

SERVANTS OF INDIA SOCIETY'S LIBRARY,
POONA 4.

BULLETIN No. 109 OF 1921

THE CROPS OF THE BOMBAY
PRESIDENCY

THEIR GEOGRAPHY AND STATISTICS

BY

P. C. PATIL, L.Ag.

DEPUTY DIRECTOR OF AGRICULTURE, CENTRAL DIVISION

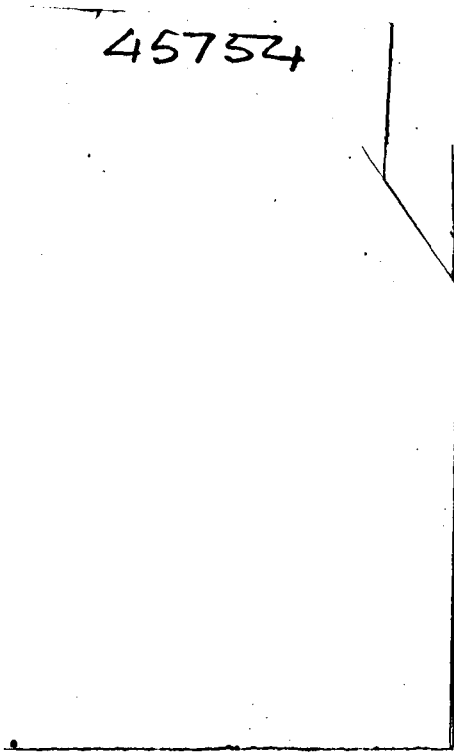
X9(J).231.N2s
F1
045754

BOMBAY

PRINTED AT THE GOVERNMENT CENTRAL PRESS

1922

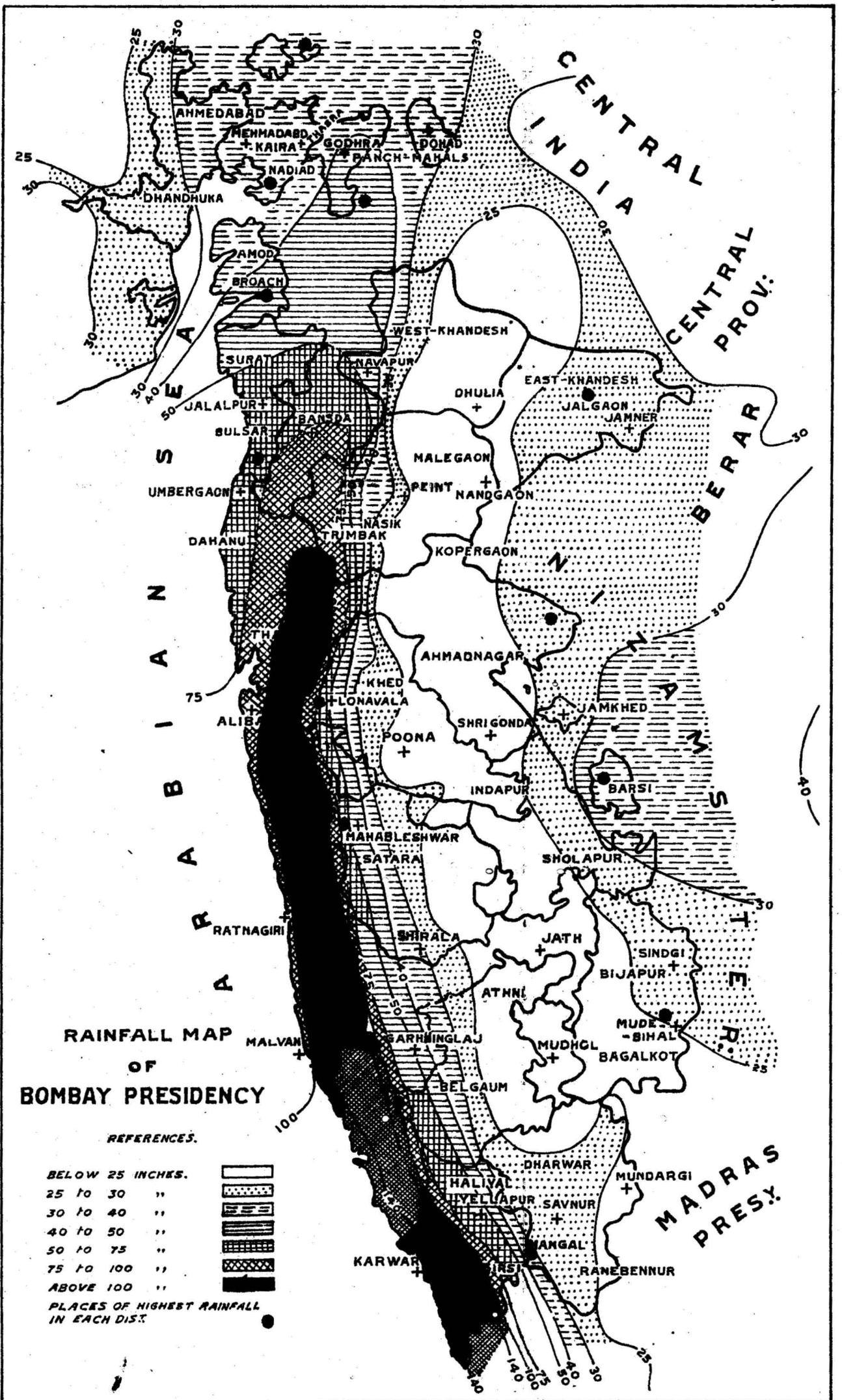
45754



Dhananjayrao Gadgil Library



GIPE-PUNE-045754



**RAINFALL MAP
OF
BOMBAY PRESIDENCY**

REFERENCES.

BELOW 25 INCHES.	[White box]
25 to 30 "	[Dotted box]
30 to 40 "	[Horizontal lines box]
40 to 50 "	[Vertical lines box]
50 to 75 "	[Cross-hatch box]
75 to 100 "	[Diagonal lines box]
ABOVE 100 "	[Solid black box]

PLACES OF HIGHEST RAINFALL
IN EACH DIST.

FOREWORD.

ANY attempt to provide, for the general public, a means of obtaining exact knowledge with regard to the area and distribution of the crops of Western India is the direct result of the series of famines which afflicted the country during the second half of the nineteenth century. The report of the famine commission which sat after the famine of 1877 made, for the first time, a plea for a thorough knowledge of the existing agricultural conditions as one of the great pre-requisites for being able to meet the situation created by a long drought. And as a result, the famine relief code, when prepared, ordered that a statistical account with maps should be prepared for each district. This is the origin of the Statistical Atlas of the Bombay Presidency of which two editions have appeared hitherto, the first in 1888 and the second in 1906, and which has formed by far the most accessible source of information hitherto as regards the distribution of crops over the districts of Western India.

But something more than this has been needed for those who are interested not only in meeting drought and fighting famine, but also in trying to improve the general agricultural conditions. We require not only the general statistical tables which are published in the Statistical Atlas, or which are brought up to date each year in the Annual Season and Crop Report, but also we need to know the distribution of the crops inside the districts themselves, their relationship to the rainfall, to the soil, or to the supply of irrigation water, and the way in which one crop is replaced by another when the climate or the soil is altered even to a comparatively small degree. This is what Mr. Patil has endeavoured to provide in the present bulletin. By a series of maps and tables, specially prepared for the purpose, he has succeeded in showing, very vividly, the distribution of the crops of the country, their relation to the various factors in evidence and to one another. By carrying his figures and his maps down to the subdivisions (*talukas*) of the districts, he has been able to show these relationships more clearly than has ever been done before.

The figures given and illustrated are for a single year, 1914-15. This represents a normal year perhaps better than any other recent one that might have been chosen, and is one in which the figures had not been affected seriously either by war conditions or by the rise in prices which has been the most striking economic feature of the last five years. It may be possible to issue another bulletin on similar

lines when agricultural arrangements have again become stable under the new conditions, but that is a matter for the future. At present the figures, diagrams, and maps now given do show a very definite relationship between the agricultural practices and the other factors considered, which it is of extreme importance to recognise in studying the development of the agriculture of Western India.

HAROLD H. MANN,

Acting Director of Agriculture,

Bombay Presidency.

POONA, May 24, 1921.

CONTENTS.

	Page
Foreword	i
Table of Contents	iii
I. Introduction	1
Table of Average Rainfall of Typical Centres	4
II. Rainfall in the Bombay Presidency	6
III. Rocks and Soils of the Bombay Presidency	9
IV. The Crops of the Bombay Presidency	13
General Statement No. I of the Crops of the Bombay Presidency	14
General Statement No. II of the Crops of the Bombay Presidency	24
V. <i>Jowar (Andropogon Sorghum)</i>	25
VI. <i>Bajri (Pennisetum typhordeum)</i>	26
VII. Rice	27
VIII. Wheat	30
IX. Cotton	31
X. Sugarcane	33
XI. Potato	35
XII. Tobacco	36
XIII. Oil Seeds	37
XIV. Fruits	45
XV. Spices and Condiments	48
XVI. Vegetables and Root Crops	49
XVII. Yields of Crops	51
XVIII. Irrigation	57
XIX. Live Stock	61

PART II.

Crops of each District of the Bombay Presidency	71
---	----

APPENDIX.

Glossary of Botanical, English and Vernacular names	129
Glossary of Technical Agricultural terms	134

THE CROPS OF THE BOMBAY PRESIDENCY, THEIR GEOGRAPHY AND STATISTICS.

I.—INTRODUCTION.

The purpose of the following account of the geography and statistics of agriculture in the Bombay Presidency is to show the distribution of the crops in the area dealt with, explaining as far as possible the relation between the crops and the climatic, soil, and economic conditions which are responsible for this distribution. It is not possible within the limited space in the present bulletin to do more than touch on the factors which govern the production and distribution of crops in general. The statistical data are collected from various sources, but chiefly from the annual season and crop reports, and from the original returns from each subdivision or *taluka*, which are received in the office of the Director of Agriculture. In the case of sugarcane and fruits, information had to be specially collected from the officers in charge of each *taluka* (*Mamlatdars*). In the matter of rainfall statistics, the information available in the rainfall returns issued by the Director of Agriculture has been supplemented by materials collected from raingauges maintained by the Public Works Department in the Nasik, Ahmednagar, Poona, and Satara districts. The material collected from these various sources is worked out and presented in statements and in specially prepared maps and graphs in such a form as to show as vividly as possible the distribution of the crops and to enable conclusions to be drawn for any *taluka* or district.

The Presidency maps show the density and distribution of crops, each dot in these maps representing a definite area under the crop. The area covered by fairly large native states, for which statistics are not available, are shown by cross lines. The graphs accompanying the Presidency maps show the relative importance of each district in the production of a particular crop: the graphs at the bottom of the district maps visualise the relative importance of the various *talukas* in growing these crops.

The acreage statements show the areas of each important crop and how these are distributed. At a glance one can find how the land occupied by a particular plant or class of plants compares with that of any other, and in the same statement is found how a particular crop in any district is distributed in the different *talukas*.

Crop Notes.—A short account of important crops or groups of crops accompany the maps. The notes on these crops are not intended to be exhaustive. They, however, indicate the importance,

distribution and use of each, and also their limitations. Economic, historical, and other facts bearing on their distribution are mentioned.

In addition to maps and statements with regard to crops, the following are included, with explanatory notes :—

- (a) A map showing the distribution of rainfall.
- (b) A statement showing the distribution of live stock.
- (c) A statement showing the relative areas under irrigation in the various districts.
- (d) Data regarding the normal and average outturns of crops, including fodder crops.

Explanation of statistical statements, maps, and graphs.—The areas under different crops are taken for the year 1914-15. This was a normal year and the area under the different crops had not been disturbed either by famine or by the war which commenced soon after the crops were sown. Moreover, it was the last year in which the crop returns were received in the office of the Director of Agriculture by *talukas*. Since 1915-16, such returns have only been furnished by districts, though these are as a matter of fact far too large units for statistical bulletins and crop distribution maps. The area for fruits is taken for the year 1917-18 because of the recent increase in the amount of land under certain kinds of fruit. The area for sugarcane is taken for 1914-15, but side by side the area for 1917-18 is also given as, owing to the expansion of canal irrigation, the amount of land under sugarcane is steadily increasing.

