	11 2	...	...	42 1	29 4	45 0	90 7	50 0	12 4	2,111 39	659 2		
...	24,251 12	81,649 15	5,596 39	23,373 2	15 12	42 4	423 9	729 14	123 13	274 12	463 26	967 2	64,311 36	20,243 14		
...	1,576 6	423 4	423 6	112 10	12 10	0 6	28 24	28 2	30 25	18 6	12 2	4 9	2,524 39	771 4		
...	22,612 31	70,089 2	4,224 26	17,724 10	129 17	386 0	210 13	396 4	206 34	117 6	451 25	829 11	49,406 13	1,40,126 12		
...	1,401 32	445 11	528 29	122 5	20 10	0 8	27 2	28 7	20 12	23 5	17 20	13 6	2,511 39	785 2		
...	12,704 22	51,969 14	3,927 0	15,453 10	256 34	263 2	210 27	270 11	247 13	603 14	510 27	863 13	46,749 2	1,20,415		
...	851 14	405 10	2 28	1 2	27 22	7 0	62 27	29 12	45 5	29 9	5 6	3 5	1,522 4	525 12		
...	2,230 28	20,968 4	2,112 18	2,621 2	20 26	228 1	2 26	12 15	110 2	220 11	514 12	990 7	33,179 3	24,320 12		
...	528 12	272 0	27 20	27 0	2 6	29 4	64 0	28 12	20 20	20 12	0 6	14 24	1,028 10	580 12		

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX XIII.

STATEMENT showing demands and realizations in the Sehwan taluka
from 1890-1891 to 1907-1908.

Year.	Gross demand.		Remission.		Collection.			Arrears.		
	Rs.	a.	Rs.	a.	Rs.	a.	p.	Rs.	a.	p.
1890-1891...	1,32,718	8	...		1,30,881	10	0	1,836	14	0
1891-1892...	1,57,735	5	3,755	2	1,52,147	6	0	1,842	13	0
1892-1893...	2,00,056	10	4,226	14	1,95,422	8	0	407	4	0
1893-1894...	1,52,140	4	12,503	10	1,36,889	10	0	2,747	0	0
1894-1895...	1,88,220	8	22,531	15	1,63,732	13	0	1,955	12	0
1895-1896...	1,16,765	0	6,896	14	1,08,799	15	0	1,068	3	0
1896-1897...	1,62,333	7	12,136	7	1,49,968	11	0	228	5	0
1897-1898...	2,03,549	10	22,542	1	1,70,978	1	0	10,029	8	0
1898-1899...	1,08,065	15	8,680	0	93,480	14	0	5,905	1	0
1899-1900...	1,29,470	11	14,400	5	1,12,006	10	0	3,063	12	0
1900-1901...	1,52,846	4	10,688	5	1,38,521	15	0	3,636	0	0
1901-1902...	1,37,618	8	11,257	15	1,23,615	13	0	2,744	12	0
1902-1903...	1,03,782	13	13,766	8	85,664	3	0	4,352	2	0
1903-1904...	1,46,385	7	7,430	3	1,32,092	15	0	6,862	5	0
1904-1905...	1,48,943	8	23,208	8	1,21,329	10	6	4,405	5	6
1905-1906...	1,49,494	5	6,295	15	1,41,727	4	0	1,471	2	0
1906-1907...	1,55,395	5	6,989	12	1,43,371	14	0	5,033	11	0
1907-1908...	99,182	13	1,747	3	94,071	9	0	3,364	1	0
Total...	2,644,704	13	1,89,057	9	2,394,703	5	6	60,943	14	6
Average...	1,46,928	1	10,503	3	1,33,039	1	0	3,385	13	0

S. H. COVERNTON,
Settlement officer, Sehwan.

APPENDIX XIV.

BIF.									BARI.		
KAOHA WELCE IN BARANI LANDS.			HILL TERRACE.			BARANI.			LETT.		
Aves.	Rate.	Assessment.	Aves.	Rate.	Assessment.	Aves.	Rate.	Assessment.	Aves.	Rate.	Assessment.
A.	R. S.	R.	A.	R. S.	R.	A.	R. S.	R.	A.	R. S.	R.
...	110	3 0	330
...	110	4 0	440
...	81	3 0	243
...	81	4 0	324
...	8	1 4	10	60	3 0	180
...	8	0 8	4	60	4 0	240
...	2	1 4	3	192	3 0	576
...	2	0 8	1	192	4 0	768
...	230	3 0	690
...	230	4 0	920
...	33	3 0	99
...	33	4 0	132
...	73	3 0	219
...	73	4 0	292
...	32	3 0	96
...	32	4 0	128
...	113	3 0	339
...	113	4 0	452
...	40	3 0	120
...	40	4 0	160
...	8	3 0	24
...	8	4 0	32
...	1	3 0	3
...	1	4 0	4
...	40	3 0	120
...	40	4 0	160
...	63	3 0	189
...	63	4 0	252
...	48	3 0	144
...	48	4 0	192
...	123	3 0	369
...	123	4 0	492
...	204	3 0	612
...	204	4 0	816
...	123	3 0	369
...	123	4 0	492
...	10	3 0	30
...	10	4 0	40
...	85	3 0	255
...	85	4 0	340
...	84	3 0	252
...	84	4 0	336
...	35	3 0	105
...	35	4 0	140
...
...
...	225	3 0	675
...	225	4 0	900
...	210	3 0	630
...	210	4 0	840
120	1 8	180	...	...	...	28	1 4	120	...	...	...
120	1 4	160	...	...	...	26	0 8	48	...	...	...
81	1 8	77	1	1 8	1	26	...	32	...	...	...
81	1 4	64	1	1 12	1	26	...	13	...	...	...
...	128	...	252	...	...	...	...	...	...
...	198	...	320	...	...	...	...	...	...

SALARY			BOSS INCLUDING MOKI			SALARY AIDED BY DEPT.			BOSS & MOKI AIDED BY DEPT.		
Area	Rate	Assessment	Area	Rate	Assessment	Area	Rate	Assessment	Area	Rate	Assessment
A.	Ra. a.	Ra.	A.	Ra. a.	Ra.	A.	Ra. a.	Ra.	A.	Ra. a.	Ra.
180	3 4	428	1	3 4	3	81	4 4	387	...	...	...
180	3 0	390	1	3 0	3	81	4 0	364	...	...	...
1,500	3 4	4,904	...	3 4	...	105	4 4	446	...	...	...
1,500	3 0	4,527	...	3 0	...	105	4 0	430	...	...	...
888	3 4	3,230	5	3 4	16	81	4 4	153	...	...	...
888	3 0	3,059	5	3 0	15	81	4 0	134	...	...	...
893	3 4	1,927	...	3 4	...	85	4 4	361	...	...	...
893	3 0	1,779	...	3 0	...	85	4 0	340	...	...	...
89	3 4	289	...	3 4	...	89	4 4	374	...	...	...
89	3 0	267	...	3 0	...	88	4 0	353	...	...	...
165	3 4	536	...	3 4	...	82	4 4	383	...	...	...
165	3 0	495	...	3 0	...	82	4 0	348	...	...	...
19	3 4	63	1	3 4	3	84	4 4	144	...	...	...
19	3 0	57	1	3 0	3	84	4 0	138	...	...	...
...
489	3 4	1,589	...	3 4	...	87	4 4	385	...	...	...
489	3 0	1,467	...	3 0	...	87	4 0	368	...	...	...
...	...	...	2	3 4	7	...	...	...	...	...	...
...	...	...	2	3 0	6	...	...	...	...	...	...
...	...	...	19	3 4	62	10	4 4	48	...	...	...
...	...	...	19	3 0	57	10	4 0	40	...	...	...
...
27	3 4	89	108	3 4	351	38	4 4	153	...	...	...
27	3 0	81	108	3 0	324	38	4 0	144	...	...	...
58	3 4	168	9	3 4	29	30	4 4	168	...	...	...
58	3 0	174	9	3 0	27	30	4 0	158	...	...	...
171	3 4	556	5	3 4	16	51	4 4	217	...	...	...
171	3 0	513	5	3 0	15	51	4 0	204	...	...	...
46	3 4	149	...	3 4	...	17	4 4	73	...	...	...
46	3 0	138	...	3 0	...	17	4 0	68	...	...	...
912	3 4	1,014	...	3 4	...	198	4 4	833	...	...	...
912	3 0	936	...	3 0	...	198	4 0	784	...	...	...
15	3 4	49	...	3 4	...	4	4 4	17	...	...	...
15	3 0	45	...	3 0	...	4	4 0	15	...	...	...
141	3 4	453	...	3 4	...	33	4 4	141	...	...	...
141	3 0	428	...	3 0	...	33	4 0	133	...	...	...
12	3 4	39	...	3 4	...	5	4 4	21	...	...	...
12	3 0	36	...	3 0	...	5	4 0	20	...	...	...
5	3 4	16	...	...	...	...	...	...	...	...	...
5	3 0	15	...	...	...	...	...	...	...	...	...
17	3 4	55	2	3 4	6	21	4 4	29	...	...	...
17	3 0	51	2	3 0	6	21	4 0	24	...	...	...
87	3 4	130	...	3 4	...	5	4 4	21	...	...	...
87	3 0	111	...	3 0	...	5	4 0	20	...	...	...
12	3 4	43	...	3 4	...	5	4 4	26	...	...	...
12	3 0	39	...	3 0	...	5	4 0	24	...	...	...
22	3 4	73	...	3 4	...	3	4 4	13	...	...	...
22	3 0	68	...	3 0	...	3	4 0	12	...	...	...
254	3 4	1,161	...	3 4	...	100	4 4	435	...	...	...
254	3 0	1,089	...	3 0	...	100	4 0	400	...	...	...
...	...	...	...	3 4	...	...	...	...	...	...	...
...	...	...	...	3 0	...	...	...	...	...	...	...
...	...	...	...	3 4	...	...	...	...	...	...	...
...	...	...	...	3 0	...	...	...	...	...	...	...
...	...	...	...	3 4	...	...	...	...	...	...	...
...	...	...	...	3 0	...	...	...	...	...	...	...

RIF.									RAIL		
KACHA WHEELS X BARANI LANDS.			HILL STREAMS.			BARANI.			LIVE.		
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.
A.	Rs. a.	Rs.	A.	Rs. a.	Rs. a.	A.	Rs. a.	Rs.	A.	Rs. a.	Rs.
...	35	2 10	81
...	35	2 10	108
...	1	1 0	1	21	2 10	55
...	1	0 8	.1	21	2 10	94
...	4	1 0	4	48	2 10	191
...	4	0 8	2	48	2 10	184
...	1 4	5	...	...	...	...	...	...	...	...	...
...	1 4	5	...	...	...	...	...	...	...	...	...
...	107	1 4	134	...	...	...	...	...	...
...	107	1 12	187	...	...	...	...	...	...
...	74	2 10	104
...	74	4 0	298
...	17	2 10	45
...	17	4 0	68
175	...	202	290	...	417	187	...	170	2,508	2 10	7,437
175	1 4	219	296	1 12	518	187	0 8	89	2,503	4 0	10,012
...	100	3 0	300
...	100	3 8	350
...	20	3 0	60
...	20	3 8	70
...	44	3 0	132
...	44	3 8	161
...	178	3 0	534
...	178	3 8	633
...	170	3 0	510
...	170	3 8	595
...	64	3 0	192
...	64	3 8	224
...	104	3 0	312
...	104	3 8	364
...	88	3 0	264
...	88	3 8	308
...	114	3 0	342
...	114	3 8	399
...	2	1 4	3	64	3 0	192
...	2	0 8	1	64	3 8	184
...	14	1 4	17	8	3 0	16
...	14	0 8	7	8	3 8	31
...	219	1 0	219	...	...	...
...	219	0 8	109	...	...	...
...	109	1 0	109	132	3 0	396
...	109	0 8	85	122	3 8	462
...	33	1 4	47	85	3 0	255
...	33	0 8	19	88	3 8	287
...	48	1 0	46	173	3 0	519
...	48	0 8	24	173	3 8	608
24	1 8	36	...	...	...	14	1 0	14	...	...	...
24	1 4	30	...	...	...	14	0 8	7	...	...	...
...	14	1 0	14	24	3 0	72
...	14	0 8	7	24	3 8	84
...	48	1 4	58	52	3 0	156
...	48	0 8	23	52	3 8	188
...	4	1 2	6	48	1 4	60	...	...	...
...	4	1 4	5	48	0 8	24	...	...	...
...	2	1 4	3 0	...	...	...	...	...	...
...	2	1 4	3 0	...	...	...	...	...	...
24	...	36	6	...	8	552	...	559	1,380	3 0	4,140
24	1 4	36	6	1 4	8	552	0 8	275	1,380	3 8	4,530
199	1 8	398	285	1 7	488	689	1 2	759	3,893	3 0	11,677
199	1 4	319	302	1 12	528	689	0 8	345	3,893	3 12	14,942
...
...

BALANCE.			BOYS INCLUDING MOKI.			BALANCE AIDED BY LIFE.			BOYS AND MOKI AIDED BY LIFE.		
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.
A.	Rs. a.	Rs.	A.	Rs. a.	Rs.	A.	Rs. a.	Rs.	A.	Rs. a.	Rs.
205	2 14	536	...	...	...	124	3 14	480	...	...	...
206	2 14	618	...	...	...	124	4 0	498	...	...	...
165	2 14	448	...	...	...	160	3 14	618	...	...	...
166	2 14	496	...	...	...	160	4 0	636	...	...	...
587	2 14	1,638	3	2 14	9	38	3 14	161	...	...	...
587	2 14	1,761	3	2 14	9	38	4 0	166	...	...	...
...
...
...
513	2 14	1,472	6	2 14	38	27	3 14	106	...	...	...
512	3 0	1,536	6	3 0	34	27	4 0	106	...	...	...
137	3 14	394	6	2 14	17	64	3 14	248	...	...	...
137	3 0	411	6	3 0	16	64	4 0	256	...	...	...
6,506	2 14	20,547	169	2 14	642	1,503	3 14	6,233	...	...	...
6,506	3 0	19,518	169	3 0	507	1,503	4 0	6,009	...	...	...
102	3 4	281	10	3 4	38	38	4 4	161	1	4 4	4
102	3 8	266	10	2 8	26	38	3 8	133	1	3 8	4
160	3 4	520	14	3 4	48	51	4 4	217	...	...	...
160	3 8	460	14	2 8	36	51	3 8	178	...	...	...
1,587	3 4	5,158	...	...	...	63	4 4	269	...	...	...
1,587	3 8	3,967	...	...	...	63	3 8	231	...	...	...
426	3 4	1,381	...	...	...	148	4 4	629	36	4 4	152
426	2 8	1,083	...	...	...	148	3 8	518	36	3 8	126
1,552	3 4	5,044	...	...	...	316	4 4	1,317	...	...	...
1,552	2 8	3,880	...	...	...	316	3 8	1,098	...	...	...
1,171	3 4	3,806	...	...	...	91	4 4	387	...	...	...
1,171	3 8	2,927	...	...	...	91	3 8	319	...	...	...
636	3 4	3,042	...	...	...	119	4 4	500	...	...	...
636	3 8	2,310	...	...	...	119	3 8	416	...	...	...
637	3 4	3,046	...	...	...	142	4 4	604	...	...	...
637	3 8	2,342	...	...	...	142	3 8	497	...	...	...
722	3 4	2,574	...	...	...	37	4 4	167	...	...	...
722	3 8	1,980	...	...	...	37	3 8	150	...	...	...
60	3 4	196	...	...	...	17	4 4	72	...	...	...
60	3 8	150	...	...	...	17	3 8	56	...	...	...
62	3 4	201	...	...	...	19	4 4	81	...	...	...
62	3 8	156	...	...	...	19	3 8	67	...	...	...
6	2 14	17	...	...	...	1	3 14	4	...	...	...
6	3 8	18	...	...	...	1	3 8	4	...	...	...
591	3 4	1,921	1	3 4	3	138	4 4	596	...	...	...
591	2 8	1,428	1	2 8	2	138	3 8	493	...	...	...
664	3 4	2,136	7	3 4	28	159	4 4	671	...	...	...
664	2 8	1,626	7	2 8	16	159	3 8	563	...	...	...
663	3 4	2,220	...	...	...	609	4 4	2,594	...	...	...
663	2 8	1,707	...	...	...	609	3 8	2,129	...	...	...
...
...
155	3 4	584	...	...	...	343	4 4	1,438	...	...	...
155	2 8	438	...	...	...	343	3 8	1,207	...	...	...
220	3 4	1,080	...	...	...	183	4 4	778	...	...	...
220	2 8	816	...	...	...	183	3 8	640	...	...	...
...
...
...
10,199	...	33,144	32	...	106	2,465	...	10,561	37	...	129
10,199	...	26,497	32	...	80	2,436	...	8,696	27	...	120
16,705	3 8	53,691	201	3 8	647	3,987	4 8	16,789	87	4 4	161
16,705	3 11	46,015	201	2 15	537	3,987	3 11	14,706	87	3 8	120
...
...
...

APPENDIX XV.

List of prices current in the Sehwan taluka.

Year.	JUARI.		Bajra.	RICE (CHAWAB).			WHEAT.		Barley.	Mung.	Matar.	Gram (Chana).	Sarak.	Jambho.	Til.	AHU.	INDICE.		CORROK.		TOBACCO.	
	White.	Red.		Surghal 1st sort.	Sathia 2nd sort.	Red (Lari) 3rd sort.	1st sort.	2nd sort.									1st sort.	2nd sort.	Cleaned.	Uncleaned.	White.	Black.
1897-03	8 10	3 7	3 15	...	...	4 6	3 13	3 3	...	2 15	3 2	4 7	3 15	...	3 11	...	14 6	...	...	...	7 11	...
1900-01	3 7	3 1	3 11	...	...	3 3	3 10	3 3	...	1 15	3 15	4 8	3 15	...	3 11	...	11 6	...	...	...	11 3	...
1901-02	3 1	1 1	3 7	...	...	3 3	3 10	3 3	...	1 15	3 15	4 8	3 15	...	3 11	...	11 6	...	...	...	11 3	...
1902-03	1 15	1 15	3 5	...	...	3 3	3 10	3 3	...	1 15	3 15	4 8	3 15	...	3 11	...	16 3	...	...	...	10 3	...
1903-04	1 11	1 11	3 5	...	...	3 3	3 10	3 3	...	1 15	3 15	4 8	3 15	...	3 11	...	16 3	...	...	...	10 3	...
1904-05	1 15	1 15	3 5	...	...	3 3	3 10	3 3	...	1 15	3 15	4 8	3 15	...	3 11	...	16 3	...	...	...	10 3	...
1905-06	3 3	3 3	3 10	...	...	3 3	3 10	3 3	...	1 15	3 15	4 8	3 15	...	3 11	...	19 13	...	...	...	11 3	...
1906-07	3 3	3 3	3 10	...	...	3 3	3 10	3 3	...	1 15	3 15	4 8	3 15	...	3 11	...	20 3	...	...	...	11 3	...
1907-08	3 3	3 3	3 9	...	...	3 3	3 10	3 3	...	1 15	3 15	4 8	3 15	...	3 11	...	20 5	...	...	...	10 3	...

APPENDIX XVI.

STATEMENT showing the general financial results of the proposed settlement of the Sehwan taluka based on the average of the past 5 years from 1902-1903 to 1906-1907.

	Present settlement.	Proposed settlement.	INCREASE OR DECREASE.		INCREASE OR DECREASE PER CENT.	
			Increase.	Decrease.	Increase per cent.	Decrease per cent.
	Rs.	Rs.	Rs.	Rs.		
Surveyed lands ...	1,40,234	1,35,395	...	4,839	...	3.45
Unsurveyed lands ...	3,309	3,377	68	...	2.05	...
Leased lands ...	314	191	...	123	...	39.17*
	1,43,857	1,38,963	68 net decrease.	4,962 net decrease.	...	3.40

* This includes assessment charged on the rayati lands in deha Chorlo and Badro which were formerly outside the lease.

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX A.

Special rules for the revised irrigational settlement of Sehwan, Johi and Dadu talukas.

Rule 1.—These rules shall apply to the Sehwan, Dadu and Johi talukas only.

The ordinary rules for remissions and for the administration of irrigational settlements shall remain in force except in so far as they may be modified by any of the rules here following.

Application :
Former rules how far maintained.

Rule 2.—Rule No. IV of the fallow rules (Special Circular No. 20, page 152) shall not apply to barani lands which obtain no black water or hill-stream irrigation and have no registered water-supply from a canal or the river nor to the lands on the Manchhur referred to in Rule 4 following.

Fallows.

Rule 3.—If lands to which a registered source of water-supply from a canal or the river has been assigned are cultivated as barani and afterwards remain uncultivated for 5 years, then the fallow assessment to which they become liable in the 5th year shall not be the barani assessment but that chargeable on the description of irrigated cultivation last carried on in the field.

Rule 4.—The special Manchhur remission rules printed on page 165 of the Commissioner's Special Circulars (No. 2) will continue in force for all lands whose registered source of water-supply is from the Manchhur. Remissions under these rules will also be given in the same way for portions of survey numbers remaining uncultivated owing to flooding by the Manchhur even though their registered source of irrigation is not the Manchhur.

Remissions.

Rule 5.—In barani lands which have received no black water or hill-stream irrigation, the existing practice will be continued of remitting the assessment on uncultivated portions of survey numbers provided that the uncultivated area is at least $\frac{1}{4}$ of the area of the survey number.

Rule 6.—Remissions on barani cultivation in all lands assessed at one rupee per acre and under shall (on account of the low rates of assessment) not ordinarily be granted. But in exceptional cases where the general nature of the calamity seems to demand a large measure of remission or postponement, the Mukhtyarkar shall prepare a statement showing in annas the general conditions of each deh and this statement shall be tested by the Assistant or Deputy Collector and its results with the Collector's recommendation reported to the Commissioner.

All lands assessed at over 1 rupee per acre shall be entitled to the benefit of the remission rules.

Rule 7.—(In modification of rules 4 and 6 on pages 572-574 of Special Circulars, No. 59.)

Except in the purely barani lands referred to in Rule 8 and in the cases referred to in Rule 10, if a number which has been cultivated in kharif is cultivated again in the succeeding rabi, then it will be charged according to the rates fixed in the settlement for dubari cultivation. Gardens will form no exception to this rule.

Dubari.

If the second crop is watered with well water only, but the first crop received Indus water, then the dubari crop will be charged as unwatered (*i.e.*, at 8 annas). But if both first and second crops received well water only, no charge will be made for the dubari crop.

Rule 8.—In barani lands which have received no black water or hill-stream irrigation, no dubari assessment will be taken if jambho, sariha or other crops usually grown in rabi be sown in a field which is cultivated in kharif also but the whole will be treated as a single crop. But if a number sown as barani is accidentally flooded in kharif with Indus water and is subsequently cultivated as sailabi in rabi then the barani rate will be charged in kharif and the full sailabi rate in rabi. If a field is cultivated in kharif with barani and in rabi with hill-stream, then in all dehs the dubari crop will be charged the difference between the kharif assessment and the rabi + dubari assessment.

Rule 9.—In the kacho and the barani lands of Sehwan taluka, arhari* crops will be free from assessment provided they merely spring up from the stubble of kharif crops previously reaped, or are grown in a number already cultivated in the preceding kharif or adhawa.† Adhawa crops (i. e., those succeeding rabi and preceding kharif) will be liable to assessment, but if a number be cultivated both in adhawa and also in the succeeding kharif it will pay only a single assessment for both.

Rule 10.—In irrigated lands if a crop ordinarily grown in rabi is sown at the same time with and mixed with a kharif crop, no dubari will be taken but the whole will be treated as a single kharif crop.

Rule 11.—The special unploughed rate for the Manchhur will apply to all lands which have actually been watered from the Manchhur and not merely to those whose registered source of irrigation is the Manchhur.

Rule 12.—A clearance allowance of 3 annas per acre will continue to be given on lands watered by the Rajwah and other hill flood canals in group II of Johi taluka. But no allowance will be given in group III on account of the lowness of the assessment.

Rule 13.—In the amended rule 6 printed on page 574, Special Circulars, the words “gardens will however, etc.,” down to “natural source” shall be omitted, and the following substituted in their place “gardens will be assessed according to the method of irrigation adopted.”

Rule 14.—The following definitions shall be in force in these talukas and the assessment charged in accordance with them.

(i) *Rabi bosi* refers to land which receives an artificial supply of water for rabi cultivation whether by wheel or mok‡ at any time before the sowing of the seed and receives no water after the sowing.

(ii) *Rabi sailabi* refers to land which has received natural moisture only whether by flooding or by percolation.

(iii) *Rabi lift* refers to land which receives water for rabi cultivation by lift after the seed has been sown, and which had not previously been flooded by natural means or by an artificial mok.§

(iv) *Rabi flow* refers to lands which receives an artificial supply of water by mok for rabi cultivation after the seed has been sown.

(v) *Sailabi madad charkhi* refers to land which before sowing received a supply of water by natural flooding and after sowing received an artificial lift supply.

(vi) *Bosi madad charkhi* is the same but with the words “artificial flooding from a mok” substituted for “natural flooding.”

Lands watered before sowing by wheel or flow from a canal, etc., which after sowing receive well water only will be assessed as bosi.

Adhawa sailabi will be assessed as rabi sailabi in surveyed lands and as rabi ploughed in unsurveyed kachas.

Rule 15.—No rebate allowance will be given on unwatered sailabi cultivation.

Remarks.

Rules 2, 4, 5 and 10 merely continue the existing practice of the division, but rule 5 extends to the whole division a concession that for some obscure reason has hitherto been confined to Johi taluka. Rules 4 and 11 make provision for the variations of the Manchhur and the fact that lands may be flooded by it although according to the Settlement Register they have different source of water-supply. When this happens their position is exactly the same as that of other Manchhur lands and it would be unfair to treat them differently. The necessity for rule 6 is explained in the Johi report. The rule is a modification of the rule in force in the Desert taluka of Thar and Parkar. Rules 7 and 13 modify the rules in the Special Circulars to suit the proposed rates for dubari. Clearly if gardens are to be assessed according to the method of irrigation, there is no reason to continue their exemption from dubari. I see no reason why a number watered in kharif with river water should not pay the unwatered dubari rate even if the dubari crop is on a well. I think the dubari crop must gain some advantage from having had a watering in kharif from a canal. Such dubari crops are usually garden crops and as such even

under the old settlement they had to pay the difference between the kharif rate and the garden rate. As this special rate has now been abolished, these crops can well afford to pay the 8 annas dubari rate. But when both crops are grown on well water only there seems no ground for making any alteration in the present custom of taking no assessment for the dubari; especially as this custom is in accordance with the orders of Government.

Rule 8.—The necessity of this rule is shown in paragraph 9 (i) of the Johi report. At present if the jambho, etc., is sown at the same time with the late juar, it is usually entered as kharif, though not invariably. If it is sown among the standing crop before harvest it is usually entered as dubari. Obviously it is almost impossible for the tapadar to know if the seed was sown along with the juar or somewhat later and he has to depend on the statements of haris. In any case this jambho crop is usually poor and often consists only of a few scattered plants.

The effect of rules 7 and 8 in the 2nd group of Johi has been explained in the report. It will be the same in all other hill-stream dehs, i.e., if barani is followed by hill-stream dubari the total assessment will always equal the hill-stream rabi + 8 annas. And as the kharif barani crop must always be of much less importance than the hill-stream dubari, this seems to be fair enough. It would obviously be assured to charge only the kharif rate + a dubari rate, for the total would then be less than the rabi hill-stream alone.

Rule 9.—That arhari crops should be free of assessment is in accordance with the Commissioner's standing orders. The proviso appears necessary to avoid the necessity of a definition of arhari as distinguished from the late kharif crops which would be difficult. The rule will prevent a khatedar from being charged merely because last year's stubble has sprouted and it also maintains the principle that dubari should in no case be charged in barani lands.

So too to charge dubari on the kharif because of a previous adhawa would be unfair. Except in very rare cases the adhawa crop is grown and cut for fodder only, but it is always allowed to spring up again in the following kharif as a grain crop if it receives enough water. If it does not get water and does not develop grain in kharif that is no reason for not charging the assessment once. The effect is precisely the same as if the kharif crop had been sown and failed and remissions in such cases have been abolished by Rule 5, except in the 2nd group of Johi. In that group the khatedar can petition for remission as usual on the adhawa.

The state of affairs referred to in rule 10 is confined to riverside lands generally to kachas or kacha-paka lands.

The necessity for rule 3 is explained in the Dadu report.

Rule 14.—These definitions will relieve from the high rabi charkhi rates all those crops which get no water after sowing. These are as a rule oilseeds. Their condition and appearance is precisely similar to that of flow bosi crops, and I see no reason why they should be rated higher than flow bosi or why the rates for real charkhi should be lowered on their account. The question whether a crop has received water after sowing or not seems to me more important than the question whether it received its water in September or November. The definitions given are almost the same as those given by Mr. Wali Muhammad in the Kandhkot report, which were apparently accepted as correct. I have only omitted the words "once only" from definition No. 1. Mr. Wali Muhammad had made no provision for a crop receiving two waterings before sowing and none afterwards. It may be added that while it can be seen at a glance whether a crop has been watered after sowing or not, it is impossible to discover whether the water was given in September or November.

Melons are cultivated as sailabi in kacha and kacha-paka lands near the river in adhawa, i.e., they are sown in May and the produce gathered about the beginning of July. The rabi sailabi rate seems the most appropriate for the cultivation.

Rule 15.—In this division, if a number has as its registered source of water-supply a canal on which rebate is given, it appears to have been customary in some cases at least to give it the rebate even when cultivated as sailabi. But the sailabi watering is purely natural and even accidental and requires no clearance of karias to make it possible. In fact as a rule it does not even come through karias and I see no reason why the rebate should be given.

S. H. COVBENTON,
Settlement Officer, Sehwan.

No. 1698 of 1909.

*Executive Engineer's office,
Camp Puranodero, 6th April 1909.*

From

B. KRISHNABAO, Esquire,
Executive Engineer, Western Nara,

To

THE SETTLEMENT OFFICER, SEHWAN DIVISION.

Sir,

With reference to your No. 20, dated the 3rd November 1908, calling for a report on the irrigation of the Sehwan division, I have the honour to state as follows :—

2. From the attached summary account of the working of main and branch canals during the period of current settlement it will be observed that the river changed its course very often, although during the last 5 years it has been fairly steady and favourable as far as Western Nara, Pritchard Canal and their branches are concerned. The smaller canals, viz., Marviwah, Upper Nurwah, Kolab Sial, Phitto and Chario Wahur which take off direct from the river, suffer very much due to the vagaries of the river and their satisfactory working cannot invariably be relied upon. All these canals appear to have worked fairly satisfactorily, specially during the latter part of the period under report even in years of low inundation; the probable reason seems to be that owing to a more favourable set of the river higher F. S. levels are obtainable with respect to Bukkur readings than was formerly the case, as shown by the statement of comparative Bukkur and Baksho Jamali (a gauge on Western Nara, mile 102 in deh Shahmorio) readings, attached hereto.

3. A separate list of the improvements carried out during the period under consideration is attached and the effects of these improvements are described below :—

Western Nara.—Construction of New Akil mouth and its widening to 80 feet in 1903 and 1904 respectively could not materially improve the supply in the canal portions comprised in Sehwan division, but its further widening to 125 feet in 1905 has considerably helped to improve the supply in the portion referred to above by giving about 200 cusecs increased discharge.

Before however the construction of Pritchard Canal, the Western Nara in the portion under consideration was practically a failure and after water was admitted into Pritchard Canal in 1890 the supply in Western Nara became favourable and large areas of waste land began to be cultivated and flow cultivation considerably increased and the height of lift irrigation was materially reduced.

These improvements have materially improved the supply of all dehs within the irrigation boundary of Western Nara and its branches shown on the tracings attached; so much so that the W. L. obtainable is 4 feet higher than in former years with comparatively increased discharges.

Dingriwah.—New cut to Dingriwah was dug in 1902 and had the effect of giving adequate supply to the lands dependent on the canal.

Lohriwah.—This canal was originally a zamindari karia which was taken over in 1892 and improved at a cost of Rs. 9,068. The effect of this was to give a better assured supply to the lands within its irrigation boundary as per tracing attached. Large areas on Lohri Dhoro have moreover been coming under cultivation.

Pritchard Canal.—Was newly constructed in 1890 mainly as a feeder to Western Nara. New feeder to the dhand feeding the Pritchard Canal excavated in 1903 helped to give a better supply, but has during the past 3 years failed to fulfil its purpose owing to changes in the course of the river.

In the year 1903 the widening of tail portion of Pritchard Canal was undertaken with a view to reduce the velocity in Pritchard Canal and thereby prevent the deposit of silt in the Western Nara just above where Pritchard Canal tailed into it. This improvement had no direct effect however as regards irrigation advantages in the Sehwan-Dadu sub-division.

Juberji branch ex Pritchard Canal.—Was newly excavated in 1901. It is a branch of Pritchard Canal and was intended to serve as a feeder and to improve the supply in the tail portion of Kudaniwah in deh Juberji of Dadu taluka and has considerably benefited the cultivation in the deh.

Marviwah—Old mouth of this canal having proved a failure a new mouth was given to it in 1903-04, which had the effect of removing causes of complaint as regards deficient supply. Of late years the new mouth has however been adversely affected due to the changes in the course of the river.

Regulator at its head was constructed in 1894. This helped materially to regulate the supply in the canal according to requirements and to prevent its lands from being damaged by river floods flowing unchecked into the Marviwah.

Upper Nurwah.—Upper Nurwah was widened in 1891 to improve the supply and the canal was extended in 1892 and made to tail into Ghariwah. These improvements had the effect of augmenting the supply in this canal as well as in Ghari and Wadhu canals and helped to slightly raise the water level in them. There has been an increase in the irrigated area of Upper Nurwah only.

Conversion of the old road bridge near Dadu on Upper Nurwah into a regulator in 1892 had the effect of raising the water level in dehs Kasachandia and Markhpur, whereby considerable areas are saved even at times of deficiency in the canal and are usually brought under "flow."

Extension of the mouth in 1904-05 and cutting a new mouth in 1907-1908 were intended only to restore the canal to its working order as it had been adversely affected by changes in the course of the river.

4. Water is as a rule fairly evenly distributed over the lands within the irrigation boundaries of each of the three talukas under report. In years of low inundation the distribution is regulated as far as this is practicable. The lands on right bank of Western Nara and more particularly Lohriwah in Johi taluka are liable to be swept over by hill torrents. The area within the boundary of Manchhur Lake is as a rule submerged during the abkalani and is therefore mainly brought under rabi cultivation. The area under this head has nearly doubled and the kharif area has nearly quadrupled during the period under consideration, while about 2,000 acres of land have come under rice cultivation.

Owing to the higher water level now obtainable as indicated in paragraph 2 above the Western Nara, the Pritchard Canal, and their branches have been greatly benefited. The area under flow has considerably increased and the height of lift correspondingly reduced. Moreover large areas formerly under lift have been brought under rice cultivation.

Similarly the lands dependent on upper Nurwah are benefited though to a smaller extent. With a higher water level and regulation at the tail regulator there has been a general increase of cultivation.

Marviwah.—Shows a general increase of flow and rice irrigation while the area under lift has remained fairly steady. On this canal the advantage of higher water level more than compensates for the disadvantage arising from an unfavourable mouth.

Kolab Sial and its branches Ghariwah and Wadhawah.—Appeared to have worked fairly satisfactorily. The area under kharif on Kolab Sial has increased somewhat during recent years, whereas there is practically little flow irrigation.

Phitta Canal.—On this canal the kharif area has remained steady while there is a slight increase in rice area.

During the year 1907-08 however the low inundation and unfavourable set of the river affected these minor canals taking off direct from the river, and the areas under cultivation show a considerable falling off.

5. A statement showing the variation in the areas under different kinds of cultivation is attached. The statement is based on figures obtained from the records of the taluka offices. The figures cannot be taken to be absolutely correct as they had to be extracted by darogas of this department. They afford however a general indication of the growth of cultivation on the different canals.

6. Statements of the average annual cost of canal clearance and maintenance of bunds and extensions and improvements are attached. A statement of wells in each taluka required by the Special Circular also accompanies.

Accompaniments.

1. Statement of gauge readings.
2. List showing improvements.
3. Statement showing length of canals and expenditure incurred.
4. Statement of wells.
5. Statement of each kind of irrigation.
6. Summary of working of canals.
7. 3 plans.

I have the honour to be,
Sir,
Your most obedient servant.

B. KRISHNARAO,
Executive Engineer, Western Nara.

Summary of the working of canals in Sehwan division, compiled from the records of the Executive Engineer, Western Nara.

WESTERN NARA.

1890.—The canal did not on the whole work satisfactorily although water level was higher by about 1½' due to Pritchard Canal having been newly excavated for the purpose owing to the late rise and early fall of the river and unfavourableness of the set of the river at its mouth.

1891.—Although the inundation was unusually low and short the canal worked fairly well. This was due to the favourable change of the river at the mouth of the Akil dhand feeding it. The high flow lands however suffered on account of lower level of water in the canal.

1892.—The canal worked satisfactorily, due to flood water through Pritchard Canal entering it, and high lands on its banks were cultivated for the first time for some years past but heavy hill floods damaged the crops.

1893.—The canal was not bunded at the mouth and continued to flow till the middle of November. In spite of the river having fallen in July and August which had a detrimental effect on the rice crop in the upper reaches of the canal the water-supply in the canal below Kakar was better than in any year throughout the season due to flood water brought down by Pritchard Canal.

1894.—There was an abundant supply in the canal throughout the season. The Lashari flood entering into the canal broke out on either side cutting large gaps in the banks and thus swamped the cultivation excepting some high lands and those protected by bunds.

1895.—The supply was deficient due to low and fluctuating inundation although the river was favourable.

1896.—The canal worked pretty well although the inundation was comparatively low and only of an average duration. The river having gone down much earlier than usual want of water was felt at the close of the season. Some high flow lands suffered from draught and some near the tail of the canal were submerged by the overflow of water from Manchhur Lake.

1897.—There was an abundant supply of water throughout the inundation. The hill torrents overflowed the Manchhur and submerged all the land on both banks of the canal as far as the mouth of Muhammad Ali wah.

1898.—The inundation being low and the river unfavourable the canal did not work satisfactorily although its supply was partially augmented by that of Pritchard Canal.

1899.—In spite of the low inundation the canal worked fairly well owing to favourable conditions at mouth. The fall of the river towards the end of the season however had a disastrous effect on the crops which were partially saved by allowing the canal to be bunded up at about 3 miles above Daim-Miani and also at Aroni.

1900.—The inundation was good but river unfavourable, the canal however worked satisfactorily throughout the season. This was mainly due to Lashari floods entering through Pritchard Canal.

1901.—The supply level in the Nara was lower than that of the previous year. In spite of the fluctuating nature of the inundation the canal worked fairly well. This was mainly due to Nangeshah floods finding their way into it through Pritchard Canal.

1902.—The working of the canal was extremely unsatisfactory owing to the double misfortune of a low inundation and the unfavourable set of the river which caused heavy silt deposits at its mouth. Crops were however saved to a certain extent by bunding up the canal at Aroni.