The number of cattle is taken from the quinquennial census of the year 1915-16 as the next quinquennium shows a considerable diminution due especially to the fodder famine of 1918-19.

Complete Presidency maps are only given for the important crops. A crop may, however, be important because of the large area which it occupies, or because it is a staple food crop, or it may be important because it is a crop of high value and hence of greater economic importance than its area would indicate.

In the Presidency crop maps, each dot represents 1,000 acres except in the case of sugarcane, when each dot only represents 10 acres. In the same way in the district maps, for the first six crops of the district, a dot represents 1,000 acres, and for the remaining three crops illustrated (except in a few cases) one dot represents 100 acres. Graphs and dots are shown on a uniform scale and they show the relative importance of each *taluka* or district for all crops on the same basis. In the small maps drawn for fruits and oilseeds, a dot is made to represent different areas, but on each map the value of a dot is given.

It may be noticed in this place that the areas given in this bulletin are the areas of the tracts which regularly report to Government. In most districts there are some portions which for one reason or another do not furnish returns, and for these estimates are made every year on the basis of the tracts surrounding them. The matter is not important except in the Ratnagiri district, and except in that one case, the actual area reported is used in framing the maps and tables. The reason is that the estimates are, after all, estimates, and their accuracy is doubtful, while the error introduced by ignoring them is very small. But in the Ratnagiri district the case is different. About half the total non-reporting area in the Bombay Presidency is in that one district and there amounts to 533,000 acres, as most of the so-called 'khoti' villages do not supply statistics. In this case therefore the question is important, for the non-reporting area amounts to about three-fourths of the cultivated area in the district, and in addition, the crops there grown (rice, *naghi*, and coconuts) are not produced to a very large extent in the greater part of the Bombay Presidency. For this reason, for Ratnagiri, two sets of figures are given in the statistical tables, and the estimated area is taken into account in preparing the maps showing the distribution of these crops.

Acknowledgments.—I have to thank Mr. G. F. Keatinge, C.I.E., the Director of Agriculture, for many useful hints which he has given during the preparation of this bulletin, and my thanks are due to Dr. H. H. Mann, late Principal of the Agricultural College, Poona, and now acting Director of Agriculture, for other help. He went over the manuscript and attended to the proofs and press work as I was away in the United States of America while the book was in press. My thanks are due also to my friend Mr. S. G. Mutkekar, B.Ag. (Bombay), M.Sc. (Mass.), for much assistance. Mr. K. R. Tilak, the artist of the Department of Agriculture, Bombay, drew the maps for me, and Mr. N. V. Bhagwat, B.Ag., and others helped me in calculating the figures given.

As has already been stated, the principal sources of information have been the annual season and crop reports issued by the Government of Bombay and the taluka returns of crops kept in the office of the Director of Agriculture. But in addition to these, I have used the Report of the Irrigation Commission, rainfall returns from various sources, and many other Government publications in the preparation of the data presented in the following bulletin.

Average rainfall, of typical centres in each rainfall tract.

	Station.	District.	Monthly Normal Rainfall.												Annual Normal Rainfall.	
			January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.		
								Coastal places.								
1	Karwar ..	North Kanara ..	0·06	0·01	..	0·51	3·08	37·30	39·12	20·59	10·58	5·43	1·47	0·21	118·36	
2	Ratnagiri ..	Ratnagiri ..	0·10	0·02	0·04	0·08	1·09	28·12	33·45	18·09	11·44	3·24	0·71	0·09	96·47	
3	Malvan ..	Do. ..	0·06	0·06	..	0·19	1·68	25·19	29·04	13·95	9·86	2·56	0·96	0·12	83·62	
4	Ahbag ..	Kolaba ..	0·07	0·03	0·03	0·11	0·67	23·42	29·47	16·39	13·16	2·26	0·42	0·05	86·08	
5	Umbergaon ..	Thana ..	0·03	0·09	0·04	..	0·18	13·68	24·61	13·12	9·42	1·07	0·29	0·03	62·56	
6	Jalalpur ..	Surat ..	0·06	0·08	0·05	..	0·02	9·12	20·93	8·83	6·13	0·96	0·38	..	46·56	
								Mallad or Maval tracts.								
7	Yellapur ..	North Kanara ..	0·08	0·03	0·25	1·25	2·45	20·37	37·80	21·37	7·11	5·24	1·27	0·33	97·55	
8	Malcompeth ..	Satara ..	0·11	0·05	0·13	1·40	1·62	46·26	110·23	75·09	29·11	5·83	1·48	0·31	271·62	
9	Lonavia ..	Poona ..	0·05	0·03	0·02	0·26	0·75	27·86	68·85	46·88	19·62	3·46	0·89	0·17	168·84	
10	Peint ..	Nasik ..	0·04	0·09	0·01	0·02	0·50	11·99	33·71	25·40	10·66	2·02	0·48	0·06	84·98	
11	Bansda ..	Surat Agency ..	0·04	0·18	0·04	0·06	0·18	11·87	33·42	22·13	11·92	1·13	0·47	0·07	81·51	
								Tract lying between Maval and scanty rainfall tract.								
12	Savanur ..	Savanur State ..	0·06	0·02	0·12	1·43	2·54	4·24	4·74	3·64	3·20	4·78	1·08	0·55	26·40	
13	Shirala ..	Satara ..	0·08	0·04	0·17	1·04	1·71	5·95	12·10	6·49	4·01	4·14	1·01	0·21	36·95	
14	Gadhinglaj ..	S. M. C. States..	0·09	0·05	0·43	1·86	2·16	6·74	11·57	6·65	4·05	3·99	1·19	0·89	39·17	

II.—RAINFALL IN THE BOMBAY PRESIDENCY.

Any map of the rainfall of the Bombay Presidency will indicate at once the extraordinary variations which occur in different parts of its comparatively limited area,— differences which are perhaps more striking than in any other part of India.

The Bombay Presidency receives its rain mainly between June and December, the greater part of the fall being supplied by the South-West Monsoon between June and October, supplemented in a few parts by later rain in November and December. The South-West Monsoon touches North Kanara, the southernmost district, first and works its way up towards Gujarat. As it advances, the amount of precipitation for which it is responsible decreases from south to north along the coast. Bhatkal, at the extreme south on the coast of Kanara receives 150 inches of rainfall. Ratnagiri about two hundred miles north, receives 96 inches, Alibag another hundred miles in the same direction has only 86 inches, while Umbergaon in the north of the Thana District receives only 62 inches.

The high range of the Western Ghats, inasmuch as it arrests the surcharged clouds, receives more rainfall than the coast line over which the clouds come. Thus Ratnagiri, Guhagar, Alibag and Mahim being on the coast line receive 96 inches, 92 inches, 86 inches and 62 inches of rainfall respectively, while Sangameshwar, Chiplun, Lonavla and Igat-puri being on or near the Ghats in the same latitude as the above places respectively receive 146 inches, 141 inches, 168 inches and 130 inches respectively. It will thus be seen that the western face of the Western Ghats arrests much of the rain. The line of the Western Ghats, which runs nearly parallel to the coast and the ramifications of the Ghats on the eastern side, cause considerable variation in the amount of rain received in the Deccan and Karnatak districts, as the current of the south-west monsoon has to pass across the Ghats. The Deccan districts have a slight slope to the east, away from the Western Ghats, and most of the rain which crosses the Ghats falls in the uplands. The rainfall lines on the map show how the rainfall decreases eastward and, to a less extent, westward from the summit of the Ghats. Khandesh, and especially East Khandesh receives a little additional rainfall from the east, from wind currents originating in the Bay of Bengal.

By about September the force of the south-west monsoon decreases fast, and, soon after, a series of storms arriving apparently from the north-east supplies rain to Ahmednagar, Sholapur, Bijapur and the eastern parts of Dharwar and Belgaum. Sometimes these storms spread further west, but as a whole they form perhaps the most doubtful factor in the annual rainfall.

The Bombay Presidency can be divided into the following tracts on the basis of rainfall :—

(1) The three Konkan districts (Ratnagiri, Kolaba and Thana) Kanara, and a narrow strip of about fifteen or twenty miles on the crest of the Western Ghats from Kanara to the Nerbudda in the western part of West Khandesh. This area receives more than 80 inches of rainfall annually.

(2) The tract called *mallad* in Belgaum, *mura* in Satara, *maval* in Poona, and the *konkani* talukas of the Nasik district. This is a narrow strip of a width of fifteen or twenty miles to the east of the areas included under (1). It receives from thirty-five to fifty inches of rain per annum, and in some places a little more.

(3) The so-called *desh* tract, comprising the eastern parts of the Belgaum, Satara, Poona and Nasik districts, together with the whole of the Ahmednagar, Sholapur, Bijapur and almost the whole of the Dharwar district. These areas receive from eighteen to thirty inches of rainfall annually.

(4) Khandesh, consisting chiefly of the Tapti valley and surrounding areas in the Bombay Presidency, has rainfall features of its own. It receives from twenty to thirty inches of rain per annum.

(5) Gujarat, or the coast tracts, with the flat land behind them, to the north of the Konkan, receives from twenty to forty inches of rainfall per annum on the average, the amount tending to become smaller as one proceeds further north.

We will deal shortly with each of these tracts in succession.

(1) *The heavy rainfall tract.*—This tract receives, as has already been noted, eighty inches or more of rain annually, the stations which are actually on the crest of the Western Ghats recording very large quantities up to from 250 to 300 inches per annum. As one proceeds to the north from Bhatkal, at the extreme limit of the coast of the Bombay Presidency to the South, as far as Umbergaon in the Thana district which may be taken as the northern limit of the tract under discussion, the total annual rainfall tends continually to decrease from 150 to 62 inches. Owing to the mountainous nature of the country and the heavy rainfall during only about three or four months of the year (June to September), this tract is a very rugged one, is cut up into narrow valleys and the country is highly eroded. Forest occupies a large proportion of the area in Kanara and along the whole length of the Western Ghats themselves. Bare rock (laterite) occupies large areas in the Ratnagiri district. With the exception of these large laterite plateaux there are very few large flat areas of land except on

the sea coast and near the tidal creeks. The hill sides in much of this tract are carefully terraced for cultivation.

The soil is very variable, being formed in various parts of the tract from laterite, trap, or, in the south, granite and schists. On the whole it is shallow and is not retentive of water. As a result, although this tract receives large quantities of rain it grows no crop in the *rabi* season, except in the few level areas with deep soil. Even in the *kharif* season, if the rains hold off for a week or two the crops suffer considerably.

(2) *The Mallad tract*.—This tract receives from thirty-five to fifty inches of rain per annum. It lies immediately to the east of that last dealt with, and usually has an elevation above the sea of two thousand feet or more. That is to say, the general level of the plateau is about two thousand feet, while the strip is crossed by ranges of hills many of which are a thousand feet higher. The strip of country is in fact mountainous though not as much so as that last dealt with, while it is not nearly so level as the *desh* further to the east. The distribution of the rain is very similar to that in the heavy rainfall tract already dealt with.

The soil, though not usually very deep, is more retentive of water than that in the former tract, and much, in the valleys, grows both *kharif* and *rabi* crops. It is formed chiefly from trap rock, except in the extreme south where granites and schists appear, and in a few parts, of the Belgaum district especially, where laterite is found. Most of the good areas of land are levelled and embanked, so as to be useful for rice cultivation, or to avoid further erosion.

(3) *The Desh tract*.—To the east of the *mallad* tract lies what is usually called the *desh*, and in this region the land becomes much more level, while the rainfall is much smaller and more uncertain as one proceeds to the east. The rainfall, in fact, varies from a little over thirty inches on an average in the western part of the area to an average of about twenty-two inches in the eastern tract. The latter is that portion of the Bombay Presidency which is chronically liable to drought and hence to famine. In these eastern parts, moreover, the chief dependence is on the rain in August and September, and hence the people mainly rely on *rabi* crops—*rabi jowar*, wheat, oilseeds, or cotton planted late.