1903.—The inundation was good and the working of the canal this year can on the whole be said to have been very satisfactory. The supplementary new mouth—40 feet wide from the Akil dhand—came into operation during the season and materially augmented the supply.

1904.—The supplementary mouth was widened to 80 feet and towards the end of July the old mouth was abandoned. The canal worked fairly well in spite of low inundation as it was materially helped by Pritchard Canal. The tail portion however suffered a little.

1905.—The new Akil mouth was further widened to 125 feet and was opened on the 4th June. The canal owing to the improvements effected and the excellent inundation worked exceedingly well.

1906.—The canal worked remarkably well throughout the season, the river being favourable.

1907.—In spite of low level of water in river the canal worked satisfactorily throughout the season as the river was favourable.

1908.—The canal worked remarkably well throughout the season, the river being favourable.

LOHBIWAH.

1893.—Water sufficient.

1894.—The head regulator, remained partially closed. The supply let down into the canal was quite sufficient to meet the requirements.

1895.—The lands on the canal suffered to a little extent owing to the low level of the river.

1896.—Breaches were caused in the first 3 miles of the canal by the hill torrents from Nai Gaj during the months of June, July and August, but the breaches on both the banks were promptly closed to prevent water from going to waste and only 5 openings on the right bank left for the passage of hill flood water into the canal. This increased the cultivation but the fall of the water in September affected the crops to a certain extent.

1897.—Water supply abundant with the exception of the latter part of the season when the cultivators saved the crops by erecting a second set of wheels. Hill torrents entered into the canal from Nai Gaj on the 19th August but the volume of water was not great.

1898.—The canal on the whole worked satisfactorily. Hill floods entered into the canal through the karias at mile 3 right bank on 28th May.

1899.—Water supply good with the exception of the latter part of the season when special measures such as "chabbing" were resorted to for saving crops from withering.

1900.—Water supply sufficient throughout the season. The hill floods came down this year as well and the head regulator remained closed until they subsided.

1901.—Water supply sufficient with the exception of the latter part of the season. Hill floods came this year also.

1902.—The hill floods from Gaj Nai supplemented the water supply in the canal which thus worked satisfactorily.

1903.—Supply quite sufficient throughout the season.

1904.—Water supply good up to the end of August, after which special measures had to be resorted to which saved the cultivation to a great extent.

1905.—The canal worked very well.

1906.— Do do.

1907.—Worked satisfactorily. Hill torrents did much damage and cut the embankments on either side.

1908.—Worked satisfactorily. Hill torrents breached the canal in several places but no damage was done to crops.

KUDANWAH.

1890.—Water supply poor throughout the season.

1891.—Owing to low inundation the canal did not work well. The supply in the tail was supplemented from the Pritchard Canal which not only increased the cultivation but helped the crops greatly.

1892.—The supply was quite sufficient throughout the season.

1893.—Water supply was ample. River floods submerged almost all the land except high-lying lands on its banks.

1894.—Water supply was ample. Its lower part was everywhere out up by the crossing of floods.

1895.—As the zamindars expressed not to cultivate land in its first 6 miles the new mouth was closed and the old cleared and opened to reduce the discharge entering the canal to lessen the danger to embankments. Subsequently new mouth was opened but the river fell too low to be of any great use. The tail supply was supplemented by a cut from the Pritchard Canal.

1896.—Water supply deficient. The tail supply was supplemented from the Pritchard Canal.

1897.—Received ample supply of water.

1891.—The canal suffered owing to low inundation. The tail supply was supplemented from the Pritchard Canal and Khudawah also rendered material help to its cultivation from mile 11 to 15.

1899.— Do. do. do.

1900.—The water supply in the canal was not up to the requirements and this rendered it necessary to supplement the supply in its lower reaches from Pritchard Canal and Khudawah.

1901.—Owing to unsatisfactory working of the tail of this canal in Dadu taluka a new out was made from Pritchard Canal to feed it, and the whole including its lower portion was called Juberji branch which worked satisfactorily.

JUBERJI BRANCH.

1902.—It did not work satisfactorily owing to low inundation.

1903.—Received an abundant supply of water throughout the season.

1904.—Up to 20th July water was sufficient for lift. Owing to chabbing the tail of the canal there was abundant supply from end of July to end of August and consequently all lands got flow supply. In September owing to fall in river the supply was deficient and crops would have suffered but for the closing of the stop gate regulator on Pritchard Canal.

1905.—Worked satisfactorily.

1906.—It worked very satisfactorily.

1907.—It worked well.

1908.—Worked satisfactorily and no deficiency was felt.

KAROWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.—Water supply good throughout the season.

1893.—Water supply abundant.

1894.—Worked fairly well.

1895.—Worked fairly well.

1896.—Worked well.

1897.—Water-supply ample throughout the season.

1898.—The canal worked fairly well and there was sufficient water for the cultivation.

1899.—The canal suffered owing to low level of water in Nara in the end of August.

1900.—There was sufficient supply of water in the canal throughout the season. Crops suffered in places owing to giving water beyond requirements.

1901.—Water supply sufficient for lift irrigation.

1902.—After ceasing to flow two or three times it ceased altogether on 25th September. Crops were greatly helped both by backwater from Ghari and regulation of the Nonmiani sluice.

1903.—The canal flowed uninterruptedly throughout the season and water supply was sufficient for all land dependent on it which is lift.

1904.—There was a good supply in the canal up to 3rd week of August, when some deficiency was felt owing to silt at the head. This was cleared and a better supply thus admitted into the canal.

1905.—Water supply ample.

1906.— Do. do.

1907.—The supply was fair throughout the season.

1908.—The supply in the canal was good up to the end of September.

LOWER NURWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.—Water supply fairly good throughout the season.

1893.—Water supply abundant.

1894.—Worked satisfactorily.

1895.—Worked well. It materially assisted the Phito when river fell.

1896.—Worked well.

1897.—Water supply sufficient except at the latter part of the season and the closing of Sonmiani sluice assisted by rains saved the crops from withering.

1898.—Received a fair supply. Artificial measures had had to be resorted to for saving flow cultivation.

1899.—There was a fair supply of water in the canal. Crops at tail only suffered a little.

1900.—There was sufficient supply of water throughout the season. Crops suffered in places owing to giving water beyond requirements.

1901.—Water supply sufficient for lift irrigation.

1902.—It did not work well. Crops helped by floods entered the Nara through Lohriwah and regulation of the Sonmiani sluice over Nara.

1903.—The supply in the canal was good throughout the season.

1904.—The supply in the canal was good up to 3rd week of August but poor afterwards up to the middle of September. Special measures had to be resorted to for saving the crops.

1905.—Water supply sufficient.

1906.— Do. do.

1907.—The supply was fair throughout the season.

1908.—Worked satisfactorily.

NEW GARIBI, OLD GARIBI AND ALIGUNJ.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.— Do. do.

1893.—Water supply abundant.

1894.—Cultivation submerged by Lashari floods.

1895.—Worked very well.

1896.—Worked well.

1897.—Received an ample supply of water.

1898.—There was sufficient supply of water throughout the season.

1899.—They received a good supply except towards the end of August when the supply failed and the flow crops suffered.

1900.—There was a good supply of water throughout the season. Dry crop suffered to a certain extent from excess of water.

1901.—Received good supply up to the first fortnight of September. Crops being sown late suffered to an extent.

1902.—Water supply deficient owing to low inundation.

1903.—The water supply was good throughout the season and no deficiency was felt.

1904.—The supply in the canal was good up to first week of August but deficient afterwards.

1905.—Water supply sufficient.

1906.— Do. do.

1907.—Worked satisfactorily.

1908.—The supply was good throughout the season.

DINGRIWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.—Water supply somewhat deficient in the beginning of the season only. Rain floods damaged the crops.

1893.—Water supply abundant.

1894.—Heavy hill torrents joined with the river floods submerged almost all the cultivation except high-lying patches.

1895.—Water distributed to the best advantage by tightly closing the regulating sluice at about half its length by turns.

1896.—Worked well.

1897.—Water supply ample. Lift cultivation in the last 4 miles of the canal was damaged by hill torrents.

1898.—Owing to rapid fall of river and Nara sufficient level of water could not be maintained for all the time and crops suffered in consequence.

1899.—The supply was not good and the crops suffered in consequence.

1900.—The supply in the canal was sufficient throughout the season. Some crops suffered from excess of water.

1901.—Owing to unsteady nature of the supply in the Nara the supply in the canal was not on the whole satisfactory.

1902.—Water supply inadequate.

1903.—The canal worked fairly well.

1904.—The supply in the canal was good up to the 1st week of August and chabbing the canal at mile 6-0 greatly helped the crops.

1905.—The canal worked most satisfactorily.

1906.—The supply was sufficient throughout the season.

1907.—The supply in the canal was good throughout the season.

1908.—Worked satisfactorily throughout the season.

MAKAKIWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.— Do. do. do. Rain water damaged the crops.

1893.—Water supply abundant.

1894.—Water supply sufficient. Heavy hill torrents joined with river floods submerged almost all the cultivation except high-lying patches.

1895.—Worked very well.

1896.—Worked well.

1897.—There was a good supply throughout the season. Crops on its right bank were damaged by Manchhur flood.

1898.—There was a fair supply throughout the season. Crops below mile 8 suffered for lack of water.

1899.—Owing to low inundation the supply was not good. Crops suffered.

1900.—Received a good supply throughout the season. Some crops suffered from excess of water.

- 1901.—Worked satisfactorily.
 1902.—The supply in the canal was very poor.
 1903.—There was a sufficient supply of water throughout the season.
 1904.—The supply was good throughout the season.
 1905.—The canal worked very satisfactorily.
 1906.—It worked satisfactorily.
 1907.— Do. do.
 1908.—Supply was very good throughout the season.

MUHAMMAD ALI WAH.

- 1890.—Water supply poor throughout the season.
 1891.—Water supply sufficient throughout the season.
 1892.— Do. do. do. do. , but cultivation in low lands was damaged by rain water.
 1893.—Water supply abundant.
 1894.—Water supply sufficient. Floods damaged the crops in its first two miles.
 1895.—Worked very well.
 1896.—Worked well.
 1897.—There was a good supply throughout the season.
 1898.—There was a fair supply throughout the season. Late crops suffered a little owing to fall of water in September.
 1899.—Supply not good. Cultivation suffered to some extent owing to lack of water.
 1900.—The water supply was quite enough throughout the season. Dry crop suffered to an extent from excess of water.
 1901.—Received a satisfactory supply throughout the season.
 1902.—There was abundant supply in the canal.
 1903.—The canal worked well throughout the season.
 1904.—The supply in the canal was good up to the end of July and fair in the month of August and first few days of September. Chahi at mile 1/3 was allowed to save the rice crops.
 1905.—The canal worked very satisfactorily.
 1906.—It worked satisfactorily.
 1907.— Do. do.
 1908.—Supply in the canal was good throughout the season.

SAKROWAH.

- 1890.—Water supply poor throughout the season.
 1891.—Water supply sufficient throughout the season.
 1892.— Do. Rain floods damaged the crops.
 1893.—Water supply abundant.
 1894.—Water supply sufficient. Rain water joined with floods submerged almost all cultivation except high-lying patches.
 1895.—Cultivation suffered to an extent during the latter part of the season owing to the supply being cut off by the Nara Baid sluice.
 1896.—Worked well.
 1897.—Water supply sufficient. Cultivation damaged by Manchhur floods.
 1898.—Water supply deficient.
 1899.—Water supply fair due to low inundation. High lands suffered.
 1900.—Water supply sufficient. Cultivation on its left bank submerged by Manchhur flood.
 1901.—Received a fair supply throughout the season.

- 1902.—Water supply deficient.
 1903.—The canal received a good supply throughout the season.
 1904.—The canal on the whole worked well. Crops being chiefly rice the supply was not equal to the heavy demand.
 1905.—The supply in the canal was satisfactory.
 1906.—Supply sufficient.
 1907.—Supply very satisfactory.
 1908.—Supply was very good, but cultivation was submerged by hill torrents during July and August.

• KUE AKTAE.

- 1890.—Water supply poor throughout the season.
 1891.—Water supply sufficient throughout the season.
 1892.— Do. do. do. Rain floods damaged the crops.
 1893.—Water supply abundant.
 1894.—All cultivation submerged owing to overflow of Manchhur.
 1895.—Worked well.
 1896.—Worked well. Hill torrents damaged the cultivation on the right bank.
 1897.—The supply was good throughout the season. Cultivation was submerged by Manchhur flood.
 1898.—Received a fair supply throughout the season.
 1899.—Water supply fair. High lands suffered.
 1900.—Water supply sufficient. Cultivation on its right bank was submerged by Manchhur flood.
 1901.—Received a fair supply throughout the season.
 1902.— Do. do.
 1903.—The canal flowed excellently throughout the season.
 1904.—The canal on the whole worked well throughout the season.
 1905.—The supply in the canal was very satisfactory.
 1906.—Supply sufficient.
 1907.—Supply very satisfactory.
 1908.—Supply very good.

CHARIO WAHUR, ARAL AND DUNSTER.

- 1890.—Water supply poor throughout the season owing to low inundation.
 1891.—Water supply fair throughout the season.
 1892.— Do. do.
 1893.—Water supply good throughout the season.
 1894.—Water supply abundant. Karampur flood passed into the canal.
 1895.—Water comparatively low owing to low inundation.
 1896.—Water supply ample. River floods burst into the canal.
 1897.—Water supply was ample and the floods passed down the canal.
 1898.—The canal worked fairly well but there was no cultivation owing to fear of lands being flooded.
 1899.—There was a very good supply in the canal.
 1900.—In consequence of the general complaint of low level of water in Manchhur, bunds were put up near Sehwan across Chario Wahur and Aral with a view to force more water up the Aral and Dunster into the Manchhur Lake. The canals worked very well throughout the season.
 1901.—The canals had sufficient supply of water throughout the season.
 1902.—The supply in the canals was good throughout the season.
 1903.—There was a very good supply throughout the season.

1904.—The supply in the canals was good throughout the season and the canals worked satisfactorily.

1905.—The canals worked very satisfactorily.

1906.—The canals worked very well.

1907.—The supply in the canal was good throughout the season.

1908.—Water supply sufficient. Rains and river spill water submerged the crops.

MANCHHUR LAKE.

1890.—Received little help from Nara and other feeders due to low inundation and absence of rains. Hill torrents in the beginning of December came down with great force and submerged rabi crops.

1891.—Received supply from Nara, Chario Wahur, Aral and Dunster. No hill floods.

1892.—Unprecedented local rainfall together with hill floods raised the level to the highest mark on record.

1893.—No hill floods except early in July. Area submerged for rabi was much less than last year.

1894.—Hill torrents joined with river floods raised the water level considerably.

1895.—Water in the lake rose but little owing to low inundation and absence of rain.

1896.—Owing to river having maintained its high level for about 2 months and the hill floods which came 3 times in the season large quantity of water entered the lake.

1897.—River floods aided by hill torrents raised the level of water considerably.

1898.—Received a little supply of water owing to low inundation and absence of rains.

1899.—It did not receive sufficient water owing to low inundation and absence of rains.

1900.—Received a very good supply. The rise was chiefly due to the construction of bunds across Chario Wahur and Aral. The drainage in the beginning was not satisfactory, but after the fall of river on the 1st October water was drained off rapidly and a very large area was made available for rabi.

1901.—Large area was brought under rabi as the drainage through Aral was satisfactory.

1902.—Rains and canal water flooded large areas in the dhand and the area under rabi was comparatively large but less than in the last year in spite of low inundation.

1903.—This dhand was well filled this year and rabi area was fairly great, and about 3,000 acres more than in the previous year.

1904.—Water through the Aral and Nara filled the lake. Owing to the earlier backflow of water into the river the cultivation increased by about 4,000 acres more.

1905.—The Manchhur flood was one of the highest on record and the area under rabi was comparatively large though somewhat less than in the previous year.

1906.—The Manchhur got filled from the river and hill torrents and high water mark was higher than previous year which was record, but there was a slight fall in the area under rabi.

1907.—Owing to low inundation the canals did not bring in much water but hill torrents greatly helped in filling up the lake and there was a large falling off in the area under rabi.

1908.—The river water and hill torrents submerged large areas of the lake. The lake was drained off fairly well.

UPPER NURWAH.

- 1890.—There was ample water in spite of the low inundation.
- 1891.—There was a fair supply of water in the canal. The river being unfavourable the canal ceased flowing early in the season.
- 1892.—Worked fairly well.
- 1893.—The supply was fairly good in the beginning, but river went low in August when rotation was resorted to which materially saved the crops.
- 1894.—The canal maintained a very good supply throughout the season.
- 1895.—River eroded above and below the mouth. The canal dried 4 times during the season. Water supply was deficient.
- 1896.—It worked well.
- 1897.—Water supply plentiful except towards the end of the season when rains assisted the crop.
- 1898.—There was a good supply of water throughout the season.
- 1899.—Water supply deficient owing to low inundation.
- 1900.—There was sufficient water in the canal throughout the season.
- 1901.—The canal suffered owing to late rise and unfavourable set of the river. Efforts were however made to utilize the reduced supply to the greatest advantage by regulation.
- 1902.—The supply was sufficient throughout the season in spite of low inundation due to favourable set of the river.
- 1903.—The supply in the canal was excellent throughout the season.
- 1904.—The supply in the canal was deficient throughout the season owing to the dhand feeding it having heavily silted.
- 1905.—In spite of the mouth of the canal being improved the supply in the canal was not so good as to meet the demands of flow cultivation towards the end of July, but the rise in the river in September saved the situation.
- 1906.—The Wahur feeding the canal was cut into by the erosion of the river. Worked very satisfactorily.
- 1907.—Supply in the canal was deficient owing to its mouth having been cut into and eroded away by river.
- 1908.—A new mouth which was completed during the year gave a very satisfactory supply throughout the season.

KOLAB SIAL.

- 1890.—There was sufficient supply in the canal throughout the season.
- 1891.—Water supply deficient and crops would have perished had not supply been augmented from Western Nara.
- 1892.—Deficiency was felt in the early part of the season but there was ample supply available later on to the end of the season.
- 1893.—The canal worked fairly well till the fall of river in August when Nara water was admitted to augment the supply.
- 1894.—The canal maintained a very good supply throughout the season.
- 1895.—Water supply deficient. It dried several times when the river fell very low. Crops suffered.
- 1896.—Worked well.
- 1897.—Received a good supply throughout the season.
- 1898.—Owing to low inundation the supply was limited throughout the season.
- 1899.—It did not work well and deficiency was felt towards the end of the season. To remedy this a bund across its feeder Wahur was allowed, which not only saved the standing crops on the canal itself but greatly benefited the crops along its branches Ghari and Wadhn.
- 1900.—The supply in the canal was sufficient throughout the season.
- 1901.—Worked fairly well throughout the season.

1902.—The supply was fair. Chahi across the Wahur feeding it increased the supply in the canal which benefited the crops on the canal itself and its branches.

1903.—The supply was very good throughout the season.

1904.—The supply was fair throughout the season.

1905.—The canal worked satisfactorily.

1906.—Supply sufficient.

1907.—Supply in the canal was deficient owing to the low inundation throughout the season.

1908.—Supply was very good throughout the season.

WADHUWAH AND GHABIWAH BRANCHES OF KOLAB SIAB.

1890.—There was a fair supply in the canals throughout the season. Late crops partly suffered due to sudden fall of the river.

1891.—Water supply deficient. Crops would have perished but for a supply having been given for 3 days from Western Nara.

1892.—A deficiency was felt in the early part of the season but there was ample supply of water for the rest of the season.

1893.—Fall of river in August was compensated for letting in surplus water from Nara into it.

1894.—The canals maintained a very good supply throughout the season. The surplus water was discharged into the Duabo dhand.

1895.—Water supply deficient. They ceased flowing several times during the season whenever the river fell very low.

1896.—Worked well.

1897.—Water supply good throughout the season.

1898.—Water supply sufficient for lift crop. Late crops suffered owing to fall of river in September.

1899.—Supply scanty owing to low inundation.

1900.—Received a sufficient supply of water throughout the season.

1901.—Worked fairly well throughout the season.

1902.—The supply in the canals was fair.

1903.—The supply was sufficient throughout the season.

1904.—The supply in the canals was fair in the first four miles and poor further down due to unsatisfactory inundation.

1905.—The canals worked satisfactorily.

1906.—Supply sufficient.

1907.—Supply deficient owing to low inundation throughout the season.

1908.—Supply good throughout the season.

PHITTA CANAL.

1890.—There was a good supply in the canal in the early part of the season but the river went on changing its course from its right to left bank and back again causing very heavy silt deposits at its mouth. Great portion of cultivation was saved by bringing water into the canal from the dhand at its mouth.

1891.—Supplied partly from river direct and partly from Nara. The Karampur flood coming in towards the tail gave a high level and plenty of water.

1892.—The canal worked very well. The supply was augmented from Nara in the early part of the season and from end of July more than sufficient was obtained from its mouth owing to favourable change in the river.

1893.—The supply was good and high up to 2nd August when the river began to fall but its supply was augmented from Western Nara and the flood standing in the large dhand near its mouth.

1894.—The canal maintained a very good supply throughout the season.

1895.—The canal did not suffer, notwithstanding low inundation, the river being favourable. The supply from Nara greatly assisted the crops.

1896.—Worked well.

1897.—Water supply good throughout the season. Rains also assisted the crops. Lands in its last 10 miles were submerged by Karampur floods. River was only quarter of a mile from its tail.

1898.—Received sufficient supply of water throughout the season. Late crops below mile 11 suffered.

1899.—The supply was deficient due to low inundation and the unfavourable set of the river.

1900.—The supply in the canal was sufficient throughout the season.

1901.—The supply in the canal had to be supplemented from Nara to meet the deficiency due to unfavourable set of the river.

1902.— Do. do. do.

1903.—The supply in the canal was poor up to the middle of July, but subsequent rise of the river changed the state of things for the better.

1904.—The supply in the first 8 miles was fair and below 8th mile to the tail the supply was deficient.

1905.—River unfavourable and supply deficient but was augmented from Western Nara with good results.

1906.—The supply in the canal was fairly sufficient. It was moreover augmented from Western Nara.

1907.—The supply in the canal was fair and supplemented by the Nara branches Lower Nurwah and Muhammad Ali wah.

1908.—The supply in the canal was good throughout the season.

FRITCHARD CANAL.

1890.—Opened for the first time on 14th July. At the time of opening the river was cutting away its right bank at the village of Nao Goth one-quarter mile below the canal mouth, the erosion then worked up-stream and cut away rapidly. Of the original line of canal half a mile was eaten away by river. It augmented the supply in the Nara by $1\frac{1}{2}$ ft.

1891.—Owing to erosion 3,700 feet at mouth were removed by river and silt to a depth of 7 feet accumulated. The canal assisted the Nara as long as it flowed. It had ceased to flow from 29th June to 1st July and finally ceased flowing on 7th October. The river was unfavourable and the supply fluctuating and somewhat deficient.

1892.—Water supply deficient up to 14th July. Since August the head regulator remained closed till the end of season owing to floods from Rajanabunds entering into the canal. This considerably augmented the supply in Western Nara.

1893.—Remained entirely or partially closed nearly all the season. Served as an escape during Lashari floods, saving a large part of Mehar and Kakar from being submerged.

1894.—Until the end of June water was not required. Early in July the floods cut into the canal at 19th mile rendering necessary the closing of the head regulator.

1895.—Water supply fair although the inundation was low and fluctuating.

1896.—Water supply sufficient till 20th August, after which the river began to fall and the canal ceased to flow on 1st September. Crops however did not suffer much.

1897.—The canal was regulated according to requirements of the Nara and it worked fairly well.

1898.—In spite of low inundation the canal worked well owing to favourable position of its mouth.

1899.—The canal worked satisfactorily for the first two months and then the river began to fall which told heavily on the crops in its upper reaches.

1900.—The canal remained fully open up to 19th July 1900, and afterwards it was kept closed owing to breach having occurred in the canal and subsequently to the water not being required in the Nara. Some cultivation was damaged by Lashari floods.

1901.—The head regulator remained open until the 1st August when it was closed as the level exceeded that of the designed supply 10 feet. Nangesah floods augmented the supply in Western Nara which saved the crops in its tail portion.

1902.—The canal worked extremely unsatisfactorily throughout the season in consequence of the unfavourable position of the Wahur feeding it and low inundation.

1903.—The river was unfavourable at first, but after 20th June its set was favourable and the inundation on the whole good. The canal worked well and helped Western Nara considerably.

1904.—The canal worked satisfactorily throughout the season although the inundation was not good. This was due to favourable set of the river.

1905.—Worked very well but was not so much utilized as in the past for supplementing the supply in the Western Nara as it brought down ample supply of its own due to further widening of its New Akil mouth to 125 feet bed width.

1906.—It worked very satisfactorily. Full supply, *vis.*, 10 feet could not be admitted into the canal as there was abundant supply in the Nara and 9-50 was the level of the whole season.

1907. The canal worked satisfactorily. Was regulated according to the requirements of the Nara as the latter canal had ample supply of its own.

1908.—The canal worked satisfactorily. Owing to water not being required in the Nara the supply had to be cut off at the head regulator. The river was favourable.

ESCAPE CHANNEL.

1895.—Received a moderate supply of water owing to low inundation.

1896.—Water supply good. Canal ceased to flow on 1st September and cultivation saved by erecting wheels on dhands.

1897.—Good supply of water passed down the canal which assisted the crops.

1898.—There was ample supply of water throughout the season.

1899.— Do. do. do.

1900.—There was ample supply of water throughout the season. It served as an escape at times of high level of water in Nara.

1901.—Received a good supply of water. Relieved its feeder when there was surplus water in it during August.

1902.—It did not work satisfactorily throughout the season owing to low inundation.

1903.—Received abundant supply of water throughout the season.

1904.—Received an abundant supply throughout the season.

1905.—Worked satisfactorily.

1906.— Do.

1907.— Do.

1908.— Do.

MARVIWAH.

1890.—Worked very well notwithstanding poor inundation.

1891.—Erosion at its mouth caused the canal to dry earlier in the season.

1892.—In the beginning supply was deficient but gradually improved. This was due to the character of inundation. Floods submerged all cultivation in low ground.

1893.—River eroded about $2\frac{1}{2}$ miles of the canal. Owing to the approach of river it maintained a very high level of water which overflowing its banks passed towards Phulji station.

1894.—About a mile of the canal at its mouth was eroded away. Flood after crossing the Pritchard Canal flowed back from the tail which necessitated closing of the head regulator except for short intervals to save crops in the upper reaches of the canal.

1895.—Water was admitted according to requirements and there was no complaint of deficiency. No erosion at its mouth. It worked satisfactorily.

1896.—Worked very well.

1897.—Worked satisfactorily.

1898.—Water supply scanty owing to low inundation.

1899.—It worked fairly well.

1900.—It worked very satisfactorily.

1901.—Owing to the active erosion of the dhand above the mouth of the canal a large deposit of silt was formed near the mouth resulting in the supply being cut off earlier than usual.

1902.—Owing to the extremely low inundation and unsatisfactory mouth of the canal the canal worked badly. The canal after ceasing to flow twice finally stopped flowing on 24th August.

1903.—The canal worked exceptionally well but owing to erosion at its mouth its first mile was silted and the canal ceased flowing on 6th September. It again flowed on 13th and finally stopped flowing 10 days afterwards.

1904.—It worked satisfactorily throughout the season.

1905.—Supply sufficient.

1906.—Worked very satisfactorily.

1907.—The canal suffered greatly as it ceased flowing thrice during the season owing to the fluctuations in the river.

1908.—The canal worked much better than last year.

B. KRISHNARAO,
Executive Engineer, Western Nara.

STATEMENT of comparative maximum gauge readings of Bukkur and Baksho Jamali.

Year.	Bukkur.	Baksho Jamali.	Year.	Bukkur.	Baksho Jamali.
1887	16.6	9.80	1898	13.4	11.70
1888	14.4	8.80	1899	13.4	11.80
1889	16.6	12.40	1900	14.5	12.60
1890	16.0	11.80	1901	16.4	12.70
1891	14.8	12.00	1902	13.4	9.40
1892	16.7	13.80	1903	16.8	11.90
1893	15.8	13.90	1904	15.8	11.60
1894	16.4	13.90	1905	16.7	13.10
1895	15.3	13.30	1906	16.6	13.90
1896	15.8	13.40	1907	13.7	14.20
1897	17.9	13.20	1908	16.1	14.40

List showing improvements made in Dadu, Johi and Sehwan talukas since the introduction of the current settlement, 1890-91 to 1907-08.

Serial No.	Names of works.	Cost of outlay.	When completed.
		Rs.	
1	Improving supply of Upper Unerwah ...	14,136	March 1891.
2	Excavating an extension of the Upper Nurwah to the Ghari wah, Dadu taluka.	15,636	February 1892.
3	Additions and alterations to the old bridge over Upper Nurwah for regulation of water	457	September 1892.
4	Excavation of Lohriwah ...	9,088	March 1893.
5	Excavation of Pritchard canal ...	3,32,128	March 1894.
5-A	Constructing head regulator over Marvi wah	3,832	March 1894.
6	Improvements at the mouth of the Aral wah	8,993	March 1901.
7	Making a new cut to Dingri wah	5,931	February 1903.
8	Widening Pritchard canal from stop gate regulator at mile $\frac{2}{1}$, and its junction with Western Nara	6,385	July 1903.
9	Excavating Juberji branch 4, Pritchard canal	3,497	March 1904.
10	Construction of a new mouth to Marvi wah	2,460	March 1904.
11	Constructing a new Akil mouth to Western Nara	1,45,127	July 1905.
12	Extending the mouth of Upper Nurwah ...	1,805	October 1905.
13	Widening New Akil mouth to Western Nara to 80 ft. bed width	71,168	November 1905.
14	Construction of a new mouth to the Wahur feeding Pritchard canal, Wahur and Marni wah	18,231	March 1906.
15	Cutting a new mouth to Upper Nurwah...	2,000	November 1908.
16	* Widening New Akil mouth to 125 ft. bed width	1,61,691	

* In progress, practically completed.

B. KRISHNARAO,
Executive Engineer, Western Nara.

Statement showing length of canals and expenditure incurred in maintenance (works) of canal and bunds in Dadu, Johi and Sehwan talukas from 1907-1908.

Name of canal or bund.	Length of canal or bund in miles.	Talukas in which each canal passes.	EXPENDITURE ON MAINTENANCE (WORKS) OF CANALS FOR SEASONS.																		Total of 18 Years.	Average.	Remarks.
			1900-01.		1901-02.		1902-03.		1903-04.		1904-05.		1905-06.		1906-07.		1907-08.		1908-09.				
			Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.			
Batepur bund	700	Dadu, Johi and Sehwan.	841	159	...	168	...	199	792	854	709	891	108	654	377	329	308	381	178	611	8,319	364	
Western Nara	155.75		2,693	7,763	7,095	7,354	1,266	15,135	3,108	3,704	3,240	3,548	3,338	10,714	13,440	10,102	9,339	8,401	7,260	6,518	12,531	7,131	
Kudan wah	19.63		3,011	1,210	1,614	2,373	3,037	2,508	2,783	3,240	4,525	3,617	1,941	3,559	1,648	1,989	2,000	2,788	1,109	2,671	66,978	2,659	
Bahriwah	6.9		...	...	1,504	558	779	1,106	770	512	181	412	179	368	608	378	290	542	162	723	8,868	654
Karnwah	3.75		623	332	396	545	568	769	592	437	590	537	373	587	600	195	471	282	120	396	5,314	490	
Lower Nurwah	3.25		1,518	800	691	1,193	997	936	912	655	1,168	1,333	635	1,146	558	665	939	809	676	726	18,568	920	
Now Garibi	4.12		734	712	59	634	189	854	328	313	848	695	833	604	209	442	874	743	795	800	10,333	574	
Old Garibi	2.0		327	120	173	229	480	374	352	380	463	295	472	380	285	22	195	130	73	90	4,743	263	
Aliganj	4.0		171	84	101	...	137	35	186	74	406	141	403	450	87	167	106	322	106	180	3,141	145	
Dingri	8.38		...	287	296	...	272	712	710	865	660	1,067	1,065	1,446	2,645	1,559	1,433	1,899	400	1,340	12,749	1,192	
Makaki	11.50		837	714	599	558	383	1,187	1,01	782	739	1,253	1,242	879	700	1,036	293	642	160	238	14,290	794	
Mohammed Ali wah	4.50		...	323	491	460	324	529	201	407	581	966	817	730	653	771	342	400	392	354	3,140	536	
Lakro	3.25		8	363	604	778	518	629	678	1,064	870	406	307	429	386	425	373	406	356	204	5,697	492	
Kur Akhtar	3.50		410	153	394	467	1,309	604	2,593	1,463	300	473	429	631	674	550	374	341	848	298	12,070	693	
Luberji	4.73		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kral wah	17.0		...	4,793	1,247	1,351	837	1,700	1,845	710	...	220	1,246	945	1,009	755	682	747	625	1,179	19,408	1,237	
Dunster wah	13.50		44	840	163	...	241	90	223	198	...	399	305	399	218	121	224	123	308	492	4,222	249	
Chario wahur & new cut	2.75		1,438	3,871	693	525	814	615	321	1	...	91	1,997	292	549	375	504	815	305	270	12,119	713	
Upper Nurwah into wahur.	18.63		1,658	4,867	2,950	3,637	3,723	4,178	3,690	3,677	1,846	2,945	1,958	1,801	679	679	1,000	325	317	1,900	40,877	2,337	
Kolab Sial	6.00		1,663	1,163	1,065	1,146	1,979	2,178	1,998	1,743	1,858	1,552	1,412	1,618	1,969	1,230	769	799	694	663	24,906	1,372	
Bahriwah	6.70		905	1,041	790	1,091	864	1,508	1,641	1,813	1,873	1,108	1,409	1,269	1,104	1,201	644	1,163	874	741	20,197	1,011	
Vadhu wah	8.13		683	638	511	758	391	980	628	949	618	915	645	1,125	1,140	1,005	601	1,364	347	755	14,937	774	
Hitta canal	40.83		1,387	1,470	933	1,388	899	1,002	678	519	1,013	1,321	1,022	1,111	874	203	378	874	314	1,239	17,070	948	
Richard canal	24.80		18,279	9,677	13,318	3,445	4,968	2,119	5,894	6,437	3,921	1,637	2,924	2,209	2,106	3,066	2,322	1,295	1,833	2,268	87,629	4,863	
Escape channel	1.88		...	2,167	...	360	18	673	373	385	79	338	196	220	327	398	377	266	32	19	6,106	333	
Karriwah	15.25		1,965	1,009	480	1,059	998	148	1,404	667	97	1,789	781	1,491	841	820	736	371	268	3,080	17,683	977	

B. KRISHNARAO,
Executive Engineer, Western Nara.

The expenditure shown does not include cost of Establishment.

STATEMENT showing information regarding wells in Sehwan, Dadu and Johi talukas.

Names of dehs.	No. of wells.	Depth of water below ground level.	Sweet or salt.	REMARKS.
<i>Taluka Sehwan.</i>				
		Ft.		
Kalo Bhuri ...	4	20 to 25	Sweet ...	Rabi.
Bhan ...	27	25 to 35	" ...	"
" ...	1	28	Saltish ...	"
" ...	1	37	Sweet ...	Kharif and rabi.
Arazi ...	9	12 to 15	" ...	Rabi.
Tando Shahbazi ...	2	12	" ...	"
Bakhtawarpur ...	4	11 to 24	" ...	"
Saidabad ...	1	24	" ...	"
" ...	1	18	" ...	Kharif and rabi.
Baid ...	1	12	" ...	Rabi.
" ...	1	7	Saltish ...	"
Sultanpur ...	2	25 to 30	Sweet ...	"
Wahur ...	8	23 to 35	" ...	"
" ...	1	31	" ...	Rabi and kharif.
Gaher ...	1	28	" ...	Rabi.
Akhtar ...	3	14 to 28	" ...	"
Arbi ...	1	14	" ...	"
" ...	1	22	" ...	Rabi and kharif.
Bambha ...	1	15	" ...	"
" ...	7	19 to 24	" ...	Rabi.
Talti ...	2	21 to 23	" ...	Kharif and rabi.
" ...	1	24	Saltish ...	"
" ...	3	25	Sweet ...	Rabi.
Chana ...	4	21 to 25	" ...	2 rabi and 2 kharif.
Karani ...	2	22	" ...	Rabi.
TOTAL ...	89	...	...	...
<i>Taluka Johi.</i>				
Johi ...	11	20 to 30	Sweet ...	Rabi.
" ...	1	38	" ...	Rabi and kharif.
Vageji ...	2	10 to 18	" ...	Rabi.
Gaha ...	2	24	" ...	"
" ...	1	24	" ...	Kharif and rabi.
Dara Machi ...	2	25	" ...	Rabi.
Channa ...	1	17	" ...	"
Jharri Jadoshahid ...	1	12 to 15	Brackish ...	"
Phulji ...	1	"	Sweet. ...	"
Shah Morio ...	1	"	do. ...	"
Bahawalpur ...	5	"	do. ...	"
TOTAL ...	28	...	...	...
<i>Taluka Dadu.</i>				
Khudabad ...	8	20 to 25	Sweet ...	Rabi.
Bhand ...	25	20 to 25	" ...	"
Buth Malho ...	2	25	Saltish ...	"
" ...	10	25	Sweet ...	"
Kurpur ...	4	20 to 25	" ...	"

Names of dehs.	No. of wells.	Depth of water below ground level.	Sweet or salt.	REMARKS.
<i>Taluka Dadu—contd.</i>		Ft.		
Sial ...	39	20 to 30	Sweet	Rabi.
" ...	3	20 to 27	"	Kharif and rabi.
Sidhwah ...	9	19 to 20	"	Rabi.
Chanrath ...	18	15 to 30	"	"
Malkani ...	4	28	"	"
Dubi ...	21	20 to 30	"	"
" ...	2	15 to 20	"	"
Nurja ...	2	25	"	"
Aminani ...	6	30 to 35	"	"
Naulakho ...	33	25 to 35	"	"
Duabo ...	19	25 to 30	"	"
Markhpur ...	10	25 to 28	"	"
Dadu ...	31	20 to 30	"	"
" ...	2	30	"	Kharif and rabi.
Khasachandia ...	17	25 to 30	"	Rabi.
Shahani ...	11	20 to 25	"	"
Dawach ...	23	15 to 24	"	"
Pir Tarho ...	37	25 to 30	"	"
Piper Panjan ...	5	18 to 20	"	"
Badani ...	25	24 to 27	Sweet	"
" ...	3	"	Brackish	"
" ...	1	"	Slightly saltish	"
Phska ...	23	20 to 32	Sweet	"
Kalbaro ...	9	24 to 28	"	"
" ...	2	25	Brackish	"
Pirgunio ...	5	20 to 25	Sweet	"
Pipri ...	27	20 to 30	"	"
Shahmir ...	9	13 to 16	"	"
Butbi ...	7	17 to 20	"	"
Bakhrani ...	41	20 to 26	"	"
Waryaso ...	3	10 to 13	"	"
Juberji ...	21	15 to 20	"	"
Sutiaro ...	10	"	"	"
Marvi ...	7	"	"	"
Khiaro ...	5	"	"	"
Jung ...	3	12 to 15	"	"
Kandi ...	5	"	"	"
" ...	4	15 to 20	"	"
Baghban ...	14	12 to 15	"	"
Makhdum Bilawal ...	6	12 to 15	5 Sweet 1 Brackish.	"
Taga ...	4	15 to 20	Sweet	"
Palha ...	4	"	"	"
Pat ...	31	"	"	"
Sita ...	25	"	"	"
Karro ...	6	"	"	"
Pir Tarho ...	2	"	"	"
Puranadero ...	1	"	"	"
TOTAL ...	644	...	...

NOTE.—There is an increase of 292 wells in the Division, more especially in Dadu taluka and the quantity of water available in them generally is sufficient for irrigational purposes though some of the wells are silted up and require clearance.

B. KRISHNARAO,
Executive Engineer, Western Nara.

STATEMENT of each kind of irrigation in Sehwan, Dadu and Johi talukas during the years 1891-92 to 1907-08.

Name of Canal	1891-92	1892-93	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-00	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08		
	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.		
Western Nara	Lift	5,071	179	...	2,479	3,847	5,147	3,891	7,016	58,168	4,861	7,553	4,488	8,064	5,739	8,126	8,967		
	Flow	...	...	...	1,281	3,548	3,222	3,199	8,385	5,328	2,308	7,613	5,508	5,904	5,904	7,983	5,300
	Rabi	665	8,746	808	14,101	3,336	3,599	2,688	2,803	8,361	5,077	1,378	9,094	6,560	10,229	10,687	7,461		
Karah	Lift	466	...	...	530	479	497	808	396	417	479	524	367	618	633	463	528
	Flow	...	...	...	5-0	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	85	...	...	248	12	13	67	378	...	158	49	7	3	75	35	50
Lower Nara	Lift	1,625	...	...	1,328	2,680	2,061	1,787	2,268	4,133	1,778	1,494	...	1,768	1,556	2,107	1,740
	Flow	...	...	...	311	83	184	126	78	40	130	...	113	57	85	59	81
	Rabi	386	...	...	45	58	64	291	64	54	46	...	24	54	57	29	59
Old Gharhi	Lift	1,373	1,399	367	1,960	1,961	1,806	1,985	1,793	1,083	1,591	1,273	1,677	1,600	1,904	1,759	
	Flow	...	...	...	167	69	121	138	89	67	96	...	42	98	98	47	39
	Rabi	...	...	...	3,350	27	4	63	6	...	683	191	...	69	...	610	498
Aisunji	Lift	993	620	1,067	693	644	613	605	348	687	601	507	418	418	677	747	
	Flow	...	...	...	89	...	6	5	8	11	4	...	4	...	...	...	...
	Rabi	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...
Makani	Lift	2,223	2,770	2,283	1,095	1,333	2,542	3,176	2,410	1,739	1,447	...	688	1,186	2,084	2,121	2,068	1,697	
	Flow	122	255	19	163	35	112	66	271	...	292	168	700	369	181	
	Rabi	957	687	871	813	410	683	691	622	137	497	...	68	296	294	236	300	687	
Kudum All.	Lift	663	731	652	798	795	820	801	791	685	818	884	787	776	678	726	670	688	
	Flow	...	...	...	84	64	47	78	6	87	...	16	103	47	121	149	110
	Rabi	135	99	110	508	20	29	66	68	...	233	...	67	28	148	103	131		
Kor	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anil	Lift	1,972	1,473	29,310	1,943	2,870	2,404	2,802	1,341	2,127	3,427	59	1,998	2,417	2,243	...	2,344	1,631	
	Flow	...	346	60	...	2,125	48	692	30	...	434	24
	Rabi	6,206	5,555	7,083	4,658	11,006	7,985	11,004	8,322	4,789	6,154	3,968	2,782	4,941	4,371	...	5,384	5,615	
Dunster	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gharhi	Lift	85	68	19	38	23	4	61	74	...	113	184	138	139	63	138	
	Flow	
	Rabi	218	194	369	325	42	226	235	49	100	56	...	45	...	53	70	215	288	
Upper Nara	Lift	1,547	2,677	2,410	2,553	1,944	2,447	2,023	1,920	1,929	2,640	2,366	2,321	2,464	2,473	3,019	
	Flow	1,782	768	2,709	8,21	1,534	669	2,374	1,543	1,739	2,161	1,434	2,057	1,441	1,431	
	Rabi	587	392	101	202	276	157	67	200	268	105	258	358	410	358	634	
Kohal	Lift	1,129	911	765	1,570	1,539	2,118	1,888	1,818	993	1,967	2,142	1,789	1,866	1,808	1,474	
	Flow	...	...	...	327	...	...	171	...	...	10	...	...	...	...	...	...
	Rabi	3,308	1,812	921	1,867	466	466	1,274	2,185	567	1,479	297	1,072	604	288	
Gharhi	Lift	943	904	799	999	...	701	973	844	848	853	644	415	818	823	592	
	Flow	...	...	...	100	...	...	...	...	103	...	...	...	...	...	...	...
	Rabi	30	...	...	266	...	...	...	...	...	...	...	...	...	...	...	...
Vardha	Lift	1,370	1,570	1,605	1,031	966	2,342	1,297	1,484	1,393	1,686	1,570	1,778	2,428	1,379	915	
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	97	...	...	40	...	20	133	...	...	...	...	...	...	...	...	...
Ditto	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kandhar	Lift	648	...	298	304	199	913	346	201	730	1,178	966	1,183	598	1,117	2,345	766		
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	8,338	...	10,518	18,955	10,506	14,911	12,708	11,328	19,398	21,420	19,787	14,562	17,968	21,201	20,154	19,909	10,160	
Sakro	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Morji	Lift	611	978	910	611	884	613	897	778	413	423	621	646	746	397	
	Flow	223	61	372	272	179	219	323	237	187	503	170	374	945	397	
	Rabi	934	1,084	690	355	967	883	866	687	478	1,513	1,051	756	371	924	
Pirbandar	Lift	360	306	229	229	162	334	158	145	105	58	148	122	153	138	
	Flow	17	108	176	176	1,4	175	239	125	54	60	61	62	76	108	
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ditto	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ditto	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ditto	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Italic figures show cultivation on escape channel.

B. KRISHNARAO;
Executive Engineer, Western Nara.

No. 6825 of 1909.

PUBLIC WORKS DEPARTMENT.

*Superintending Engineer's office, I. R. B. D.,**Camp Sukkur, 7th December 1909.*

From

D. W. HERBERT, Esquire,
 Superintending Engineer,
 Indus Right Bank Division,

To

THE COLLECTOR OF LARKANA.

SIR,

I have the honour to return herewith the accompaniments to your No. 5373, dated the 16th September last, and to express my regret at the delay, specially as I find that I can add very little useful information to the full account already given by (Mr. Covernton and the) Executive Engineer regarding the irrigation in these talukas.

2. It would appear that the flooding of the lands by the Escape channel described in paragraph 6 of Mr. Covernton's report on the Dadu taluka can be remedied to a great extent, but proposed works cannot be taken into account.

3. With reference to paragraph 8 of your report on the Jobi taluka I understand that the one-tenth of the consolidated assessment is supposed to represent what the land would yield without irrigation, i.e., it would be the average assessment on the whole area not merely on the cultivated area.

4. With regard to the clearance rebate, I understand that this is supposed to be given only when the cost of clearance is excessive, but in the lists of karias attached to the report I find a considerable number only one-quarter mile long.

5. The widening of the Western Nara Canal in 1905 to 125 feet bed width is said to have benefited these talukas. This canal has been working very satisfactory for the last six years, but this year (1909) the gauge reading at the head regulator of the Akil mouth suddenly fell from 10.9 feet on the 19th September to 2.1 feet on the 23rd of that month, the Bukkur gauge readings on those dates being 11.10 and 7.4 feet. Whereas with 7.4 feet on the Bukkur gauge on the 23rd September of the previous year the head regulator gauge read 8.8 feet. This falling off in the supply is due to the Indus having receded for several miles and thrown up large areas of kachas opposite the mouth of the canal. I have recently inspected the position and found the conditions for the Nara supply to be very bad indeed. In fact the canal is completely cut off from the river at present when the Bukkur gauge reads below 8 to 10 feet. All the dhands bringing down water from the north are completely silted up at their heads.

The tail of the Akil dhand has also been silted up in a length of nearly a mile. Taking the present difficulties about funds and labour into account, it is probable that all that will be done this year, is to make a cut through the silted portion of the tail of the dhand, and so supply the canal from a back-water two miles long, which of course means a considerable reduction in the water level at the mouth of the canal. This cut also may silt up towards the close of the inundation and it is improbable that the supply in the river during September will be as favourable as it was last year. The Pritchard Canal however ensures a fair supply for the talukas under consideration.

6. Owing to the present very unfavourable position of the river at the head of the canal, the time does not appear opportune for any considerable

enhancement of the assessments and I would point out that in the 3rd group of the Dadu taluka it is proposed to increase the rate for rabi lift from Rs. 2-4-0 to Rs. 4 or by 77 per cent. which appears excessive.

I have the honour to be,

Sir,

Your most obedient servant,

D. W. HERBERT,

Superintending Engineer,
Indus Right Bank Division.

Accompaniments above referred to sent by registered parcel.

No. 7163 OF 1909.

REVENUE DEPARTMENT.

Collector's office,

Camp Larkana, 11th December 1909.

Passed on.

The rebates on short karias are in Johi, where the land is up-hill and clearance greatly needs encouragement.

The bad prospects of the Nara would have to be considered if the proposed assessment were a full one; but it is avowedly pitched much lower than the actual value of the crops would justify in order to allow for precarious water-supply. The previous settlement was made at a time when the Nara was much worse than it is likely to be again.

C. M. BAKER,

Collector of Larkana.

No. 7167 of 1909.

REVENUE DEPARTMENT.

Collector's office,

Camp Larkana, ^{16th September}
11th December 1909.

From

C. M. BAKER, Esquire, B. A., I. C. S.,
Collector of Larkana,

To

THE COMMISSIONER IN SIND.

SIR,

I have the honour to forward Mr. Covernton's settlement proposals for the Sehwan taluka.

2. Sehwan taluka consists of four parts irrigated respectively by—

- (i) river floods,
- (ii) canals,
- (iii) the Manchhr Lake,
- (iv) rain.

The first two parts have maintained or increased their prosperity since the last settlement: the other two have not. A long series of dry years has practically ruined the hill dehs and most of the inhabitants have migrated to Hyderabad district. The Manchhur dehs, on the other hand, have been spoilt by excess of rain water. The land is either submerged or so overgrown with rushes as to be cultivable only with difficulty. It seems strange that the same taluka should suffer from both excess and defect of rain. But the year before last, at any rate, there was hardly any rain in the Sehwan hills, while the Manchhur was filled to an abnormal height by heavy rain in the hills of Johi and Baluchistan.

3. Mr. Covernton's proposal is to increase the assessment in the canal irrigated area and reduce it in the Manchhur and Kohistan country, and this is quite in accordance with the facts. The net result is a very slight reduction in the revenue of the taluka; but I think the circumstances quite justify this.

4. The deterioration of the Manchhur lands is, I fear, permanent. It is not only due to the abnormal growth of reeds, sedges and rushes in the last three years but also to the fact that the Aral does not empty the Manchhur nearly so fast as it used to, the result being that much less of the submerged land dries up in time for cultivation.

5. Any greater increase of assessment in the canal irrigated lands would, I think, be impossible. The juari lands no doubt have a more certain supply than some in Dadu, but on the other hand the soil is not so good, and in some places drabh grass has made kharif cultivation almost impossible. The only under-assessed crops are the irrigated wheat and the rice of the 1st class dehs, such as Bed and Saidabad. For these a substantial enhancement has been proposed. Rs. 4 is, I think, a very moderate rate for either rice or wheat with a water-supply which is both sufficient and under control, yet it is considerably higher than the present rate.

6. The grouping of some of the barani dehs under the former settlement was quite unintelligible to me, and no reasons were given for it; Mr. Covernton does give reasons for his grouping and one has only to see the country to appreciate the soundness of them.

7. The principle of assessing gardens according to the mode of irrigation instead of having a special 'garden rate' has long been accepted by Government. The matter is of some importance in Sehwan, as the gardens near Bubak had a high special rate before. The new system will work quite well and make little difference in the assessment. Bubak and Yakubani are large dehs of which part is high class garden land and part is a snipe bog. This anomaly will be removed by their partition and the making of the new deh of Jaheja.

8. I recommend the guarantee of the settlement for 20 years for reasons already explained in my remarks on the Dadu report.

9. In conclusion I may be permitted to say that Sehwan and Johi are probably the two hardest talukas in Sind to make a settlement for. Mr. Covernton's great energy and keen interest in agricultural matters have, in my humble opinion, enabled him to solve the problem most successfully. His proposals are simple and consistent and are based on solid facts.

I have the honour to be,

Sir,

Your most obedient servant,

C. M. BAKER,

Collector of Larkana.

No. 134 of 1909.

REVENUE DEPARTMENT.

Settlement office,
Larkana, 23rd April 1909.

From

S. H. COVERNTON, Esquire, L. C. S.,
Settlement Officer, Sehwan,

To

THE COMMISSIONER IN SIND.

SIR,

In accordance with Government Resolution No. T/39, dated 30th September 1908, I have the honour to submit proposals for a settlement of Johi taluka.

Brief description of the taluka.

2. The taluka falls naturally into 3 main divisions :—

(i) On the east along the Nara and the shores of the Manchhur there is a narrow strip of land which is irrigated with Indus water. This belt is nowhere more than 8 miles wide and in some parts the cultivation only extends two or three miles westward of the Nara. The southern dchs of this area are flooded more or less completely during the inundation season by the Manchhur and are cultivated almost entirely with rice in kharif and sailabi crops in rabi. In the rest of the irrigated belt the conditions are much the same as in other parts of "Sind,"* except that during the hot weather the Nara lands are liable to be swept by floods both from the Nai Gaj and other hill torrents and from the surplus water of the Nara diverted into the Lohri dhoro and the various dhands and dhoros connected with it.

* Lands where Indus water flows.

(ii) In the west there is a broad tract of hilly country, the Kohistan, which is almost entirely barren except for a few patches of juar grown here and there on the sides of the Khirthar and in the Angai valley, and some wheat fields in the valley of the Gaj and Nali. Most of the cultivated pieces in the Kohistan have been given to their occupants free of assessment as seris.

(iii) Between the Kohistan and Sind lies a broad area known as the Kachho rising slightly from the east towards the west, which is almost entirely dependent for its cultivation on rainfall and the floods water from the hill torrents. After a heavy storm these floods pour down from the hills and spread out across the whole face of the Kachho plain. In the north-western part of the taluka where the beds of the Nai Gaj are deep and well defined, the water is diverted into canals and kariast† by which it is led on to the fields, but elsewhere the floods are controlled only by the earthen bunds built round the fields, and these are liable to be swept away by a heavy flood.

† Small private canals.

The chief of these hill torrents or *nis* are the Gaj, the Taki, the Nali, the Angai and the Naing. The Gaj takes its rise in Kalat and finds its way through a gap in the Khirthar into the north-western parts of the taluka, where it branches out into 4 main channels, which flow in different directions across the Kachho. The others all rise on the eastern slope of the Khirthar and are therefore dependent on local rain. The Gaj has a stream of clear water ‡ which flows out of the hills into the Rajodero tapa for at least 8 or 9 months in the year, and if there is any considerable winter rain, it is almost perennial.

‡ Or "black water," i. e., spring water as opposed to rain water.

The Nali also in years of good rainfall gives a rabi supply of clear water sufficient for the irrigation of some wheat fields in Wahi Pandhi. In the other Nais the black water where it exists at all does not enter the limits of the Kachho. Besides the hill torrents there are several perennial springs at the foot of the Bhit hill in the south-west of the taluka, by means of which cultivation is carried on both in rabi and kharif.

Thus the prosperity of the Kachho is dependent on rain and principally on rain in the hills. This of course cannot be measured, but it is probably not much, if at all, in excess of the amount registered in Johi town. Now taking the agricultural year as beginning in June (since May rains are usually too insignificant for cultivation purposes), the average rainfall registered in the last 5 years 1903-04 to 1907-08 has been 4 inches 12 cents. and during the 5 years 1898-99 to 1902-03 it was 2 inches 36 cents. There were some years in which the total annual rainfall was below one inch.

The taluka contains 101 dehs and its area (including the Kohistan) is 761.6 square miles. Its greatest length is about 42 miles and the greatest width from the Nara to the foot of the hills is about 25 miles.

The population according to the last census was 51,218, which gives a density of 67 to the square mile. The population of the head-quarter town and the chief villages according to the last census is as follows:—

(1) Johi	...	1,456	(3) Pat Gul Muhammad	...	1,256
(2) Haji Khan	1,020		(4) Hairo Khan	...	1,243

Markets.

3. The chief local market in the taluka is at Johi and even this is of no great importance. The zamindars usually dispose of their produce in their deras or their villages to bania dealers. Such grain as is not consumed locally finds its way to Sita road, Dadu, Bhan, Phulji road, Bubak road and Sehwan stations and is thence despatched by rail to Karachi. Grain is also sold in the villages under the hills, *e. g.*, Wahi Pandhi, Tando Bahim Khan, Drigh Mathin, Shevo Jamali and Rajodero to Brahuis from Wadh and elsewhere in Kalat State, who bring down *pish*, wool and ghi and buy grain.

Communications.

4. The grain thus exported is carried on bullocks, donkeys or hill camels across the mountain paths leading up the Angai, Nali and Gaj valleys. The principal trade routes in the plains are along the following roads:—

- (i) From Hairo Khan and Haji Khan and Johi to Dadu..
- (ii) Johi to Bhan.
- (iii) Tando Bahim Khan and Ohhini to Shah Hasan and Jhangar.
- (iv) Hairo Khan and Phulji to Phulji road station.
- (v) Pat Gul Muhammad to Kakar.

Thus the taluka is well off for roads both within its boundaries and communicating with other talukas and the railway. There are however only 4 bridges over the Nara at Bahawalpur, Suranjri (on the Dadu road), Kamal Khan, and Daim-ji-Miani, and the first and last are not easily accessible during the greater part of the year as they are surrounded by floods and not approached by any regular road. But there is a horse ferry over the Nara at Phulji during the inundation season and the northern dehs are served by the Kakar bridge. In the south-east goods and grain are sent by boat across the Manchhur to Bubak while the water is high, as well as by the road *via* Jhangar to Sehwan. There is no railway within the taluka, but the North-Western railway runs parallel to its border at a distance of 6 or 7 miles and there is easy access from Johi to Bhan and Dadu stations, the distance being about 12 miles to either.

As a rule camels and donkeys are used for the transport of grain, but bullock carts are occasionally used especially in the north and between Johi and Dadu. The usual rates for transport of grain appear to be as follows:—

Johi to Dadu	...	...	Rs. 2	per kharar.
Johi to Bhan	...	...	" 2-8	"
Pat Gul Muhammad to Phulji and Puranodero	...	...	" 4-0	"
Pat Gul Muhammad to Sita road station	...	...	" 6-0	"
Sao and Ali Murad to Bhan	...	...	" 4 or 4-8	"
Tando Rahim Khan to Bubak station via Manchhur	...	...	" 3-6	"
Shah Hasan to Bubak station via Manchhur.	...	...	" 1-14	"

No new roads have been constructed during the settlement.

Industries.

5. There are a large number of oil-presses in the taluka, at Johi, Shah Hasan, Hairo Khan and other large villages, and also some 50 hand machines for cleaning cotton. The fee for the use of the former is $7\frac{1}{2}$ to Rs. 10 per kharar, and for the latter 3 annas per maund. There are no rice-husking engines and there is no other industry of importance from a settlement point of view.

Irrigation.

6. The Executive Engineer has sent a joint report for all three talukas which has been attached to the Dadu report, together with the various statements and notes on the working of each individual canal. He has however sent a separate irrigational map for Johi taluka which is attached to this report.

Nara.

The chief canal of this taluka is Western Nara which forms its eastern boundary. A new mouth was constructed for the Nara at Akil in Larkana taluka in 1903. Up to then the working of the canal had not been particularly satisfactory. The Executive Engineer states that the construction of the new mouth did not much affect this taluka, but the further widening of the mouth in 1905 greatly improved the supply in this division and rendered it independent of the Pritchard wah and of the vagaries of the river. The working of the Nara and the improvements to it and the Pritchard wah have been discussed in the Dadu report and it seems unnecessary to repeat what has there been said. Generally speaking the complaint on the Johi side of the Nara is not of too little water but too much and the lands are liable to be swamped not only by the surplus water of the Nara and Lohri but also by the rain floods from the Pat.

Lohri.

The Lohri in Kot Bajo and Thariri Jado Shahid is a Government canal from the Nara (originally it was a zamindari karia). From the borders of Phulji downwards it is a dhoro. It is not quite clear whether the annual notes given by the Executive Engineer refer only to the canal or to the dhoro also. The canal has worked satisfactorily but the dhoro is filled not only by the canal but also by the rain floods and the surplus water of the Nara and Sobhnari dhand and as a result it floods most of the lands through which it passes and those into which it tails. The canal is liable to breaches caused by the sudden rush of the rain floods and especially by the Nai Gaj torrent.

Dingri.

At the beginning of the settlement in 1898 the Dingri was far from satisfactory and this state of things seems to have continued to 1902 when it was given a new mouth. Since then the canal has worked well enough. But the lands both on the Dingri and the Sakro wah (another branch of the Nara which has worked well in recent years) suffer greatly from the difficulty of controlling the water in the low lands at the Nara tail, and from the rain floods which swamp them whenever a big storm occurs.

Sakro.

The improvements undertaken during the current settlement affecting the taluka are:—(i) the construction of the Akil mouth and its subsequent widening referred to above. (ii) The construction of a New Feeder to the Pritchard wah mouth, the benefit of which was however of very short duration owing to changes in the river. (iii) The new mouth of the Dingri wah out of the Nara. The improvements to the Lohri wah referred to by the Engineer were made long before the settlement began.

The average annual cost of canal clearance, etc., for the whole division is given in the Executive Engineer's appendices at the end of the Dadu report.

The southern dehs of the taluka are flooded by the Manchhur each year. The engineering problem of the Manchhur and the conditions of its cultivation have been fully stated in the reports of Colonel Haig, Mr. Seymour and others, and no material change has taken place since their time. No means has yet been discovered by which the waters of the lake can be speedily drained off the sailabi lands after the close of the inundation and the Manchhur dehs must almost inevitably suffer either from an excess of water or its deficiency. In either case the rice and sailabi crops are destroyed. But after too low a flooding the unsurveyed lands are at any rate ready for another year and are the better for a fallow, whereas if the flood is high and the water is not drained off, as usually happens, the land becomes covered with rushes and weeds and greatly deteriorates.

The area under each head of irrigation is shown in Appendix XII. The area of rice has decreased by 3,800 acres since Mr Seymour's report was written and is now only 9,185½ acres or 15 per cent. of the total cultivated area. Bimoki on the other hand has more than doubled itself since then and is now 4.4 per cent. of the total. Lift which is 4.9 per cent. has remained almost stationary. Sailabi which has decreased by 1,800 acres is 11.3 per cent. The decrease under this head and under sailabi madad charkhi is no doubt due to the vagaries of the Manchhur but both have shown a tendency to improve of late years. The same remark applies to rabi charkhi which also shows a decrease on Mr. Seymour's figures. But the most remarkable change is in bosi, from 180 acres to 1,310 acres, and I suspect this great increase must be partly due to misclassification by the tapadars. The total of cultivation independent of the Indus, *i. e.*, barani and hill stream, amounts to 15.7 per cent. of the whole, though of course this leaves the unsurveyed lands out of account.

Irrigational wells in this taluka are few, only 6 in the irrigated dehs and in some years one or two in barani dehs. In "Sind" the depth at which water is obtained is generally from 15 to 25 feet or occasionally 30; in the Kachho it is about 80 feet, the wells in "Sind" are sweet and the water abundant except at Thariri Jado Shahid, but in the Kachho it is generally brackish, and the supply is soanty except after recent rains. For this reason paka wells in this region are rare and the area irrigated on them (22 acres 32 guntas) is altogether insignificant.

History of the current settlement,

7. There are two settlements at present in force in the taluka,

- (i) The 16 dehs noted on the margin were transferred from the Kakar taluka in 1893. They are under an irrigational settlement originally sanctioned for Kakar in 1893. No settlement of Johi taluka having taken place since 1903, the old rates still remain in force.
- | | |
|---|--|
| <p>Tor.
Ladhodero,
Rajodero,
Kasbo.
Malho Jagin.
Lalhar.
Kur Faujo.
Kot Bazo.</p> | <p>Malhar Barani.
Kathis Barani.
Tori Barani.
Ber Bughio.
Gul Muhammad Barani,
Koti Navi,
Din Panah.
Tharri Jado Shahid.</p> |
|---|--|

- (ii) The rest of the taluka, consisting of 85 dehs, is under a settlement sanctioned in 1898-99. The rates sanctioned under each of these settlements are shown in Appendix XIV and also in paragraphs 14 and 15. Mr. Seymour estimated that his settlement of the 85 dehs

would produce an annual income of Rs. 1,37,338. The actual amount of collections in these 85 dehs during the settlement has averaged only Rs. 1,02,554, a deficiency of Rs. 34,834. This is due partly to the heavy remissions which have been necessary, but still more to the decrease in the area of cultivation since Mr. Seymour wrote—a decrease of 20,898 acres for the whole taluka including the Kakar dehs.

Appendix XIII shows the total of demand, collections, remissions and arrears in the taluka for each year of the settlement. According to this the collections average Rs. 97,781, remissions Rs. 18,357 and arrears Rs. 9,890. But a considerable part of the arrears consists of remissions sanctioned and collections made after the close of the year. If the amounts subsequently remitted and collected be added to the amount of the remissions and collections shown in columns 2 and 3 of the Appendix, the result will show the total amounts actually collected and remitted from the gross demand of each year. And the average of 10 years settlement then works out as follows:—

Gross demand Rs. 1,26,029, remissions Rs. 22,688, collections Rs. 1,02,544.

Thus remissions amount to 18 per cent. of the gross demand. And the total of arrears which have never been collected amounts to Rs. 7,863 or an average of Rs. 786 per year.

The reasons for remissions are shown in the statement below:—

Statement showing reasons of remissions granted during the current settlement of Johi taluka, as shown in Appendix XIII.

Year.	Deficient water-supply.	Flooding.	Fallow assessment.	Zer Ab Bhauga.	Uncultivated portions.	Assessment for unauthorised cultivation.	Locusts and grass-hoppers.	Frosts.	Kalam.	Insects and Khas.	Other items.	TOTAL.
1	2	3	4	5	6	7	8	9	10	11	12	13
1898-99	31,715 8	...	856 8	118 3	803 2	...	...	...	...	...	...	23,198 3
1899-00	34,728 12	...	...	248 3	1,117 11	...	...	...	...	...	7 4	36,100 14
1900-01	9,687 14	...	907 1	138 12	4,165 0	...	1,487 15	838 13	23 2	Insect 432 2 Khas 10 13	...	17,161 8
1901-02	17,196 2	...	3,877 1	158 1	69 8	16 4	211 14	...	...	...	28 8	21,557 5
1902-03	18,879 12	...	...	...	...	...	...	...	...	...	13 10	18,463 7
1903-04	15,849 2	87 0	836 1	230 10	2,145 14	...	202 2	...	...	...	...	19,830 14
1904-05	16,700 5	...	...	...	...	4 0	...	6,523 15	...	...	...	23,288 4
1905-06	1,934 6	127 10	681 11	944 10	473 12	...	21 13	...	...	...	...	3,653 14
1906-07	2,609 8	704 5	302 3	...	...	...	121 2	...	...	...	...	3,799 0
1907-08	11,565 8	4,781 8	...	...	...	6 1	...	...	...	...	28 0	16,670 16

Even if the total of "zer ab" and naubati remissions and remission on account of portions of survey numbers left uncultivated (columns 3, 4 and 5) be deducted from the grand total of remissions, there still remains an average of Rs. 20,976-7-10 or 16.6 per cent. of the gross demand. But heavy as the remissions are, they do not at all adequately reflect the condition of the taluka. Every year a very large number of petitions are rejected not on the merits of the crops but on various technical grounds, the most frequent being that the crop has been reaped before inspection. Judging by the past two years it is not too much to say that if every survey number that deserved remission were to obtain it, the annual total would be doubled. This point will however be referred to again in connection with the proposed barani rates.

Coercive processes.

These are shown in the accompanying statement. The number of notices issued is very large but the other figures are much smaller than the arrears would lead one to expect. The forfeitures of land shown in column 11 were not only for fallow assessment but also for non-payment of ordinary revenue; the exact figures under each head are however not obtainable. But it may be noted that the fallow rules do not apply to the greater part of the taluka.

Coercive processes resorted to in Johi taluka during the current settlement beginning from 1898-1899 to 1907-1908.

Year.	153, LAND REVENUE CODE.			154, LAND REVENUE CODE.			FORFEITURE AND SALES OF MOVEABLE PROPERTY, 154, LAND REVENUE CODE.				FORFEITURE FOR NON-PAYMENT OF ASSESSMENT.						
	Cases.	Arrears.	Notice iss.	Cases.	Arrears.	Fine imposed.	Cases.	Arrears for which forfeiture was made.	Arrears for which sale was made.	Amount realised.	Cases.	Arrears.	Area.	Assessment.	Returned to the defaulter.		Lapsed to Government.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1898-99 ...	1,433	23,973 0 9	541 0	...	...	...	3	38 3	...	...	107	3,378 8	1,374 14	2,211 11	416 28	640 0	657 38
1899-00 ...	998	13,571 5 9	371 4	...	...	...	1	9 14	...	...	19	370 10	243 12	478 11	...	...	248 12
1900-01 ...	2,009	43,940 15 2	1,083 12	...	...	...	2	47 6	...	...	88	1,634 0	740 12	1,467 14	81 26	87 3	717 37
1901-02 ...	1,993	41,981 9 5	545 4	...	...	...	4	179 3	87 1	16 14	68	1,499 8	579 14	1,382 14	...	...	578 14
1902-03 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1903-04 ...	1,806	25,821 13 0	712 12	...	...	...	3	88 0	38 0	17 6	38	985 0	437 20	908 0	40 25	80 25	898 25
1904-05 ...	931	39,310 13 0	390 4	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1905-06 ...	1,363	29,870 14 2	564 8	44	1,192 6	1 12	3	100 3	100 3	79 5	43	770 0	398 26	732 13	30 5	71 3	338 20
1906-07 ...	2,227	41,979 13 1	932 0	264	6,307 9	188 12	3	280 4	...	...	20	481 8	189 34	407 7	49 20	98 1	140 14
1907-08 ...	1,794	21,649 12 9	751 0	...	...	...	1	5 5	...	...	...	...	Area sold \$ 15	Assessment. 80 0	Amount realised. 34 0	...	...

* Details not available.

Sale of immoveable property during the current settlement was nil.

Arable area.

8. At present 36.8 per cent. of the total area of the surveyed dehs is occupied as opposed to 31.8 per cent. in 1898-99, in which year however many of the Kachho dehs were still wholly unsurveyed. According to Appendix XII the average of cultivation in the past 5 years was 60,881 or 38.2 per cent. of the present occupied area. There is very little difference in this respect between the two quinquennial period of the settlement. The dehs in which the principal decrease in the cultivated area has taken place since Mr. Seymour wrote are as follows:—

Deh.	Decrease.	Remarks.
Johi 684	When the Nara was working badly, a great deal of land was given up and the karias silted up. Zamindars afterwards were unable to clear them again owing to poverty and debt. This year the zamindars of Johi under strong pressure have begun to clear the dis-used karias and propose to take up land on khas mokal.
Dara Machi ...	... 760
Kur Kalan ...	... 1,821
Kharich ...	... 628
Jampur Pawarki ...	... 229 (from 237 to 8)
Kur Jamik ...	... 198 (from 198 to nil)

In addition to this 9 dehs in the Kachho show a decrease of more than 500 acres. This is chiefly due to the two rainless years 1904-05 and 1905-06 which brought down the average for the 5-year period.

Deh.	Increase.	Remarks.
Gahi Charo...	... 884	Apparently due to the high level of the Manchhur, though of late years this has done more harm than good.

Crops.

9. The area of the various crops is shown in Appendix XI. In this taluka the kharif crops form 64 per cent. of the whole. The commonest crops are as follows (in the order of their importance):—

Juar, rice, wheat, jambo, ahur, sariha, tir and bajhri.

Rice is of course confined to the lower irrigated lands, tir is found chiefly in barani lands, wheat is grown both in the irrigated dehs and on hill-streams, but the other crops are grown in all parts of the taluka. A little cotton is

grown in barani lands especially on the Nai Gaj canals, and tobacco is cultivated on the black water from the Rajwah in the dchs of my proposed 2nd group. Most of the barley found in the taluka is grown on the Manchuar but the area is small.

No new staples have been introduced during the settlement.

Methods of cultivation.

The methods of cultivation are of the usual kind and there seems no occasion to give a detailed description of them except in the case of barani crops, in the assessment of which very considerable changes are being proposed for reasons which are closely connected with the conditions of barani cultivation.

Most of the barani lands are cultivated by means of bunds which check the flood water and retain it on the fields. The bunds are usually about 4 or 5 feet high but sometimes much more, *e. g.*, near Chhini, where they are as much as 12 or 15 feet high and 20 feet wide at the base. In such cases however a single bund serves a large number of fields. Naturally their erection and repair involves a good deal of expense which varies according to their size. The land is watered and the seed sown as soon as the flood water comes in June, July or August according to the time of rainfall. The land is watered again in August or September if any more rain comes. But if the crop gets no second watering it has but small chance of success. It is equally disastrous if the first rain is so violent that the floods breach the bunds, for then the water sweeps on over the plain without soaking the soil except in the depressions, and the crops on the higher ground dry up. Now it only occasionally happens that there is a really good rainfall in the beginning of summer; but that this should be followed by a satisfactory rain in autumn is the rarest good fortune. And yet on this improbable piece of good luck depends the prosperity of the Kachho. Even when both early and later rains are plentiful success is not assured. For instance this year almost every field of jwar was attacked by grubs and in some places the crop was nearly destroyed. But in ordinary years the crops have no chance from the first, and if there is any outturn, it is as a rule exceedingly low. A later crop of jwar (*kani jwar*) is sown in October or September if the rainfall allows. *Jaiabbo ahur* and *sariha* are sown about the same time. Sometimes the seed is sown along with the *kani jwar* seed, sometimes it is grown separately. Obviously in these conditions the task of distinguishing between "*rabi*," "*kharif*" and "*dubari*" must be exceedingly difficult.

Variety and outturn.

Rice.—Almost the only variety grown in the taluka is the Lari, the coarse red rice of lower Sind, inferior to *sugdasi* both in price and productiveness. In the report on Dadu I have endeavoured to show that the inferiority of the rice of that taluka is due to its liability to flooding, the unevenness of the soil and the difficulty of controlling the water. All that was said of Dadu applies with three-fold force to the rice cultivation in Johi. From Phulji down to the Manchhur the lands near the Nara are traversed by a large chain of dhoras and dhands. The rice lands in Johi as in Dadu lie in the depressions and are thus everywhere liable to be flooded with the surplus water from this chain of dhands. In the north the surplus water of the Nara is let out into the Lohri dhoro through the Chandan wah and into the Sobhnari dhand through the Rajwah and this swells the flood from the tail of the Lohri wah. In the south a great part of the rice lands in Sakro, Gahi Charo and Aruni is frequently submerged beneath the waters of the Manchhur. And in the centre the rice lands of Pir Dhuari, Kharich, Abad Chana, Johi and Vageji are yearly flooded by the rain water which runs off the "*pat*" into the low lands near the Nara and Dingri.

As might be expected from these conditions the outturn is very poor in most fields. I arrived in the taluka too late to make any crop experiments but I examined the heaps of grain in the *deras* whenever possible. The highest outturn for Lari rice was 34 *kasas* to the acre (after *rajkharch** had been deducted). Other results were 30 *kasas* (in two instances), 27½, 26, 13, 12, and

* Payments in kind to the village work people, *e. g.*, the potter and carpenter.

even 10 kasas per acre. For Tor rice the highest rate was 22 kasas and the lowest 12 kasas. I should think that the average crop would give 25 kasas to the acre and perhaps as much as 30 kasas in the better lands.

Juar.—The bimoki this year was exceptionally bad in Johi for all the crops were damaged both by floods and caterpillars. For this reason the 16 different cases in which I was able to discover, the rate of outturn can hardly be regarded as typical of an ordinary year. Nevertheless they at least serve to show that the outturn in Johi is much less than in Dadu.

		Rate of outturn per acre.	Number of instances.
Bimokij	...	20 kasas	1
	...	17 do.	1
	...	15 do.	1
	...	13 do.	1
	...	12 do.	2
	Below	12 do.	10
Charkhi madad moki	...	19 do.	2
	...	15 do.	1
	...	12 do. or less	16

Charkhi juar gave a much larger outturn than moki, though it was markedly inferior to the charkhi juar of Dadu. The best field gave 37 kasas, a *dera* in Phulji gave over 30 kasas to the acre, two fields gave over 20, three others between 15 and 20 kasas per acre. The other results all fell below 10 kasas.

Barani.—Here it is impossible to obtain an average which will give any idea of the normal outturn. In a comparatively good year like 1908-09 there are many very good crops and a still larger number which produce next to nothing. The highest rate obtained was 20 kasas to the acre but the crop was by no means the best to be found. Yet the average of 33 cases tested by me almost entirely in the *deras* works out at a fraction under 6 kasas per acre.

Hill-stream.—The average of 8 fields tested by me in the *dera* in Pir Gaji came to $7\frac{1}{2}$ kasas. The Phadik wahi lands produced 11 kasas to the acre and those at Gorandi $8\frac{1}{2}$.

Tobacco.—A good field of tobacco at Rajodero is said to produce 20 maunds of undried tobacco per acre (10 maunds dried). I had however no means of testing this. Black Moro tobacco is occasionally grown but the common kind is the "Saidu variety."

Oil-seeds.—An experiment in barani land on sariha gave an average outturn of 10 kasas per acre and one in jambho gave $6\frac{1}{2}$ kasas. Judging by experiments in other talukas I should estimate the average bosi and sailabi outturn as from 10 to 15 kasas and that of charkhi about 20 kasas.

Prices.

10. The average retail prices prevailing at Johi town during the settlement are shown in Appendix XV. These are of course considerably higher than the prices obtained by the zamindars in their *deras*, but the rise and fall in retail prices is reflected by corresponding fluctuations in the wholesale rates. Unfortunately Appendix XV appears to have been kept very negligently in the Johi office and it is not till 1905-06 that anything like a complete list of prices is recorded. It is however clear that prices have been rising steadily.

As Johi is 12 miles and many parts of the taluka as much as 20 miles from a railway station, one would expect to find the prices of grain lower in Johi than in Dadu or Sehwan. But on examining the remission rates for the last two seasons, I find that some of the Johi rates are as high as any in Dadu or higher. This however probably means only that in those particular dehs the rates were ascertained at a time when prices in general happened to be higher than when the Dadu rates were fixed. If a general average of the rates sanctioned in the different dehs in the last 2 seasons for each kind of crop be taken,

the average of rates in Johi will be found lower than those of either Sehwan or Dadu except in the case of jambho and sariha and tir.