For the most part this tract consists of level plateaux of fair extent, though there are low rocky hills in view throughout the area. The land is often, however, badly cut up near the rivers and very little effort has been made to prevent scouring or eroding of the soil. The soil is usually deep and retentive, becoming more so as one proceeds towards the east.

(4) *The Khandesh tract.*—The Khandesh tract consists almost entirely of the valley of the river Tapti, and the surrounding country. At this latitude the Western Ghats are no longer the formidable barrier that they are further south, but on the other hand the Satpura range, which forms the northern boundary of Khandesh and of the Bombay Presidency, intercepts a great deal of the rain which is passing north in the south-west monsoon current. At the same time, the country is open to the east and a certain amount of rain from the Bay of Bengal current of the monsoon reaches Khandesh. As a result of these features, the rainfall of Khandesh, though only from twenty to thirty inches annually in amount, is much more certain than in the *desh* country further south. It is, however, almost limited to the south-west monsoon, and little late rain in September or October can be relied upon.

The soil of Khandesh, especially in the east, tends to be very deep and retentive wherever it is level and erosion is not great. As a result, in spite of the absence of late rain, *rabi* as well as *kharif* crops are grown, more particularly in the east. The general level of the country in Khandesh is about a thousand feet lower than in the *desh* country to the south, but it slopes up to the latter on the south and up to the Satpura range on the north.

(5) *The Gujarat tract.*—The level plain which stretches from the coast to the east and north from the confines of the Thana district, is known as Gujarat. It is little elevated above the sea level, and is mostly flat. The rainfall, which in the extreme south is from fifty to sixty inches annually, soon becomes not more than forty inches at Surat and less and less from that point as one goes north. It is, moreover, entirely a rainfall of the south-west monsoon, and it stops as a rule in early September. After this time no appreciable amount of rain falls until the following June.

The southern part of Gujarat consists of stiff black soils, formed from trap. But from Broach northward this soil is gradually replaced by large alluvial plains of sandy loam. The district known as the Panch Mahals does not properly belong to Gujarat, and lies among the Satpuras and is hence hilly, the hills being composed of granite and gneiss, with deep or shallow soils in the valleys according to the configuration of the country.

The map presented shows the general distribution of the total rainfall, the differences in the average annual fall being shown by differences in shading.

III.—ROCKS AND SOILS OF THE BOMBAY PRESIDENCY.

The crop characteristics of an area like the Bombay Presidency are determined not only by climatic considerations but also by the character of the soils, and these are again determined by the rocks

of other sources from which they are derived. In this respect the geological features of the Bombay Presidency are simple. The greater part in fact of the area with which we are dealing in the present bulletin consists of what is probably the largest outbreak of volcanic rock in the world, the well-known Deccan trap. Except in the extreme south, and in the Panch Mahals in the north-east, with the alluvial plains of Northern Gujarat, and a few islands of sandstone and the soils derived from it in the south Deccan, the whole of the Presidency owes its characteristic features to the Deccan trap. The bare and rugged country of the Konkan is a trap country: equally so is the treeless hill country of the Deccan. From it is derived the famous black cotton soil or *regur* which occupies so much of the Deccan cultivated area.

From the trap, too, is chiefly derived the laterite, which is a feature of the Konkan and the *mallad* area, particularly toward the south. This is a porous argillaceous rock, generally red in colour owing to impregnation with peroxide of iron, which gives rise to light dry hungry soils in the regions named.

Granite and gneiss appear in the extreme south and form the prevailing rocks in the Kanara district and also in parts of the adjoining districts of Dharwar and Belgaum. These same rocks reappear in the Satpura range to the north and form the characteristic feature of the geology of the Panch Mahals.

The sandstone of the Belgaum, Bijapur, and a part of the Dharwar districts form an island in the midst of the surrounding trap area. But the soils derived from it give a characteristic cropping which is considerably different from that of the surrounding regions.

The soils characteristic of the various parts of the Bombay Presidency are as follows:—

(1) *The Northern Gujarat Tract*.—This tract, consisting essentially of the districts of Ahmedabad and Kaira, is really a part of the great alluvial areas of northern and central India. The soil is formed from primitive and metamorphic rocks of Central India and Rajputana, and is usually level and deep. It varies from what is little more than drift sand in some parts of Ahmedabad to a splendid loam in parts of Kaira. The colour is light fawn to rich brown. On the whole it is a rich soil if only it is supplied with sufficient water, and in the better portions it is fairly retentive. *Kharif* crops are the mainstay of the people, but the more retentive lands grow *rabi* crops and especially wheat. It lends itself admirably to irrigation, and much of the best well irrigation in the Bombay Presidency is on this land.

(2) *The Southern Gujarat Tract*.—This tract is also essentially alluvial, but the source of the alluvium is quite different from

that in the previous case. In the Surat and Broach districts, which form this tract, the main source of the alluvium is trap rock, and granite and gneiss only to a completely subordinate extent. The soil is usually deep and black in colour, and it has all the characteristics of black cotton soil. It is very retentive of moisture, and cracks deeply in the dry parts of the year. This last feature is not, however, found in the *bhatha* or riverine lands or in the *gorat* or former riverine lands. Except for the last two classes of land, this area is not considered as suitable for irrigation. The *bhatha* and *gorat* soils, however, grow large quantities of irrigated garden crops.

Large tracts of this black soil area, especially in the southern part, grow *kharif* crops such as *jowar*, cotton, and where the rainfall is sufficient, rice. In the northern part of the area *rabi jowar* and wheat find a place in rotation with cotton.

(3) *The Panch Mahals Tract*.—This district, which lies among the Satpura Hills and is considerably different from any other district in the Bombay Presidency, is an undulating area where the predominant rock is granite or gneiss. The soil in the higher lands is shallow and light coloured, while the lowlying areas are composed of a deep, rich, dark coloured loam, retentive of water and capable of giving two crops a year. These crops are usually maize in the *kharif* season and wheat in the *rabi* season. The standard of cultivation in this district is, however, low.

(4) *The Khandesh Tract*.—The soils of Khandesh are essentially derived from trap rock, and are hence of the black cotton soil type. Their depth and retentiveness, however, varies a good deal according to their distance from the Tapti river. Along the flat areas near the Tapti river the soil is deep and retentive and the characteristic crops are cotton, *jowar* and wheat. Further from the river the soil is not so deep, but as the rainfall is fairly reliable cotton is commonly grown in rotation with *jowar* or *bajri*. The soils, both deep and shallow, are well adapted for irrigation and grow large areas of chillies and plantains in rotation with dry crops.

(5) *The Deccan Tract*.—This tract which comprises the districts of Ahmednagar, Nasik, Poona, Satara and Sholapur consists essentially of soil derived directly from trap rock. It can be divided into three strips more or less parallel with the Western Ghats:—

(a) The high lying strip along the Western Ghats is hilly and covered with jungle, having small hamlets scattered wherever tillable soil is to be found. This area receives

heavy rainfall and grows *kharif* crops such as rice and millets. The soil is usually shallow and porous.

(b) The next strip to this is less hilly than the last and contains a good deal of tillable land. It generally receives sufficient and certain rain, and grows both *kharif* and *rabi* crops, such as rice, *jowar*, peas in the *kharif* season, and *jowar*, gram and wheat in the *rabi* season. Irrigated crops are also grown, and in some parts, notably in the Nasik district, local irrigation dams enable the people to grow rice, sugarcane and wheat under irrigation. The soil in this part of the country is still shallow, but much deeper than in the strip last dealt with.

(c) The next strip is the *desh* and the principal characteristics of this area have been already described. The soil is deep, black and retentive on the whole except on the high lands and hills.

(4) *The Karnatak Tract.*—This tract which lies to the south of that last dealt with and which includes the districts of Belgaum, Bijapur and Dharwar, consists in the northern portion of the three strips whose characteristics were detailed under the last head. To the south of this there are however differences, as we pass from the trap area into the transition tract between the trap rocks to the north and the metamorphic rocks to the south. This transition tract is rich, and, as the late rainfall of August and September is more certain than it is further to the north, *rabi* crops can be grown with more assurance. This is the great area for *rabi* cotton, and there is also found a very large development of wheat in the area in question. This area, occurring in the Dharwar district contains some of the deepest and most retentive black soils in the Bombay Presidency.

(5) *The Konkan Tract.*—This tract, which lies wholly between the coast and the Western Ghats, contains the districts of Thana, Kolaba, Ratnagiri and North Kanara. It is hilly, with shallow or porous soils everywhere, and except near the coast there is little level land. The greatest amount of level land occurs in the northern districts, Thana and Kolaba. The common rock, except in the north, is laterite, beneath which trap can usually be found, though this latter is replaced by granite in the south towards Vengurla. The soils are usually divided into rice lands, garden lands, and *varkas* lands. The rice land may be either *malla* or low-lying rich land, or *kuryat* or land lying on the slopes of low hills which are terraced in order to hold water and prevent erosion, or *kharvat*, that is to say, land reclaimed from the sea. The garden lands are so called from the fact that they have

command of well or other water for irrigation, and have been levelled and otherwise prepared for garden crops, which in this case include betel palms, cardamoms and pepper in the Kanara district, and fruits, ginger and sugarcane over most of the tract.

The *varkas*, or upland lying on the slopes or tops of hills and plateaux in the Konkan, consist of shallow and poor soil, which is usually cultivated by a system of long fallows, with crops of millets of various kinds and of niger seed respectively in the years in which they are cultivated at all. They are, in spite of an assured rainfall, among the most barren lands in the Bombay Presidency.

IV.—THE CROPS OF THE BOMBAY PRESIDENCY.

The tables printed on pages 14—19 give a general statement as to the area which is devoted to the several crops and classes of crops in the various districts of the Bombay Presidency. They are based on the records of a single year, namely, 1914-15, with certain corrections which will be afterwards noted for progressive changes which have occurred with several crops. This year has been chosen as representing the normal distribution of crops before the war and the resulting economic disturbances in the world had occurred.

GENERAL STATEMENT NO. I OF CROPS

		Cereals					
Names of the Districts.		Jowar.				Bajri.	
		Khari.	Rabi.	Total.	P. C.		
		Area.	Area.	Area.		Area.	P. C.
1	2	3	4	5	6	7	8
1	Ahmedabad ..	259,648	..	259,648	3.99	163,703	3.19
2	Kalra ..	22,725	766	23,491	0.36	152,916	2.98
3	Panch Mahals ..	8,266	..	8,266	0.13	44,976	0.86
4	Broach ..	3,873	136,491	140,364	2.15	7,915	0.15
5	Surat ..	88,654	12,863	101,517	1.55	5,648	0.12
6	West Khandesh ..	74,483	36,346	110,829	1.72	359,198	7.16
7	East Khandesh ..	321,568	..	321,568	4.95	323,579	6.38
8	Nasik ..	36,233	36,803	77,036	1.18	356,514	16.64
9	Ahmednagar ..	5,342	707,345	712,687	10.95	1,068,812	20.85
10	Poona ..	121,823	510,639	632,462	9.74	728,935	14.25
11	Sholapur ..	..	1,128,601	1,128,601	17.35	4,08,518	7.85
12	Satara ..	243,382	275,421	523,803	8.05	421,740	8.25
13	Belgaum ..	313,309	224,408	537,717	8.27	195,863	3.84
14	Bijapur ..	358,127	953,553	1,311,680	20.16	373,594	7.29
15	Dharwar ..	446,661	165,956	612,617	9.42	9,187	0.19
16	Thana ..	690	..	690	0.01	3	..
17	Kolaba ..	..	..	..	..	..	..
18	Batnagiri ..	..	..	..	..	20 20	....
19	Kanara ..	564	..	564	0.008	..	..
	Total ..	2,312,348	4,191,192	6,503,540	100.00	5,119,119	100.00

OF THE BOMBAY PRESIDENCY.

and pulses.

Rice.		Wheat.		Other food-grains and pulses.					
				Barley.	Maize.	Ragl.	Gram.	Other food grains.	Total area.
Area.	P. C.	Area.	P. C.	Area.	Area.	Area.	Area.	Area.	
9	10	11	12	13	14	15	16	17	18
68,468	4·07	145,915	9·5	11,398	4,194	4,372	24,798	54,711	737,107
89,222	5·37	11,398	0·7	1,662	421	61,657	10,174	132,138	483,079
69,101	4·12	13,900	0·9	3,192	111,028	16,118	53,978	69,008	389,627
13,279	0·79	69,673	4·6	..	12	198	2,691	59,216	293,348
96,267	5·67	28,229	1·8	1	3	16,181	1,888	57,302	307,036
45,738	2·72	144,658	9·5	..	3,019	10,603	32,939	128,378	835,357
629	0·003	46,159	3·2	..	455	..	10,956	272,983	981,329
65,863	3·88	209,069	17·6	1	1,553	110,849	68,700	256,976	1,706,561
14,884	0·88	124,324	8·2	195	1,078	22,084	41,244	250,322	2,235,630
74,282	4·42	73,686	4·8	619	1,118	36,737	44,561	143,107	1,735,505
6,996	0·44	22,088	1·4	1,874	10,080	34	23,318	119,338	1,715,845
41,773	2·48	45,487	2·9	3,115	6,684	39,626	59,236	197,430	1,340,894
102,786	6·12	99,165	6·5	543	12,322	31,888	34,886	262,626	1,277,796
3,936	0·23	163,331	10·7	2,602	1,366	541	38,160	176,987	2,072,197
153,717	9·15	263,365	17·3	21	28	37,094	35,647	288,290	1,399,966
326,550	19·43	213	..	..	24	50,110	2,049	44,451	424,090
254,944	15·18	1	..	..	..	41,647	769	47,579	344,940
76,491	4·55	..	..	..	1	35,868	30	43,793	156,203
235,344	12·83	..	..	..	1	152,068	116	168,876	556,925
173,281	10·31	..	..	..	473	3,125	388	6,417	184,248
1,678,207	100·00	1,522,616	100·00	25,223	155,857	513,732	486,412	2,611,052	18,620,758
1,637,560						634,932	486,498	2,736,135	19,021,480

1	Names of the Districts.	Fodder crops.	Sugarcane.				Fruits and vege		P. C.
			Sugarcane.		Other.	Total.	Fruits.	P. C.	
			Area.	P. C.	Area.	Area.	Area.		
19	20	21	22	23	24	25			
1	Ahmedabad ..	11,701	636 753	1·2 0·82	5	641	822	2·26	
2	Kaira ..	45,417	123 87	0·2 0·09	..	123	213	0·58	
3	Panch Mahals ..	2,551	80 66	0·1 0·07	..	80	33	0·09	
4	Broach ..	3 823	17 50	0·0 0·06	70	87	366	1·00	
5	Surat ..	1,399	2,723 3,333	5·00 4·15	333	3,056	944	2·60	
6	West Khandesh ..	198	753 1,317	1·3 1·43	..	753	433	1·19	
7	East Khandesh ..	42	354 1,218	0·6 1·32	..	354	2,762	7·61	
8	Nasik ..	5,721	5,431 10,041	10·1 10·88	1	5,432	2,367	6·52	
9	Ahmednagar ..	3,280	4,079 10,324	7·55 11·19	..	4,079	2,718	7·49	
10	Poona ..	1,805	13,196 17,207	24·3 18·64	76	13,272	4,325	13·29	
11	Sholapur ..	1,931	1,566 3,065	2·9 3·32	181	1,747	1,499	4·13	
12	Satara ..	1,861	8,533 16,742	15·7 18·14	..	8,533	2,027	5·58	
13	Belgaum ..	27,806	10,364 16,060	19·00 17·40	..	10,364	1,796	4·95	
14	Bijapur ..	1,131	635 1,701	1·2 1·84	20	655	1,516	4·18	
15	Dharwar ..	15	1,924 5,284	3·6 5·73	115	2,039	2,795	7·70	
16	Thana ..	110	399 510	0·7 0·55	..	399	3,632	10·01	
17	Kolaba ..	1	32 20	0·00 0·02	61	93	422	1·16	
18	Ratnagiri ..	..	539 929	0·30 1·70	..	539 929	703 1,393	1·93 3·77
19	Kanara ..	1	1,093 2,885 2,934	1·18 5·3 3·18	..	2,885	6,412	17·67	
Total		108,793	54,269 54,659 92,305	100·00 100·00	362	55,131 55,521	36,235 36,975	100·00	

Vegetables. Including root crops.		Oil-seeds. (Details see page 28).		Condiments such as chillies, etc.			
Vegetable.	Total.	Total.					Total.
Area.	Area.	Area.	P. C.	Area.	P. C.	Area.	Area.
26	27	28	29	30	31	32	33
40,689	41,511	44,577	3.38	..	..	2,438	2,438
27,579	27,792	27,930	2.08	..	..	4,246	4,246
6,777	6,810	49,583	3.70	..	..	1,428	1,428
6,030	6,396	13,038	0.98	..	..	276	276
47,304	48,048	25,684	1.92	..	..	1,545	1,545
17,547	17,980	69,803	5.22	..	..	4,256	4,256
21,965	24,727	24,669	1.84	..	..	9,627	9,627
28,255	30,622	167,049	12.49	..	..	11,391	11,391
80,269	82,987	179,018	13.38	..	..	5,716	5,716
64,001	68,916	114,132	8.53	..	..	11,907	11,907
39,325	40,824	165,672	12.39	..	..	7,970	7,970
77,752	79,779	136,686	10.37	..	..	19,607	19,607
5,283	7,079	63,921	4.78	..	..	17,131	17,131
26,399	27,915	142,696	10.67	..	..	3,751	3,751
24,518	27,313	68,690	5.13	..	..	50,496	50,496
5,779	9,411	11,011	0.82	..	..	2,004	2,004
9,233	9,655	4,750	0.35	..	..	196	196
4,183	4,886	14,303	1.07	..	..	809	809
5,290	9,683	33,596	2.48	..	..	1,762	1,762
2,923	9,335	11,957	0.89	1,395	4,160	795	6,350
529,701	565,986	1,337,163	100.00	1,395	4,160	155,584	161,139
533,808	570,788	1,356,464					162,092

1	2	Cotton and fibre.				Drugs and	
		Cotton.		San, am- badi and other.	Total.	Tobacco.	
		Area.	P. C.	Area.	Area.	Area.	P. C.
3	4	5	6	7	8	9	
1	Ahmedabad ..	284,843	6·8	2,849	287,192	2,964	3·45
2	Kaira ..	88,386	0·9	4,587	42,923	26,117	30·42
3	Panch Mahals ..	84,417	0·8	9,962	44,379	1,854	1·57
4	Broach ..	237,882	5·6	148	237,980	2,303	2·68
5	Surat ..	122,976	2·9	3,944	126,920	651	0·76
6	West Khandesh ..	478,199	11·4	7,251	485,450	864	1·00
7	East Khandesh ..	939,129	22·4	9,825	948,954	3,723	4·38
8	Nasik ..	110,881	2·6	7,690	118,571	2,093	2·44
9	Ahmednagar ..	272,742	6·4	26,338	299,080	4,165	4·85
10	Poona ..	25,720	0·6	10,026	35,746	1,127	1·30
11	Sholapur ..	117,840	2·8	80,481	148,271	2,645	3·08
12	Satara ..	17,878	0·4	7,622	25,500	8,166	9·50
13	Belgaum ..	257,997	6·2	11,421	269,418	27,892	32·49
14	Bijapur ..	693,558	16·6	11,804	705,362	1,406	1·64
15	Dharwar ..	566,866	13·60	6,568	573,434	368	0·48
16	Thana ..	2	0·00	1,783	1,735	1	0·00
17	Kolaba ..	..	0·00	201	201	..	0·00
18	Batnagiri ..	3 3	0·00 ..	2,595 7,014	2,598 7,014	.. ..	0·00
19	Kanara ..	..	0·00	169	169	1	0·00
	Total ..	4,198,719	100·00	155,164 159,883	4,313,883 4,358,302	85,840	0·00

Narcotics.			Dyes.	Other non-food crops.	Gross area cropped.	Deduct area cropped more than once.	Remained net cropped area.
Other.							
Betelnut.	Other.	Total.					
Area.	Area.	Area.	Area.	Area.	Area.	Area.	Area.
40	41	42	43	44	45	46	47
..	..	2,964	292	498	1,128,916	24,993	1,103,923
..	..	28,117	1,306	237	659,220	24,793	634,427
..	..	1,354	..	5	495,817	75,611	420,206
..	..	2,308	..	66	557,317	1,101	556,216
..	1	652	..	160	514,509	61,319	453,191
..	40	904	51	39	1,414,791	23,379	1,390,912
..	217	3,940	8	64	1,998,708	17,631	1,976,077
..	260	2,353	..	297	2,047,997	61,627	1,986,370
..	481	4,646	..	314	2,314,750	59,696	2,755,054
..	636	1,763	..	216	1,933,262	66,756	1,866,506
..	206	2,351	..	245	2,085,356	35,116	2,050,240
..	501	3,757	..	1,173	1,618,790	116,326	1,502,464
..	852	28,244	..	44	1,701,803	23,419	1,673,384
..	79	1,485	1	13	2,955,211	7,760	2,947,451
..	1,759	2,127	..	8	2,124,088	21,378	2,102,710
4	396	401	..	93	449,254	6,973	442,281
351	13	364	..	9	360,209	11,368	348,841
1,257	40	1,317	..	6	180,661	11,368	168,793
3,821	132	4,003	..	6	..	..	..
18,019	403	18,423	1	45	233,414	22,588	210,826
19,651	5,474 9,437	110,965 113,651	1,659	3,587	25,319,064	699,202	24,619,362

In examining the general characteristics of this distribution of crops, the first point to be noticed is the fact that no less than 76 per cent. of the cropped area is occupied by food crops. The relatively large area thus occupied is on the whole a matter for satisfaction. Among these food crops, cereals and pulses take up 73·5 per cent. of the total acreage, while vegetables and fruits only require 2·2 per cent. and sugarcane only 0·2 per cent.

The non-food crops consist of oil-seeds, fibres, condiments like chillies, narcotics like tobacco, and fodder crops. Oil-seeds occupy 5·3 per cent. of the cropped area, while fibres, of which almost the whole is cotton, take no less than 17·2 per cent. When set out as a percentage of the total cropped area the amount of space devoted to chillies and similar crops seems very small, for it is only 0·64 per cent. of the cropped area, but this really represents not less than 160,000 acres, while the heading "drugs and narcotics", eighty per cent. of which is tobacco, and practically all the rest betel nut, accounts for over 110,000 acres or 0·44 per cent. of the area under crops. The area under fodder crops is perhaps the most disappointing of all the headings we have to consider, for they, so vital in a dry country for keeping livestock in good condition, only occupy 109,000 acres or 0·43 per cent. of the area.

Of the cereals *jowar*, *bajri*, rice and wheat are the most important judged by the area devoted to them, and in this order. They occupy 26, 20, 7 and 6 per cent. respectively of the total area under crop. A better idea of their relative importance is perhaps given by taking the percentage of the total area under food crops. The figures then come to 34 per cent. for *jowar*, 27 per cent. for *bajri*, 9 per cent. for rice and 8 per cent. for wheat. Thus these four crops take no less than 78 per cent. of the area devoted to the growing of food. Two other food grains are important in this connection. The first of these is one of the smaller millets, known as *nagli*, *nachani* or *ragi* in various parts of the Bombay Presidency, and this occupies 3 per cent. of the total food area, chiefly in the uplands of the Konkan and the *mallad* tract. The second of the remaining food grains is the pulse, gram, which takes 2·5 per cent. of the food area.

Of the oil-seeds safflower, sesamum, groundnut, nigerseed and linseed are important in this order. This is, I suppose, the only large area in the world where safflower stands first among oil-seed crops. Among the fibres I have already said that almost the whole area is under cotton. The only other one which has the least importance is sann-hemp, or, as it is called on the market, Bombay hemp.