	RABI, 1907-1908.				KHARIF, 1908-1909.				REMARKS.
	Wheat.	Abur.	Jambho.	Sariha.	Juar.	Tir.	Lari rice.	Bajhri.	
Average of rates sanctioned in Johi.	87	104	95	115	62	110	49	63	Figures = Rupees per kharar.
Average of rates sanctioned in Dadu.	90	110	95	105	68	103	50	69	
Average of rates sanctioned in Sehwan.	100	108	110	110	73	114	50	80	

Value of land.

11. The sales in pursuance of Civil Court decrees are shown in the table below :—

Year.	Deh.	Area.	Amount.	Rate per acre.
		A. g.	Rs. a. p.	Rs. a. p.
1906-07 ...	... Abad ...	0 35	54 4 0	62 0 0
1906-07 ...	... Abad ...	7 8	673 2 0	90 0 0
1907-08 ...	... Kasbo ...	15 17	734 6 6	47 9 9
1907-08 ...	... Johi ...	9 0	470 0 0	52 3 0

The following list shows the prices recently obtained in private sales of land in different parts of the taluka. The figures are derived from copies of documents in the Sub-Registrar's office.

Deh.	Rate per acre.
	Rs.
<i>Nara lands—</i>	
Phulji ...	... 34
Chana (moki) ...	... 32
Abad (moki and charkhi) ...	... 137
<i>On Lohri dhoro—</i>	
Shah Morio ...	... 70
(This really only represented a foreclosure on a mortgage.)	
<i>Nai Gaj black water lands—</i>	
Tor ...	The only sale recorded was for Rs. 4 per acre. But this low price must have been due to some special circumstances.
Deh.	Rate per acre.
	Rs.
<i>Manchhur—</i>	
Shah Hasan ...	... 27
Shah Hasan ...	... 73

Deb.	Rate per acre. Rs.
<i>Barani—</i>	
Duabo	3
Sol Jagir...	5
Angai and Basham Fakir	22
Jalab	20
Chakar Kot	80
Pat Gul Muhammad...	10

Tenures.

12. The relations between zamindars and their haris are much the same in this taluka as in other parts of Sind, except that the precarious nature of barani cultivation renders it particularly hard for land owners in the Kachho to find cultivators for their land. The same difficulty is also felt to some extent on the Manchhar dehs where villages are few and haris have to be brought in from elsewhere. Those who are enterprising enough to seek employment away from their villages prefer to go to the new lands on the Nasrat wah across the river. There are no maurusi haris in the taluka. *Batai* rates are shown in the following table:—

Charkhi and charkhi madad moki.	Bimoki, rice sailabi and boski.	Hill-stream.	Nai gaj, black water.	Band barani.
Usually $\frac{1}{2}$ to zamindar, $\frac{2}{3}$ to hari; sometimes $\frac{1}{4}$ zamindar, $\frac{2}{3}$ hari.	Sometimes $\frac{1}{3}$ zamindar, $\frac{1}{3}$ hari.	Zamindar $\frac{1}{2}$, hari $\frac{1}{2}$.	Tobacco zamindar $\frac{1}{2}$, hari $\frac{2}{3}$.	When hari builds the band zamindar $\frac{1}{2}$, hari $\frac{2}{3}$.
(<i>E.g.</i> , Chana and Buthi.) The reason in Buthi is that the land was much overgrown with weeds and jungle and the zamindars gave no takavi.	Sometimes $\frac{2}{3}$ zamindar, $\frac{1}{3}$ hari.	...	Other crops zamindar $\frac{2}{3}$, hari $\frac{1}{2}$.	When zamindar builds the band, zamindar $\frac{1}{2}$, hari $\frac{1}{2}$, or zamindar $\frac{2}{3}$, hari $\frac{1}{2}$.

Sub-letting.—The amount of sub-letting is shown in Appendix VII. The usual terms are that in return for a cash-rent the lessee takes the produce, pays the assessment and is responsible for all expenses in the way of clearance, etc.

Condition of cultivating classes.

13. As might be expected from the history of the settlement and especially from breakdown of the remission system, the condition of the zamindars in Johi taluka is still most unsatisfactory. No doubt the rainfall in the past few years has in most cases improved the position of the kachho zamindars; although even amongst them there must be many who were merely plunged deeper into difficulties by the failure of crops which they would not have attempted to cultivate had it not been for the heavy rain at the beginning of the season. And in fact it appears from the sub-registrar's books that a great number of barani lands have been sold to banias in the last few months. To the zamindars of the Sind dehs the rain floods brought nothing but disaster. On the whole the condition of Johi taluka is much the same now as when Mr. Cadell wrote in 1898. Both in the Kachho and Sind most of the zamindars are poor and those few who attempt to keep up any position are constantly in difficulties. There are now 19 Incumbered Estates in Johi

taluka with a total area of 12,848 acres 1 guntas as compared with 26 estates measuring acres 15,336-87 $\frac{1}{4}$ * in 1898. (The improvement is certainly not striking.) And there are other estates which have been only recently released from management and many even of the smaller ones are in debt. There are

* This is exclusive of all unsurveyed lands.

See Appendix XXVIII to Mr. Seymour's report, page 39.

at present Rs. 14,500 of arrears in this taluka under the Agriculturists Loans Act and Rs. 6,000 under the Land Improvement Loans Act, a good illustration of the taluka's condition.

I do not think that this state of things is due principally to the zamindar's own extravagance or incompetence for as a rule they live in a very simple fashion. I know at least one very capable Hindu zamindar who appears to have become considerably embarrassed since he gave up business and took to agriculture. And if other Hindus are in a more fortunate position, that is chiefly because they also practice other and more lucrative occupations.

The haris of the taluka are more fortunate than the zamindars, for in bad years they are free to seek lands elsewhere. In fact from 1904 to 1906 the Kachho was in great part deserted. Like the zamindars they are mostly very poor and many of them are in debt. A great number depend for their livelihood on their cows and goats as much as on their crops; while others appear to supplement their own resources in bad years by stealing cattle from Sehwan and Johi. These latter however mostly belong to one particular tribe which at any rate till very recently had an evil reputation amongst its neighbours. Details of the livestock of the taluka as obtained this year at a special census are given in Appendix IX. The following statement shows the changes in the size of estates within the deh limits.

STATEMENT of *khatas* in Johi taluka.

Extent.	MUHAMMADANS.				HINDUS.				TOTAL.			
	1898-1899.		1907-1908.		1898-1899.		1907-1908.		1898-1899.		1907-1908.	
	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.	Unalienated.	Alienated.
Within 5 acres ...	594	1	937	...	123	...	149	...	717	1	1,086	...
From 5 to 25 acres ...	1,980	6	2,353	4	317	...	390	...	2,297	6	2,743	4
„ 25 to 100 acres ...	1,104	11	1,217	5	47	...	65	...	1,151	11	1,282	5
„ 100 to 500 acres ...	200	11	236	7	26	...	39	...	226	11	275	7
Above 500 ...	12	17	12	15	1	...	1	...	13	17	13	15
TOTAL ...	3,890	46	4,755	31	514	...	644	...	4,404	46	5,399	31

The proportion of Hindu and Musalman khatedars seems to have remained almost unaltered since 1898. Unfortunately no figures could be obtained for the size of holdings within the taluka, although of course many persons hold lands in two or more dehs. And apart from this the figures are not very instructive because until recently the survey had not been introduced into most of the barani lands and their owners were considered not as khatedars but as holding the land on a perpetual khas mokal. Moreover the khatedar is in many cases not the usual owner at all and has no interest in the land. But it is clear that till recently banias have not been anxious to invest their money to any large extent in purchase of lands in Johi.

Groupings and rates.

14 & 15.—These can be more conveniently explained if taken together in a single paragraph.

Group I—All the irrigated dehs including Berah and Kur Faujo and Dhori Kinri (hilly tract) which occasionally contain irrigated crops.

Rates.

Kind.	Proposed rates.	Old rates.	Differences.
Rice	3 8	{ 1A 3 10 1 3 0 2 2 8	- 0 2 + 0 8 + 1 0
Bimoki	2 8	{ 1A 2 12 1 2 12 2 2 4	- 0 4 - 0 4 + 0 4
Moki and charkhi ...	2 4	{ 1A 2 10 1 2 8 2 2 0	- 0 6 - 0 4 + 0 4
Charkhi and moki ...	2 2	{ 1A 2 10 1 2 8 2 2 0	- 0 8 - 0 6 + 0 2
Kharif charkhi ...	2 0	{ 1A 2 6 1 2 4 2 1 12	- 0 6 - 0 4 + 0 4
<i>Boni.</i>			
Rabi moki, bosi and sailabi.	2 8	{ 1A 3 0 1 2 12 2 2 4	- 0 8 - 0 4 + 0 4
<i>Sailabi.</i>			
Bosi madad charkhi ...	3 8	{ 1A 3 4 1 2 12 2 2 4 1A 4 0 1 3 12 2 3 4	- 0 12 - 0 4 + 0 4 - 0 8 - 0 4 + 0 4
Sailabi " ...	3 8	{ 1A 4 12 1 3 12 2 3 4	- 1 4 - 0 4 + 0 4
Rabi lift	3 8	{ 1A 3 12 1 2 8 2 2 0	- 0 4 + 1 0 + 1 8
Wells	Kharif lift	Kharif lift	See kharif lift.
Gardens	According to mode of irrigation	Rice	
Barani, kharif and rabi.	0 8 and no remission.	{ 1A 1 8 1 and 2 1 4 1A 2 8 1 and 2 1 4	- 1 0 - 0 12 - 2 0 - 0 12
Special Manchhur rate ...	Unploughed sailabi of all kinds. 1 8 All others pay 2 8	Unploughed Ahur 1 8 Ploughed " 2 0	Nil. + 0 8
<i>Group II.</i>			
The black water dehs :— I. e., Rajodero. Kasbo. Tor. Ladhodero. Maliko Jagir.			

Note. 1A represents the Kaker dehs —Tharri Jado, Shahid, Kot Baje and Kur Fajjo.
1 represents the Johi 1st class

2 the Johi 2nd class rates under the current settlement.

Note.—Moki madad charkhi rate will apply to the following dehs —

Lohri, Khanwah, Makan Belo, Abad, Bahawalpur, Shah Merio, Ghana, Gaha.
I propose that all others should pay the Charkhi madad moki rate.

Kind.	Proposed rates.	Old rates.	Difference.
Rates:—			
Kharif, barani and rabi barani not watered with black water.	1 8	1 8	Nil.
		2 8	- 1 0
Rabi hill-stream, i.e., rabi watered with black water.	3 0	3 0	Nil.
Wells	2 0 Kharif lift of 1st group.	2 6	- 0 6
Group III.			
The other barani dehs, of which			
Hairo Khan, Murid Dero, Masudero, Gul Muhammad Barani Naichki, Hasnani, Ber Bughio, Lalbar, Chakar kot, Drigh Mathin Jagir, Pherodero, Gaji Khan, Haji Khan, Wahi Pandhi, are to form sub-group (a), and all the rest sub-group (b). In the latter sub-group is included the Kohistan cultivation in Ber Makan, the Nali valley and Gaj valley, etc.			
Rates:—			
<i>Both sub-groups—</i>			
Wells	2 0 Kharif lift of 1st group.	1 12	+ 0 4
Black water and hill-stream kharif and rabi.	1 12	Johi 1 10 Kakar. Nil.	+ 0 2
<i>Sub-group (a)—Barani kharif and rabi.</i>	1 0 and no remission.	Johi band barani rav san. 1 10 " bina rav. 1 4 Rel barani. 1 0 Kakar kharif 1 8 Rabi 2 8	- 0 10 - 0 4 Nil. - 0 8 - 1 8
<i>Sub-group (b)—Barani kharif and rabi.</i>	0 8 and no remission.	Johi band barani rav san. 1 10 " bina rav 1 4 Rel barani 1 0 Kakar kharif 1 8 Rabi 2 8	- 1 2 - 0 12 - 0 8 - 1 0 - 2 0
Dubari, all groups ...	Watered 1 8 Unwatered and hill-stream dubari. 0 8	0 4	+ 1 4
Kochas, all groups ...	¼ of bimoki.	0 4	+ 0 4
For rules relating to dubari, see rules 7 to 10, Appendix A.			

Reasons.

(1) *Grouping.*—If these rates be compared with those for Dadu and Sehwan talukas, it will be seen that the whole of Dadu has been put in a

1st group and the whole of irrigated Johi into a second group, an eight annas difference being fixed between the two scales of rates. This appears to be justified (i) by the greater remoteness of Johi taluka from the railway, (ii) by the character of the country and the smaller outturn of its crops, and (iii) by the poverty and indebtedness of the Johi zamindars.

- (ii) It is true that there is practically no difference in distance between the most easterly lands of Johi and the most westerly of Dadu. But the Nara lies between and as I have pointed out in paragraph 4, there are only two bridges in the taluka which are of much practical use during the greater part of the year. It has also been explained in paragraph 10 that the zamindars obtain a lower price for their grain in Johi than in Dadu, and if they send the grain to the railway themselves the cost of carriage is fairly considerable. The second reason has also been explained already in paragraph 9. The irrigated lands of Johi are exposed to floods from the Nara, the Manchhur and the chain of dhands and dhoro into which the Lohri wah tails and on the other hand to the rain floods from the Pat. The latter not only damage or destroy the kharif crops but wash down kalar into the irrigated lands, which injures the rabi and dubari crops and causes the land to deteriorate. These floods are so violent that the embankment of the Johi-Dadu road is usually breached by them in two or three places and in 1906 was entirely swept away. In the south bimoki suffers the same fate as the rice and the failure of the kharif crops is not adequately compensated by the increase of the sailabi cultivation. The lower lands often do not come out of the water in time to be cultivated, or if seed is sown the crops are of the thinnest and poorest description. The higher lands on the other hand are in danger of not receiving a sufficient sailab. After the high Manchhur floods and rain floods of the last few years, both high lands and low have become so overgrown with weeds and jungle that their cultivation is attended with great expense and difficulty and very large areas have this year remained altogether uncultivated. That the outturn of crops in this taluka is on the whole lower than in Dadu I have already endeavoured to explain.
- (iii) The poverty and indebtedness of the zamindars has also been discussed previously. Its effects have appeared perhaps most conspicuously in Dera Machi, Johi, Kur Jamik and Jampur where large areas of cultivable land have till now been left waste simply because the original owners were too poor to clear the disused karias.

I do not think there is any sufficient ground for attempting to split the irrigated dehs into two groups. Obviously if this were done one of the groups would have to be placed level with the Dadu groups, for the difference in rates could scarcely be less than 8 annas. But the three arguments I have adduced above seem to me to apply with equal force to all the irrigated dehs. Thariri Jado Shahid and Kot Bajo and Kur Faujo are free from floods it is true but none of them are really good dehs; indeed Kur Faujo is really a barani deh. In the other two there were complaints last year of a deficiency of water and Mr. Seymour had contemplated their reduction to class II when the guarantee expired. The cultivation in both has declined (in spite of the improvements made to the Lohri wah). Besides these two there are 5 others in which the kharif cultivation consists largely of bharkhi which is not much exposed to floods. But in 3 out of the 5 the rabi consists chiefly of bosi and sailabi and it is these which suffer most from the kalar.* And in all 3 remissions have been heavy. The 4th, Dabhri, is a Manchhur deh and most of its "lands" are usually under water. In Phulji the best parts of the deh are jagir land. The centre is flooded by the Lohri dhoro. The rest of the deh has improved, I think, since Mr. Seymour wrote, but its condition is not so superior that it should be put in higher class by itself.

*Because as they lie low the salt water drains into them.

Rates.—The reasons for fixing the rates in Dadu taluka are discussed in the report. If it is admitted that Johi should be in a lower class with an 8 annas difference, a detailed discussion of each rate is hardly necessary. The rice rate is no doubt low. But it is useless to fix a heavy rice rate in a taluka where a large proportion of the rice fields are swamps or lakes with more reeds than rice in them. Another reason for keeping the rate low is that in most parts of the taluka dubari is rare; perhaps because the lari rice ripens late and does not give much opportunity for dubari cultivation.

If the average outturn of rice in the poorer lands of Johi be not more than 25 kasas per acre, the zamindar's share at $\frac{1}{4}$ will be $12\frac{1}{2}$ kasas, and after the deduction of **rajkharch* $11\frac{1}{2}$ kasas, the value of which at Rs. 50 per kharar is Rs. 9-9. And in that case the assessment should not strictly be higher than Rs. 3-3. On the other hand if it be as much as 30 kasas, then where the zamindar's share is $\frac{1}{3}$, he will receive 15 kasas, or after the deduction of *rajkharch*, say 14 kasas. The value of this will be Rs. 11-10 and the assessment could then be Rs. 3-14. But in many cases he receives only $\frac{2}{3}$, i. e., 12 kasas. After deduction of *rajkharch* he will have 11 kasas, the value of which is about Rs. 9-3. And according to this the assessment should be Rs. 3-1. Thus the assessment proposed is certainly not too low for the taluka, and as a general rate it is probably about right.

The bimoki rate has been lowered except in the second class dehs, but as bimoki suffers from flooding as much as rice, this is justifiable. There is less reason for lowering the kharif charkhi rate, but it is impossible to keep charkhi rates high when the moki are being lowered. The new rates provide for an increase of at least 4 annas in all the rates of the 2nd class dehs. But as these dehs were under-assessed under the old rates the increase is perfectly justifiable. It is somewhat unusual to make rabi charkhi equal to sailabi madad charkhi. The reasons for doing so have been given in the Dadu report. They apply with even greater force to Johi where the rabi lift crops are the best in the taluka, superior to the sailabi madad charkhi of the Manchhur. In this taluka all sailabi lands of any kind are liable to be overgrown with weeds and even watered sailabi is comparatively precarious. The area of bosi madad charkhi is too insignificant to be considered. Of course under the definition of rabi charkhi given in No. 14 of my proposed rules for the administration of the settlement only the best rabi charkhi crops will be included. The inferior "charkhi bosi" crops which receive no water after sowing will now be classed as bosi.

Rabi moki is very rare in this taluka and has therefore been assessed at the same rate as bosi and sailabi with which it is very liable to be confused.

Many of the irrigated dehs also contain barani lands on their western side. In fact Berah and Kur Faujo and Dhori Kinri (Hilly Tract) are chiefly barani dehs, though as they occasionally have a few fields cultivated with Indus water it was necessary to include them in group I. In these barani lands the crops are very poor,—and they are in no respect superior to the dehs included in group III, sub-group B. The barani rate of the latter has therefore been extended to these 1st group dehs also. I propose to abolish the distinction between ahur and other crops on the Manchhur. The reason always given for the special ahur rates is that ahur is the crop sown in the last lands left bare by the lake in time for cultivation and that its outturn for this reason is exceedingly poor. No doubt this is very largely true, but not universally so. I have frequently found other unploughed crops such as wheat, barley and jambho sown on the verge of cultivation and their condition is in most cases at least as poor as that of ahur. Last year for instance there were acres of unploughed wheat and barley which bore no grain whatever. A uniform rate has therefore been proposed for all unploughed Manchhur dehs. There is even less reason to retain the special rate for ploughed ahur. No doubt even in ploughed lands ahur is often very bad because it is the crop most often sown on lands that are thickly covered with weeds and rushes. But this is rather a reason for reducing the rate on sailabi all-round than for maintaining a special rate on a particular crop. The fact is that all sailabi crops on the Manchhur are usually poor; jambho in particular is sometimes just as bad as ahur with which it is frequently mixed. And this has been taken into account in fixing the sailabi rate. With sailabi at $\frac{2}{3}$ there seems no justification for a Rs. 2 rate on ploughed ahur.

* Share given to the village work people, i. e., the carpenter, potter, &c.

Group II.

Remarks.—The 5 dehs in this group are those which are entitled to use the black water brought from the Nai Gaj through the Raj wah, which begins to flow in the autumn after the summer rains and continues at any rate until the middle of February. These dehs are thus provided with a cold weather supply which is equivalent to rabi moki and is at least as assured as in most irrigated dehs in the division. It is true that in 1905-06 there were no kharif rains and no cultivation on this black water is recorded, but it is also true that even in "Sind" no supply of water in rabi may be available if the inundation has been a bad one. The only expenses incurred are those of manuring the land and clearing the canal bed, and for the latter a clearance allowance of 3 annas has always been given, and this I propose to continue. The net assessment will therefore be only Rs. 2-13. The lands thus irrigated are able to grow very fair crops of wheat, saraha and tobacco, the last cultivated as usual by Hindu or Sikh haris. These facts might seem to justify a yet higher rate. Colonel Haig assessed these lands at Rs. 4. But the black water has one great defect which counterbalances many of its advantages. The water contains a good deal of salt and this is deposited over the fields irrigated by it and not only has a serious effect on the crops but causes the land to deteriorate. In kharif the fields are cultivated as band barani on the torrent water of the Nai Gaj, though the bunds are very small, and the fields are the same as those in which the black water rabi crops are cultivated. If the Nai Gaj flood comes down at the right time and in sufficient strength, the crops receive no other water. But if there is no late rain and the crops are in need of water, they are occasionally given one or two waterings in the autumn with black water. Clearly therefore it is impossible for a tapadar doing partial in November or October to say if a field has had two waterings with storm water or one with storm water and a later one with black water. It is impossible therefore to apply a kharif black water rate to these dehs—all kharif crops must be taken as band barani. On the other hand there is no reason to introduce the non-remissionable system proposed for class III, for in these dehs remissions are naturally scarce. There are sometimes a few numbers cultivated in rabi which receive no black water at all. These will be subject to the same rate as barani kharif. In purely barani lands there is no distinction in irrigational facilities between kharif and rabi, or at least if there is, it is slightly to the disadvantage of the rabi which depends chiefly on the kharif rainfall. I can therefore see no justification whatever for the higher rabi rate charged under the old Kakar settlement. As Mr. Seymour pointed out a distinction between barani rabi and kharif rates "is very much akin to a crop assessment." It is particularly absurd in Johi taluka, where it is almost impossible to distinguish between kharif and rabi crops (*vide* paragraph 9 (i)). Under the present system one may find in one number "kani" juar and jambho sown together and rated at Rs. 1-8 as kharif. In the next there is jambho only, sown perhaps at precisely the same time and this is assessed at Rs. 2-8 per acre as rabi.

In this group when there is any hill-stream dubari it has always been preceded by band barani in kharif. Now under my proposed rule 8 in appendix A if a field is cultivated in kharif with band barani and in rabi with hill-stream, the dubari crop will be charged the difference between the kharif assessment and the rabi+dubari assessment. The effect will be as follows:—In kharif the number will be charged with Rs. 1-8. In rabi it will be charged Rs. 3-0+8 annas—Rs. 1-8, *i. e.*, Rs. 2-0. Thus altogether the number will pay in both seasons Rs. 3-8 or 8 annas more than the rabi hill-stream alone. Of course if the dubari crop receives no black water at all, it counts as barani dubari and as such pays no dubari assessment according to rule 8.

Group III.

A single hill-stream and black water rate has been proposed for all dehs in this group. The rate will cover hill-streams in the south-west and the black water cultivation on the Nali and Nai Gaj valleys of the Kohistan. As regards the hill-streams the rate is a very slight advance on their present assessment in this taluka and is intermediate between kharif and rabi rates in

Sehwan taluka. If the average outturn could be judged by this year's kharif, it would be too high. But in fact the kharif crops in the Johi hill-stream dehs were destroyed by caterpillars and I have no doubt that in an ordinary year they could afford to pay Rs. 1-12. The outturn in Sehwan was much higher. But it would not be advisable, I think, to increase the rate any further. The streams are not very large and each field has to wait its turn for the water, *e. g.*, at Phadik each sharer only gets his water once in 12 days. Moreover a good deal of salt is brought on the land by the hill-stream. The cultivation up the Nai Gaj has the same source of irrigation as the rabi of group II, *i. e.*, the black water of the Gaj. But the fields are very remote from any market. And as some of them are on much higher ground than the river bed, water can only be brought to them from a point higher up the stream by means of aqueducts which are troublesome and perhaps expensive to erect, and are swept away whenever the Gaj comes down.

The cultivation in the Nali valley is also too remote to be included in group II. In Wahi Pandhi there is a little rabi cultivation on a stream of black water from the Nali. Its area is not usually large—only three numbers are cultivated this year. The supply is less certain than that of the Gaj. This year for instance the wahi was flowing less strongly than last and it was said to have ceased altogether for some time at the beginning of winter. I doubt whether the crops are superior in any way to that of the ordinary hill-stream and it does not therefore seem worth while to complicate the settlement with another special rate.

Lalhar, which is included in this group, is not one of the dehs which have a right to receive black water and all its rabi is sown on flood water only. But this year at any rate it happened that some of the Tor zamindars had water to spare and allowed a few of the rabi band barani fields in Lalhar near the border of Tor to be given a second watering with black water. This is certainly a very unusual event. It would not be fair to charge the 2nd group rate of Rs. 3 for fields which only get one or two chance waterings in this manner, and the 3rd group rate of Rs. 1-12 seems eminently suitable.

For all barani lands in this group, *i. e.*, those which receive no hill-stream water (including in that term the black water of the *nais*), I propose to abolish the *fasti* remission system entirely. The precarious nature of barani cultivation has already been described. Now as a really good season is almost an impossibility and a general failure of crops is the normal condition of things, it is not surprising that the Mukhtiyarkar receives every year an enormous number of remission petitions from the Kachho. And as there are usually heavy kharif remission on the Nara and Manchhur lands also, it is impossible for him to dispose of them all before the end of harvest. This year, for instance, although he began inspection in October and was to some extent assisted by the Head Munshi and the Mukhtiyarkar of Dadu, he had not finished the remission work before the end of January. This state of things obviously needs to be altered both in the interest of the zamindar and in that of the administration. For three or four months the Mukhtiyarkar is entirely occupied with this work and is unable to pay attention to any other, however important or urgent it may be. On the other hand the hari has to wait 3 or 4 months before he can touch his crop. Meantime any grain there may be is spoiled and the karbi also deteriorates. The hari is not interested in remissions and naturally he declines to wait, for even if there be no grain, yet he needs the karbi for his cattle; and so when the Mukhtiyarkar arrives he finds the crops reaped and refuses remission. It must be remembered also that even if the remission is allowed and the danabandi is accurate, yet the relief to the zamindar is small. For the Government share is calculated as being $\frac{1}{3}$ of the actual produce and this is all that the zamindar himself gets in many cases. Thus the best that he can hope for is to escape with nothing, neither loss nor gain; and such good fortune is rare.

For this reason I propose that in these dehs the remission system should be abolished altogether and the rate fixed so low that a single good crop will be able to pay for several bad ones.

In sub-group (a) the rate has been fixed at one rupee, in sub-group (b) at 8 annas per acre. The dehs included in the 1st sub-group are all irrigated by canals which take off from the Nai Gaj at a point near to the place where the Nai issues from the hills. At this point the main bed of the Nai is comparatively narrow and deep and the torrent has lost none of its original force. The canals thus receive a considerable volume of water which is entirely under control and is brought directly and easily on to the fields. In the case of Wahi Pandhi the canals take off the Nai Nali in a precisely similar manner. In consequence of this the crops in these dehs are decidedly better than in the other barani lands of the taluka; especially in rabi when the jambho and saraha cultivation is as a rule both more extensive and successful than elsewhere. Even in these dehs however cultivation depends on reasonable rainfall in the hills, and if no rain falls at the right time the crops must fail. It is true that remissions in these dehs have been much smaller than in those of the 2nd sub-group. But it does not always follow that if no petitions for remission are made, the crops must have been good. This year I saw several fields in this part of the taluka in which the crops had failed almost completely but the owners had made no petition. They explained that they had petitioned in past years and had never gained any advantage by doing so and they had therefore given up all idea of obtaining remission. Moreover these canals cost a good deal to clear and maintain in good order. I have left deh Pai in the (b) sub-group in spite of its canals, because the crops are unusually inferior to those of the dehs in sub-group (a), possibly on account of the stoniness of the ground. It has also very little rabi cultivation. Deh Ketu Navi has also been left in sub-group (b) because much of its cultivation is in unsurveyed ground in the bed of the Gaj and this is usually very poor. I do not think one rupee will be too heavy even without remissions for the sub-group (a). These dehs have contained practically no rel barani* or band barani bina-rav† in the past 5 years, so that the decrease in rate is considerable. I performed a crop experiment on a fairly typical field of jambho in Haji Khan, of which about 3 acres produced little or nothing and 2 acres 15 guntas produced a very fair crop, i. e., at the rate of 14½ kisas per acre. The 3 acres might altogether have produced 1 kasa. In that case the zamindar's share of the whole produce at ⅓ worked out to Rs. 21-8, taking the rate of jambho as Rs. 95 per kharar which is lower than its present price. The assessment on the cultivated area at 1 rupee would have been Rs. 5-7. Even if his share had only been ⅓ his net assets would still have been Rs. 16-1 anna. No difference has been fixed between rel and band barani. In the first place rel barani, if less productive than band barani, is also much less expensive. And when band barani is assessed at 8 annas, it is impossible to fix a separate rate for rel barani. In the one rupee dehs rel barani is very rare. Again the bands are often swept away by hill floods and only small portions left and yet under the present system the field still has to pay the band barani rate. It is however very difficult to decide whether the surviving part of the band has any effect in holding the water on the field or not. Such a matter cannot be left to the discretion of the tapadar, and if the Mukhtiarkar has to examine every broken band in the taluka all the advantage gained by the abolition of remissions would be lost.

Financial results.

16 & 17.—According to Appendix XIV the proposed settlement in the surveyed lands (including dubari cultivation) will produce an annual revenue of Rs. 1,10,143 as compared with Rs. 1,31,000 under the current settlement. There is thus a decrease of 15.92 per cent. This decrease is, on the two barani groups alone. On the first (i. e., the irrigational group) there is an increase of 3.92 per cent, exclusive of dubari. But in Appendix XIV I have been obliged to take all the sailabi as assessed at the full rate, because there is no record to show the area of unploughed sailabi on the Manchhur except in the case of abur. But by making a rough guess at the proportion of unploughed to ploughed sailabi in each of the Manchhur dehs, I have calculated that if the Rs. 1-8 rate proposed for unploughed sailabi in these dehs is sanctioned, the result given in Appendix XIV is too much by Rs. 2,909, i. e., the settlement will produce an annual revenue of Rs. 1,07,334 only (inclusive of dubari). Similarly if allowance is made for the existing special rates on unploughed abur and

* Barani cultivation without bands.

† I. e., which receives no hill torrent.

ploughed abur, the result of the current settlement is only Rs. 1,28,503. The decrease will therefore be 16.55 per cent. on the whole taluka, while in the 1st group there will be an increase of 3.56 per cent. In the 2nd group there is a decrease of 3.1 per cent. only. In sub-group (a) of the 3rd group the decrease is 38.64 per cent., and in the (b) sub-group it is as much as 66 per cent. In most of the dehs of this latter sub-group the decrease is between 60 and 70 per cent. It is highest in the old Kakar dehs on account of the high rate formerly charged for rabi barani. Of course this decrease is very large, but for the reasons I have given before I do not think it is excessive. It must be remembered that under the old settlement in most years a considerable amount of land revenue was never recovered. Moreover I believe that $\frac{1}{10}$ of the assessment on irrigated lands in Sind is credited to the Public Works Department as an irrigation charge and only $\frac{1}{10}$ is credited to land revenue as a charge on land. According to this proportion the assessment on barani lands, which owe nothing to the services of the irrigation department, should not be much higher than $\frac{1}{10}$ of the highest rate for irrigated lands.

Appendix XVI shows the result of the proposed settlement as compared with the current one after the assessment on unsurveyed lands has been included. The estimated annual revenue will be Rs. 1,10,742 as compared with Rs. 1,31,874 under the old; when the deductions for the unploughed sailabi are made, the net result of the proposed settlement will be Rs. 1,07,833 as compared with Rs. 1,29,377 and the net decrease 16.65 per cent. These calculations are all based on the average cultivation of the past five years but, owing to the uncertainty of cultivation on the Manchhur and barani dehs, there is very little guarantee that the cultivation area in the next 10 years will be even approximately the same as it has been in the past.

18. The average rate under each kind of irrigation both in the existing and proposed settlements is shown in Appendix XIV. There is an increase of 9 annas on rice and of Rs. 1-3 on rabi lift, 2 annas on kharif hill-streams, and 1 anna on rabi hill-streams. There is a decrease of 3 annas in himoki, wells, sailabi and sailabi + lift; 2 annas on kharif lift, flow aided by lift, bosi and bosi sided by lift; 13 annas on kharif barani and one rupee on rabi barani.

GENERAL REMARKS.

19. A vernacular notification showing the proposed rates and grouping has been forwarded to the Collector for publication as is required by Government Resolution No 517, dated the 21st January 1897.

Guarantee.—I recommend that the settlement be guaranteed for a period of 10 years as is usual in Sind.

Changes of name in dehs.—The following changes appear to be required in the names of the dehs.

No.	Old name.	New name.	Reasons.
I	Tori Barani (Tapo Thariri Jado Shahid).	Tori Mathin...	The present similarity in the names of these two dehs is confusing, and the only distinction made between them, <i>i.e.</i> , the addition of Barani in the case of the northern deh, is a false one. Both dehs are entirely barani. On the other hand Tori Barani contains no village from which a new name could be obtained and in the southern Tori the only village of any size is Tori itself. Neither deh is ever known by any other name and it seems inexpedient to invent a new and artificial name for either. The suggested additions will serve to distinguish them as well as the 2. Drigha.
	Tori (Tapo Pir Gaji).	Tori Hethin...	

No.	Old name.	New name.	Reason.
II	Hilly Tract ...	Dhori Kinri...	Why this deh was ever given an English name I cannot imagine. At present it is a perpetual stumbling block to tapadars, etc., and when known at all is usually pronounced in some quite unrecognisable fashion. There seems to be no existing name which covers the whole area and I could find no <i>makan</i> * name for the biggest piece of cultivation in it. But this piece is watered by a small <i>nai</i> called the Dhori Kinri and I have therefore taken this name for the deh. The only other cultivation is a very small piece on the border of Shah Hasan.
III	Patori ...	Baghiari ...	There is a neighbouring deh called Patoro, the oblique case of which in Sindhi is Patore. This in Arabic characters is written exactly the same as Patori. At present Patori is not cultivated, but if ever it were this might cause confusion. Baghiari is said to be the name of an old <i>makan</i> in this deh in which there was once a little cultivation.

* Before the introduction of dehs the cultivated parts of the taluks were divided into tracts called *makans* each with its separate name.

Certain rules for the administration of this settlement are given in an extra appendix A.

A list of *karias* and the rebate recommended on each is also appended. No change in the rates of rebate is proposed.

I would suggest that unsurveyed field which lies at the mouth of the Haleli Nai just beyond the borders of Tok Kasim should be formally brought within the deh limits. It is only a few yards beyond the border, and I know no reason why it should have been left outside it. At present it is not in any deh at all.

The following are the accompaniments to the report :—

Map showing the proposed groupings,
Irrigational map
Appendices III to XVI,
Appendix A.

I have the honour to be,
Sir,

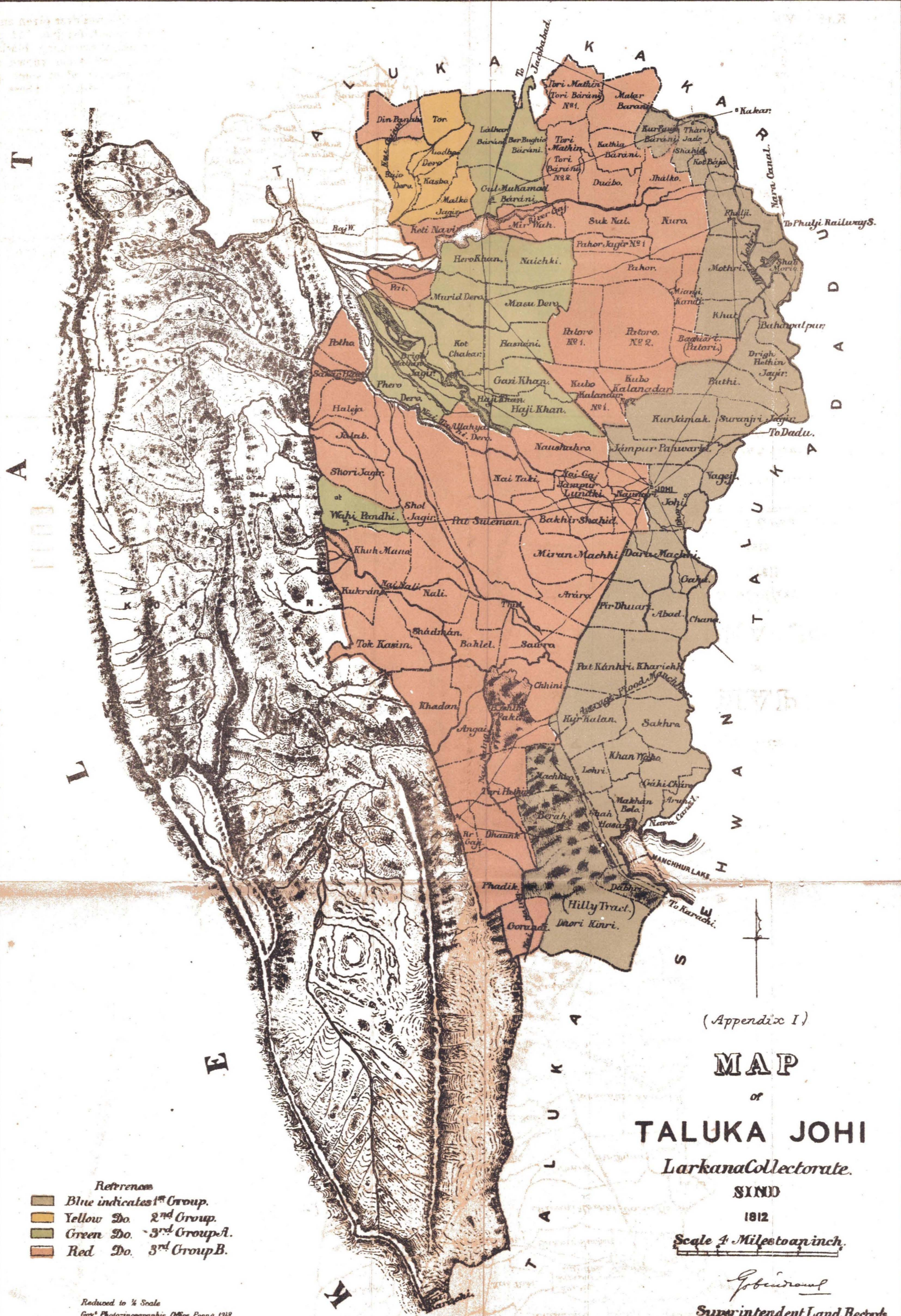
Your most obedient Servant,

S. H. COVERNTON,

Settlement Officer, Sehwan.

Through

The Collector of Larkana.



- References**
- Blue indicates 1st Group.
 - Yellow Do. 2nd Group.
 - Green Do. 3rd Group A.
 - Red Do. 3rd Group B.