The following table gives the population, the cultivated area and the cultivated area per head of population in each of the districts of the Bombay Presidency :—

District.	Population.	Net cropped area.	Area of cultivated area per capita.
		Acres.	
Ahmedabad	827,809	1,103,923	1·33
Kaira	691,744	634,427	0·92
Panch Mahals	322,695	420,206	1·30
Broach	306,717	556,216	1·81
Surat	654,109	453,181	0·69
West Khandesh	580,723	1,390,912	2·39
East Khandesh	1,034,886	1,976,077	1·91
Nasik	905,030	1,986,370	2·19
Ahmednagar	945,305	2,755,054	2·91
Poona	1,071,512	1,896,506	1·77
Sholapur	768,330	2,050,240	2·67
Satara	1,081,278	1,502,464	1·39
Belgaum	943,820	1,673,384	1·77
Bijapur	862,973	2,947,451	3·42
Dharwar	1,026,005	2,102,710	2·05
Thana	882,309	442,281	0·50
Kolaba	594,166	348,841	0·59
Ratnagiri	1,203,638	168,793	0·14
Kanara	430,548	*571,826	0·48
Bombay City	979,445	210,826	0·48
Total	16,113,042	24,619,862	1·53

* Including estimates for non-reporting area.

This table will be found exceedingly interesting especially as regards the figure for the amount of cultivated land per head of population. It will be seen that taking the Bombay Presidency as a whole the cultivated area per head of population is 1·5 acres. Ratnagiri has the least, or slightly under half an acre per head. Small areas per head are, however, usual in rice growing areas, for rice is, on the whole, an intensively grown crop. Bijapur, on the other hand, has the greatest, or nearly 3½ acres, this being a district of extensive but poor cultivation, with very little irrigation.

It is interesting to compare these figures with those prevailing in some of the other countries of the world. Thus we have as follows :—

	Area of Cultivation per head of population, Acres.
United States of America ..	3·5
France	1·5
United Kingdom	0·4
Japan	0·3
India as a whole	1·0

Taken altogether, the figures explain why the Konkan districts are not self-supporting, especially Ratnagiri, in spite of the fact that they grow rice. They have always to import food from the outside, and a large part of their population has to go outside, chiefly to Bombay, for employment. The Khandesh districts are apparently well supplied with cultivated area in relation to the population, until it is recognised that nearly half the area is occupied by non-food crops, and that hence the food crop area per head is really small, and that therefore, except in good years, these districts are not self-supporting in the matter of food.

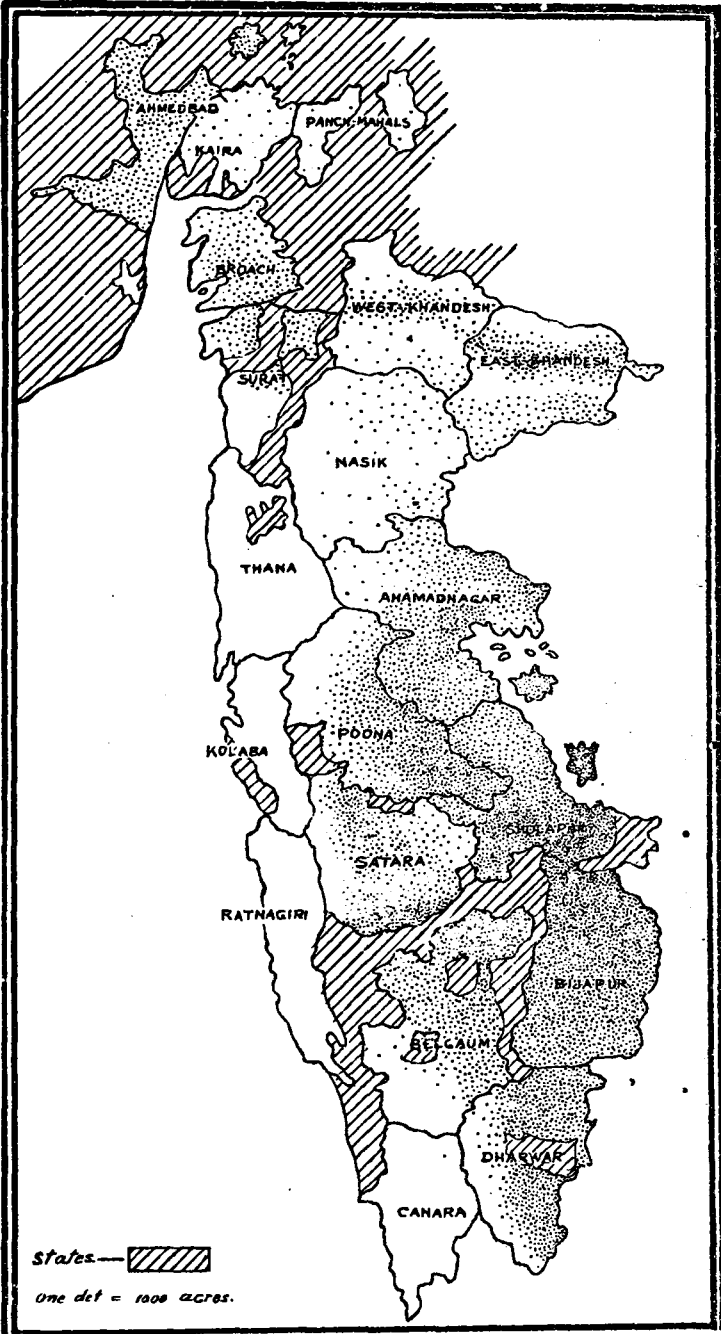
If we take the Bombay Presidency as a whole, without taking any account of the special conditions of each district, we find that taking cereals and pulses alone, which form almost the whole of the food of the population, it will be seen that the province produces enough food to supply about 713 pounds a year per head, or about two pounds of grain per day for each member of the community. This estimate is based on what are supposed to be normal yields, which are only attained in good years. The areas and amounts of produce corresponding with them which are used for this calculation are shown in the following table:—

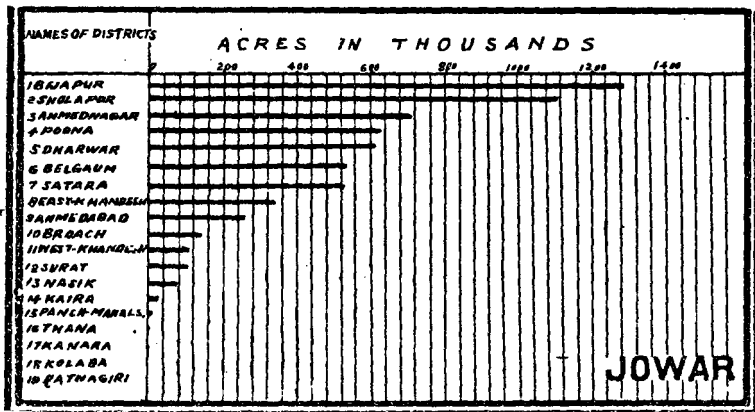
No.	Name of crop.	Acreage.	Outturn in lbs.	Remarks.
1	Jowar	6,503,540	4,357,371,800	Figures of average yields of grain per acre of cereals have been taken from the quinquennial report for the quinquennium ending 1917. Figures are estimates for the unreporting areas in Ratnagiri District are marked (2).
2	Bajri ..	5,119,119	2,047,647,600	
3	Wheat ..	1,522,616	875,504,200	
4	Rice ..	(1) 1,678,207 (2) 159,353	2,064,194,610 196,004,190	
5	Maize ..	155,857	83,539,352	
6	Nagali ..	(1) 518,732 (2) 116,200	549,855,920 123,172,000	
7	Gram ..	486,412	199,428,920	
8	Tur ..	513,573	265,003,668	
9	Other cereals ..	(1) 777,599 (2) 70,472	276,825,244 25,088,032	
10	Other pulses ..	(1) 1,319,880 (2) 35,779	451,398,960 12,036,418	
		(1) 18,585,535 (2) 381,803	11,130,769,274 356,500,640	

No.	Population.	Quantity of grain and pulses, lbs.	Quantity available per year <i>per capita</i> in lbs.	Quantity available per day <i>per capita</i> in lbs.
1	16,113,042	(1) 11,130,769,274 (2) 356,500,640 11,487,269,914	712.9	1.95

JOWAR

Fig 2





V.—JOWAR (*Andropogon Sorghum*).

Jowar is the most important cereal, and at the same time the largest and most widely grown crop in the Bombay Presidency. As a food crop it is better than rice as the grain contains more proteids, while it also has more starch than wheat. The grain is chiefly eaten as a bread stuff in unleavened cakes. Particularly in the eastern districts it almost entirely replaces rice and wheat, and is a quite indispensable food.

Its only rival in importance as a food crop is *bajri*, and these two claim about forty per cent. of the total cropped area. Most of the produce is, however, consumed locally, the export not amounting to more than one per cent. of the total produce. In bad years of drought the Bombay Presidency imports *jowar* from Sind and Madras, while in good years there is an export to Kathiawar and Cutch.

Jowar is equally important as a fodder crop, as *jowar* straw is the main dependence of the cattle in the larger part of the Bombay Presidency and a failure of the *kharif jowar* crop means inevitably an appalling death of cattle, and the other results of famine.

Statement No. I shows that Bijapur claims the largest area of any district and contains more than twenty per cent. of the gross-cropped area in the Bombay Presidency. Sholapur stands second with 17 per cent., while Ahmednagar, Poona, Satara and Dharwar each have between eight and a little over ten per cent. The greater part of the remaining area lies in Belgaum, East Khandesh, Ahmedabad and Broach.

Statement No. II shows that *jowar* claims fifty-four per cent. of the total cropped area of the Sholapur district, and over forty-four per cent. of Bijapur, while in the Satara, Poona and Belgaum districts more than thirty per cent. of the cropped area, and in the Dharwar, Ahmednagar, Broach and Ahmedabad districts more than twenty per cent. of the cropped area are under this crop.

Agriculturally speaking, three main divisions of the *jowar* crop may be made: (1) the early rain or *kharif* varieties, which are either red or white; (2) the late rain or *rabi* varieties, which are all white; and (3) the irrigated hot-season crop grown for fodder alone, whose area is very small.

Of the total area of 6,503,540 acres of *jowar* 4,191,192 acres or nearly two-thirds is grown in the *rabi* season, and the remainder or about one-third in the *kharif* season. Sholapur, Bijapur and Ahmednagar together claim about three-quarter of the *rabi* area; Poona, Satara and Dharwar also return a large area of *rabi jowar*. Dharwar, Bijapur and East Khandesh claim half of the total *kharif* area, while Belgaum, Ahmedabad, Satara and Poona grow very large quantities of *kharif jowar*.

Jowar is generally a dry or *jirayat* crop when grown for grain ; when grown for purely fodder purposes either in the *rabi* or in the hot season it receives irrigation. If *rabi jowar* be irrigated the outturn is naturally very much greater.

There are over a hundred varieties of *jowar* in the Bombay Presidency. Among the best known varieties are *Sathi*, *Perio*, *Chapti*, *Sholapuri*, *Ais-puri*, *Garya*, *Gudhaghi*, *Bedri*, *Dagdi*, *Maldandi*, *Dukri*, *Gidgap*, *Argad*, *Utavli*, *Nilwa* and *Sundhia*.

The distribution of the crop is regulated by the amount and distribution of rainfall, but the depth and character of the soil plays an equally important part. In the Konkan and *Mallad* tracts, where the rainfall is very high, *jowar* has no place at all. In the parts of the Deccan where the soils are shallow it gives place to *bajri*, while in the Panch Mahals and in part of the Belgaum district maize takes the place of *jowar*. It is essentially a crop of deep and heavier soils, while the best results are obtained in centres with an average rainfall of from thirty to forty-five inches. *Kharif jowar* is sown in the month of July, either alone or in mixture with other crops. *Rabi jowar* is sown in September and October, and in many centres it is mixed with other crops, notably with safflower. On an average the crop occupies the land for five months.

The average yield of *jowar* per acre* comes to about 670 lbs. for the dry *jirayat* crop. The average yield of fodder per acre, in addition to the grain, comes to about 1,700 lbs. and the normal proportion of grain to fodder is about 1 to 2·5.