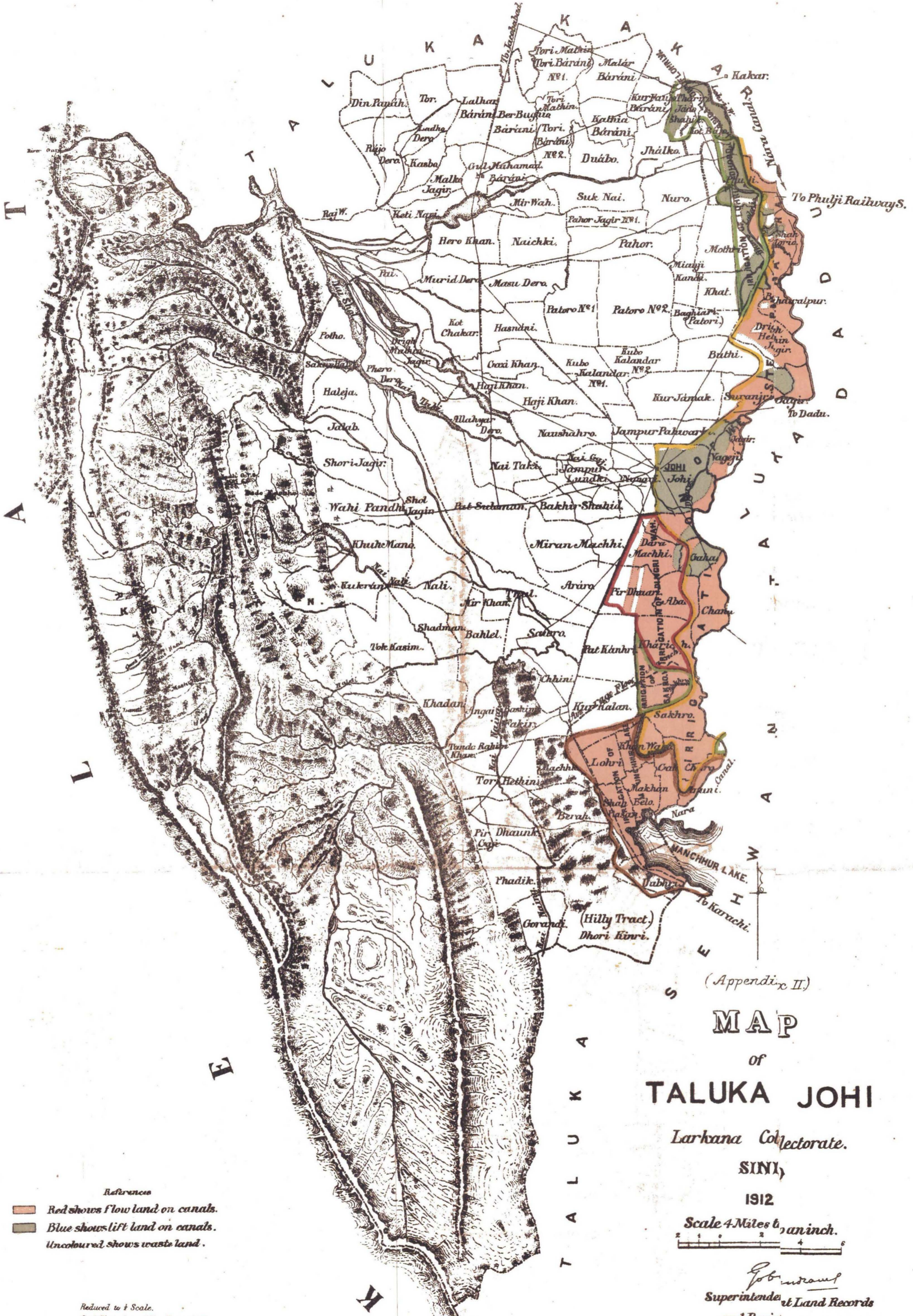
(Appendix I)

MAP
 of
TALUKA JOHI
 Larkana Collectorate.
 SIND
 1912

Scale 4 Miles to an inch.

Gobindram
 Superintendent Land Records
 and Registration in Sind.

Reduced to 1/4 Scale
 Govt. Photozincographic Office, Poona, 1912



(Appendix II)

MAP of TALUKA JOHI

Larkana Collectorate.
SINDH
1912

Scale 4 Miles to an inch.

Gobindram
Superintendent of Land Records
and Registration in Sindh.

References
 Red shows flow land on canals.
 Blue shows lift land on canals.
 Uncoloured shows waste land.

Reduced to 1/4 Scale.
Govt. Photozoo. Office, Poona, 1912.

APPENDIX III.

LIST of villages under the present irrigational settlement of the Johi taluka of Larkana district.

No.	Names of villages.	No.	Names of villages.
	<i>1st group.</i>		<i>2nd group—contd.</i>
1	Shah Morio.	46	Khuh Mano.
2	Bahawalpur.	47	Nali.
3	Drigh Hethin Jagir.	48	Thul.
4	Johi.	49	Araro.
5	Dara Machi.	50	Miran Machhi.
6	Gaba.	51	Bakhir Shahid.
7	Chana.	52	Naunari.
8	Abad.	53	Jampur Lundki.
9	Kharich.	54	Naushahro.
10	Sakhro.	55	Nai Taki.
11	Khanwah.	56	Pat Suleman.
12	Gahichoro.	57	Shol Jagir (unsurveyed).
13	Aruni.	58	Wahi Pandhi.
14	Makhan Belo.	59	Shori Jagir (unsurveyed).
15	Lohri.	60	Jolah.
16	Shah Hassan.	61	Halejo.
17	Dabhri.	62	Sakar Halejo (unsurveyed).
	<i>2nd group.</i>	63	Potho.
18	Phulji.	64	Pherodero.
19	Mothiri.	65	Drigh Mathin Jagir (unsurveyed).
20	Khat.	66	Allahyardero.
21	Buthi.	67	Haji Khan.
22	Kur Jamik.	68	Gaji Khan.
23	Surangri Jagir.	69	Kubo Kalandar.
24	Jampur Pawharki.	70	Patori.
25	Vageji.	71	Mianji Kandi.
26	Per Dhoari.	72	Patoro.
27	Kur Kalan.	73	Hasnani.
28	Machhko.	74	Kot Chakar.
	<i>Barani.</i>	75	Pai.
29	Berah.	76	Hairo Khan.
30	Hilly Tract (unsurveyed).	77	Muriddero.
31	Gorandi.	78	Masudero.
32	Phadik.	79	Naichki.
33	Wahi Pir Gaji.	80	Mirwah.
34	Dhaunk.	81	Suk Nai.
35	Tori.	82	Pohor (unsurveyed).
36	Angai.	83	Nuro.
37	Basham Fakir.	84	Jhalko.
38	Chhini.	85	Duabo.
39	Pat Kanhiri.		Dehs transferred, from the Kakar taluka group II, Kakar settlement.
40	Sawiro.		<i>Barani dehs.</i>
41	Bahlel Shah.	86	Tor.
42	Shadman.	87	Ladhodero.
43	Khadani.	88	Rajodero.
44	Tok Kasim.	89	Kasbo.
45	Kukrani.	90	Malko Jagir (unsurveyed).
		91	Lalhar Barani.

No.	Names of villages.	No.	Name of villages.
	<i>3rd group.</i>		<i>3rd group—contd.</i>
	Kakar settlement dependent upon canals.	95	Malar Barani.
92	Kot Bajo.	96	Kachia Barani.
93	Thariri Jado Shahid. <i>Barani.</i>	97	Tori Barani.
		98	Ber Bughio Barani.
		99	Gul Muhammad Barani.
94	Kur Fojo.	100	Keti Navi.
		101	Din Panah.

APPENDIX III-A.

List of villages under the proposed irrigational settlement of the Johi taluka of Larkana district.

No.	Name of deh.	No.	Name of deh.
	<i>1st group.</i>		<i>2nd group.</i>
1	Dabhri.	35	Rajodero.
2	Shah Hassan.	36	Kasbo.
3	Lohri.	37	Tor.
4	Khanwah.	38	Ladhodero.
5	Makhan Belo.	39	Malko Jagir.
6	Gahi Charo.		<i>3rd group—A.</i>
7	Aruni.		
8	Sakro.	40	Hairo Khan.
9	Abad.	41	Muriddero.
10	Kharich.	42	Masudero.
11	Chana.	43	Pat Gul Muhammad.
12	Gaha.	44	Naichki.
13	Dara Machi.	45	Ber Bughio.
14	Johi.	46	Lalhar.
15	Shah Morio.	47	Chakar Kot.
16	Bahawalpur.	48	Pherodero.
17	Thariri Jado-Shahid.	49	Gazi Khan.
18	Kot Bajo.	50	Haji Khan.
19	Pir Dhuari.	51	Wahi Pandhi.
20	Vageji.	52	Drigh Mathin Jagir.
21	Jampur Panhwarki.	53	Hasnani.
22	Kur Jamik.		<i>3rd group—B.</i>
23	Buthi.		
24	Khat.	54	Naunari.
25	Mothiri.	55	Baghiari (Patori).
26	Phulji.	56	Mianji Kandi.
27	Kur Kalan.	57	Nuro.
28	Maohhko.	58	Jhalko.
29	Berah.	59	Duabo.
30	Dhori Kinri, (hilly tract).	60	Suk Naio.
31	Kur Faujo.	61	Fahor.
32	Drigh Hethin Jagir.	62	Malar Barani.
33	Saranjri Jagir.		
34	Pat Kanhiri.		

No.	Name of deh.	No.	Name of deh.
<i>3rd group-B—contd.</i>		<i>3rd group-B— contd.</i>	
63	Kathia Barani.	85	Pat Suleman.
64	Tori Mathin (Tori Barani).	86	Thul.
65	Din Panah.	87	Chhini.
66	Mirwah.	88	Sawro.
67	Patoro.	89	Bahlil Shah.
68	Keti Nai.	90	Shadman.
69	Kubo Kalandar.	91	Tok Kasim.
70	Allahyardero.	92	Khandani.
71	Naushahro.	93	Angai.
72	Nai Taki.	94	Basham Fakir.
73	Pai.	95	Tori (Hethin).
74	Haleja.	96	Pir Gaji Shah.
75	Sakar Haliyo.	97	Phadak.
76	Potho.	98	Dhaunk.
77	Jalab.	99	Gorandi.
78	Khuh Mono.	100	Shol Jagir.
79	Nali.	101	Shori Jagir.
80	Kukrani.	102	Unsurveyed cultivation in the
81	Araro.		Kohistan, & c.
82	Miran Machi.	(i)	Nai Gaj Valley.
83	Jampur Landki.	(ii)	Nali Valley.
84	Bakhr Shahid.	(iii)	Ber Makan.

APPENDIX IV.

STATEMENT showing the details of population in taluka Johi.

Taluka.	Religion.	Males.	Females.	TOTAL.
Johi ...	Hindus ...	3,401	2,678	6,079
	Mahammadans ...	24,435	20,627	45,062
	Others ...	37	40	77
	TOTAL ...	27,873	23,345	51,218

APPENDIX V.

STATEMENT showing the occupation of the people in taluka Johi.

Taluka.	No. of surveyed villages.	Occupation.	NUMBER.	
			No.	Percent.
Johi ...	101	Agricultural ...	25,507	49·84
		Partly agricultural ...	9,640	18·82
		Non-agricultural ...	16,051	31·34
		TOTAL ...	51,218	10·0

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX VI.

STATEMENT showing sales in taluka Johi.

Year.	Class.	No. of cases.	Area.	Total sum for which sold.		Sale rate per acre.	Total assessment.	Average rate per acre.
				Rs. a.	Rs. a.			
1898-99.	A.—By agriculturists to non-agriculturists...	86	1,691 4	43,269 4	25 12	3,362 8	2 0	
	B.—By non-agriculturists to agriculturists...	15	433 5	8,617 0	19 14	866 4	2 0	
	C.—Between agriculturists ...	25	632 30	6,614 0	10 7	1,265 8	2 0	
	D.—Between non-agriculturists ...	6	63 7	1,440 0	22 11	126 8	2 0	
1899-1900.	A.—By agriculturists to non-agriculturists...	61	851 32	89,835 12	46 12	1,708 10	2 0	
	B.—By non-agriculturists to agriculturists...	5	84 26	1,884 12	29 2	129 5	2 0	
	C.—Between agriculturists ...	17	155 13	4,049 2	26 1	310 10	2 0	
	D.—Between non-agriculturists ...	9	118 4	2,938 0	24 14	236 3	2 0	
1900-01.	A.—By agriculturists to non-agriculturists...	68	1,000 16	32,376 4	32 6	2,000 12	2 0	
	B.—By non-agriculturists to agriculturists...	1	7 8	175 0	24 5	14 6	2 0	
	C.—Between agriculturists ...	8	88 10	3,376 6	38 0	172 8	2 0	
	D.—Between non-agriculturists ...	6	707 30	2,810 0	4 0	1,415 8	2 0	
1901-02.	A.—By agriculturists to non-agriculturists...	54	765 4	25,324 10	33 2	1,530 8	2 0	
	B.—By non-agriculturists to agriculturists...	11	143 39	3,371 0	24 0	297 15	2 0	
	C.—Between agriculturists ...	14	192 4	3,466 0	18 2	334 2	2 0	
	D.—Between non-agriculturists ...	7	84 0	2,995 0	35 10	168 0	2 0	
1902-03.	A.—By agriculturists to non-agriculturists...	50	1,116 24	26,771 10	24 0	2,238 3	2 0	
	B.—By non-agriculturists to agriculturists...	16	192 9	5,777 12	30 1	384 7	2 0	
	C.—Between agriculturists ...	29	400 17	6,616 0	16 8	90 14	2 0	
	D.—Between non-agriculturists ...	12	193 22	10,575 8	54 10	337 2	2 0	
1903-04.	A.—By agriculturists to non-agriculturists...	40	854 32	16,154 8	42 0	769 10	2 0	
	B.—By non-agriculturists to agriculturists...	32	329 22	11,135 4	33 12	659 2	2 0	
	C.—Between agriculturists ...	27	204 31	6,908 0	33 1	409 9	2 0	
	D.—Between non-agriculturists ...	17	380 33	18,161 0	47 11	761 10	2 0	
1904-05.	A.—By agriculturists to non-agriculturists...	51	1,032 15	21,924 7	21 4	2,064 12	2 0	
	B.—By non-agriculturists to agriculturists...	23	456 34	9,658 0	21 3	913 11	2 0	
	C.—Between agriculturists ...	29	305 4	7,760 0	25 12	610 3	2 0	
	D.—Between non-agriculturists ...	6	180 33	1,972 12	10 14	361 14	2 0	
1905-06.	A.—By agriculturists to non-agriculturists...	32	466 6	18,816 12	28 7	972 5	2 0	
	B.—By non-agriculturists to agriculturists...	13	179 29	5,112 8	28 7	359 7	2 0	
	C.—Between agriculturists ...	21	295 2	7,329 4	24 13	590 2	2 0	
	D.—Between non-agriculturists ...	12	331 6	7,414 0	22 6	662 5	2 0	
1906-07.	A.—By agriculturists to non-agriculturists...	28	421 2	11,899 7	28 5	642 2	2 0	
	B.—By non-agriculturists to agriculturists...	19	307 0	7,184 0	23 6	614 0	2 0	
	C.—Between agriculturists ...	34	225 4	6,266 9	27 13	450 8	2 0	
	D.—Between non-agriculturists ...	6	84 29	2,102 5	22 3	189 7	2 0	
1907-08.	A.—By agriculturists to non-agriculturists...	42	768 2	13,859 12	18 1	1,536 2	2 0	
	B.—By non-agriculturists to agriculturists...	31	617 37	8,153 2	13 3	1,235 14	2 0	
	C.—Between agriculturists ...	68	591 14	16,735 0	28 5	1,182 11	2 0	
	D.—Between non-agriculturists ...	14	245 20	4,394 0	17 11	487 0	2 0	

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX VII.

STATEMENT of sub-letting in Johi taluka.

Year.	Class.	No. of Cases.	Total number of acres.	Sum for which sub-let.	Rate per acre.		Total assessment.	Average rate of assessment per acre.
					Rs. a.	Rs. a.		
			A. g.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	
1898.	A.—By agriculturists to non-agriculturists ...	4	123 4	726 3	5 15	246 3	2 0	
1899.	B.—By non-agriculturists to agriculturists ...	8	1,112 35	9,750 0	8 12	2,225 4	2 0	
	C.—Between agriculturists ...	8	1,525 0	11,650 0	7 12	3,050 0	2 0	
	D.—Between non-agriculturists ...	...	...	...	...	...	2 0	
1899.	A.—By agriculturists to non-agriculturists ...	5	366 33	1,493 4	4 1	733 10	2 0	
1900.	B.—By non-agriculturists to agriculturists ...	0	...	...	...	...	...
	C.—Between agriculturists ...	1	381 20	150 0	0 6	763 0	2 0	
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1900-01.	A.—By agriculturists to non-agriculturists ...	20	19,074 14	13,527 7	0 11	33,148 11	2 0	
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1901-02.	A.—By agriculturists to non-agriculturists ...	16	1,480 25	8,599 0	5 13	2,961 4	2 0	
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	1	329 0	690 0	2 2	658 0	2 0	
1902-03.	A.—By agriculturists to non-agriculturists ...	11	2,931 12	4,509 0	1 14	5,862 10	2 0	
	B.—By non-agriculturists to agriculturists ...	6	5,400 18	13,915 0	2 13	10,000 14	2 0	
	C.—Between agriculturists ...	2	779 32	970 0	1 4	1,559 10	2 0	
	D.—Between non-agriculturists ...	7	939 27	2,936 10	3 2	1,879 6	2 0	
1903-04.	A.—By agriculturists to non-agriculturists ...	7	179 10	2,437 4	13 10	358 8	2 0	
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	1	376 25	90 0	0 4	753 4	2 0	
	D.—Between non-agriculturists ...	1	49 15	167 0	3 6	93 12	2 0	
1904-05.	A.—By agriculturists to non-agriculturists ...	2	37 3	200 0	5 6	74 2	2 0	
	B.—By non-agriculturists to agriculturists ...	1	75 2	388 10	5 3	150 2	2 0	
	C.—Between agriculturists ...	1	53 20	200 0	3 12	107 0	2 0	
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1905-06.	A.—By agriculturists to non-agriculturists ...	...	...	...	...	...	...
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1906-07.	A.—By agriculturists to non-agriculturists ...	7	2,151 36	2,310 0	1 1	4,303 12	2 0	
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	...	...	...	...	...	...
	D.—Between non-agriculturists ...	...	...	...	...	...	...
1907-08.	A.—By agriculturists to non-agriculturists ...	22	2,556 34	6,385 0	2 11	5,113 11	2 0	
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...
	C.—Between agriculturists ...	4	132 32	1,140 0	6 4	365 10	2 0	
	D.—Between non-agriculturists ...	2	79 35	900 0	11 4	159 12	2 0	

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX VIII.

STATEMENT showing mortgages in Johi taluka.

Year.	Class.	No. of cases.	Total number of acres.		Sum for which mortgaged.		Mortgage rate per acre.		Total assessment.		Average rate per acre.	
			A.	B.	Rs.	a.	Rs.	a.	Rs.	a.	Rs.	a.
1898-1899.	A.—By agriculturists to non-agriculturists ...	63	4,298	17	39,879	4	9	4	6,596	14	2	0
	B.—By non-agriculturists to agriculturists ...	2	32	30	1,233	4	37	11	65	8	2	0
	C.—Between agriculturists ...	6	105	23	2,802	0	26	9	211	2	2	0
	D.—Between non-agriculturists ...	5	50	26	1,568	0	30	13	101	5	2	0
1899-1900.	A.—By agriculturists to non-agriculturists ...	47	1,311	15	14,343	2	10	15	26,22	12	2	0
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...	...	...	...	2	0
	C.—Between agriculturists ...	12	90	23	2,139	0	23	10	181	2	2	0
	D.—Between non-agriculturists ...	6	272	20	17,896	14	35	11	345	0	2	0
1900-01.	A.—By agriculturists to non-agriculturists ...	52	3,207	13	30,089	13	3	11	16,414	10	2	0
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...	...	...	...	2	0
	C.—Between agriculturists ...	7	145	30	1,847	0	11	5	291	8	2	0
	D.—Between non-agriculturists ...	7	119	24	2,211	0	18	9	239	5	2	0
1901-02.	A.—By agriculturists to non-agriculturists ...	7	159	21	2,180	0	12	14	339	1	2	0
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...	...	...	...	...	...
	C.—Between agriculturists ...	1	23	28	275	0	11	10	47	6	2	0
	D.—Between non-agriculturists ...	2	143	15	340	0	2	5	292	12	2	0
1902-03.	A.—By agriculturists to non-agriculturists ...	10	769	23	4,573	0	5	15	1,539	6	2	0
	B.—By non-agriculturists to agriculturists ...	3	36	33	480	0	13	0	73	14	2	0
	C.—Between agriculturists ...	2	21	32	375	0	17	3	43	10	2	0
	D.—Between non-agriculturists ...	1	11	5	199	0	17	14	22	4	2	0
1903-04.	A.—By agriculturists to non-agriculturists ...	7	551	23	2,454	8	4	7	1,108	2	2	0
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...	...	...	...	...	...
	C.—Between agriculturists ...	1	11	5	152	0	13	11	22	4	2	0
	D.—Between non-agriculturists ...	...	...	...	...	...	...	...	...	...	...	...
1904-05.	A.—By agriculturists to non-agriculturists ...	4	354	4	4,226	0	11	15	708	3	2	0
	B.—By non-agriculturists to agriculturists ...	1	3	15	260	0	29	14	16	12	2	0
	C.—Between agriculturists ...	3	74	0	1,153	0	15	9	143	0	2	0
	D.—Between non-agriculturists ...	1	49	20	600	0	12	2	59	0	2	0
1905-06.	A.—By agriculturists to non-agriculturists ...	15	657	20	5,022	8	7	10	1,315	0	2	0
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...	...	...	...	2	0
	C.—Between agriculturists ...	3	26	5	523	0	20	0	52	4	2	0
	D.—Between non-agriculturists ...	1	57	35	2,200	0	33	0	115	12	2	0
1906-07.	A.—By agriculturists to non-agriculturists ...	16	3,376	31	7,411	8	2	3	6,753	9	2	0
	B.—By non-agriculturists to agriculturists ...	...	...	...	...	...	...	...	...	...	...	...
	C.—Between agriculturists ...	4	29	23	576	0	19	5	59	6	2	0
	D.—Between non-agriculturists ...	4	173	0	1,720	0	9	15	343	0	2	0
1907-08.	A.—By agriculturists to non-agriculturists ...	23	1,413	14	6,355	0	4	13	2,336	11	2	0
	B.—By non-agriculturists to agriculturists ...	1	40	15	400	0	9	15	80	12	2	0
	C.—Between agriculturists ...	7	299	7	1,717	0	5	12	593	6	2	0
	D.—Between non-agriculturists ...	1	74	17	672	0	9	1	143	14	2	0

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX IX.

STATEMENT of agricultural stock in Johi taluka of the Larkana district.

FROUSE CATTLE.		BULLS FOR BREEDING PURPOSES ONLY.		OXEN AND HE-BUFFALOES USED FOR OTHER PURPOSES.		MILK CATTLE.		YOUNG STOCK.		FROUSE.										CARR.		REMARKS.	
Oxen.	He-buffaloes.	Bulls.	He-buffaloes.	Oxen.	He-buffaloes.	Cows.	She-buffaloes.	Calves.	Buffalo calves.	TOTAL ON COLS. 1 to 10.	Horses.	Ponies.	Mules.	Donkeys.	Sheep.	Goats.	Camels.	Small.	Large.	Riding carts.	Carts used for carrying loads.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		23
0001	...	192	36	584	70	6687	200	5198	426	25,558	1179	60	18	1,042	10,231	22,256	2,554	4,974	...	...	199	...	These figures were obtained by the tapedar after a special enquiry for the purposes of this settlement. But their opportunities for finding out the true figures are very limited. The figures in columns 4 & 5 at any rate are probably much too low.

APPENDIX X.

STATEMENT showing wells in Johi taluka.

Year.	No. of villages.	NO. OF WELLS USED FOR DRINKING.		NO. OF WELLS USED FOR IRRIGATION.		TOTAL.	AREA OF CULTIVATION UNDER WELLS ALONE OR AIDED BY WELLS.		
		In use.	Disused.	In use.	Disused.		On wells alone.	Aided by wells.	
1898-99	...	20	47	...	9	...	56	...	56 10
1899-00	...	20	47	...	9	...	36	15 16	50 25
1900-01	...	20	49	...	7	...	56	39 5	...
1901-02	...	20	51	...	5	...	56	27 35	...
1902-03	...	20	50	...	7	...	57	48 20	...
1903-04	...	20	52	...	6	...	58	25 20	...
1904-05	...	21	49	...	12	...	61	46 1	...
1905-06	...	24	53	...	14	...	67	18 6	34 30
1906-07	...	24	59	...	10	...	69	34 5	7 25
1907-08	...	24	64	...	6	...	70	3 0	10 26
TOTAL...		521	...	85	...	606	257 28	159 36	

S. H. COVERTON,
Settlement Officer, Sehwan.

APPENDIX XI.

STATEMENT of crops in the Johi taluka (average of the last 5 years) from 1903-1904 to 1907-08.

Kind of crop.	Yearly cultivated area.					Total.	Average.	Percentage.
	1903-1904.	1904-1905.	1905-1906.	1906-1907.	1907-1908.			
<i>Kharif</i>	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	A. G.	
Juar ...	36,768 16	5,951 25	10,243 6	34,035 3	47,361 17	1,34,358 27	26,871 29	45.99
Bajri ...	828 19	443 39	624 22	951 31	1,154 27	4,008 18	800 28	1.37
Rice ...	5,101 1	7,393 15	7,723 0	10,573 0	11,189 0	41,979 16	8,395 35	14.36
Other grains ...	6 16	35 6	27 16	57 17	69 12	215 26	43 5	0.07
Pulses ...	151 7	53 32	8 27	101 17	267 14	582 17	116 19	0.19
Gardens and vegetable products.	44 14	33 29	34 1	81 21	34 28	228 13	45 27	0.9
Condiments and spices.	0 10	0 1	4 11	4 16	...	6 38	1 32	...
Sugar-cane ...	...	...	...	...	...	...	...	...
Sesame (tir) ...	2,643 16	138 34	117 3	577 27	2,352 8	5,829 8	1,165 33	1.99
Cotton ...	6 21	54 21	288 29	773 14	232 17	855 22	171 4	0.29
Fibres ...	0 16	0 26	1 25	0 10	1 9	4 6	0 33	...
Other kinds ...	0 3	0 3	0 10	...	...	0 16	0 3	...
Total ...	45,550 19	14,105 30	19,071 30	4,665 5	62,682 7	1,88,066 2	37,613 8	64.35
<i>Rabi.</i>								
Wheat ...	8,672 31	7,958 39	8,165 17	6,400 1	3,206 32	32,403 30	6,880 30	11.77
Barley ...	109 28	115 7	244 9	335 0	135 33	942 37	188 23	0.32
Pulses ...	30 21	35 16	43 18	128 39	152 26	381 0	76 8	0.13
Garden produce ...	5 47	4 20	6 18	187 36	9 31	214 32	49 38	0.07
Tobacco ...	76 28	37 20	9 16	97 16	111 26	332 26	66 21	0.13
Indian hemp, drugs and narcotics.	...	...	...	...	...	...	...	...
Condiments and spices.	34 34	46 18	75 38	192 32	38 13	388 15	77 27	0.13
Staraches ...	0 1	46 9	1 10	0 17	0 88	48 35	9 31	0.02
Jambho ...	2,659 14	2,417 13	4,110 29	16,107 26	6,299 11	31,594 18	6,318 35	10.81
Sarih ...	428 7	1,191 21	376 38	3,555 10	1,460 2	7,031 38	1,406 16	2.41
Other kinds of oil-seeds	3,896 39	3,053 38	8,139 3	7,632 0	5,129 24	27,913 34	5,582 29	9.57
Other kinds of dyes.	...	...	...	...	...	...	...	...
Miscellaneous ...	...	...	7 10	6 4	...	13 14	2 27	...
Juar ...	482 5	17 3	12 24	326 38	25 13	863 38	172 32	*0.30
Bajri ...	2 11	...	...	1 2	...	3 13	0 27	*...
Total ...	16,389 6	14,939 14	21,192 30	35,041 16	16,570 9	1,04,122 35	20,826 24	35.65
GRAND TOTAL ...	61,939 25	29,045 4	40,264 20	81,697 12	79,252 16	2,92,188 37	58,439 32	100

* These appear to be due to the difficulty of distinguishing rabi and kharif barani crops referred to in the report. There is no true winter juar in this taluka.

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX XII.

STATEMENT showing area of cultivated land (excluding jagirs and forests and including irrigation, during the two quinquennial periods

Name of Sah.	Year.	GANDRES.		KHARIF.											
				RION.		OVERS SLOW.		LIVE.		LIVE AIDED BY SLOW.		BARAST.		HILL STRANDS.	
				Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
1st group.		A. G.	Rs. a.	A.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A.	Rs.
Dahri	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	8 28	11 3	...	...	118 4	355 1	...	...	30 27	48 14	...	...
Shah Hasan	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	1 9	8 11	7 25	21 9	67 25	107 15	1 3	2 11	11 20	17 15	...	...
Lohri	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Khanwah	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	67 24	164 6	...	...	...	...	...	...	...	...	...	...
Makhan-Selo	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gahi Choro	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	697 29	2,008 7	80 6	77 13	26 3	87 15	60 15	114 1	...	...	...	...
Arani	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	570 13	1,7 613	...	...	80 15	88 7	15 20	89 5	...	...	...	...
Bakre	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	2,521 25	3,008 1	70 65	81 11	126 14	268 1	248 27	104 4	...	...	...	...
Abad	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	1,468 28	4,871 1	159 21	487 15	65 2	139 13	48 25	117 11	...	...	...	...
Kharish	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	1,804 28	5,278 10	87 29	98 15	123 25	375 1	83 11	83 2	...	...	...	...
Chana	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	0 25	1 14	1,426 28	4,123 15	65 3	147 2	162 23	287 9	51 20	129 4	...	...	...	...
Gaha	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	0 25	1 14	423 2	1,215 9	25 24	71 10	108 21	238 13	27 9	61 4	...	...	...	...
Dara Machi	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	1 15	3 14	186 28	641 14	218 15	585 10	249 2	510 5	142 23	254 0	...	...	...	...
Johi	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	12 27	27 9	49 20	148 2	121 15	223 13	629 20	1,249 6	68 2	129 4	0 16	0 13	...	...
Bahawalpur	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	2 16	7 4	26 12	108 5	671 6	1,704 11	189 5	563 5	228 23	563 2	...	...	...	...
Shah Motie	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	1 28	8 13	21 19	96 13	190 12	508 15	113 20	248 1	51 23	126 9	...	...	...	...

CII.

ubari shown in *italics*) in each surveyed village of the taluka Johi, under each kind of the current settlement, with the assessment thereon.

BARI.																	
Type.		BARI INCLUDING MOGL.		BARI MOST AIDED BY LEFF.		BAILLY.		BAILLY AIDED BY LEFF.		WALIM.		BARIANI.		HILL BYREANS.		Totals.	
Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.
A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.
1344 37	884 3					139 24	374 8	194 10	325 13			2 30	6 6			629 0	1,788 10
1 14	0 11					5 3	8 1	16 07	7 5			2 4	0 0			23 46	11 10
1131 11	277 10	72 14	271 14			103 20	349 9	155 9	500 0			3 11	5 14			277 32	1,698 8
9 8	4 9	3 12	1 1			1 10	9 12		9 7			0 8	0 8			12 2	6 12
97 27	184 1					1,402 35	3,475 8	108 12	383 12							1,685 12	4,212 16
0 34	0 8					0 21	3 3	3 0	1 6							12 8	5 8
31 10	225 10	10 4	87 15			884 9	3,365 0	160 10	601 13			1 31	6 7			1,128 22	3,929 0
1 12	0 10	8 33	4 0 15			0 24	9 5	0 9	0 11			0 14	0 12			8 4	2 10
						783 84	1,720 15									783 84	1,720 15
						1,461 87	3,347 7									1,461 87	3,347 7
						590 35	1,295 9									590 35	1,450 15
						1,474 17	3,335 14	3 19	12 1							1,545 20	3,458 12
						0 24	9 7									0 24	0 7
						1,377 51	3,335 10									1,377 51	3,495 10
						631 15	2,449 4									631 15	2,449 4
						1,574 89	3,949 12	25 12	121 8							2,415 38	6,328 10
						50 24	32 15									50 24	32 15
		109 13	298 7	11 22	42 1	1,060 7	4,985 8	87 20	129 12							2,902 17	7,502 1
		42 7	98 1			28 7	15 11									76 12	45 12
						488 27	1,808 7	29 10	110 9							1,102 37	3,391 10
		12 24	4 1			28 12	1 10									28 12	15 11
14 26	87 9	22 24	28 0			606 9	1,840 14	85 10	128 12							1,228 24	3,514 4
		9 16	9 12			9 16	9 12									28 10	20 12
						71 27	128 3	71 21	229 8							2,231 9	5,070 9
		4 13	11 0			94 22	40 3									127 7	37 2
17 12	171 6	238 20	6 8 11	39 18	303 12	172 10	363 8	44 17	158 14							2,233 33	5,022 1
0 12	0 9	121 0	22 4			20 22	9 14									202 17	27 4
						63 23	129 9	6 10	12 5							1,620 22	5,207 2
		9 13				174 0	64 8									190 9	27 2
		22 0	35 15	9 22	8 0	193 4	337 10	10 17	38 8							2,012 22	5,629 12
		11 0	5 5			220 25	77 6									221 29	22 11
						105 15	222 10	6 25	21 2			3 12	3 12			2,207 0	6,272 12
		8 1				178 2	42 1	0 24	0 3			0 20	1 12			120 7	45 2
		102 2	30 0		9 10	197 3	331 14	70 2	227 15							2,505 8	7,129 12
		3 2	2 9	19 20	8 0	170 20	27 20									122 2	60 2
						81 9	129 11	6 0	17 2	6 9	10 2					1,612 12	5,022 6
		0 6				368 22	109 14									257 4	110 4
		170 14	77 1	207 10	9 2	172 18	472 1	23 14	122 7	2 22	7 4					1,219 0	4,222 12
		227 1	27 2		8 11	222 22	72 15									225 22	112 1
						21 12	59 2	1 20	4 14							610 22	1,622 6
						34 25	12 12									84 25	17 12
				0 12	1 4	70 24	211 13	3 11	12 14							762 0	1,922 12
		12 25	2 10			14 12	4 7									22 12	12 12
						129 10	317 2	0 24	3 24							972 11	2,422 2
		0 10				21 2	15 10									22 22	12 2
		114 4	122 22	224 4	2 0	82 12	222 12	0 12	1 8							972 11	2,422 2
		0 10	12 5	2 14	3 4	22 2	12 14									27 27	20 2
						169 10	422 5	12 25	42 2	12 22	5 2	12 22	21 11			1,122 10	2,702 4
		1 12	1 12			29 2	12 20			1 2						22 2	21 2
		202 1	102 22	222 2	22 12	76 12	202 12	6 2	22 0	11 22	22 2					1,222 22	2,602 12
		5 10	2 12	3 20	64 0	2 14	4 6									22 2	12 4
						0 150 21	422 0	17 5	62 12							1,222 22	2,622 2
		2 4				24 5	12 2									22 12	20 2
		127 12	222 12	222 11	22 27	124 11	212 22	41 22	121 2							1,222 12	4,222 12
		8 12	64 22	22 2	1 7	1 22	1 22	0 22	1 22							76 21	22 0
						27 22	124 4	42 22	122 1							722 12	1,822 0
		2 1				17 17	4 2									21 7	10 2
		122 22	222 22	222 6	22 22	72 6	22 22	22 21	122 0							622 22	2,222 2
		2 12	22 22	2 0	0 22	1 2	0 22	0 22	1 2							20 24	14 12

Name of ch.	Year.	KHARIF.													
		GARDENS.		RICE.		OTHER CROPS.		LIFE.		LIFE AIDED BY SHOW.		BARANS.		HILL STATIONS.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
1st group, contd.		A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.
Kot Bafu	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	197 2	201 14	...	...	46 26	68 18	...	...
Tharri J a d o Shaid.	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	151 14	260 6	...	...	48 22	68 11	...	...
TOTAL OF THE 1st group	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	19 26 0 21	67 11 1 4	9,248 13 6,968 8	26,868 14 24,208 13	1,621 13 1,426 16	4,008 1 3,487 18	3,262 26 3,079 1	4,898 12 4,488 7	774 21 1,064 26	1,668 10 2,418 8	132 26 68 22	201 15 70 12	...	...
2nd group.															
Far Dhoari	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	373 23	800 1	8 24	7 13	15 23	20 6	25 27	40 7	...	...	...	...
Vagdi	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	10 0	24 10	209 6	645 9	27 8	100 2	242 21	412 1	126 22	278 8	...	...	...	...
Jampur Panh-warki	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kur Jawik	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dathi	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	19 20	48 9	2 22	7 8	24 7	61 10	6 6	10 12	...	...	...	...
Khat	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	108 26	216 14	169 25	269 12	22 8	20 1	...	...	...	...
Mothri	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	19 26	25 0	...	...	128 22	215 15	20 27	20 5	...	...	...	...
Phulji	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	8 8	12 12	19 20	20 10	144 7	228 9	15 12	27 11	5 8	8 7	...	...
Kur Kalan	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	4 12	6 11	...	...	27 20	26 7	...	...
Machko	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	0 24	1 12	...	...	...	...	78 10	101 6	...	...
TOTAL OF THE 2nd group	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	20 0	24 10	611 12	1,401 4	271 23	278 2	775 1	1,221 2	269 26	643 6	149 17	206 4	...	...
3rd group.															
Dadh	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	2 0	4 0	...	...	28 20	28 12	...	...
Killy (nash)	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	0 2	2 11	...	...	17 16	27 0	...	...
Moamad	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	0 1	0 1	...	...	8 1	8 24	...	...

Name of deh.	Year.	KHARIF.													
		GARDENS.		BYS.		OTHER FLOW.		LIFT.		LIFT AIDED BY FLOW.		BARANI.		HILL STRAINS.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
		A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.
Patori	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mian-ji-Kahdi	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nuro	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	335 2	1,306 4	...	...
Jhaiko	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	371 5	1,398 12	...	...
Dusbo	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	1,127 28	1,508 0	...	...
Suk Nai	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	1,036 37	1,608 0	...	...
Pahore	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	163 5	241 0	...	...
Kur Pijje	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	4 21	11 5	...	...	262 29	270 2	...	...
Malhar-Barani	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	537 21	808 4	...	...
Kathia Barani	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	545 25	1,399 15	...	...
Tohi Barani	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	309 30	463 14	...	...
Din Panah	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	35 16	51 0	...	...
Rajodero	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	415 12	533 14	...	...
Kasbo	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	209 23	275 5	...	...
Ladho Dero	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	241 28	445 11	...	...
Tar...	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	546 27	712 3	...	...
Lahar	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	1,015 12	1,227 10	...	...
Bar Bughio	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	706 3	928 14	...	...