VI.—BAJRI (*Pennisetum typhoideum*).

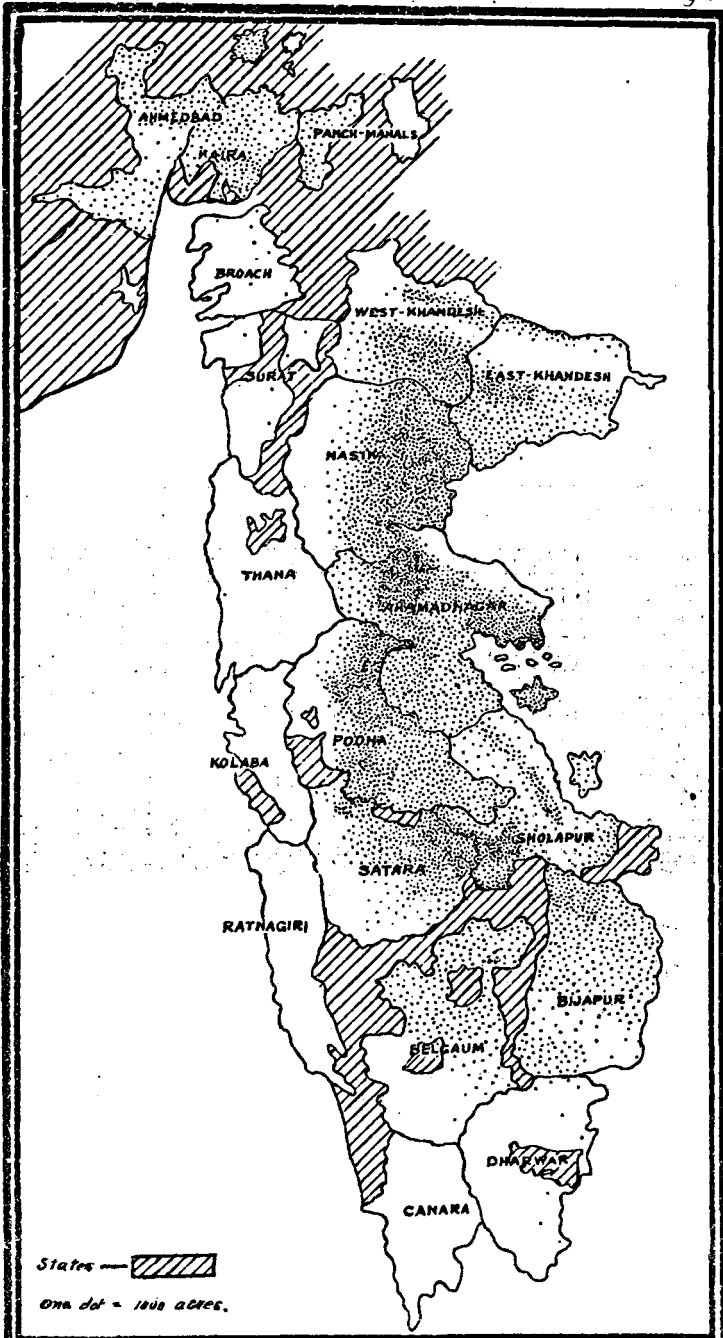
Bajri stands second in importance as a food crop, occupying about 5,100,000 acres or about 20 per cent. of the gross cropped area in the Bombay Presidency. It is the staple crop in a large tract, and is the chief food of large classes of the people, but it is grown only where it gives better results than *jowar*. It is a light soil millet, while *jowar* is chiefly found in heavier soils, though on much of the land the crops are alternative, according as the weather conditions are more favourable for one or the other.

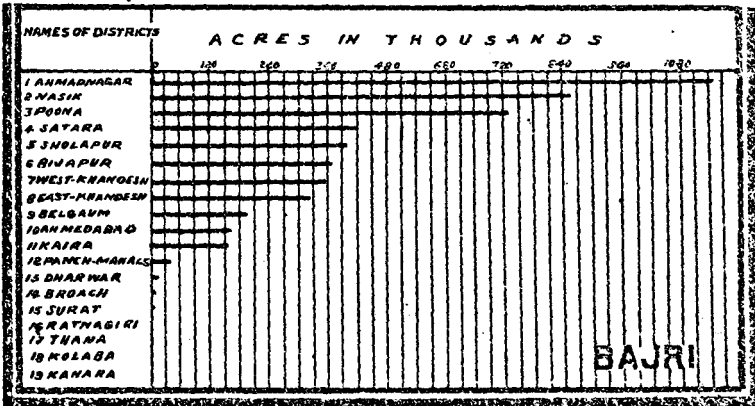
It is entirely a rains crop, and the area fluctuates considerably from year to year. When the monsoon opens with liberal rainfall, *jowar* occupies a larger area, while when the early rains are deficient, the land put under *bajri* tends to increase. In the Deccan the tract where *bajri* growing is most intense lies in the western part of the *Desh* ; the crop does well on somewhat less rainfall than is required by *kharif jowar*.

* Quinquennial report on the average yield per acre of principal crops for the period ending in 1916-17.

BAJRI

Fig 3





It is grown almost entirely as a food crop for the people themselves, and hence there is no export whatever of this crop to foreign countries. Unleavened bread made from *bajri* is preferred to *jowar* bread in many parts of the country in the cold season.

Statement No. I shows that Ahmednagar claims 20·8 per cent. of the total area under *bajri*, Nasik 16·6 per cent. and Poona 14·25 per cent. These districts are followed by Sholapur, Satara, West Khandesh, East Khandesh and Bijapur, each of which grows between 7 to 8 per cent. of the total area. Ahmedabad claims 3·9 and Kaira 3·0 per cent.

There are two varieties of *bajri* grown in Gujarat, chiefly (as the above figures show) on the light *goradu* soil of Kaira and Ahmedabad. These varieties—*deshi* and *bhavnagri*—have special characters, and are on the whole superior in yield to the variety grown in the Deccan. In the Deccan there is only one type, though *bajri* grown in the Akola taluka of the Ahmednagar district is reputed to be of better quality and to give a higher yield.

Statement No. II shows that *bajri* claims about 42 per cent. of the total cropped area in Nasik, about 37 per cent. in Poona and also in Ahmednagar. Next in importance come Satara, West Khandesh and Kaira, where it covers from 20 to 26 per cent. of the total area.

Bajri as a nutritious food stands very high, containing about ten per cent. of proteids and seventy per cent. of starch. It, hence, compares very favourably with *jowar* as a food.

It is always a mixed crop in Gujarat. In certain parts of the Deccan, *tur* (*Cajanus indicus*) is grown in rows with *bajri*. In Khandesh, however, it is grown alone. If heavy rain falls when the crop is in flower it suffers much, and hence the crop is generally sown late to avoid heavy showers during this stage of its growth. The normal average outturn in the Bombay Presidency comes to 400 lbs.* of grain and 1,000 lbs. of fodder per acre. *Bajri* straw, however, makes poor fodder, much poorer than *jowar* straw. The proportion of grain to straw generally is about 1 to 2·5.

VII.—RICE (*Oryza sativa*).

Rice stands third among the food crops of the Bombay Presidency, and as its cultivation very largely occurs in the areas where *jowar* and *bajri* are not and cannot be grown, it is for these tracts of great importance. As a food crop rice is not equal either to *jowar* or *bajri* as the grain is starchy and somewhat deficient in proteids. But, nevertheless, it is indispensable in the districts where it is grown. As a fodder crop it is far inferior to *jowar*, both in the quantity and quality of the straw which it yields, and as a result the cattle in districts devoted to rice growing are usually very inferior.

* Quinquennial report on the average yield per acre of principal crops for the period ending 1916-17.

The rice produce of the Bombay Presidency is not sufficient to meet the needs of the people. In most districts the peasants and labouring classes go without rice and depend on millets only. Even in the Konkan districts where it is a staple crop and the main food, the local produce often falls short of their requirements, and then rice is imported from Madras, the United Provinces, the Central Provinces and Burma. In good years, however, large quantities of rice are exported from Bombay to Europe, though a large part of it comes from other provinces and only passes through Bombay.

Statement No. I shows that the area under rice is about 1,678,000 acres, and this represents 9 per cent. of the land under food crops or 6·6 per cent. of the gross cropped area in the Bombay Presidency. The districts which chiefly contribute to this total are Thana with 20 per cent., Kolaba with 15 per cent. and Ratnagiri with 13 per cent. of the whole area under rice. Kanara (10 per cent.), Dharwar (9 per cent.), and Belgaum (6 per cent.) follow, in this order of importance, as rice growing centres. A fairly large area is also found in the districts of Gujarat, where the processes of cultivation are peculiar, and where it is found fairly well scattered over the districts. Rice is not grown at all in the eastern Deccan.

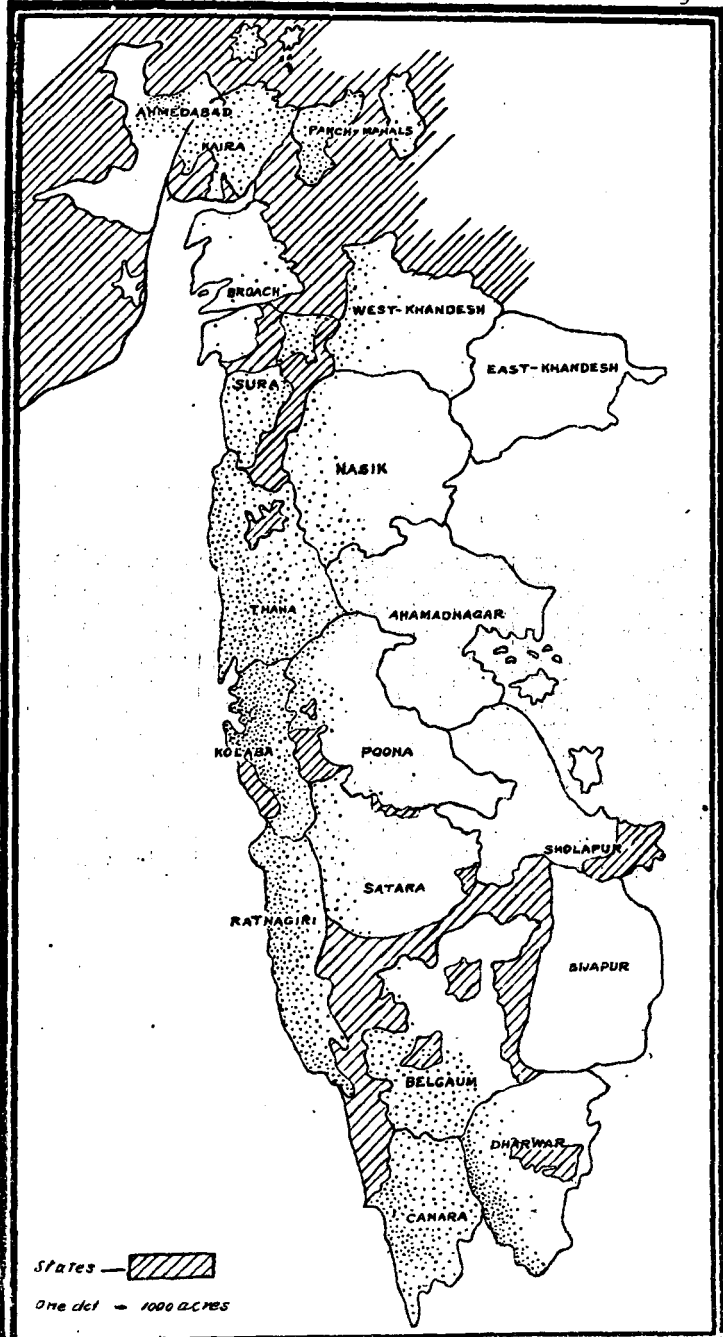
Statement No. II shows that in three districts—Kanara, Thana, and Kolaba—rice occupies more than 70 per cent. of the whole cultivated area. In Ratnagiri, where there is more *varkas* land (which is not suitable for rice cultivation) than anywhere else, the proportion falls to a little under 40 per cent. No other district shows more than 18 per cent. found in Surat, or between 13 and 14 per cent. found in Kaira and in the Panch Mahals.