* (Note.—Total of Bahi barani for the 2nd period includes 40 acres 15 g. of hill strain)

Name of Geh.	Year.	KHABIF.													
		Gardens.		BICH.		OTHER SLOW.		LIFE.		LIFE AIDED BY SLOW.		BARANI.		HIGH WYDAMS.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
		A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs.
Fat Gul, Muhammad	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	392 27	515 12	...	...
Mirwah	1898-1899 to 1903-1904 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	310 9	369 6	...	...
Nalchki	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	72 20	117 14	...	...
Hairo Khan	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	305 31	334 14	...	...
Muriddaro	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	610 15	1,001 2	...	...
Masudaro	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	1,318 23	2,144 1	...	...
Mamani	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	450 12	701 7	...	...
Fatara	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	122 25	214 5	...	...
Koti Nais	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	194 4	252 6	...	...
Kubo Kalandar.	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	64 3	80 3	...	...
Haji Khan	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	510 21	639 15	...	...
Haji Khan	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	710 14	1,138 8	...	...
Alahyardaro	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	310 10	501 13	...	...
Naushahro	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	423 6	631 13	...	...
Nai Taki	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	244 26	372 8	...	...
Fai ...	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	150 28	257 4	...	...
Chakar Kot	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	1,007 21	1,636 13	...	...
Eherodaro	1898-1899 to 1902-1903. 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	453 25	730 13	...	...

RABT.																	
LIVE.		HOSE INCLUDING MOBL.		HOSE AND MOBL AIDED BY LIST.		SAILORS.		SAILORS AIDED BY LIST.		WHEELS.		BARANI.		HILL STREAMS.		TOTAL.	
NO.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.	A. g.	Rs. a.
												110 1	260 13			568 39	765 9
												4 38	8 14			8 38	8 14
												77 5	128 5			434 11	946 18
												60 14	66 8			876 83	435 12
												2 0	0 8			2 0	0 8
												48 27	48 8			369 5	410 10
												80 0	68 6			111 50	181 4
												12 3	5 11			12 3	5 11
												31 8	61 2			94 38	164 11
												0 8	0 6			0 8	0 6
												78 19	124 8			282 10	450 6
												80 28	12 14			80 28	12 14
												180 25	124 1			325 22	527 1
												6 30	7 10			6 30	7 10
												127 27	207 12			744 2	1,206 14
												49 3	32 3			49 3	32 3
												161 36	272 0			617 31	1,019 12
												16 8	16 0			16 8	16 0
												510 31	879 6			1,859 24	3,083 7
												163 28	115 7			163 28	115 7
												593 0	1,010 13			1,616 21	2,510 11
												68 11	45 16			68 11	45 16
												158 31	258 14			588 34	987 5
												35 39	80 14			35 39	80 14
												338 11	510 16			705 38	1,137 12
												8 38	8 5			8 38	8 5
												116 0	186 15			247 26	402 7
												5 32	1 7			5 32	1 7
												245 28	265 3			529 24	799 2
												17 6	42 7			211 10	300 18
												2 22	2 8			2 22	2 8
												33 4	75 0			317 6	316 8
												13 30	17 8			77 38	87 5
												7 5	1 12			29 11	28 11
																7 5	1 12
												125 5	203 7			641 26	1,043 8
												17 25	18 6			17 25	18 6
												165 11	375 5			549 31	918 3
												15 18	6 9			15 18	6 9
												126 30	205 7			377 4	1,343 14
												19 35	46 1			19 35	46 1
												181 12	294 7			780 3	1,235 14
												44 39	19 6			44 39	19 6
												88 21	149 11			396 31	642 8
												10 21	5 14			10 21	5 14
												50 31	80 1			247 25	403 16
												27 4	7 14			27 4	7 14
												112 5	180 15			596 11	862 12
												18 11	13 8			18 11	13 8
												48 28	80 15			310 15	489 4
												30 2	8 15			30 2	8 15
												29 19	45 14			274 15	418 6
												4 18	4 8			4 18	4 8
												5 29	9 5			100 38	137 8
												0 34	0 8			0 34	0 8
												28 14	35 14			183 12	281 2
												1 8	0 6			1 8	0 6
												17 30	29 4			137 12	319 4
												0 5	0 5			0 5	0 5
												4 38	7 16			1,240 0	2,024 1
												1 8	60 14			64 10	60 14
												4 37	653 6			1,174 34	1,988 2
												34 87	38 2			36 8	38 2
												48 12	87 0			600 7	797 12
												6 12	6 8			6 12	6 8
												48 4	60 8			406 22	640 11
												9 20	1 9			9 20	1 9

Name of chh.	Years.	KHARIF.													
		Gardens.		Bore.		Overhead flow.		LIFT.		LIFT LIFTED BY FLOW.		BARANA.		WIND SYSTEMS.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
		A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.
Haliyo	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	519 12	841 15	...	...
Sakar Haliyo	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Potho	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	480 12	789 9	...	...
Jalab	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	260 22	438 11	...	...
Wahl Pandhi	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	653 26	106 9	...	...
Khuli Manso	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	68 12	97 7	...	...
Khal	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	1,123 13	1,830 12	...	...
Kikrani	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	69 72	71 7	...	...
Araro	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Miran Machi	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	141 12	177 2	...	...
Jampur Landki	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	317 12	205 14	...	...
Bakhr Shabid	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	320 27	429 2	...	...
Fat Suloman	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	273 9	249 12	...	...
Thal	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	242 4	1,208 2	...	...
Chini	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	260 26	1,208 9	...	...
Sawro	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	272 22	1,419 2	...	...
Fat Kanhri	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bahli Shah	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	271 21	474 9	...	...

Note.—Nothing to show in number ahumari whether a field was really cultivated with black water or not. These figures are acres in guntas assessment. Bahli cultivation numbers whose registered source is...

Name of deh.	Year.	KHARIF.													
		GARDENS.		RICE.		OTHER FLOW.		LIVE.		LIFT ADDED BY FLOW.		BARANI.		RICE SYSTEMS.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
<i>See survey-contd</i>		A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.	A. G.	Rs. a.
Shadman ...	1898-1899 to 1902-1903, 1903-1904 to 01:07-1908.	...	...	...	...	...	...	...	...	...	...	...	...	306 8	589 13
Tok Kasim ...	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	68 5	130 8
Khandani ...	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	1,172 28	1,946 7
Aspal ...	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	1,816 14	2,724 13
Basham Fakir ...	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	427 16	601 14
Tori ...	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	1,339 26	1,703 6
Fir Gaji Shah ...	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	220 16	331 12
Phadak ...	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	439 20	688 11
Dhauk ...	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	371 12	651 4
Garandi ...	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	5 2	8 11
TOTAL OF THE DEH GROUP ...	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	...	...	...	...	...	...	...	...	...	...	...	...	30,648 9	45,655 14
GRAND TOTAL OF THE TALUKA ...	1898-1899 to 1902-1903, 1903-1904 to 1907-1908.	29 25	62 5	9,864 25	28,380 3	1,791 6	4,640 2	3,029 29	8,104 6	1,068 11	2,457 1	30,624 14	46,014 1	10 17	17 1
		0 21	1 4	9,126 28	26,243 8	2,712 24	7,065 2	3,036 5	5,980 4	1,277 10	2,920 11	28,258 26	37,522 4	70 10	116 8

APPENDIX XIII.

STATEMENT showing demands and realization in Johi taluka for the years beginning from 1898-1899 to 1907-1908.

Year.	Gross demand.			Remission.			Revenue for Collection.			Arrears.		
	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.
1898-1899 ...	87,986	15	0	23,193	3	0	59,153	0	6	5,640	11	6
1899-1900 ...	86,880	9	0	36,100	14	0	48,148	10	2	2,631	0	10
1900-1901 ...	1,55,235	4	0	17,181	8	0	1,26,792	2	1	11,261	9	11
1901-1902 ...	1,43,509	4	0	21,557	5	0	1,13,430	8	6	8,521	6	6
1902-1903 ...	1,57,396	0	0	18,893	7	0	1,19,592	9	0	18,910	0	0
1903-1904 ...	1,26,341	3	0	19,330	14	0	98,247	7	0	8,762	14	0
1904-1905 ...	78,421	5	0	23,288	4	0	45,957	10	0	9,175	7	0
1905-1906 ...	97,597	3	0	3,563	14	0	91,428	0	0	2,605	5	0
1906-1907 ...	1,70,023	9	0	3,799	0	0	1,46,406	1	1	19,818	7	11
1907-1908 ...	1,56,903	13	0	16,670	15	0	1,28,656	8	0	11,576	6	0
TOTAL ...	12,60,295	1	0	1,83,579	4	0	9,77,812	8	4	98,903	4	8
Average ...	1,26,029	8	1	18,357	14	10	97,781	4	0	9,890	5	3

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX XIV.

XIV.

existing rates in each village of the Johi taluka on the basis of the average (1903-1904 to 1907-1908).

HILL STREAMS AND BLOCK WATER.			BARANZI.			WELL.			TOTAL.		INCREASE OR DECREASE.		INCREASE OR DECREASE PERCENT.		Average Assessment.
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Assessment.	Decrease.	Increase.	Decrease.	Increase.	
...	3	1 10	5	...	...	...	578	1,655	...	36	...	2-11	2 14
...	3	0 8	1	...	...	...	878	1,691	...	...	...	...	2 15
...	1	1 10	2	...	...	...	1,193	3,302	103	...	5-08	...	2 13
...	1	0 8	1	...	...	...	1,193	3,109	...	...	...	...	2 11
...	1,403	4,021	396	...	9-10	...	2 13
...	1,403	3,655	...	...	...	...	2 8
...	1,546	4,273	335	...	7-94	...	2 13
...	1,546	3,837	...	...	...	...	2 9
...	931	2,540	332	...	9-18	...	2 13
...	931	2,328	...	...	...	...	2 6
...	2,080	6,338	270	...	3-23	...	2 13
...	2,9 0	8,008	...	...	...	...	2 11
...	1,330	3,511	...	42	...	1-13	2 13
...	1,330	3,583	...	...	...	...	2 14
...	3,233	9,460	...	958	...	10-10	2 15
...	3,233	10,416	...	...	...	...	2 4
...	2,012	5,838	...	541	...	9-26	2 14
...	2,012	6,379	...	...	...	...	2 7
...	2,505	7,389	...	872	...	11-58	2 15
...	2,505	6,231	...	...	...	...	2 6
...	3	3 4	7	1,679	5,412	...	474	...	8-75	2 14
...	2	2 0	6	1,579	5,886	...	...	...	...	2 7
...	772	2,051	...	82	...	3-59	2 13
...	732	2,133	...	...	...	...	2 13
...	979	2,529	173	...	6-94	...	2 9
...	979	2,368	...	...	...	...	2 6
...	11	3 4	25	1,259	3,105	121	...	5-89	...	2 7
...	11	2 0	32	1,259	2,894	...	...	...	...	2 6
...	865	2,354	28	...	...	...	2 12
...	865	2,331	...	...	...	...	2 11
...	1,740	4,824	289	...	5-99	...	2 12
...	1,740	4,535	...	...	...	...	2 10
...	193	490	76	...	16-53	...	2 6
...	193	384	...	...	...	...	2 0
...	158	401	63	...	15-71	...	2 8
...	158	338	...	...	...	...	2 2
...	497	1,154	...	354	...	29-88	2 6
...	497	1,538	...	...	...	...	2 1
...	2	1 13	3	1,202	2,843	...	522	...	23-39	2 8
...	2	3 0	4	1,202	3,235	...	...	...	...	2 11
...	1	1 13	2	8	13	...	1	...	7-69	1 10
...	1	2 0	2	8	14	...	...	...	...	1 12
...
...	501	1,151	...	372	...	32-31	2 4
...	501	1,523	...	...	...	...	2 1
...	602	1,248	...	419	...	33-09	2 2
...	602	1,685	...	...	...	...	2 13
...	325	649	...	243	...	37-44	2 0
...	325	692	...	...	...	...	2 12
...	483	961	...	214	...	24-85	2 0
...	438	1,075	...	...	...	...	2 8
...	430	878	...	97	...	11-04	2 1
...	430	975	...	...	...	...	2 4
...	948	2,108	...	208	...	9-58	2 4
...	948	3,310	...	...	...	...	2 7
...	2	1 10	3	...	...	...	33	65	...	...	...	...	2 0
...	2	0 8	1	...	...	...	33	41	24	...	20-92	...	1 4
...	2	3	...	1	...	...	1 0
...	2	1	...	...	...	...	0 8
...	97	152	62	...	60-52	...	1 6
...	97	60	...	...	...	...	0 10
...	6	1 10	10	17	3 3	37	30,631	82,641	2,258	5,497	...	3-92	2 11
...	6	0 8	3	17	3 0	34	30,631	85,780	...	...	...	...	2 12
173	3 0	519	81	3 8	77	...	...	...	641	1,353	...	...	...	...	2 1
173	3 0	519	81	3 8	45	...	...	...	641	1,221	...	...	...	...	2 1

PROVIDER BY LIFE.			HYPER STRINGS.			BARANY.			LIFE.		
Area.	Date.	Assessment.	Area.	Date.	Assessment.	Area.	Date.	Assessment.	Area.	Date.	Assessment.
A.	Rs. p.	Rs.	A.	Rs. p.	Rs.	A.	Rs. p.	Rs.	A.	Rs. p.	Rs.
...	205	1 8	207	...	...	...
...	206	1 8	207	...	...	...
...	498	1 8	747	...	...	...
...	498	1 8	747	...	...	...
...	243	1 8	368	...	...	...
...	243	1 8	368	...	...	...
...	1,383	1 8	2,076	...	...	...
...	1,383	1 8	2,076	...	...	...
...	202	1 10	222	...	...	...
...	202	1 10	202	...	...	...
...	370	1 0	376	...	...	...
...	370	1 0	370	...	...	...
...	486	1 10	741	...	...	...
...	486	1 0	488	...	...	...
...	918	1 10	1,483	...	...	...
...	918	1 0	918	...	...	...
...	357	1 8	636	...	...	...
...	357	1 0	357	...	...	...
...	84	1 10	104	...	...	...
...	84	1 0	84	...	...	...
...	834	1 8	1,261	...	...	...
...	834	1 0	834	...	...	...
...	1,195	1 8	1,702	...	...	...
...	1,195	1 0	1,195	...	...	...
...	840	1 10	1,374	...	...	...
...	840	1 0	840	...	...	...
...	308	1 8	671	...	...	...
...	308	1 0	308	...	...	...
...	393	1 10	643	...	...	...
...	393	1 0	393	...	...	...
...	598	1 10	951	...	...	...
...	598	1 0	598	...	...	...
...	783	1 7	1,273	...	...	...
...	783	1 0	783	...	...	...
...	7,382	1 8	11,623	...	...	...
...	7,382	1 0	7,382	...	...	...
...	109	1 8	128	...	...	...
...	109	0 8	61	...	...	...
...	552	1 8	509	...	...	...
...	332	0 8	106	...	...	...
...	601	1 10	986	...	...	...
...	601	0 0	301	...	...	...
...	740	1 10	1,183	...	...	...
...	740	0 8	270	...	...	...
...	900	1 10	1,446	...	...	...
...	900	0 8	430	...	...	...
...	147	1 5	200	...	...	...
...	147	0 8	74	...	...	...
...	312	1 3	872	...	...	...
...	312	0 8	136	...	...	...
...	313	1 8	436	...	...	...
...	313	0 8	156	...	...	...
...	29	1 4	86	...	...	...
...	29	0 8	14	...	...	...
...	187	1 0	311	...	...	...
...	187	0 8	99	...	...	...
...	271	1 8	413	...	...	...
...	271	0 8	136	...	...	...
...	95	1 8	127	...	...	...
...	95	0 8	47	...	...	...
...	119	1 10	180	...	...	...
...	119	0 8	60	...	...	...
...	534	1 10	641	...	...	...
...	534	0 8	187	...	...	...
...	364	1 8	579	...	...	...
...	364	0 8	182	...	...	...
...	197	1 10	320	...	...	...
...	197	0 8	98	...	...	...
...	88	1 8	120	...	...	...
...	88	0 8	42	...	...	...
...	884	1 10	1,413	...	...	...
...	884	0 8	442	...	...	...

HILL STREAMS AND BROOK WATER.			BARRELL.			WELL.			TOTAL.		INCREASE OR DECREASE.		INCREASE OR DECREASE PERCENT.		Average Assessment.
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Assessment.	Increase.	Increase.	Decrease.	Increase.	
A.	Rs. a.	Rs.	A.	Rs. a.	Rs.	A.	Rs. a.	Rs.	A.	Rs.	Rs.				
113	3 0	339	1	2 8	3	...	...	...	319	649	...	...	...	0'11	...
113	3 0	339	1	1 8	3	...	...	...	319	646	...	...	...	...	...
94	3 0	323	53	2 8	183	...	...	...	645	1,182	...	54	...	4'81	...
94	3 8	322	53	1 8	79	...	...	...	646	1,106	...	...	...	...	...
88	3 0	114	27	2 8	67	...	...	...	308	546	...	26	...	4'76	...
88	3 0	114	27	1 8	41	...	...	...	308	521	...	...	...	...	...
418	3 0	1,254	112	2 8	380	...	...	...	1,913	3,600	...	112	...	3'10	...
418	3 0	1,254	112	1 8	168	...	...	...	1,913	3,487	...	...	...	...	...
...	120	1 10	125	...	...	...	322	517	...	123	...	27'71	...
...	120	1 0	120	...	...	...	322	323	...	...	...	...	...
...	338	1 10	545	...	...	...	708	1,120	...	414	...	38'88	...
...	338	1 0	313	...	...	...	708	708	...	...	...	...	...
...	162	1 10	263	...	...	...	618	1,044	...	385	...	35'44	...
...	162	1 0	163	...	...	...	618	618	...	...	...	...	...
...	598	1 10	972	...	...	...	1,518	2,464	...	948	...	39'47	...
...	598	1 0	598	...	...	...	1,518	1,518	...	...	...	...	...
...	77	2 8	193	...	...	...	434	728	...	294	...	40'58	...
...	77	1 0	77	...	...	...	434	434	...	...	...	...	...
...	81	1 10	50	...	...	...	95	154	...	69	...	28'31	...
...	91	1 0	31	...	...	...	95	95	...	...	...	...	...
...	300	2 8	800	...	...	...	1,034	1,751	...	717	...	40'94	...
...	300	1 0	300	...	...	...	1,034	1,034	...	...	...	...	...
...	245	2 8	613	...	...	...	1,440	2,505	...	965	...	40'12	...
...	245	1 0	245	...	...	...	1,440	1,440	...	...	...	...	...
...	324	1 10	523	...	...	...	1,175	1,911	...	731	...	28'25	...
...	324	1 0	324	...	...	...	1,175	1,180	...	...	...	...	...
...	43	1 9	67	...	...	...	406	680	...	250	...	35'90	...
...	43	1 0	43	...	...	...	406	406	...	...	...	...	...
...	165	1 10	289	...	...	...	590	911	...	351	...	39'62	...
...	165	1 0	165	...	...	...	590	590	...	...	...	...	...
...	164	1 10	255	...	...	...	790	1,217	...	457	...	37'55	...
...	164	1 0	164	...	...	...	790	790	...	...	...	...	...
21	1 10	34	54	1 10	89	...	...	...	858	1,394	...	520	...	37'3	...
21	1 12	37	54	1 0	54	...	...	...	858	874	...	...	...	...	...
21	1 10	34	2,519	1 13	4,547	...	...	...	9,927	16,215	...	6,287	...	33'64	...
21	1 12	37	2,519	1 0	2,519	...	...	...	9,927	9,948	...	...	...	...	...
...	102	120	...	77	...	60'15	...
...	102	51	...	...	...	...	...
...	361	556	...	378	...	67'02	...
...	361	180	...	...	...	...	...
...	677	1,084	...	742	...	68'72	...
...	677	338	...	...	...	...	...
...	1,067	1,771	...	1,223	...	69	...
...	1,067	549	...	...	...	...	...
...	1,112	1,798	...	1,230	...	68'66	...
...	1,112	556	...	...	...	...	...
...	148	202	...	127	...	62'87	...
...	148	75	...	...	...	...	...
...	359	422	...	243	...	67'56	...
...	359	178	...	...	...	...	...
...	558	801	...	625	...	65'29	...
...	558	279	...	...	...	...	...
...	29	36	...	23	...	61'11	...
...	29	14	...	...	...	...	...
...	248	383	...	289	...	68'44	...
...	248	124	...	...	...	...	...
...	220	492	...	333	...	67'47	...
...	220	180	...	...	...	...	...
...	101	187	...	67	...	63'50	...
...	201	60	...	...	...	...	...
...	137	219	...	160	...	68'48	...
...	137	69	...	...	...	...	...
...	340	651	...	381	...	69'14	...
...	340	120	...	...	...	...	...
...	357	614	...	421	...	68'57	...
...	357	193	...	...	...	...	...
...	107	320	...	222	...	69'37	...
...	107	98	...	...	...	...	...
...	86	120	...	68	...	68'66	...
...	86	43	...	...	...	...	...
...	311	1,487	...	7001	...	68'70	...
...	311	466	...	...	...	...	...

FLOW UNDER BY RATE.			HYAL SPRINGS.			BARAZIL.			BIRSA.		
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.
...	67	1 10	75	...	...	...
...	67	0 8	24	...	...	...
...	75	1 4	83	...	...	...
...	75	0 8	27	...	...	...
...	123	1 2	173	...	...	...
...	123	0 8	61	...	...	...
...	111	1 5	149	...	...	...
...	111	0 8	56	...	...	...
...	131	1 4	151	...	...	...
...	131	0 8	80	...	...	...
...	449	1 4	623	...	...	...
...	449	0 8	211	...	...	...
...	763	1 2	1,107	...	...	...
...	763	0 8	263	...	...	...
...	814	1 2	1,234	...	...	...
...	814	0 8	407	...	...	...
...	318	1 2	507	...	...	...
...	318	0 8	159	...	...	...
...	371	1 2	430	...	...	...
...	371	0 8	188	...	...	...
...	49	1 10	80	...	...	...
...	49	0 8	21	...	...	...
...	1,073	1 10	1,720	...	...	...
...	1,073	0 8	540	...	...	...
...	1,329	1 2	2,193	...	...	...
...	1,329	0 8	784	...	...	...
...	408	1 2	675	...	...	...
...	408	0 8	204	...	...	...
...	1,023	1 2	1,513	...	...	...
...	1,023	0 8	512	...	...	...
...	30	1 10	49	235	1 1	303	...	...	...
...	30	1 12	43	235	0 8	143	...	...	...
...	34	1 10	55	358	1 0	326	...	...	...
...	34	1 12	50	358	0 8	178	...	...	...
...	573	1 2	832	...	...	...
...	573	0 8	286	...	...	...
...	6	1 10	10	1	1 10	2	...	...	...
...	6	1 12	11	1	0 8	1	...	...	...
...	607	1 2	781	...	...	...
...	607	0 8	243	...	...	...
...	679	1 2	868	...	...	...
...	679	0 8	290	...	...	...
...	690	1 2	1,040	...	...	...
...	690	0 8	349	...	...	...
...	34	1 2	51	...	...	...
...	34	0 8	17	...	...	...
...	134	1 2	278	...	...	...
...	134	0 8	93	...	...	...
...
...
...
...
...
...
...
...
...	70	1 10	114	16,334	1 2	24,262	...	...	...
...	70	1 12	123	16,334	0 8	5,166	...	...	...
...	70	1 10	114	*26,350	1 0	63,330	1,634	3 5	3,877
...	70	1 12	123	*26,363	0 11	17,763	1,634	3 8	5,544
...
...
...
...

Kharif Barani—
 * Details of area under each rate.
 1 10 1 5 1 0 1 4
 15,809 6,933 2,479 1,409

HILL STREAMS AND BLOCK WATER.			BARANI.			WHEEL.			TOTAL.		INCREASE OR DECREASE.		INCREASE OR DECREASE PERCENT.		Average Assessment.
Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Rate.	Assessment.	Area.	Assessment.	Decrease.	Increase.	Decrease.	Increase.	
A.	Rs. s.	Rs.	A.	Rs. s.	Rs.	A.	Rs. s.	Rs.	A.	Rs.	Rs.			Rs. s.	
...	47	75	81			1 10	
...	47	24	...			0 8	
...	75	93	56			1 4	
...	75	37	...			0 8	
...	2	1 4	3	...	...	...	135	176	114			1 7	
...	3	0 8	1	...	...	...	125	62	...			0 8	
...	111	143	88			1 5	
...	111	55	...			0 8	
...	2	1 4	2	...	...	...	123	153	93			1 4	
...	3	0 8	1	...	...	...	123	61	...			0 8	
...	1	1 4	1	...	...	...	423	584	353			1 5	
...	1	0 8	...	...	...	...	423	211	...			0 8	
...	58	1 10	90	...	...	...	769	1,197	817			1 9	
...	58	0 8	28	...	...	...	769	380	...			0 8	
...	43	1 10	69	...	...	...	627	1,303	873			1 8	
...	43	0 8	21	...	...	...	627	423	...			0 8	
...	40	1 10	65	...	...	...	318	572	363			1 12	
...	40	0 8	20	...	...	...	355	179	...			0 8	
...	271	430	224			1 9	
...	271	138	...			0 8	
...	49	80	56			1 10	
...	49	24	...			0 8	
...	1,073	1,720	1,160			1 10	
...	1,070	540	...			0 8	
...	40	1 10	75	...	...	...	1,575	2,268	1,481			1 7	
...	40	0 8	23	...	...	...	1,575	767	...			0 8	
...	11	1 10	18	...	...	...	419	593	383			1 7	
...	11	0 8	6	...	...	...	419	210	...			0 8	
...	7	1 10	11	...	...	...	1,030	1,523	1,008			1 8	
...	7	0 8	3	...	...	...	1,030	615	...			0 8	
61	1 10	69	27	1 0	27	...	...	...	493	478	161			1 3
61	1 12	107	27	0 8	14	...	...	...	493	317	...			0 12
43	1 10	70	119	1 1	126	...	...	...	551	650	279			1 3
43	1 12	75	118	0 8	69	...	...	...	551	371	...			0 8
...	49	1 8	72	...	...	...	623	784	463			1 4	
...	49	0 8	25	...	...	...	623	311	...			0 8	
10	1 10	16	...	...	...	...	...	...	17	28	...			1 10
10	1 12	18	...	...	...	...	...	...	17	30	...			0 8
...	38	3 8	93	...	...	...	545	956	584			1 9	
...	38	0 8	19	...	...	...	545	272	...			0 8	
...	6	3 8	15	...	...	...	535	893	500			1 8	
...	6	0 8	3	...	...	...	535	223	...			0 8	
...	325	2 8	563	...	...	...	924	1,613	1,160			1 11	
...	225	0 8	113	...	...	...	924	462	...			0 8	
...	50	2 8	125	...	...	...	64	176	134			2 2	
...	40	0 8	25	...	...	...	64	42	...			0 8	
...	33	3 8	81	...	...	...	217	357	249			1 10	
...	23	0 8	16	...	...	...	217	108	...			0 8	
...	
...	
...	
...	
...	
...	
...	
114	1 10	186	1,902	1 11	3,234	...	...	...	13,430	27,795	15,367			1 9
114	1 12	200	1,902	0 8	961	...	...	...	13,430	9,440	...			0 9
563	2 11	1,473	74,639	1 12	8,071	23	2 3	46	80,841	1,30,160	20,804	1,419		2 2	
563	2 11	1,461	74,639	0 12	3,641	23	2 0	44	80,841	1,08,965	21,494			1 3	
...	3,360	840			638	...	
...	3,360	1,478				...	
...	1,31,000	28,994	6,137			...	
...	1,10,143	20,857	...			...

*Note.—The unsurveyed area of 40 acres has not been included amongst the rabi of this deh.
 3,300 at 0-4-0 per acre 840
 Watered 213 at 1-8 per acre 318
 Unwatered 2,240 at 0-3-0 per acre 1,160
 Barani 828

† Rabi—
 Details of area of existing barani rates.
 2 8 1 10 1 4 1 0
 928 3,247 96 211

Notes.—(I) Some of the barani dubari is really hill stream dubari which will pay assessment, but there is no means to ascertaining exactly what the hill stream dubari amounts to and it has therefore been ignored.
 (II) Gardens are shown at the lowest possible rating, i. e., charhki or kharif lift. No details are available as to the description of irrigation with which such garden is watered.
 (III) Barani lands in the old Kakar dehs were assessed at 1-8 kharif and 2-8 rabi, these have been shown in the Appendix, but in the old Johi dehs there were 3 rates in force. Accordingly in this Appendix the existing rate shown against these dehs is the average rate paid in the deh.
 (IV) In the vernacular appendices a certain area was shown under rabi moki and rabi moki madad charhki, but it appeared very doubtful whether this was not due to a faulty classification by tapadars who often confuse bosi and moki. Accordingly the figures have been added to those of bosi and bosi madad charhki respectively. True rabi moki is exceedingly rare.

S. H. COVERNTON,
 Settlement Officer, Sehwan.

APPENDIX XV.

List of prices current in Johi taluka.

Year.	Juar.		Rice.			Wheat.		Barly.	Green gram (Mung).	Chickling Vetch (Matar).	Channa.	Sathi.	Jambha.	Tir.	Mustard (Ahur).	INDIGO.		COTTON.		TOBACCO.		FODDER FOR CATTLE.		Fuel.	Salt.	Iron.	Bullocks for ploughs.	Sheep.	Fish.	Skilled labour.	Ordinary labour.	Field labour.					
	Per munda.	Per munda.	Burdah, 1st sort.	Sadhra, 2nd sort.	Red, 3rd sort.	Per munda.	Per munda.									Per munda.	1st sort.	2nd sort.	Per munda.	Per munda.	Per munda.	Per munda.	Per munda.										Per munda.	Per munda.	Per munda.	Per munda.	Per munda.
1898-1899.	1 10	1 8	1 11	...	2 12	3 8	3 8	...	...	...	...	3 4	2 11	4 4	3 2	...	12 7	4 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1899-1900.	1 12	1 11	1 15	...	3 0	3 6	3 15	...	...	...	...	3 11	2 12	4 7	3 7	...	11 10	3 15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1900-1901.	1 12	1 11	1 15	4 0	3 8	3 4	3 15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1901-1902.	1 1	1 15	2 4	4 2	3 3	3 6	3 4	...	...	...	...	...	...	4 12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1902-1903.	2 12	2 10	2 14	4 6	3 5	3 7	3 0	...	...	...	...	...	...	4 15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1903-1904.	2 15	2 12	2 15	4 18	3 7	3 5	3 8	...	...	...	...	...	...	4 18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1904-1905.	3 0	2 15	3 4	5 1	4 5	3 8	3 8	...	...	...	...	...	...	4 14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1905-1906.	2 14	2 11	3 7	3 6	5 4	3 14	4 3	...	...	...	...	...	...	6 11	4 13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1906-1907.	3 15	3 12	3 9	6 15	5 6	4 5	4 8	6 13	5 0
1907-1908.	2 12	2 12	3 8	6 15	5 6	4 7	4 5	2 12	4 11	3 8	3 11	4 15	4 2	7 1	5 5

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX XVI.

STATEMENT showing the general financial results of the proposed settlement of the Johi taluka based on the average of the past 5 years from 1903-04 to 1907-08.

	Present settlement.	Proposed settlement.	Decrease.	Decrease per cent.
	Rs.	Rs.	Rs.	
Surveyed lands ...	1,31,000	1,10,143	20,857	15.92
Unsurveyed lands ...	874	599	275	32.26
TOTAL ...	1,31,874	1,10,742	21,132	16.02

S. H. COVERNTON,
Settlement Officer, Sehwan.

APPENDIX A.

Special rules for the revised irrigational settlement of Sehwan, Johi and Dadu talukas.

Rule 1.—These rules shall apply to Sehwan, Dadu and Johi talukas only.

The ordinary rules for remissions and for the administration of irrigational settlements shall remain in force except in so far as they may be modified by any of the rules here following.

Application:
Former rules how far maintained.

Rule 2.—Rule No. 4 of the fallow rules (Special Circular No. 20, page 152) shall not apply to barani lands which obtain no black water or hill-stream irrigation and have no registered water-supply from a canal or the river nor to the lands on the Manchhur referred to in Rule 4 following.

Fallows.

Rule 3.—If lands to which a registered source of water-supply from a canal or the river has been assigned are cultivated as barani and afterwards remain uncultivated for 5 years, then the fallow assessment to which they become liable in the 5th year shall not be the barani assessment but that chargeable on the description of irrigated cultivation last carried on in the field.

Rule 4.—The special Manchhur remission rules printed on page 165 of the Commissioner's Special Circulars (No. 2) will continue in force for all lands whose registered source of water-supply is from the Manchhur. Remissions under these rules will also be given in the same way for portions of survey numbers remaining uncultivated owing to flooding by the Manchhur even though their registered source of irrigation is not the Manchhur.

Remissions.

Rule 5.—In barani lands which have received no black water or hill-stream irrigation the existing practice will be continued of remitting the assessment on uncultivated portions of survey numbers provided that the uncultivated area is at least $\frac{1}{4}$ of the area of the survey number.

Rule 6.—Remissions on barani cultivation in all lands assessed at one rupee per acre and under shall (on account of the low rates of assessment) not ordinarily be granted. But in exceptional cases where the general nature of the calamity seems to demand a large measure of remission or postponement, the Mukhtyarkar shall prepare a statement showing in annas the general conditions of each deh, and this statement shall be tested by the Assistant or Deputy Collector and its results, with the Collector's recommendation, reported to the Commissioner.

All lands assessed at over 1 rupee per acre shall be entitled to the benefit of the remission rules.

Rule 7.—(In modification of rules 4 and 6 on pages 572—574 of Special Circulars, No. 59.)

Except in the purely barani lands referred to in Rule 8 and in the cases referred to in Rule 10, if a number which has been cultivated in kharif is cultivated again in the succeeding rabi, then it will be charged according to the rates fixed in the settlement for dubari cultivation. Gardens will form no exception to this rule.

Dubari.

If the second crop is watered with well water only (but the first crop received Indus water), then the dubari crop will be charged as unwatered (i.e., at 8 annas). But if both first and second crops received well water only no charge will be made for dubari crop.

Rule 8.—In barani lands which have received no black water or hill-stream irrigation, no dubari assessment will be taken if jambho, sariha or other crops usually grown in rabi be sown in a field which is cultivated in kharif also, but the whole will be treated as a single crop. But if a number sown as barani is accidentally flooded in kharif with Indus water and is subsequently cultivated as sailabi in rabi then the barani rate will be charged in kharif and the full sailabi rate in rabi. If a field is cultivated in kharif with barani and in rabi with hill-stream then in all dehs the dubari crop will be charged the difference between the kharif assessment and the rabi + dubari assessment.

Rule 9.—In the kachho and the barani lands of Sehwan taluka, arhari* crops will be free from assessment provided they merely spring up from the stubble of kharif crops previously reaped, or are grown in a number already cultivated in the preceding khari for adhawa.† Adhawa crops (i. e., those succeeding rabi and preceding kharif) will be liable to assessment, but if a number be cultivated both in adhawa and also in the succeeding kharif it will pay only a single assessment for both.

* A season intermediate between kharif and rabi.

† Late spring crops.

Rule 10.—In irrigated lands if a crop ordinarily grown in rabi is sown at the same time with and mixed with a kharif crop, no dubari will be taken but the whole will be treated as a single kharif crop.

Rule 11.—The special unploughed rate for the Manchhur will apply to all lands which have actually been watered from the Manchhur and not merely to those whose registered source of irrigation is the Manchhur.

Assessment.

Rule 12.—A clearance allowance of 3 annas per acre will continue to be given on lands watered by the Rajwah and other hill flood canals in group II of Johi taluka. But no allowance will be given in group III on account of the lowness of the assessment.

Rule 13.—In the amended rule 6 printed on page 574, Special Circulars the words "Gardens will however, etc." down to "natural source" shall be omitted, and the following substituted in their place, "gardens will be assessed according to the method of irrigation adopted."

Rule 14.—The following definitions shall be in force in these talukas and the assessment charged in accordance with them.

- (i) *Habi bosi* refers to land which receives an artificial supply of water for rabi cultivation whether by wheel or mok† at any time before the sowing of the seed and which receives no water after the sowing.
 - (ii) *Rabi sailabi* refers to land which has received natural moisture only whether by flooding or by percolation.
 - (iii) *Rabi list* refers to land which receives water for rabi cultivation by lift after the seed has been sown, and which had not previously been flooded by natural means or by an artificial mok.§
 - (iv) *Rabi flow* refers to lands which receives an artificial supply of water by a mok for rabi cultivation after the seed has been sown.
 - (v) *Sailabi madad charkhi* refers to land which before sowing received a supply of water by natural flooding and after sowing received an artificial lift supply.
 - (vi) *Bosi madad charkhi* is the same but with the words "artificial flooding from a mok" substituted for "natural flooding."
- Lands watered before sowing by wheel or flow, from a canal, etc., which after sowing receive well water only will be assessed as bosi. Adhawa sailabi will be assessed as rabi sailabi in surveyed lands and as "rabi ploughed" in unsurveyed kachas.

Rule 15.—No rebate allowance will be given on unwatered sailabi cultivation.

Remarks.

Rules—2, 4, 5 and 10 merely continue the existing practice of the division, but rule 5 extends to the whole division a concession that for some obscure reason has hitherto been confined to Johi taluka. Rules 4 and 11 make provision for the variations of the Manchhur and the fact that lands may be flooded by it although according to the Settlement Register they have different sources of water-supply. When this happens their position is exactly the same as that of other Manchhur lands and it would be unfair to treat them differently. The necessity for rule 6 is explained in the Johi report. The rule is a modification of the rule in force in the Desert taluka of Thar and Parkar. Rules 7 and 13 modify the rules in the Special Circulars to suit the proposed rates for dubari. Clearly if gardens are to be assessed according to the method of irrigation, there is no reason to continue their exemption from dubari. I see no reason why a number watered in kharif with river water should not pay the unwatered dubari rate even if the dubari crop is on a well. I think the dubari crop must gain some advantage from having had a watering in kharif from a canal. Such dubari crops are usually garden crops and as such even under the old settlement they had to pay the difference between the kharif

rate and the garden rate. As this special rate has now been abolished, these crops can well afford to pay the 8 annas dubari rate. But when both crops are grown on well water only there seems no ground for making any alteration in the present custom of taking no assessment for the dubari; especially as this custom is in accordance with the orders of Government.

Rule 8.—The necessity of this rule is shown in paragraph 9 (i) of the Johi reports. At present if the jambho, etc., is sown at the same time with the late jwar, it is usually entered as kharif, though not invariably. If it is sown among the standing crop before harvest it is usually entered as dubari. Obviously it is almost impossible for the tapadar to know if the seed was sown along with the jwar or somewhat later and he has to depend on the statements of haris. In any case this jambho crop is usually poor and often consists only of few scattered plants.

The effect of rules 7 and 8 in the 2nd group of Johi has been explained in the report. It will be the same in all other hill-stream dehs; i. e., if barani is followed by hill-stream dubari the total assessment will always equal the hill-stream rabi + 8 annas. And as the kharif barani crop must always be of much less importance than the hill-stream dubari this seems to be fair enough. It would obviously be absurd to charge only the kharif rate + a dubari rate, for the total would then be less than the rabi hill-stream alone.

Rule 9.—That arhari crops should be free of assessment is in accordance with the Commissioner's standing orders. The proviso appears necessary to avoid the necessity of a definition of arhari as distinguished from the late kharif crops which would be difficult. The rule will prevent a khatedar from being charged merely because last year's stubble has sprouted and it also maintains the principle that dubari should in no case be charged in barani lands.

So too to charge dubari on the kharif because of a previous adhawa would be unfair. Except in very rare cases the adhawa crop is grown and cut for fodder only, but it is always allowed to spring up again in the following kharif as a grain crop if it receives enough water. If it does not get water and does not develop grain in kharif that is no reason for not charging the assessment once. The effect is precisely the same as if the kharif crop had been sown and failed and remissions in such cases have been abolished by rule 5 except in the 2nd group of Johi. In that group the khatedar can petition for remission as usual on the adhawa.

The state of affairs referred to in rule 10 is confined to riverside lands—generally to kachas or kacha-paka lands.

The necessity for rule 3 is explained in the Dadu report.

Rule 14.—These definitions will relieve from the high rabi charkhi rates all those crops which get no water after sowing. These are as a rule oilseeds. Their condition and appearance is precisely similar to that of flow bosi crops and I see no reason why they should be rated higher than flow bosi or why the rates for real charkhi should be lowered on their account. The question whether a crop has received water after sowing or not seems to me more important than the question whether it received its water in September or November. The definitions given are almost the same as those given by Mr. Wali Muhammad in the Kandhkot report, which were apparently accepted as correct. I have only omitted the words "once only" from definition No. 1. Mr. Wali Muhammad had made no provision for a crop receiving two waterings before sowing and none afterwards. It may be added that while it can be seen at a glance whether a crop has been watered after sowing or not, it is impossible to discover whether the water was given in September or November.

Melons are cultivated as sailabi in kacha and kacha-paka lands near the river in adhawa, i. e., they are sown in May and the produce gathered about the beginning of July. The rabi sailabi rate seems the most appropriate for the cultivation.

Rule 15.—In this division, if a number has as its registered source of water-supply a canal on which rebate is given, it appears to have been customary in some cases at least to give it the rebate even when cultivated as sailabi. But the sailabi watering is purely natural and even accidental and requires no clearance of karias to make it possible. In fact as a rule it does not even come through karias and I see no reason why the rebate should be given.

S. H. COVERNTON,
Settlement Officer, Sehwan.

No. 1698 of 1909.

*Executive Engineer's office,
Camp Puranodero, 6th April 1909.*

From

**B. KRISHNARAO, Esquire,
Executive Engineer, Western Nara,**

To

THE SETTLEMENT OFFICER, SEHWAN DIVISION.

Sir,

With reference to your No. 20, dated the 3rd November 1908, calling for a report on the irrigation of the Sehwan division, I have the honour to state as follows:—

2. From the attached summary account of the working of main and branch canals during the period of current settlement it will be observed that the river changed its course very often, although during the last 5 years it has been fairly steady and favourable as far as Western Nara, Pritchard Canal and their branches are concerned. The smaller canals, *viz.*, Marviwah, Upper Nurwah, Kolab Sial, Phitto and Chario Wahur which take off direct from the river, suffer very much due to the vagaries of the river and their satisfactory working cannot invariably be relied upon. All these canals appear to have worked fairly satisfactorily, specially during the latter part of the period under report even in years of low inundation; the probable reason seems to be that owing to a more favourable set of the river higher F. S. levels are obtainable with respect to Bukkar readings than was formerly the case, as shown by the statement of comparative Bukkar and Baksho Jamali (a gauge on Western Nara, mile 102 in deh Shahmorio) readings, attached hereto.

3. A separate list of the improvements carried out during the period under consideration is attached and the effects of these improvements are described below:—

Western Nara.—Construction of New Akil mouth and its widening to 80 feet in 1903 and 1904 respectively could not materially improve the supply in the canal portions comprised in Sehwan division, but its further widening to 125 feet in 1905 has considerably helped to improve the supply in the portion referred to above by giving about 200 cusecs increased discharge.

Before however the construction of Pritchard Canal, the Western Nara in the portion under consideration was practically a failure and after water was admitted into Pritchard Canal in 1890 the supply in Western Nara became favourable and large areas of waste land began to be cultivated and flow cultivation considerably increased and the height of lift irrigation was materially reduced.

These improvements have materially improved the supply of all dehs within the irrigation boundary of Western Nara and its branches shown on the tracings attached; so much so that the W. L. obtainable is 4 feet higher than in former years with comparatively increased discharges.

Dingriwah.—New cut to Dingriwah was dug in 1902 and had the effect of giving adequate supply to the lands dependent on the canal.

Lohriwah.—This canal was originally a zamindari karia which was taken over in 1892 and improved at a cost of Rs. 9,088. The effect of this was to give a better assured supply to the lands within its irrigation boundary as per tracing attached. Large areas on Lohri Dhoro have moreover been coming under cultivation.

Pritchard Canal.—Was newly constructed in 1890 mainly as a feeder to Western Nara. New feeder to the dhand feeding the Pritchard Canal excavated in 1903 helped to give a better supply, but has during the past 3 years failed to fulfil its purpose owing to changes in the course of the river.

In the year 1903 the widening of tail portion of Pritchard Canal was undertaken with a view to reduce the velocity in Pritchard Canal and thereby prevent the deposit of silt in the Western Nara just above where Pritchard Canal tailed into it. This improvement had no direct effect however as regards irrigation advantages in the Sehwan-Dadu sub-division.

Juberji branch ex Pritchard Canal.—Was newly excavated in 1901. It is a branch of Pritchard Canal and was intended to serve as a feeder and to improve the supply in the tail portion of Kudanwah in deh Juberji of Dadu taluka and has considerably benefited the cultivation in the deh.

Marviwah—Old mouth of this canal having proved a failure a new mouth was given to it in 1903-04 which had the effect of removing causes of complaint as regards deficient supply. Of late years the new mouth has however been adversely affected due to the changes in the course of the river.

Regulator at its head was constructed in 1894. This helped materially to regulate the supply in the canal according to requirements and to prevent its lands from being damaged by river floods flowing unchecked into the Marviwah.

Upper Nurwah.—Upper Nurwah was widened in 1891 to improve the supply and the canal was extended in 1892 and made to tail into Ghariwah. These improvements had the effect of augmenting the supply in this canal as well as in Ghari and Wadhu canals and helped to slightly raise the water level in them. There has been an increase in the irrigated area of Upper Nurwah only.

Conversion of the old road bridge near Dadu on Upper Nurwah into a regulator in 1892 had the effect of raising the water level in dehs Kasabandia and Markapur, whereby considerable areas are saved even at times of deficiency in the canal and are usually brought under "flow."

Extension of the mouth in 1904-05 and cutting a new mouth in 1907-1908 were intended only to restore the canal to its working order as it had been adversely affected by changes in the course of the river.

4. Water is as a rule fairly evenly distributed over the lands within the irrigation boundaries of each of the three talukas under report. In years of low inundation the distribution is regulated as far as this is practicable. The lands on right bank of Western Nara and more particularly Lohriwah in Johi taluka are liable to be swept over by hill torrents. The area within the boundary of Manchhur Lake is as a rule submerged during the abkalan and is therefore mainly brought under rabi cultivation. The area under this head has nearly doubled and the kharif area has nearly quadrupled during the period under consideration, while about 2,000 acres of land have come under rice cultivation.

Owing to the higher water level now obtainable as indicated in paragraph 2 above the Western Nara, the Pritchard Canal, and their branches have been greatly benefited. The area under flow has considerably increased and the height of lift correspondingly reduced. Moreover large areas formerly under lift have been brought under rice cultivation.

Similarly the lands dependent on upper Nurwah are benefited though to a smaller extent. With a higher water level and regulation at the tail regulator there has been a general increase of cultivation.

Marviwah.—Shows a general increase of flow and rice irrigation while the area under lift has remained fairly steady. On this canal the advantage of higher water level more than compensates for the disadvantage arising from an unfavourable mouth.

Kolab Sial and its branches Ghariwah and Wadhawah.—Appeared to have worked fairly satisfactorily. The area under kharif on Kolab Sial has increased somewhat during recent years, whereas there is practically little flow irrigation.

Phitta Canal.—On this canal the kharif area has remained steady while there is a slight increase in rice area.

During the year 1907-08 however the low inundation and unfavourable set of the river affected these minor canals taking off direct from the river, and the areas under cultivation show a considerable falling off.

5. A statement showing the variation in the areas under different kinds of cultivation is attached. The statement is based on figures obtained from the records of the taluka offices. The figures cannot be taken to be absolutely correct as they had to be extracted by darogas of this department. They afford however a general indication of the growth of cultivation on the different canals.

6. Statements of the average annual cost of canal clearance and maintenance of bunds and extensions and improvements are attached. A statement of wells in each taluka required by the Special Circular also accompanies.

Accompaniments.

1. Statement of gauge readings.
2. List showing improvements.
3. Statement showing length of canals and expenditure incurred.
4. Statement of wells.
5. Statement of each kind of irrigation.
6. Summary of working of canals.
7. 3 plans.

I have the honour to be,

Sir,

Your most obedient servant.

B. KRISHNARAO,

Executive Engineer, Western Nars.

Summary of the working of canals in Sikkim division, compiled from the records of the Executive Engineer, Western Nara.

WESTERN NARA.

1890.—The canal did not on the whole work satisfactorily although water level was higher by about 1½' due to Pritchard Canal having been newly excavated for the purpose owing to the late rise and early fall of the river and unfavourableness of the set of the river at its mouth.

1891.—Although the inundation was unusually low and short the canal worked fairly well. This was due to the favourable change of the river at the mouth of the Akil dhand feeding it. The high flow lands however suffered on account of lower level of water in the canal.

1892.—The canal worked satisfactorily, due to flood water through Pritchard Canal entering it, and high lands on its banks were cultivated for the first time for some years past but heavy hill floods damaged the crops.

1893.—The canal was not bunded at the mouth and continued to flow till the middle of November. In spite of the river having fallen in July and August which had a detrimental effect on the rice crop in the upper reaches of the canal the water-supply in the canal below Kakar was better than in any year throughout the season due to flood water brought down by Pritchard Canal.

1894.—There was an abundant supply in the canal throughout the season. The Lashari flood entering into the canal broke out on either side cutting large gaps in the banks and thus swamped the cultivation excepting some high lands and those protected by bunds.

1895.—The supply was deficient due to low and fluctuating inundation although the river was favourable.

1896.—The canal worked pretty well although the inundation was comparatively low and only of an average duration. The river having gone down much earlier than usual want of water was felt at the close of the season. Some high flow lands suffered from draught and some near the tail of the canal were submerged by the overflow of water from Manchhur Lake.

1897.—There was an abundant supply of water throughout the inundation. The hill torrents overflowed the Manchhur and submerged all the land on both banks of the canal as far as the mouth of Muhammad Ali wah.

1898.—The inundation being low and the river unfavourable the canal did not work satisfactorily although its supply was partially augmented by that of Pritchard Canal.

1899.—In spite of the low inundation the canal worked fairly well owing to favourable conditions at mouth. The fall of the river towards the end of the season however had a disastrous effect on the crops which were partially saved by allowing the canal to be bunded up at about 3 miles above Daim-miani and also at Aroni.

1900.—The inundation was good but river unfavourable, the canal however worked satisfactorily throughout the season. This was mainly due to Lashari floods entering through Pritchard Canal.

1901.—The supply level in the Nara was lower than that of the previous year. In spite of the fluctuating nature of the inundation the canal worked fairly well. This was mainly due to Nangeshah floods finding their way into it through Pritchard Canal.

1902.—The working of the canal was extremely unsatisfactory owing to the double misfortune of a low inundation and the unfavourable set of the river which caused heavy silt deposits at its mouth. Crops were however saved to a certain extent by bunding up the canal at Aroni.

1903.—The inundation was good and the working of the canal this year can on the whole be said to have been very satisfactory. The supplementary new mouth—40 feet wide from the Akil dhand—came into operation during the season and materially augmented the supply.

1904.—The supplementary mouth was widened to 80 feet and towards the end of July the old mouth was abandoned. The canal worked fairly well in spite of low inundation as it was materially helped by Pritchard Canal. The tail portion however suffered a little.

1905.—The new Akil mouth was further widened to 125 feet and was opened on the 4th June. The canal owing to the improvements effected and the excellent inundation worked exceedingly well.

1906.—The canal worked remarkably well throughout the season, the river being favourable.

1907.—In spite of low level of water in river the canal worked satisfactorily throughout the season as the river was favourable.

1908.—The canal worked remarkably well throughout the season, the river being favourable.

LOHRIWAH.

1893.—Water sufficient.

1894.—The head regulator remained partially closed. The supply let down into the canal was quite sufficient to meet the requirements.

1895.—The lands on the canal suffered to a little extent owing to the low level of the river.

1896.—Breaches were caused in the first 3 miles of the canal by the hill torrents from Nai Gaj during the months of June, July and August, but the breaches on both the banks were promptly closed to prevent water from going to waste and only 5 openings on the right bank left for the passage of hill flood water into the canal. This increased the cultivation but the fall of the water in September affected the crops to a certain extent.

1897.—Water supply abundant with the exception of the latter part of the season when the cultivators saved the crops by erecting a second set of wheels. Hill torrents entered into the canal from Nai Gaj on the 19th August but the volume of water was not great.

1898.—The canal on the whole worked satisfactorily. Hill floods entered into the canal through the karias at mile 3 right bank on 23th May.

1899.—Water supply good with the exception of the latter part of the season when special measures such as "chabbing" were resorted to for saving crops from withering.

1900.—Water supply sufficient throughout the season. The hill floods came down this year as well and the head regulator remained closed until they subsided.

1901.—Water supply sufficient with the exception of the latter part of the season. Hill floods came this year also.

1902.—The hill floods from Gaj Nai supplemented the water supply in the canal which thus worked satisfactorily.

1903.—Supply quite sufficient throughout the season.

1904.—Water supply good up to the end of August, after which special measures had to be resorted to which saved the cultivation to a great extent.

1905.—The canal worked very well.

1906.— Do. do.

1907.—Worked satisfactorily. Hill torrents did much damage and cut the embankments on either side.

1908.—Worked satisfactorily. Hill torrents breached the canal in several places but no damage was done to crops.

KUDANWAH.

1890.—Water supply poor throughout the season.

1891.—Owing to low inundation the canal did not work well. The supply in the tail was supplemented from the Pritchard Canal which not only increased the cultivation but helped the crops greatly.

1892.—The supply was quite sufficient throughout the season.

1893.—Water supply was ample. River floods submerged almost all the land except high-lying lands on its banks.

1894.—Water supply was ample. Its lower part was everywhere out up by the crossing of floods.

1895.—As the zamindars expressed not to cultivate land in its first 6 miles the new mouth was closed and the old cleared and opened to reduce the discharge entering the canal to lessen the danger to embankments. Subsequently new mouth was opened but the river fell too low to be of any great use. The tail supply was supplemented by a cut from the Pritchard Canal.

1896.—Water supply deficient. The tail supply was supplemented from the Pritchard Canal.

1897.—Received ample supply of water.

1898.—The canal suffered owing to low inundation. The tail supply was supplemented from the Pritchard Canal and Khudawah also rendered material help to its cultivation from mile 11 to 15.

1899.— Do. do. do.

1900.—The water supply in the canal was not up to the requirements and this rendered it necessary to supplement the supply in its lower reaches from Pritchard Canal and Khudawah.

1901.—Owing to unsatisfactory working of the tail of this canal in Dadu taluka a new out was made from Pritchard Canal to feed it, and the whole including its lower portion was called Juberji branch which worked satisfactorily.

JUBERJI BRANCH.

1902.—It did not work satisfactorily owing to low inundation.

1903.—Received an abundant supply of water throughout the season.

1904.—Up to 20th July water was sufficient for lift. Owing to chabbing the tail of the canal there was abundant supply from end of July to end of August and consequently all lands got flow supply. In September owing to fall in river the supply was deficient and crops would have suffered but for the closing of the stop gate regulator on Pritchard Canal.

1905.—Worked satisfactorily.

1906.—It worked very satisfactorily.

1907.—It worked well.

1908.—Worked satisfactorily and no deficiency was felt.

KAROWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.—Water supply good throughout the season.

1893.—Water supply abundant.

1894.—Worked fairly well.

1895.—Worked fairly well.

1896.—Worked well.

1897.—Water-supply ample throughout the season.

1898.—The canal worked fairly well and there was sufficient water for the cultivation.

1899.—The canal suffered owing to low level of water in Nara in the end of August.

1900.—There was sufficient supply of water in the canal throughout the season. Crops suffered in places owing to giving water beyond requirements.

1901.—Water supply sufficient for lift irrigation.

1902.—After ceasing to flow two or three times it ceased altogether on 25th September. Crops were greatly helped both by backwater from Ghari and regulation of the Sonmiani sluice.

1903.—The canal flowed uninterruptedly throughout the season and water supply was sufficient for all land dependent on it which is lift.

1904.—There was a good supply in the canal up to 3rd week of August, when some deficiency was felt owing to silting at the head. This was cleared and a better supply thus admitted into the canal.

1905.—Water supply ample.

1906.— Do. do.

1907.—The supply was fair throughout the season.

1908.—The supply in the canal was good up to the end of September.

LOWER NURWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.—Water supply fairly good throughout the season.

1893.—Water supply abundant.

1894.—Worked satisfactorily.

1895.—Worked well. It materially assisted the Phito when river fell.

1896.—Worked well.

1897.—Water-supply sufficient except at the latter part of the season and the closing of Sonmiani sluice assisted by rains saved the crops from withering.

1898.—Received a fair supply. Artificial measures had had to be resorted to for saving flow cultivation.

1899.—There was a fair supply of water in the canal. Crops at tail only suffered a little.

1900.—There was sufficient supply of water throughout the season. Crops suffered in places owing to giving water beyond requirements.

1901.—Water supply sufficient for lift irrigation.

1902.—It did not work well. Crops helped by floods entered the Nara through Lohriwah and regulation of the Sonmiani sluice over Nara.

1903.—The supply in the canal was good throughout the season.

1904.—The supply in the canal was good up to 3rd week of August but poor afterwards up to the middle of September. Special measures had to be resorted to for saving the crops.

1905.—Water supply sufficient.

1906.— Do. do.

1907.—The supply was fair throughout the season.

1908.—Worked satisfactorily.

NEW GARIBI, OLD GARIBI AND ALIGUNJ.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.— Do. do.

1893.—Water supply abundant.

1894.—Cultivation submerged by Lashari floods.

1895.—Worked very well.

1896.—Worked well.

1897.—Received an ample supply of water.

1898.—There was sufficient supply of water throughout the season.

1899.—They received a good supply except towards the end of August when the supply failed and the flow crops suffered.

1900.—There was a good supply of water throughout the season. Dry crop suffered to a certain extent from excess of water.

1901.—Received good supply up to the first fortnight of September. Crops being sown late suffered to an extent.

1902.—Water supply deficient owing to low inundation.

1903.—The water supply was good throughout the season and no deficiency was felt.

1904.—The supply in the canal was good up to first week of August but deficient afterwards.

1905.—Water supply sufficient.

1906.— Do. do.

1907.—Worked satisfactorily.

1908.—The supply was good throughout the season.

DINGRIWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.—Water supply somewhat deficient in the beginning of the season only. Rain floods damaged the crops.

1893.—Water supply abundant.

1894.—Heavy hill torrents joined with the river floods submerged almost all the cultivation except high-lying patches.

1895.—Water distributed to the best advantage by tightly closing the regulating sluice at about half its length by turns.

1896.—Worked well.

1897.—Water supply ample. Lift cultivation in the last 4 miles of the canal was damaged by hill torrents.

1898.—Owing to rapid fall of river and Nara sufficient level of water could not be maintained for all the time and crops suffered in consequence.

1899.—The supply was not good and the crops suffered in consequence.

1900.—The supply in the canal was sufficient throughout the season. Some crops suffered from excess of water.

1901.—Owing to unsteady nature of the supply in the Nara the supply in the canal was not on the whole satisfactory.

1902.—Water supply inadequate.

1903.—The canal worked fairly well.

1904.—The supply in the canal was good up to the 1st week of August and chabbing the canal at mile 6-0 greatly helped the crops.

1905.—The canal worked most satisfactorily.

1906.—The supply was sufficient throughout the season.

1907.—The supply in the canal was good throughout the season.

1908.—Worked satisfactorily throughout the season.

MAKAKIWAH.

1890.—Water supply poor throughout the season.

1891.—Water supply sufficient throughout the season.

1892.— Do. do, do, Rain water damaged the crops.

1893.—Water supply abundant.

1894.—Water supply sufficient. Heavy hill torrents joined with river floods submerged almost all the cultivation except high-lying patches.

1895.—Worked very well.

1896.—Worked well.

1897.—There was a good supply throughout the season. Crops on its right bank were damaged by Manchhur flood.

1898.—There was a fair supply throughout the season. Crops below mile 8 suffered for lack of water.

1899.—Owing to low inundation the supply was not good. Crops suffered.

1900.—Received a good supply throughout the season. Some crops suffered from excess of water.

- 1901.—Worked satisfactorily.
 1902.—The supply in the canal was very poor.
 1903.—There was a sufficient supply of water throughout the season.
 1904.—The supply was good throughout the season.
 1905.—The canal worked very satisfactorily.
 1906.—It worked satisfactorily.
 1907.— Do. do.
 1908.—Supply was very good throughout the season.

MUHAMMAD ALI WAH.

- 1890.—Water supply poor throughout the season.
 1891.—Water supply sufficient throughout the season.
 1892.— Do. do. do. do. , but cultivation in low lands was damaged by rain water.
 1893.—Water supply abundant.
 1894.—Water supply sufficient. Floods damaged the crops in its first two miles.
 1895.—Worked very well.
 1896.—Worked well.
 1897.—There was a good supply throughout the season.
 1898.—There was a fair supply throughout the season. Late crops suffered a little owing to fall of water in September.
 1899.—Supply not good. Cultivation suffered to some extent owing to lack of water.
 1900.—The water supply was quite enough throughout the season. Dry crop suffered to an extent from excess of water.
 1901.—Received a satisfactory supply throughout the season.
 1902.—There was abundant supply in the canal.
 1903.—The canal worked well throughout the season.
 1904.—The supply in the canal was good up to the end of July and fair in the month of August and first few days of September. Chahi at mile 1/3 was allowed to save the rice crops.
 1905.—The canal worked very satisfactorily.
 1906.—It worked satisfactorily.
 1907.— Do. do.
 1903.—Supply in the canal was good throughout the season.

SAKROWAH.

- 1890.—Water supply poor throughout the season.
 1891.—Water supply sufficient throughout the season.
 1892.— Do. Rain floods damaged the crops.
 1893.—Water supply abundant.
 1894.—Water supply sufficient. Rain water joined with floods submerged almost all cultivation except high-lying patches.
 1895.—Cultivation suffered to an extent during the latter part of the season owing to the supply being cut off by the Nara Baid sluice.
 1896.—Worked well.
 1897.—Water supply sufficient. Cultivation damaged by Manchhur floods.
 1898.—Water supply deficient.
 1899.—Water supply fair due to low inundation. High lands suffered.
 1900.—Water supply sufficient. Cultivation on its left bank submerged by Manchhur flood.
 1901.—Received a fair supply throughout the season.

- 1902.—Water supply deficient.
 1903.—The canal received a good supply throughout the season.
 1904.—The canal on the whole worked well. Crops being chiefly rice the supply was not equal to the heavy demand.
 1905.—The supply in the canal was satisfactory.
 1906.—Supply sufficient.
 1907.—Supply very satisfactory.
 1908.—Supply was very good, but cultivation was submerged by hill torrents during July and August.

KUB AKTAR.

- 1890.—Water supply poor throughout the season.
 1891.—Water supply sufficient throughout the season.
 1892.— Do. do. do. Rain floods damaged the crops.
 1893.—Water supply abundant.
 1894.—All cultivation submerged owing to overflow of Manchhur.
 1895.—Worked well.
 1896.—Worked well. Hill torrents damaged the cultivation on the right bank.
 1897.—The supply was good throughout the season. Cultivation was submerged by Manchhur flood.
 1898.—Received a fair supply throughout the season.
 1899.—Water supply fair. High lands suffered.
 1900.—Water supply sufficient. Cultivation on its right bank was submerged by Manchhur flood.
 1901.—Received a fair supply throughout the season.
 1902.— Do. do.
 1903.—The canal flowed excellently throughout the season.
 1904.—The canal on the whole worked well throughout the season.
 1905.—The supply in the canal was very satisfactory.
 1906.—Supply sufficient.
 1907.—Supply very satisfactory.
 1908.—Supply very good.

CHARIO WAHUR, ARAL AND DUNSTER.

- 1890.—Water supply poor throughout the season owing to low inundation.
 1891.—Water supply fair throughout the season.
 1892.— Do. do.
 1893.—Water supply good throughout the season.
 1894.—Water supply abundant. Karampur flood passed into the canal.
 1895.—Water comparatively low owing to low inundation.
 1896.—Water supply ample. River floods burst into the canal.
 1897.—Water supply was ample and the floods passed down the canal.
 1898.—The canal worked fairly well but there was no cultivation owing to fear of lands being flooded.
 1899.—There was a very good supply in the canal.
 1900.—In consequence of the general complaint of low level of water in Manchhur, bunds were put up near Sehwan across Chario Wahur and Aral with a view to force more water up the Aral and Dunster into the Manchhur Lake. The canals worked very well throughout the season.
 1901.—The canals had sufficient supply of water throughout the season.
 1902.—The supply in the canals was good throughout the season.
 1903.—There was a very good supply throughout the season.

1904.—The supply in the canals was good throughout the season and the canals worked satisfactorily.

1905.—The canals worked very satisfactorily.

1906.—The canals worked very well.

1907.—The supply in the canal was good throughout the season.

1908.—Water supply sufficient. Rains and river spill water submerged the crops.

MANCHHUR LAKE.

1890.—Received little help from Nara and other feeders due to low inundation and absence of rains. Hill torrents in the beginning of December came down with great force and submerged rabi crops.

1891.—Received supply from Nara, Chario Wahur, Aral and Dunster. No hill floods.

1892.—Unprecedented local rainfall together with hill floods raised the level to the highest mark on record.

1893.—No hill floods except early in July. Area submerged for rabi was much less than last year.

1894.—Hill torrents joined with river floods raised the water level considerably.

1895.—Water in the lake rose but little owing to low inundation and absence of rain.

1896.—Owing to river having maintained its high level for about 2 months and the hill floods which came 3 times in the season large quantity of water entered the lake.

1897.—River floods aided by hill torrents raised the level of water considerably.

1898.—Received a little supply of water owing to low inundation and absence of rains.

1899.—It did not receive sufficient water owing to low inundation and absence of rains.

1900.—Received a very good supply. The rise was chiefly due to the construction of bunds across Chario Wahur and Aral. The drainage in the beginning was not satisfactory, but after the fall of river on the 1st October water was drained off rapidly and a very large area was made available for rabi.

1901.—Large area was brought under rabi as the drainage through Aral was satisfactory.

1902.—Rains and canal water flooded large areas in the dhand and the area under rabi was comparatively large but less than in the last year in spite of low inundation.

1903.—This dhand was well filled this year and rabi area was fairly great, and about 3,000 acres more than in the previous year.

1904.—Water through the Aral and Nara filled the lake. Owing to the earlier backflow of water into the river the cultivation increased by about 4,000 acres more.

1905.—The Manchhur flood was one of the highest on record and the area under rabi was comparatively large though somewhat less than in the previous year.

1906.—The Manchhur got filled from the river and hill torrents and high water mark was higher than previous year which was record, but there was a slight fall in the area under rabi.

1907.—Owing to low inundation the canals did not bring in much water but hill torrents greatly helped in filling up the lake and there was a large falling off in the area under rabi.

1908.—The river water and hill torrents submerged large areas of the lake. The lake was drained off fairly well.

UPPER NURWAH.

- 1890.—There was ample water in spite of the low inundation.
- 1891.—There was a fair supply of water in the canal. The river being unfavourable the canal ceased flowing early in the season.
- 1892.—Worked fairly well.
- 1893.—The supply was fairly good in the beginning, but river went low in August when rotation was resorted to which materially saved the crops.
- 1894.—The canal maintained a very good supply throughout the season.
- 1895.—River eroded above and below the mouth. The canal dried 4 times during the season. Water supply was deficient.
- 1896.—It worked well.
- 1897.—Water supply plentiful except towards the end of the season when rains assisted the crop.
- 1898.—There was a good supply of water throughout the season.
- 1899.—Water supply deficient owing to low inundation.
- 1900.—There was sufficient water in the canal throughout the season.
- 1901.—The canal suffered owing to late rise and unfavourable set of the river. Efforts were however made to utilize the reduced supply to the greatest advantage by regulation.
- 1902.—The supply was sufficient throughout the season in spite of low inundation due to favourable set of the river.
- 1903.—The supply in the canal was excellent throughout the season.
- 1904.—The supply in the canal was deficient throughout the season owing to the dhand feeding it having heavily silted.
- 1905.—In spite of the mouth of the canal being improved the supply in the canal was not so good as to meet the demands of flow cultivation towards the end of July, but the rise in the river in September saved the situation.
- 1906.—The Wahur feeding the canal was cut into by the erosion of the river. Worked very satisfactorily.
- 1907.—Supply in the canal was deficient owing to its mouth having been cut into and eroded away by river.
- 1908.—A new mouth which was completed during the year gave a very satisfactory supply throughout the season.

KOLAB SIAL.

- 1890.—There was sufficient supply in the canal throughout the season.
- 1891.—Water supply deficient and crops would have perished had not supply been augmented from Western Nara.
- 1892.—Deficiency was felt in the early part of the season but there was ample supply available later on to the end of the season.
- 1893.—The canal worked fairly well till the fall of river in August when Nara water was admitted to augment the supply.
- 1894.—The canal maintained a very good supply throughout the season.
- 1895.—Water supply deficient, It dried several times when the river fell very low. Crops suffered.
- 1896.—Worked well.
- 1897.—Received a good supply throughout the season.
- 1898.—Owing to low inundation the supply was limited throughout the season.
- 1899.—It did not work well and deficiency was felt towards the end of the season. To remedy this a bund across its feeder Wahur was allowed, which not only saved the standing crops on the canal itself but greatly benefited the crops along its branches Ghari and Wadhu.
- 1900.—The supply in the canal was sufficient throughout the season.
- 1901.—Worked fairly well throughout the season.

1902.—The supply was fair. Chahi across the Wahur feeding it increased the supply in the canal which benefited the crops on the canal itself and its branches.

1903.—The supply was very good throughout the season.

1904.—The supply was fair throughout the season.

1905.—The canal worked satisfactorily.

1906.—Supply sufficient.

1907.—Supply in the canal was deficient owing to the low inundation throughout the season.

1908.—Supply was very good throughout the season.

WADHUWAH AND GHARIWAH BRANCHES OF KOLAB SIAL.

1890.—There was a fair supply in the canals throughout the season. Late crops partly suffered due to sudden fall of the river.

1891.—Water supply deficient. Crops would have perished but for a supply having been given for 3 days from Western Nara.

1892.—A deficiency was felt in the early part of the season but there was ample supply of water for the rest of the season.

1893.—Fall of river in August was compensated for letting in surplus water from Nara into it.

1894.—The canals maintained a very good supply throughout the season. The surplus water was discharged into the Duabo dhand.

1895.—Water supply deficient. They ceased flowing several times during the season whenever the river fell very low.

1896.—Worked well.

1897.—Water supply good throughout the season.

1898.—Water supply sufficient for lift crop. Late crops suffered owing to fall of river in September.

1899.—Supply scanty owing to low inundation.

1900.—Received a sufficient supply of water throughout the season.

1901.—Worked fairly well throughout the season.

1902.—The supply in the canals was fair.

1903.—The supply was sufficient throughout the season.

1904.—The supply in the canals was fair in the first four miles and poor further down due to unsatisfactory inundation.

1905.—The canals worked satisfactorily.

1906.—Supply sufficient.

1907.—Supply deficient owing to low inundation throughout the season.

1908.—Supply good throughout the season.

PHITTA CANAL.

1890.—There was a good supply in the canal in the early part of the season but the river went on changing its course from its right to left bank and back again causing very heavy silt deposits at its mouth. Great portion of cultivation was saved by bringing water into the canal from the dhand at its mouth.

1891.—Supplied partly from river direct and partly from Nara. The Karampur flood coming in towards the tail gave a high level and plenty of water.

1892.—The canal worked very well. The supply was augmented from Nara in the early part of the season and from end of July more than sufficient was obtained from its mouth owing to favourable change in the river.

1893.—The supply was good and high up to 2nd August when the river began to fall but its supply was augmented from Western Nara and the flood standing in the large dhand near its mouth.

1894.—The canal maintained a very good supply throughout the season.

1895.—The canal did not suffer, notwithstanding low inundation, the river being favourable. The supply from Nara greatly assisted the crops.

1896.—Worked well.

1897.—Water supply good throughout the season. Rains also assisted the crops. Lands in its last 10 miles were submerged by Karampur floods. River was only quarter of a mile from its tail.

1898.—Received sufficient supply of water throughout the season. Late crops below mile 11 suffered.

1899.—The supply was deficient due to low inundation and the unfavourable set of the river.

1900.—The supply in the canal was sufficient throughout the season.

1901.—The supply in the canal had to be supplemented from Nara to meet the deficiency due to unfavourable set of the river.

1902.— Do. do. do.

1903.—The supply in the canal was poor up to the middle of July, but subsequent rise of the river changed the state of things for the better.

1904.—The supply in the first 8 miles was fair and below 8th mile to the tail the supply was deficient.

1905.—River unfavourable and supply deficient but was augmented from Western Nara with good results.

1906.—The supply in the canal was fairly sufficient. It was moreover augmented from Western Nara.

1907.—The supply in the canal was fair and supplemented by the Nara branches Lower Nurwah and Muhammad Ali wah.

1908.—The supply in the canal was good throughout the season.

PRITCHARD CANAL.

1890.—Opened for the first time on 14th July. At the time of opening the river was cutting away its right bank at the village of Nao Goth one-quarter mile below the canal mouth, the erosion then worked up-stream and cut away rapidly. Of the original of line of canal half a mile was eaten away by river. It augmented the supply in the Nara by $1\frac{1}{2}$ ft.

1891.—Owing to erosion 3,700 feet at mouth were removed by river and silt to a depth of 7 feet accumulated. The canal assisted the Nara as long as it flowed. It had ceased to flow from 29th June to 1st July and finally ceased flowing on 7th October. The river was unfavourable and the supply fluctuating and somewhat deficient.

1892.—Water supply deficient up to 14th July. Since August the head regulator remained closed till the end of season owing to floods from Rajana bunds entering into the canal. This considerably augmented the supply in Western Nara.

1893.—Remained entirely or partially closed nearly all the season. Served as an escape during Lashari floods, saving a large part of Mehar and Kakar from being submerged.

1894.—Until the end of June water was not required. Early in July the floods cut into the canal at 19th mile rendering necessary the closing of the head regulator.

1895.—Water supply fair although the inundation was low and fluctuating.

1896.—Water supply sufficient till 20th August, after which the river began to fall and the canal ceased to flow on 1st September. Crops however did not suffer much.

1897.—The canal was regulated according to requirements of the Nara and it worked fairly well.

1898.—In spite of low inundation the canal worked well owing to favourable position of its mouth.

1899.—The canal worked satisfactorily for the first two months and then the river began to fall which told heavily on the crops in its upper reaches.

1900.—The canal remained fully open up to 19th July 1900, and afterwards it was kept closed owing to breach having occurred in the canal and subsequently to the water not being required in the Nara. Some cultivation was damaged by Lashari floods.

1901.—The head regulator remained open until the 1st August when it was closed as the level exceeded that of the designed supply 10 feet. Nangeshah floods augmented the supply in Western Nara which saved the crops in its tail portion.

1902.—The canal worked extremely unsatisfactorily throughout the season in consequence of the unfavourable position of the Wahur feeding it and low inundation.

1903.—The river was unfavourable at first, but after 20th June its set was favourable and the inundation on the whole good. The canal worked well and helped Western Nara considerably.

1904.—The canal worked satisfactorily throughout the season although the inundation was not good. This was due to favourable set of the river.

1905.—Worked very well but was not so much utilized as in the past for supplementing the supply in the Western Nara as it brought down ample supply of its own due to further widening of its New Akil mouth to 125 feet bed width.

1906.—It worked very satisfactorily. Full supply, *viz.*, 10 feet could not be admitted into the canal as there was abundant supply in the Nara and 9.50 was the level of the whole season.

1907.—The canal worked satisfactorily. Was regulated according to the requirements of the Nara as the latter canal had ample supply of its own.

1908.—The canal worked satisfactorily. Owing to water not being required in the Nara the supply had to be cut off at the head regulator. The river was favourable

ESCAPE CHANNEL.

1895.—Received a moderate supply of water owing to low inundation.

1896.—Water supply good. Canal ceased to flow on 1st September and cultivation saved by erecting wheels on dhands.

1897.—Good supply of water passed down the canal which assisted the crops.

1898.—There was ample supply of water throughout the season.

1899.— Do. do. do.

1900.—There was ample supply of water throughout the season. It served as an escape at times of high level of water in Nara.

1901.—Received a good supply of water. Relieved its feeder when there was surplus water in it during August.

1902.—It did not work satisfactorily throughout the season owing to low inundation.

1903.—Received abundant supply of water throughout the season.

1904.—Received an abundant supply throughout the season.

1905.—Worked satisfactorily.

1906.— Do.

1907.— Do.

1908.— Do.

MARVIWAH.

1890.—Worked very well notwithstanding poor inundation.

1891.—Erosion at its mouth caused the canal to dry earlier in the season.

1892.—In the beginning supply was deficient but gradually improved. This was due to the character of inundation. Floods submerged all cultivation in low ground.

1893.—River eroded about $2\frac{1}{2}$ miles of the canal. Owing to the approach of river it maintained a very high level of water which overflowing its banks passed towards Phulji station.

1894.—About a mile of the canal at its mouth was eroded away. Flood after crossing the Pritchard Canal flowed back from the tail which necessitated closing of the head regulator except for short intervals to save crops in the upper reaches of the canal.

1895.—Water was admitted according to requirements and there was no complaint of deficiency. No erosion at its mouth. It worked satisfactorily.

1896.—Worked very well,

1897.—Worked satisfactorily,

1898.—Water supply scanty owing to low inundation.

1899.—It worked fairly well.

1900.—It worked very satisfactorily.

1901.—Owing to the active erosion of the dhand above the mouth of the canal a large deposit of silt was formed near the mouth resulting in the supply being cut off earlier than usual.

1902.—Owing to the extremely low inundation and unsatisfactory mouth of the canal the canal worked badly. The canal after ceasing to flow twice finally stopped flowing on 24th August.