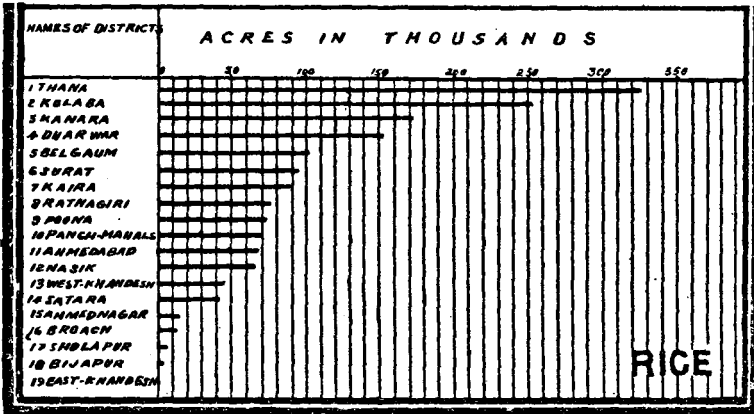
The distribution of the rice area is governed either by the rainfall or by the existence of facilities for artificial irrigation. Most varieties of rice are semi-aquatic and need water at the most for from four to five months. The eastern limit of the ordinary rice crop in the Deccan and Karnatak districts follows more or less clearly the line of mean monsoon rainfall of about 50 inches. In the Nasik district, where there are a number of dams along the rivers, rice extends beyond this line along the rivers. In the Gujarat districts rice is grown on a fairly large scale, and in this tract there are a number of small tanks which partly protect the crop. The growing period of most of the varieties of rice corresponds to that of the south-west monsoon, namely from June to October.

In the Konkan districts, in Gujarat and in the heavy rainfall strip of the Deccan called *Maval* or *Mallad*, along and close to the Western Ghats, rice is generally transplanted. On the other hand, in the salt rice lands of the coast and in the uplands in parts of Ratnagiri and Kanara, broadcast sowing is practised. This is also the case

RICE

Fig 4





in Goa and in the Karwar and Ankola talukas of the Kanara district. In the eastern part of the *Mallad* tract, in Belgaum and Satara, where the rainfall is only from forty-five to sixty inches, rice is sown with a drill. Likewise in parts of Broach and the Panch Mahals rice is often drilled between rows of cotton. Drilled rice is also not infrequently grown on the Deccan canals on sugarcane land. Hot weather rice, known as *vaingan*, in the Konkan and Kanara, and *kharif* rice under the irrigation from rivers in the Nasik and Khandesh districts are sown by broadcasting sprouted seed.

In the Konkan districts, including Kanara, as also in the *Mallad* tracts, early varieties of rice ripening in one hundred to one hundred and twenty days are grown on high-lying areas which do not retain sufficient water, while late varieties maturing in 120 to 160 days are grown in low-lying fields.

In the Konkan districts, except Kanara, and in the *Mallad* tracts, seedlings for transplanted rice are grown in a specially treated seed-bed. The treatment of the land is called "*rab*." It consists in heating the surface soil of the seed-bed by burning materials like dried cattle dung, leafy loppings of trees, grass, etc., on the surface. This system of preparing the seed-bed of rice is almost peculiar to the Bombay Presidency and has been proved to be very effective. In Gujarat and Kanara the rice seedlings are grown in a seed-bed manured with ordinary farm manure.

Rice freely responds to manuring. But in the richer trap soils of the North Konkan and the *Mallad* tract where transplanting is practised, the crop hardly receives any manure. On the other hand, the crop on the poorer laterite soils of the South Konkan, on areas where drill sowing is resorted to, on the land under river irrigation in the Nasik district, and on that under tanks in Gujarat, is regularly manured.

For successful rice cultivation a good and constant supply of water is essential. This can be best secured by having level plots with proper embankments. In the Konkan and on the Ghats, where the general configuration of the land is uneven, this levelling is brought about by a very skilful and elaborate process of terracing according to the contour of the land. This prevents scouring, and enables the small plots to hold evenly fair depths of water all over the field.

In the Konkan, on the Western Ghats, and also in Gujarat, rice is sown year after year in the same land. Occasionally, well drained rice lands go under sugarcane. In the Nasik district the lands under river irrigation however, receive, in regular rotation, rice, sugarcane and wheat or *bajri*.

There are hundreds of varieties of rice. Some are early, ripening in from 90 to 120 days, and some are late, ripening in from 120 to

180 days. Early varieties give generally a coarser grain, and occupy uplands which are not capable of retaining very much water. Late varieties give generally finer grain, and usually occupy the low-lying fields. Of the early varieties *Varangal*, *Dodka*, *Panwel* and *Waksal* are a few of the well known types. Among late varieties *Kamod*, *Ambemohor*, *Raybhog*, *Kolamba* and *Garvi Patni* may be mentioned. *Ambemohor*, *Kamod*, *Jiresal*, *Pankhali* are a few of the scented varieties.

The average outturn of rice per acre comes to about 1,200 lbs. of grain and 1,600 lbs. of straw. Rice straw is used as fodder, though it is not considered to be very sustaining, and also for thatching. The proportion of grain to straw generally comes to about 1 to 1.25.

VIII.—WHEAT (*Triticum sativum*).

Wheat occupies the fourth place among cereals, and the fifth among all crops in point of acreage in the Bombay Presidency, having 1,522,616 acres or about 6 per cent. of the gross cropped area to its credit.

Wheat is one of the crops in the Bombay Presidency which are almost entirely grown not for consumption but for sale. Compared with the population, the total produce is small, but a large part of the people eat *bajri* and *jowar* almost exclusively and hence in good years wheat is exported to England. In bad years wheat is imported into the Bombay Presidency from other provinces such as Rajputana, Central India, the Punjab, the Central Provinces, the United Provinces, etc. When exported, Indian wheats fetch poor prices relatively to those for American or Argentine produce. This is only partly due to any intrinsic fault in the wheat, but is mainly caused by the way in which it is marketed and exported. British merchants complain of the dirt and mixture of inferior grain in Indian wheats.

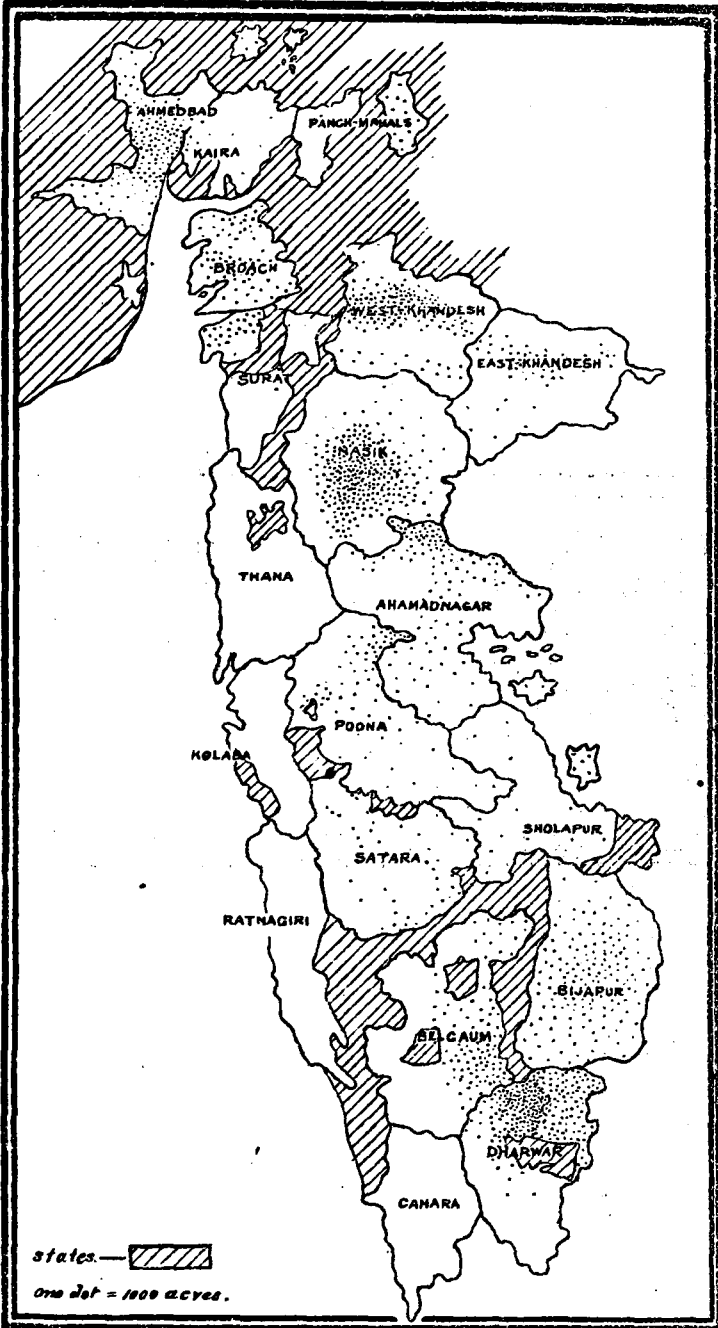
Statement No. I shows that Nasik stands at the head of the districts in the Bombay Presidency as wheat producers containing 17.6 per cent. of the total wheat area, followed closely by Dharwar which has 17.3 per cent. After this come Ahmedabad (10.7 per cent.), West Khandesh (9.5 per cent.), Ahmednagar (8.2 per cent.) and Belgaum (6.5 per cent.) in that order.

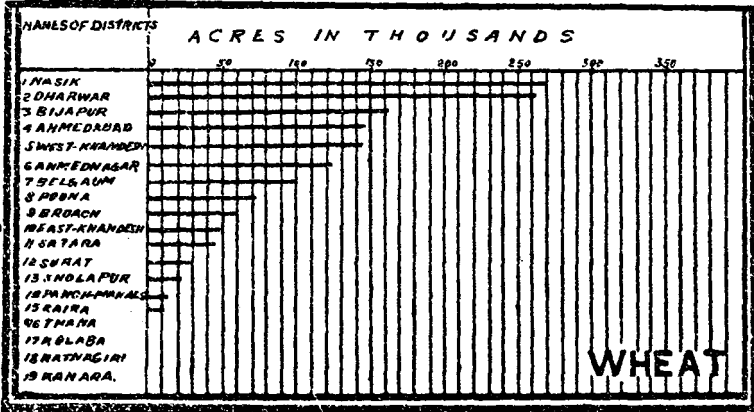
Statement No. II shows that wheat occupies 13.3 per cent. of the cropped area of the Nasik district, about 13.0 per cent. in Ahmedabad, 12.5 per cent. in Broach, 12.3 per cent. in Dharwar and 10.2 in West Khandesh.

Most of the crop is a *jirayat* or dry crop. Only 5 per cent. is irrigated. Nasik, Ahmednagar, Satara, Ahmedabad and West Khandesh claim fairly large areas under irrigation.

WHEAT

Fig 5





Kata or *Shetgahu*, *Wagia*, *Daukhani*, *Bakshi*, *Mundi*, *Potya* and *Khaphi* are the principal varieties grown. *Khaphi* and *Bakshi* (*Kala Kusal*) are irrigated wheats; the others are generally taken as dry crops though in some tracts they receive a little irrigation.

The distribution of the wheat crop as well as its outturn per acre is governed by the moisture in the soil during the growing period of the crop, as well as on the length of the period available to the crop for making growth. When the weather gets hot the crop ripens quickly. The crop is, of course, always and entirely a *rabi* or cold weather crop.

The normal average outturn of wheat for the Bombay Presidency comes to about 575 lbs. of grain and about 1,000 lbs. of fodder per acre. The proportion of grain to straw generally is about 1 to 1.6.

IX.—COTTON (*Gossypium*).