1903.—The canal worked exceptionally well but owing to erosion at its mouth its first mile was silted and the canal ceased flowing on 6th September. It again flowed on 13th and finally stopped flowing 10 days afterwards.

1904.—It worked satisfactorily throughout the season.

1905.—Supply sufficient.

1906.—Worked very satisfactorily.

1907.—The canal suffered greatly as it ceased flowing thrice during the season owing to the fluctuations in the river.

1908.—The canal worked much better than last year.

B. KRISHNARAO,
Executive Engineer, Western Nara.

STATEMENT of comparative maximum gauge readings of Bukkur and Baksho Jamali.

Year.	Bukkur.	Baksho Jamali.	Year.	Bukkur.	Baksho Jamali.
1887 ...	16.6	9.80	1898... ..	13.4	11.70
1888 ...	14.4	8.80	1899... ..	13.4	11.80
1889 ...	16.6	12.40	1900... ..	14.5	12.60
1890 ...	16.0	11.80	1901... ..	16.4	12.70
1891 ...	14.8	12.00	1902... ..	13.4	9.40
1892 ...	16.7	13.80	1903... ..	16.8	11.90
1893 ...	15.8	13.90	1904... ..	15.8	11.60
1894 ...	16.4	13.90	1905... ..	16.7	13.10
1895 ...	15.3	13.30	1906... ..	16.6	13.90
1896 ...	15.8	13.40	1907... ..	13.7	14.20
1897 ...	17.9	13.20	1908... ..	16.1	14.40

List showing improvements made in Dadu, Johi and Sehwan talukas since the introduction of the current settlement, 1890-91 to 1907-08.

Serial No.	Names of works.	Cost of outlay.	When completed.
		Rs.	
1	Improving supply of Upper Uner wah ...	14,136	March 1891.
2	Excavating an extension of the Upper Nurwah to the Ghari wah, Dadu taluka.	15,636	February 1892.
3	Additions and alterations to the old bridge over Upper Nur wah for regulation of water	457	September 1892.
4	Excavation of Lohri wah ...	9,088	March 1893.
5	Excavation of Pritchard canal ...	3,32,128	March 1894.
5-A	Constructing head regulator over Marni wah ...	3,832	March 1894.
6	Improvements at the mouth of the Aral wah ...	8,993	March 1901.
7	Making a new cut to Dingri wah ...	5,931	February 1903.
8	Widening Pritchard canal from stop gate regulator at mile $\frac{2}{1}$, and its junction with Western Nara ...	6,385	July 1903.
9	Excavating Juberji branch 4, Pritchard canal ...	3,497	March 1904.
10	Construction of a new mouth to Marvi wah ...	2,460	March 1904.
11	Constructing a new Akil mouth to Western Nara ...	1,45,127	July 1905.
12	Extending the mouth of Upper Nur wah...	1,805	October 1905.
13	Widening New Akil mouth to Western Nara to 80 ft. bed width ...	71,168	November 1905.
14	Construction of a new mouth to the Wahur feeding Pritchard canal, Wahur and Marni wah ...	18,231	March 1906.
15	Cutting a new mouth to Upper Nurwah...	2,000	November 1908.
16	* Widening New Akil mouth to 125 ft. bed width ...	1,61,691	

* In progress, practically completed.

B. KRISHNARAO,
Executive Engineer, Western Nara.

Statement showing length of canals and expenditure incurred in maintenance (works) of canal and bunds in Dadu, Johi and Sehwan talukas from 1907-1908.

Name of canal or bund.	Length of canal or bund in miles.	Taluka in which each canal passes.	EXPENDITURE ON MAINTENANCE (WORKS) OF CANALS FOR SEASONS.																	Total of 18 years.	Average.	Remarks.			
			1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-1901.	1901-1902.	1902-1903.	1903-1904.	1904-1905.	1905-1906.	1906-1907.				1907-1908.		
Fatehpur bund ...	7.00		Rs. 241	Rs. 150	...	Rs. 166	...	Rs. 196	Rs. 793	Rs. 556	Rs. 609	Rs. 264	Rs. 105	Rs. 654	Rs. 367	Rs. 329	Rs. 308	Rs. 231	Rs. 178	Rs. 511	Rs. 8,616	Rs. 364			
Western Nar ...	155.75		Rs. 2,826	Rs. 7,768	Rs. 7,025	Rs. 7,354	Rs. 1,260	Rs. 15,136	Rs. 2,168	Rs. 3,764	Rs. 3,240	Rs. 3,546	Rs. 3,338	Rs. 10,754	Rs. 15,989	Rs. 10,102	Rs. 2,326	Rs. 6,461	Rs. 7,263	Rs. 6,518	Rs. 12,831	Rs. 7,151			
Kudan wah ...	19.63		Rs. 3,011	Rs. 1,810	Rs. 1,614	Rs. 2,374	Rs. 3,037	Rs. 2,493	Rs. 2,793	Rs. 3,240	Rs. 4,536	Rs. 5,617	Rs. 1,841	Rs. 3,058	Rs. 1,645	Rs. 1,459	Rs. 2,000	Rs. 2,768	Rs. 1,109	Rs. 2,471	Rs. 46,079	Rs. 2,569			
Labri wah ...	6.00		...	...	Rs. 1,504	Rs. 888	Rs. 779	Rs. 1,102	Rs. 776	Rs. 613	Rs. 181	Rs. 413	Rs. 178	Rs. 366	Rs. 508	Rs. 278	Rs. 290	Rs. 243	Rs. 162	Rs. 723	Rs. 8,963	Rs. 454		
Kara wah ...	3.75		Rs. 423	Rs. 352	Rs. 385	Rs. 545	Rs. 533	Rs. 759	Rs. 592	Rs. 467	Rs. 650	Rs. 573	Rs. 573	Rs. 587	Rs. 600	Rs. 104	Rs. 471	Rs. 262	Rs. 129	Rs. 408	Rs. 8,914	Rs. 460			
Lower Nar wah ...	6.25		Rs. 1,815	Rs. 800	Rs. 691	Rs. 1,199	Rs. 967	Rs. 893	Rs. 612	Rs. 556	Rs. 1,168	Rs. 1,333	Rs. 935	Rs. 1,140	Rs. 552	Rs. 265	Rs. 989	Rs. 909	Rs. 678	Rs. 736	Rs. 16,566	Rs. 630			
New Garibi ...	4.12		Rs. 734	Rs. 713	Rs. 293	Rs. 534	Rs. 189	Rs. 354	Rs. 329	Rs. 213	Rs. 815	Rs. 695	Rs. 493	Rs. 654	Rs. 292	Rs. 443	Rs. 874	Rs. 733	Rs. 745	Rs. 609	Rs. 10,339	Rs. 574			
Old Garibi ...	2.9		Rs. 327	Rs. 120	Rs. 173	Rs. 320	Rs. 490	Rs. 374	Rs. 252	Rs. 390	Rs. 463	Rs. 295	Rs. 473	Rs. 366	Rs. 260	Rs. 32	Rs. 162	Rs. 130	Rs. 73	Rs. 89	Rs. 4,742	Rs. 265			
Aliganj ...	4.0		Rs. 171	Rs. 84	Rs. 101	...	Rs. 137	Rs. 36	Rs. 152	Rs. 74	Rs. 468	Rs. 181	Rs. 403	Rs. 487	Rs. 57	Rs. 167	Rs. 108	Rs. 379	Rs. 108	Rs. 180	Rs. 3,141	Rs. 155			
Dingri ...	3.36		...	Rs. 287	Rs. 266	...	Rs. 372	Rs. 712	Rs. 710	Rs. 685	Rs. 680	Rs. 1,007	Rs. 1,365	Rs. 1,440	Rs. 2,635	Rs. 1,859	Rs. 1,336	Rs. 1,699	Rs. 409	Rs. 1,340	Rs. 18,746	Rs. 1,192			
Makaki ...	11.50		Rs. 687	Rs. 714	Rs. 599	Rs. 556	Rs. 893	Rs. 1,167	Rs. 691	Rs. 782	Rs. 739	Rs. 1,233	Rs. 1,313	Rs. 678	Rs. 790	Rs. 1,090	Rs. 393	Rs. 642	Rs. 366	Rs. 328	Rs. 14,296	Rs. 794			
Muhammad Ali wah ...	4.50		...	Rs. 523	Rs. 491	Rs. 460	Rs. 524	Rs. 529	Rs. 271	Rs. 497	Rs. 531	Rs. 668	Rs. 617	Rs. 780	Rs. 683	Rs. 771	Rs. 942	Rs. 400	Rs. 392	Rs. 304	Rs. 9,140	Rs. 518			
Bakro ...	3.25		Rs. 5	Rs. 353	Rs. 304	Rs. 773	Rs. 513	Rs. 629	Rs. 678	Rs. 1,064	Rs. 870	Rs. 406	Rs. 307	Rs. 429	Rs. 593	Rs. 433	Rs. 373	Rs. 406	Rs. 336	Rs. 204	Rs. 8,667	Rs. 463			
Kur Akhtar ...	3.50		Rs. 610	Rs. 153	Rs. 394	Rs. 467	Rs. 1,309	Rs. 694	Rs. 2,693	Rs. 1,663	Rs. 900	Rs. 475	Rs. 429	Rs. 631	Rs. 578	Rs. 550	Rs. 874	Rs. 341	Rs. 343	Rs. 289	Rs. 12,000	Rs. 713			
Juberji ...	4.12		...	...	...	...	...	...	...	...	...	...	...	Rs. 843	Rs. 391	Rs. 743	Rs. 989	Rs. 639	Rs. 867	Rs. 1,128	Rs. 4,994	Rs. 213		
Aral wah ...	17.0		...	Rs. 4,788	Rs. 1,347	Rs. 1,351	Rs. 857	Rs. 1,707	Rs. 1,615	Rs. 710	Rs. 198	Rs. 235	Rs. 299	Rs. 308	Rs. 399	Rs. 218	Rs. 121	Rs. 224	Rs. 123	Rs. 308	Rs. 472	Rs. 10,802	Rs. 1,237		
Danster wah ...	13.20		Rs. 44	Rs. 640	Rs. 158	...	Rs. 241	Rs. 90	Rs. 323	Rs. 198	Rs. 225	Rs. 299	Rs. 308	Rs. 399	Rs. 218	Rs. 121	Rs. 224	Rs. 123	Rs. 308	Rs. 472	Rs. 4,238	Rs. 249			
Chario wah & new cut ...	2.76		Rs. 1,488	Rs. 3,671	Rs. 689	Rs. 825	Rs. 614	Rs. 615	Rs. 321	Rs. 1	...	Rs. 91	Rs. 1,097	Rs. 292	Rs. 540	Rs. 375	Rs. 504	Rs. 515	Rs. 305	Rs. 270	Rs. 12,119	Rs. 713			
Upper Nar wah into wahur ...	18.63		Rs. 1,855	Rs. 4,267	Rs. 2,950	Rs. 3,327	Rs. 3,733	Rs. 4,178	Rs. 3,580	Rs. 3,677	Rs. 1,349	Rs. 2,945	Rs. 1,955	Rs. 1,601	Rs. 679	Rs. 1,080	Rs. 128	Rs. 317	Rs. 1,920	Rs. 40,877	Rs. 2,367				
Kolab Stal ...	6.00		Rs. 1,863	Rs. 1,163	Rs. 1,098	Rs. 1,140	Rs. 1,879	Rs. 2,176	Rs. 1,898	Rs. 1,722	Rs. 1,688	Rs. 1,522	Rs. 1,112	Rs. 1,518	Rs. 1,059	Rs. 1,220	Rs. 769	Rs. 790	Rs. 694	Rs. 953	Rs. 24,006	Rs. 1,372			
Ghariwah ...	6.00		Rs. 905	Rs. 1,041	Rs. 790	Rs. 1,091	Rs. 894	Rs. 1,568	Rs. 1,541	Rs. 1,313	Rs. 1,373	Rs. 1,108	Rs. 1,429	Rs. 1,269	Rs. 1,104	Rs. 1,201	Rs. 844	Rs. 1,163	Rs. 974	Rs. 741	Rs. 20,197	Rs. 1,011			
Wadhu wah ...	6.13		Rs. 633	Rs. 839	Rs. 511	Rs. 753	Rs. 331	Rs. 930	Rs. 626	Rs. 949	Rs. 918	Rs. 915	Rs. 945	Rs. 1,125	Rs. 1,140	Rs. 1,005	Rs. 601	Rs. 1,364	Rs. 347	Rs. 745	Rs. 14,937	Rs. 774			
Phitta canal ...	40.63		Rs. 1,367	Rs. 1,470	Rs. 939	Rs. 1,389	Rs. 899	Rs. 1,002	Rs. 678	Rs. 619	Rs. 1,013	Rs. 1,331	Rs. 1,022	Rs. 1,111	Rs. 974	Rs. 803	Rs. 316	Rs. 674	Rs. 314	Rs. 1,239	Rs. 17,070	Rs. 948			
Pritchard canal ...	24.50		Rs. 18,279	Rs. 9,877	Rs. 12,318	Rs. 3,446	Rs. 4,698	Rs. 2,119	Rs. 5,894	Rs. 6,497	Rs. 3,921	Rs. 1,637	Rs. 2,824	Rs. 2,209	Rs. 3,109	Rs. 3,056	Rs. 2,322	Rs. 1,695	Rs. 1,813	Rs. 2,208	Rs. 97,529	Rs. 4,863			
Escape channel ...	1.96		...	Rs. 2,167	...	Rs. 390	Rs. 16	Rs. 873	Rs. 378	Rs. 265	Rs. 79	Rs. 353	Rs. 198	Rs. 220	Rs. 327	Rs. 398	Rs. 277	Rs. 266	Rs. 32	Rs. 19	Rs. 6,166	Rs. 322			
Marvi wah ...	18.26		Rs. 1,065	Rs. 1,050	Rs. 450	Rs. 1,059	Rs. 996	Rs. 146	Rs. 1,104	Rs. 657	Rs. 97	Rs. 1,763	Rs. 789	Rs. 1,491	Rs. 841	Rs. 680	Rs. 736	Rs. 271	Rs. 233	Rs. 3,080	Rs. 17,568	Rs. 977			

B. KRISHNARAO,
Executive Engineer, Western Nara.

The expenditure shown here is not inclusive of...

STATEMENT showing information regarding wells in Sehwan, Dadu and Johi talukas.

Names of dehs.	No. of wells.	Depth of water below ground level.	Sweet or salt.	REMARKS.
<i>Taluka Sehwan.</i>				
		Ft.		
Kalo Bhuri ...	4	20 to 25	Sweet ...	Rabi.
Bhan ...	27	25 to 35	" ...	"
" ...	1	28	Saltish ...	"
" ...	1	37	Sweet ...	Kharif and rabi.
Arazi ...	9	12 to 15	" ...	Rabi.
Tando Shahbazi ...	2	12	" ...	"
Bakhtawarpur ...	4	11 to 24	" ...	"
Saidabad ...	1	24	" ...	"
" ...	1	18	" ...	Kharif and rabi.
Baid ...	1	12	" ...	Rabi.
" ...	1	7	Saltish ...	"
Sultanpur ...	2	25 to 30	Sweet ...	"
Wahur ...	8	23 to 35	" ...	"
" ...	1	31	" ...	Rabi and kharif.
Gaber ...	1	28	" ...	Rabi.
Akhtar ...	3	14 to 28	" ...	"
Arbi ...	1	14	" ...	"
" ...	1	22	" ...	Rabi and kharif.
Bambha ...	1	15	" ...	"
" ...	7	19 to 24	" ...	Rabi.
Talti ...	2	21 to 23	" ...	Kharif and rabi.
" ...	1	24	Saltish ...	"
" ...	3	25	Sweet ...	Rabi.
Chana ...	4	21 to 25	" ...	2 rabi and 2 kharif.
Karani ...	2	22	" ...	Rabi.
TOTAL ...	89	...	...	...
<i>Taluka Johi.</i>				
Johi ...	11	20 to 30	Sweet ...	Rabi.
" ...	1	38	" ...	Rabi and kharif.
Vageji ...	2	10 to 18	" ...	Rabi.
Gaha ...	2	24	" ...	"
" ...	1	24	" ...	Kharif and rabi.
Dara Machi ...	2	25	" ...	Rabi.
Channa ...	1	17	" ...	"
Jharri Jadoshahid ...	1	12 to 15	Brackish ...	"
Phulji ...	1	"	Sweet ...	"
Shah Morio ...	1	"	do. ...	"
Bahawalpur ...	5	"	do. ...	"
TOTAL ...	28	...	...	...
<i>Taluka Dadu.</i>				
Khudabad ...	8	20 to 25	Sweet ...	Rabi.
Bhand ...	25	20 to 25	" ...	"
Buth Malho ...	2	25	Saltish ...	"
" ...	10	25	Sweet ...	"
Kurpur ...	4	20 to 25	" ...	"

Names of wells	No. of wells.	Depth of water below ground level.	Sweet or salt.	REMARKS.
<i>Taluka Dadu—contd.</i>				
		Ft.		
Sial ...	39	20 to 30	Sweet	Rabi.
" ...	3	20 to 27	"	Kharif and rabi,
Sidhwah ...	9	10 to 20	"	Rabi.
Chanrath ...	18	15 to 30	"	"
Malkani ...	4	28	"	"
Dubi ...	21	20 to 30	"	"
" ...	2	15 to 20	"	"
Nurja ...	2	25	"	"
Aminani ...	6	30 to 35	"	"
Naulakho ...	33	25 to 35	"	"
Duabo ...	19	25 to 30	"	"
Markhpur ...	10	25 to 28	"	"
Dadu ...	31	20 to 30	"	"
" ...	2	30	"	Kharif and rabi,
Khasachandia ...	17	25 to 30	"	Rabi.
Shahani ...	11	20 to 25	"	"
Dawach ...	23	15 to 24	"	"
Pir Tarho ...	37	25 to 30	"	"
Piper Panjan ...	5	18 to 20	"	"
Badani ...	25	24 to 27	Sweet	"
" ...	3	"	Brackish	"
" ...	1	"	Slightly saltish	"
Phaka ...	23	20 to 32	Sweet	"
Kalharo ...	9	24 to 28	"	"
" ...	2	25	Brackish	"
Pirgunio ...	5	20 to 25	Sweet	"
Pipri ...	27	20 to 30	"	"
Shahmir ...	9	13 to 16	"	"
Buthi ...	7	17 to 20	"	"
Bakhrani ...	41	20 to 26	"	"
Waryaso ...	3	10 to 13	"	"
Juberji ...	21	15 to 20	"	"
Sutiaro ...	10	"	"	"
Marni ...	7	"	"	"
Khiaro ...	5	"	"	"
Jung ...	3	12 to 15	"	"
Kandi ...	5	"	"	"
" ...	4	15 to 20	"	"
Baghban ...	14	12 to 15	"	"
Makhdum Bilawal ...	6	12 to 15	5 Sweet 1 Brackish	"
Taga ...	4	15 to 20	Sweet	"
Palha ...	4	"	"	"
Pat ...	31	"	"	"
Sita ...	25	"	"	"
Karro ...	6	"	"	"
Pir Tarho ...	2	"	"	"
Puransdero ...	1	"	"	"
TOTAL ...	644	...	...	...

NOTE.—There is an increase of 292 wells in the Division, more especially in Dadu taluka and the quantity of water available in them generally is sufficient for irrigational purposes though some of the wells are silted up and require clearance.

B. KRISHNARAO,
Executive Engineer, Western Nara.

STATEMENT of each kind of irrigation in Sehwan, Dadu and Johi talukas during the years 1891-92 to 1907-08.

Name of Canal	1891-92	1892-93	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-00	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08
	Rs.	R.	As.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Western Nara	Lift	8,971	178	...	2,488	3,647	5,147	3,681	7,016	58,186	4,861	7,558	4,455	3,064	5,739	5,128	5,548
	Flow	...	...	...	1,261	3,648	3,222	3,199	6,365	5,323	...	2,393	7,614	5,708	5,904	7,893	5,589
	Rabi	6,742	369	...	1,433	4,040	4,911	5,414	16,743	11,879	28,260	8,308	7,634	12,293	11,655	13,154	16,388
Karachi	Lift	469	...	...	890	479	497	608	399	417	479	524	507	513	693	483	422
	Flow	...	...	...	286	...	...	...	...	...	...	...	...	13	...	...	...
	Rabi	85	...	...	249	12	23	67	170	...	189	49	...	7	78	25	40
Lower MURAH Old Canal	Lift	1,625	...	...	1,383	2,820	2,051	1,787	2,336	2,183	1,779	1,434	...	1,783	1,556	2,107	1,740
	Flow	...	...	...	314	38	184	130	48	40	160	199	...	112	57	85	59
	Rabi	260	...	...	46	66	46	84	201	54	84	45	...	24	64	29	28
New and Old Canal	Lift	1,578	...	...	1,299	307	1,960	1,801	1,806	1,966	1,192	1,043	1,591	1,272	1,577	1,860	1,994
	Flow	...	...	...	167	89	121	135	89	67	66	100	...	43	88	47	38
	Rabi	...	...	...	64	90	55	45	51	24	75	...	89	34	12	129	144
Upper MURAH	Lift	988	...	...	320	1,067	693	644	613	665	342	597	601	307	418	416	677
	Flow	...	...	...	53	...	6	5	6	5	11	6	...	...	...	...	8
	Rabi	...	...	...	487	21	...	36	...	...	126	4	...	32	...	166	271
Mandi	Lift	2,129	2,776	1,281	1,093	2,343	2,542	2,178	2,510	1,729	1,847	...	685	1,686	2,094	2,121	2,068
	Flow	...	...	...	129	255	19	153	135	133	221	...	...	156	310	259	151
	Rabi	357	987	371	613	410	885	691	539	127	497	2,658	66	890	238	300	687
Mandi	Lift	669	791	652	793	795	890	901	791	693	616	564	787	776	653	726	570
	Flow	...	...	...	64	64	47	76	6	87	...	644	16	163	47	121	140
	Rabi	559	378	330	557	645	693	698	483	593	696	...	523	530	499	462	417
Kor	Lift	...	...	...	...	...	...	...	...	...	...	491	390	614	782	540	476
	Flow	...	...	...	...	...	...	...	...	...	...	499	381	170	514	598	470
	Rabi	...	...	...	...	...	...	...	...	...	...	10	456	291	945	1,188	174
Atri	Lift	1,972	1,473	20,310	1,942	2,870	2,404	2,402	1,341	2,117	2,947	89	1,898	2,417	2,243	...	1,944
	Flow	...	346	...	...	...	...	...	...	...	60	...	48	692	30	...	424
	Rabi	8,306	8,536	7,063	4,658	11,008	7,596	11,064	3,322	4,769	6,154	3,208	3,782	4,941	4,271	...	5,264
Dunior	Lift	...	...	...	...	...	...	...	...	...	...	1,104	1,123	1,172	1,224	1,106	1,064
	Flow	...	...	...	...	...	...	...	...	...	...	...	71	16	46	59	...
	Rabi	...	...	...	...	...	...	...	...	...	...	1,277	2,440	2,050	1,959	2,244	1,173
Charis	Lift	63	98	13	...	18	21	15	4	61	74	...	119	164	188	133	52
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	218	194	229	225	42	226	235	43	100	96	...	45	...	53	70	113
Upper MURAH	Lift	1,647	...	...	2,907	2,410	2,523	1,944	2,447	2,023	1,920	1,928	2,640	2,864	3,221	2,494	2,632
	Flow	...	...	...	1,762	798	2,799	2,426	1,434	689	2,374	1,653	1,739	2,161	1,324	2,047	1,643
	Rabi	967	...	...	3,410	476	1,064	1,637	873	64	1,651	2,072	103	2,163	398	1,140	1,918
Kotab	Lift	2,122	...	...	811	762	1,570	1,636	2,115	1,183	1,612	999	1,997	2,142	1,799	1,848	1,803
	Flow	...	...	...	327	...	...	171	...	...	18	44	...	23	...	...	84
	Rabi	...	...	...	3,896	1,642	621	1,867	466	496	1,374	2,108	597	1,479	297	1,072	804
Dhar	Lift	943	...	...	904	799	989	...	701	978	694	846	552	644	415	618	823
	Flow	...	...	...	100	...	...	...	...	103	184	...	...	...	...	62	45
	Rabi	30	...	...	1	...	...	...	...	6	1	...	...	...	...	1	...
Wah	Lift	1,370	...	...	1,660	1,606	1,031	966	1,242	1,287	1,464	1,303	1,668	1,679	1,776	1,443	1,372
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	67	...	...	440	...	20	132	...	...	242	240	...	68	...	22	127
Philo	Lift	...	...	...	...	...	...	...	...	...	...	3,000	4,258	4,866	4,050	4,481	4,722
	Flow	...	...	...	...	...	...	...	...	...	...	...	77	...	19	6	16
	Rabi	...	...	...	...	...	...	...	...	...	...	...	273	58	242	175	258
Munichur	Lift	646	...	286	304	163	913	845	101	780	1,179	996	1,186	703	1,134	1,291	1,220
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	6,339	...	10,619	16,268	10,506	14,611	12,706	11,723	16,338	21,550	19,787	14,662	17,953	21,301	20,154	19,299
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Flow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rabi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Munichur	Lift	...															

No. 6825 of 1909.

PUBLIC WORKS DEPARTMENT.

Superintending Engineer's office, I. R. B. D.,
Camp Sukkur, 7th December 1909.

From

D. W. HERBERT, Esquire,
Superintending Engineer,
Indus Right Bank Division,

To

THE COLLECTOR OF LARKANA.

SIR,

I have the honour to return herewith the accompaniments to your No. 5373, dated the 16th September last, and to express my regret at the delay, specially as I find that I can add very little useful information to the full account already given by (Mr. Covernton) and the Executive Engineer regarding the irrigation in these talukas.

2. It would appear that the flooding of the lands by the Escape channel described in paragraph 6 of Mr. Covernton's report on the Dadu taluka can be remedied to a great extent, but proposed works cannot be taken into account.

3. With reference to paragraph 8 of your report on the Johi taluka I understand that the one-tenth of the consolidated assessment is supposed to represent what the land would yield without irrigation, i.e., it would be the average assessment on the whole area not merely on the cultivated area.

4. With regard to the clearance rebate, I understand that this is supposed to be given only when the cost of clearance is excessive, but in the lists of karias attached to the report I find a considerable number only one-quarter mile long.

5. The widening of the Western Nara Canal in 1905 to 125 feet bed width is said to have benefited these talukas. This canal has been working very satisfactory for the last six years, but this year (1909) the gauge reading at the head regulator of the Akil mouth suddenly fell from 10.9 feet on the 19th September to 2.1 feet on the 23rd of that month, the Bukkur gauge readings on those dates being 11.10 and 7.4 feet. Whereas with 7.4 feet on the Bukkur gauge on the 23rd September of the previous year the head regulator gauge read 8.8 feet. This falling off in the supply is due to the Indus having receded for several miles and thrown up large areas of kachas opposite the mouth of the canal. I have recently inspected the position and found the conditions for the Nara supply to be very bad indeed. In fact the canal is completely cut off from the river at present when the Bukkur gauge reads below 8 to 10 feet. All the dhands bringing down water from the north are completely silted up at their heads.

The tail of the Akil dhand has also been silted up in a length of nearly a mile. Taking the present difficulties about funds and labour into account it is probable that all that will be done this year, is to make a cut through the silted portion of the tail of the dhand, and so supply the canal from a back-water two miles long, which of course means a considerable reduction in the water level at the mouth of the canal. This cut also may silt up towards the close of the inundation and it is improbable that the supply in the river during September will be as favourable as it was last year. The Pritchard Canal however ensures a fair supply for the talukas under consideration.

6. Owing to the present very unfavourable position of the river at the head of the canal, the time does not appear opportune for any considerable

enhancement of the assessments and I would point out that in the 3rd group of the Dadu taluka it is proposed to increase the rate for rabi lift from Rs. 2-4-0 to Rs. 4 or by 77 per cent. which appears excessive.

I have the honour to be,
Sir,
Your most obedient servant,
D. W. HERBERT,
Superintending Engineer,
Indus Right Bank Division.

Accompaniments above referred to sent by registered parcel.

No. 7168 of 1909.

REVENUE DEPARTMENT.

Collector's office,

Camp Larkana, 11th December 1909.

Passed on.

The rebates on short karias are in Johi, where the land is up-hill and clearance greatly needs encouragement.

The bad prospects of the Nara would have to be considered if the proposed assessment were a full one; but it is avowedly pitched much lower than the actual value of the crops would justify in order to allow for precarious water-supply. The previous settlement was made at a time when the Nara was much worse than it is likely to be again.

C. M. BAKER,
Collector of Larkana.

No. 7165 of 1909.

REVENUE DEPARTMENT.

Collector's office,

Camp Larkana, 16th September 1909.
11th December

From

C. M. BAKER, ESQUIRE, B. A., I. C. S.,
Collector of Larkana,

To

THE COMMISSIONER IN SIND.

SIR,

I have the honour to forward Mr. Covernton's settlement proposals for Johi taluka.

2.* As regards the canal irrigated part of this taluka there is not much to be said. Mr. Covernton and I agreed to treat the whole of it as one group, as if it were a second group of the Dadu taluka. It is true that there is no taluka where there is more difference between the good lands and the bad lands with regard to water-supply. But the difference is between field and field, not between deh and deh. All the canal irrigated dehs start from the Nara or one of its two branches and slope up through precarious lift cultivation into waterless desert. Unless, therefore, the survey were to be entirely remodelled and the dehs re-arranged according to their water-supply—and this would be most difficult, if not impossible—there is no reason for distinguishing between deh and deh. Mr. Seymour attempted to do so, but his distinctions do not at all agree with the facts. We have, therefore, thought it better to make only one group with moderate rates. The difference of 8 annas between Johi and Dadu seems justified by greater liability to flood in the flow lands and heavy clearance expenses in the kharif lift lands, which slope upwards from the canals. There is less reason for a distinction in the case of the irrigated rabi lands: but the distance from market counts for something and in any case the assessment on these lands is being raised.

3. The reasons for raising the assessment on irrigated rabi I have shown in my remarks on the Dadu report. In Johi, these crops are most valuable and it seems absurd that they should be assessed so little higher than the entirely unirrigated barani and the under irrigated kharif lift.

4. As regards the Manchhur Mr. Covernton's chief innovation is the extension of the special rate on unploughed 'ahur' to all unploughed crops. With this I entirely concur. Special crop rates are out of place in an irrigational settlement. But the distinction between ploughed and unploughed is, I think, a fair one, since the difference really depends on the water level. It certainly corresponds with the facts as far as I have observed them in the last three years. The unploughed crops are seldom, if ever, good, and the unploughed wheat is worse than the unploughed 'ahur.'

5. There remains the important question of the barani lands, in which we propose generally to lower the assessment to a considerable extent and to abolish remissions. This innovation was first suggested by myself, and I am entirely in agreement with the Settlement Officer's proposals. So also is the present Assistant Collector and so also are the zamindars. I have long thought that the remission system was unsuited to a barani tract of this kind. For one thing the Mukhtyarkar cannot do the remission work properly even in good years. I have seen this taluka in three years of good rainfall and every time the Mukhtyarkar was overworked. Of course he managed to finish the work after some months, but not until many of the crops had been reaped by the naturally impatient haris or eaten by the Brahuis' cattle; while many

samindars do not apply for remission at all, because they know it is useless. I need not describe all the difficulties of barani remissions since the Settlement Officer has done so.

6. Secondly, I consider that the present barani rates are much too high in themselves.

I believe that they were fixed in one of those very exceptional years when the barani crops were really good. I speak with diffidence on this subject, being aware that though I know this taluka very well you yourself know it better. But I have been in districts adjoining the hills for the last eight years and I have never yet seen these fine barani crops that former Settlement Officers speak of; and I observe that even when some of the crops are moderately good there are always an enormous number of fields which are bad or even entirely unproductive.

7. I believe that the 8-anna rate now proposed would not be considered a low one in the Deccan where the normal rainfall must be at least 5 times as heavy as that of Upper Sind. I do not know what the Deccan crops are like, but nothing could be worse than a great part of the Johi crops are every year.

8. Another point is that of the assessment on canal irrigated land 9/10 is water rate. Thus if a juari crop on a canal is assessed at Rs. 2-8-0 the assessment excluding water rate is only 4 annas. In the barani rate no water rate is included. Thus if barani land is assessed at Rs. 2-8-0, as some of it is, it is paying a rate ten times as high as land on canals.

9. In any case it is indisputable that the people of the barani tracts are impoverished. Perhaps the first few years of this century were exceptionally dry: but there have been several years of good rainfall since, yet the people have not recovered and it has been found necessary to write off large arrears both of land revenue and takavi. I therefore submit that we are justified in saying that the system of high assessment combined with remissions has proved a failure in this part of the country.

10. Owing to the peculiar circumstance of the Johi taluka the revenue system, which is simple in normal Sind talukas, often presents considerable difficulties. The distinction between the different seasons and different modes of irrigation is especially difficult. I therefore think that the rules drawn by the Settlement Officer (Appendix A) are necessary and will save a good deal of misunderstanding.

11. For the reasons given in my remarks on the Dadu report I recommend that the settlement be guaranteed for 20 years.

I have the honour to be,

Sir,

Your most obedient servant,

C. M. BAKER,
Collector of Larkana,

Revenue Survey and Assessment.

Sind.

Revision settlement of the talukas of Dadu,
Sehwan and Johi forming the Sehwan
division of the Larkana district.

No. 8863.

REVENUE DEPARTMENT.

Bombay Castle, 25th September 1912.

Letter from the Commissioner in Sind, No. 1975-A, dated 29th June 1912—Submitting,

Letters from Mr. S. H. Covert, I.C.S., Settlement Officer, Sehwan, Nos. 132, 133 and 134, dated 23rd April 1909, and accompaniments.

Letter from the Superintending Engineer, Indus Right Bank Division, No. 6825, dated 7th December 1909, with accompaniments.

Letters from the Collector of Larkana, Nos. 7165, 7166 and 7167, dated $\frac{16\text{th September}}{11\text{th December}}$ 1909.

with his remarks, the papers specified in the margin, containing proposals for the revision of assessment rates of the talukas of Dadu, Sehwan and Johi forming the Sehwan division of the Larkana district.

RESOLUTION.—The proposals made by the Commissioner in Sind in his letter No. 1975—A, dated 29th June 1912, are sanctioned subject to the modification that the rice rate in group II of the Sehwan taluka and in group I of the Johi taluka should be Rs. 3-8-9 as proposed by the Settlement Officer.

2. The accompanying statements show the rates as sanctioned by Government. The petitions of objections disclose no grounds for modifying the orders passed above.

3. The revised rates should be introduced in the revenue year 1912-13, levied in and from the revenue year 1913-14 and guaranteed for a period of fifteen years, subject to the reservation that a further revision will be made if the Rohri-Sukkur Barrage is constructed and improved water-supply provided before the close of the period of guarantee.

C. W. A. TURNER,
Acting Under Secretary to Government.

Statements referred to in paragraph 2 of the Resolution.

DADU TALUKA.

KHARIF.

Group	Number of villages.	Gardens.	Rice.	Other flow.	Lift.	Lift aided by flow.	Flow aided by lift.	Barani.	Wells.
			Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I	54*	According to method of irrigation.	4 0 0	3 0 0	2 8 0	2 10 0	2 12 0	0 8 0	2 8 0

RABI.

Group	Number of villages.	Bosi and sailabi.	Bosi and sailabi aided by lift.	Lift.	Barani.	DUBARI.			SPECIAL KACHA RATES.			
						Watered.	Un-watered.	Huris.	Kharif.	Rabi.		
										Ploughed.	Un-ploughed.	
		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.
I	54*	3 0 0	4 0 0	4 0 0	0 8 0	2 0 0	0 8 0	0 12 0	2 8 0	3 0 0	1 8 0	

* Exclusive of one wholly forest deb (Belo Choi).

SEHWAN TALUKA.

KHARIF.

Group.	Number of villages.	Gardens.	Rice flow.	Other flow.	Lift.	Lift aided by flow.	BARANI.				Wells.	Special rates for leased dehs (kharif and rabi).
							Rel barani.	Band barani.	Hill streams (flow).	Hill streams (lift) and kacha wells in barani lands.		
			Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	
I	40	According to mode of irrigation.	4 0	3 0	2 8	2 10	0 8	0 8	1 12	1 4	2 8	1. Deh Dalh, Rs. 1 per acre. 2. Deh Chorle, annas 12 per acre. 3. Dehs Badro, Kandhi, Radhak and Malirni, annas 8 per acre.
II	26		3 8	2 8	2 0	2 2	0 8	0 8	1 4	1 4	2 0	
TOTAL ...	66*											

RABI.

Group	Number of villages.	Sailabi, bos and flow.	Sailabi, bos and flow aided by lift.	Lift.	BARANI.				Huris.	DUBARI.			SPECIAL KACHA RATES.			SPECIAL MARCHHUR RATES.						
					Rel barani.	Band barani.	Hill streams (flow).	Hill streams (lift) and kacha wells in barani lands.		Watered.		Un-watered.	Kharif.	Rabi.		Un-ploughed sailabi.	Ploughed sailabi.					
										Dehs Bubak and Jafarabad.	Other dehs.			Hill stream and kacha well dubari.	Ploughed.			Un-ploughed.				
		Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.					
I	40	3 0	4 0	4 0	0 8	0 8	1 12	1 4	0 12	2 8	2 0	0 8	2 8	3 0	1 8	1 8	3 0					
II	26	2 8	5 8	3 8	0 8	0 8	1 4	1 4	0 10	...	2 0	0 8						2 8	3 0	1 8	1 8	2 8
TOTAL	66*																					

* Exclusive of one wholly jagir deb (Duri Dero Jagir), but inclusive of teh unsurveyed dehs, of which six are leased.

JOHI TALUKA.

KHARIF.

Group.		Gardens.	Rice flow.	Other flow.	Lift.	Lift aided by flow.	Flow aided by lift.	Barani (rainfall only).	Barani with black water and hill stream.	Wells.
			Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I	34	} According to mode of irrigation.	3 8 0	2 8 0	2 0 0	2 2 0	2 4 0	0 8 0	...	2 8 0
II	5		...	...	...	...	...	1 8 0	...	2 0 0
III-A	14		...	...	...	...	...	1 0 0	1 12 0	2 0 0
III-B	48		...	...	...	...	...	0 8 0	1 12 0	2 0 0
TOTAL ...	101									

RABI.

Group.	Number of villages.	Moki, bosi and sailabi.	Bosi and sailabi aided by lift.	Lift.	Barani (rainfall only).	Barani with black water.	Barani with black water and hill stream.	DUBARI.		Huris.	SPECIAL MANCHHUR RATES.	
								Watered.	Un-watered and hill stream debari.		Un-ploughed sailabi of all kinds.	Others.
		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.
I	34	2 8 0	3 8 0	3 5 0	0 8 0	...	...	1 8 0	0 8 0	0 10 0	1 8 0	2 8 0
II	5	...	...	...	1 8 0	3 0 0	...	1 8 0	0 8 0	0 10 0	...	...
III-A	14	...	...	...	1 0 0	...	1 12 0	1 8 0	0 8 0	0 10 0	...	...
III-B	48	...	...	...	0 8 0	...	1 12 0	1 8 0	0 8 0	0 10 0	...	...
TOTAL ...	101											