Cotton has been cultivated in India from very early times, and cotton cloth has been, from before the dawn of history, the clothing of people in this country. There was a time when Indian cloth was highly valued in many parts of Europe. In recent years there has been a very great increase in the cotton area, due to the demand for the crop for export to European and in very recent times to Japanese markets. Bombay stands first among the provinces of India as a grower of cotton, and, in fact, out of the total number of about 750 presses and 250 mills in India, the Bombay Presidency claims about 220 presses and 180 mills.

Cotton is one of the most important crops of the Bombay Presidency. It occupies the third place in acreage, and claims about 17 per cent. of the gross cropped area. The proportion of the area under cotton in Bombay to the total area under that crop throughout India is about 17.7 per cent. according to the Indian Cotton Committee's report.

Statement No. I shows that East Khandesh possesses the largest share of the crop among all the districts, namely 22 per cent. of the total area under cotton in the Presidency. Bijapur, Dharwar and West Khandesh follow with about 17, 14 and 11 per cent., respectively. Ahmedabad and Ahmednagar, Belgaum and Broach contain from 6 to 7 per cent. each, while Surat, Sholapur and Nasik have about 3 per cent. each.

If we look at the proportion of the area under cotton to the total of the cropped area of each district we again find East Khandesh standing highest, where the cotton area forms no less than 47 per cent. of the gross cropped area of the district. Broach has 43 per cent. of its area under cotton and West Khandesh, Dharwar, Ahmedabad, Surat and

Bijapur return between 25 and 33 per cent. of their gross cropped area as under this crop (see Statement II).

The Bombay Presidency exported before the war large quantities of raw cotton to Japan, Italy, Germany, Belgium, France and the United Kingdom, but the European trade has now largely fallen off while that with Japan has greatly increased. Cotton yarn has been in the past exported to China (Hong-Kong), Turkey in Asia and the Strait Settlements, while piece-goods have been exported to many centres in Asia and Africa. On the other hand, large quantities of cotton manufactures,—cotton twist and yarn, and piece-goods,—have been imported from England and other European countries.

Roughly speaking there are four commercial types of cottons in Bombay—Dholeras, Broach, Oomras (or Khandesh) and Kumpta-Dharwar. Dholeras include all the Cottons (*Wagad*, *Lalio*, *Goghari* and *Mathio*) grown in the north of Gujarat. Broach includes Navsari, Surat, Broach and *Kanvi* grown in the south of Gujarat. "Oomras" include only one type which is common in the West Khandesh, East Khandesh, Nasik, Ahmednagar, Poona, Sholapur and part of the Bijapur districts: *Kumpta*-Dharwar or Karnatak cottons include the types known in the trade as *Kumpta* and Dharwar American.

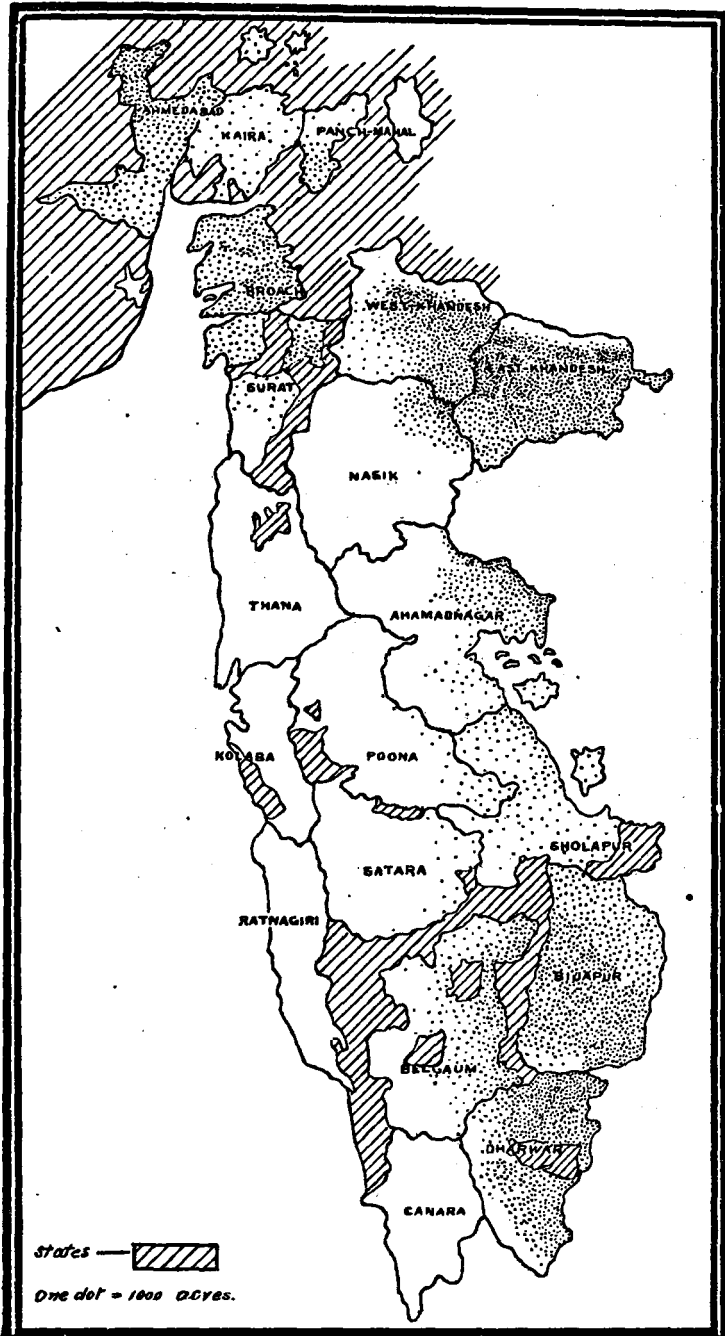
Of the total area under cotton, about 60 per cent. grows short stapled ($1/2''$ to $5/8''$) and 40 per cent. long stapled ($5/8''$ to $1''$) varieties. The following table gives the commercial types, varieties, length of fibre (staple) and the ginning percentages of the cottons grown in the Presidency:—

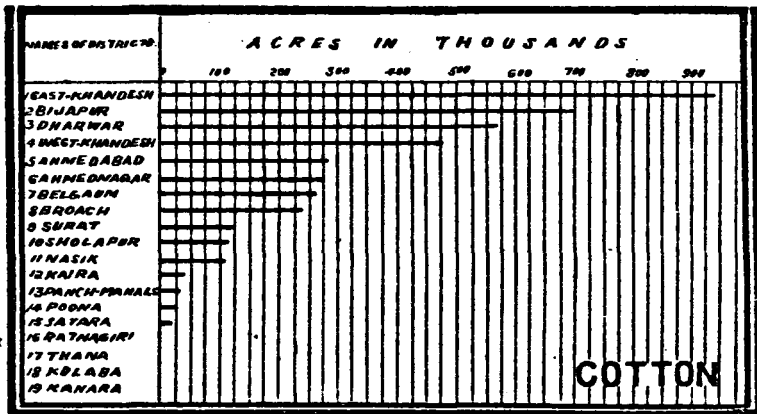
		Staple.	Ginning Percentages.
		inches.	per cent.
Dholeras	<i>Wagad</i>	6-8 to 7-8	33
	<i>Lalio</i>	5-8 to 6-8	33
	<i>Goghari</i>	4-8 to 5-8	40
	<i>Mathio</i>	4-8 to 5-8	32
Broach	<i>Navsari</i>	7-8 to 1	31
	<i>Surat</i>	7-8	32
	<i>Broach</i>	5-8 to 6-8	32
	<i>Kanvi</i>	4-8 to 6-8	35
Kumpta-Dharwar	<i>Kumpta</i>	7-8	26
	Dharwar-American	6-8 to 7-8	30
Oomras	Khandesh	4-8 to 5-8	38

The average normal yield of cotton per acre for British India comes to 102 lbs. of lint. It may be remembered that in Sind the out-turn per acre is 170 lbs. In Egypt it is 140 lbs., but both in Sind and

COTTON

FIG. 5





in Egypt the crop is irrigated. In the United States of America, the yield of lint per acre is said to be 200 lbs. The average yield of Gujarat and Karnatak cottons comes to 128 lbs. and that of Khandesh to about 120 to 150 lbs. per acre.

In Bombay, the cotton is a *jirayat* or dry crop, though in Ahmedabad and Kaira it occasionally gets irrigation. Except in the Karnatak it is a *Kharif* crop, being sown as soon as the land is well soaked with rain. At times it is sown in the dry soil in anticipation of early rain. In Khandesh, picking commences in October and is over before December. In Gujarat, cotton is picked in January and February. *Kumpta* Cotton is sown in about the second week of August, and Dharwar American two to three weeks later. Picking of cotton in this area commences by the second fortnight of February, and lasts till the end of April.

Cotton does well in deep black soil having 20 to 50 inches of rainfall. In the Broach and Surat cotton tracts, where the soil is deep and the rainfall between 30 to 40 inches, long staple cotton (Broach variety) does well. As the Karnatak receives the benefits of both the monsoons, it also grows a long stapled variety (*Kumpta*). In the Deccan districts, on the other hand, which receive between 20 to 30 inches of rain per annum, short staple cotton is usually grown, being generally one of the types of "Khandesh".

X.—SUGARCANE.

India is supposed to be the original home of Sugarcane and she still claims the largest acreage under this crop of any country in the world. Till the seventeenth century India supplied sugar to Europe. Now she imports as much as, 7,000,000 tons every year, most of it coming, before the war, from Mauritius, Java, Austria-Hungary, the Straits Settlements, Hong-Kong and China. Among the different provinces of India, Bombay occupies only the sixth place as regards area under this crop, for the United Provinces stand first, and the Punjab second, while Bihar and Orissa, Bengal and Madras, occupy respectively the third, fourth and fifth places. But while the area in Bombay is small as compared with other provinces, the yield per acre is larger than anywhere else, and in outturn of *gul* or crude sugar, Bombay stands third, the amount of product only being exceeded in the United Provinces and in the Punjab.

In the Bombay Presidency sugarcane only occupied 92,000 acres in 1917-18, and this itself represents a considerable increase in the area three years before. It should, however, be remembered that owing to the intensive nature of the cultivation, it produces *gul* worth between five and eight crores of rupees a year. It should further be remembered

that most of the *gul* produced in Bombay is consumed locally, though a very large quantity of sugar is imported annually from outside India. Hence the importance of this crop is very great.

Considerable quantities of *gul* are supplied by the Karnatak and the Deccan districts to the Central Provinces, to Berar, to the Nizam's Territories, and to Rajputana, while the Karnatak also sends *gul* to Mysore. The Konkan and Gujarat draw their supplies of *gul* from the Karnatak and the Deccan.

The average normal yield of crude sugar (*gul*) per acre for British India comes to 2,719 lbs. while for the Bombay Presidency it is no less than 6,950 lbs. The average yield for the thin varieties of cane is about 3,500 to 4,500 pounds per acre, for thick varieties under well irrigation, it is about 5,000 to 7,000 pounds per acre, and for thick canes under canal irrigation it reaches 7,000 to 11,000 pounds per acre. The amount of *gul* for the ordinary thick cane grown (*pundya*) is about 12·25 per cent. of the weight of cane. The outturn of *gul* in Bombay compares favourably with that of any other country in the world. The cost of cultivation, however, is rather high as compared to that of other countries. The green tops of the cane are fed to cattle. The proportion of *gul* to tops comes to about 1 to 1·3.

So far there are no sugar factories in Bombay actually working. Recently two large companies have been floated, and with the extension of irrigation canals, Bombay would appear to present a good field for the development of sugar manufacture.

Statement No. I shows that Poona, Satara and Belgaum are the principal districts producing sugarcane, each claiming about 18 per cent. of the total area under cane in the Bombay Presidency. Ahmednagar and Nasik follow, each growing about 11 per cent., each of the total area. Dharwar claims about 6 per cent., Surat about 4 per cent., while Sholapur and Kanara have about 3 per cent. each.

Statement No. II shows that Kanara has the largest proportion of the cropped area (more than 1·2 per cent.) of the district under sugarcane. Though Poona claims the largest acreage under this crop, the proportion of the crop to the total area comes to only 0·6 per cent.

There are many varieties of cane grown of which the principal are as follows :—

Thick and juicy canes —

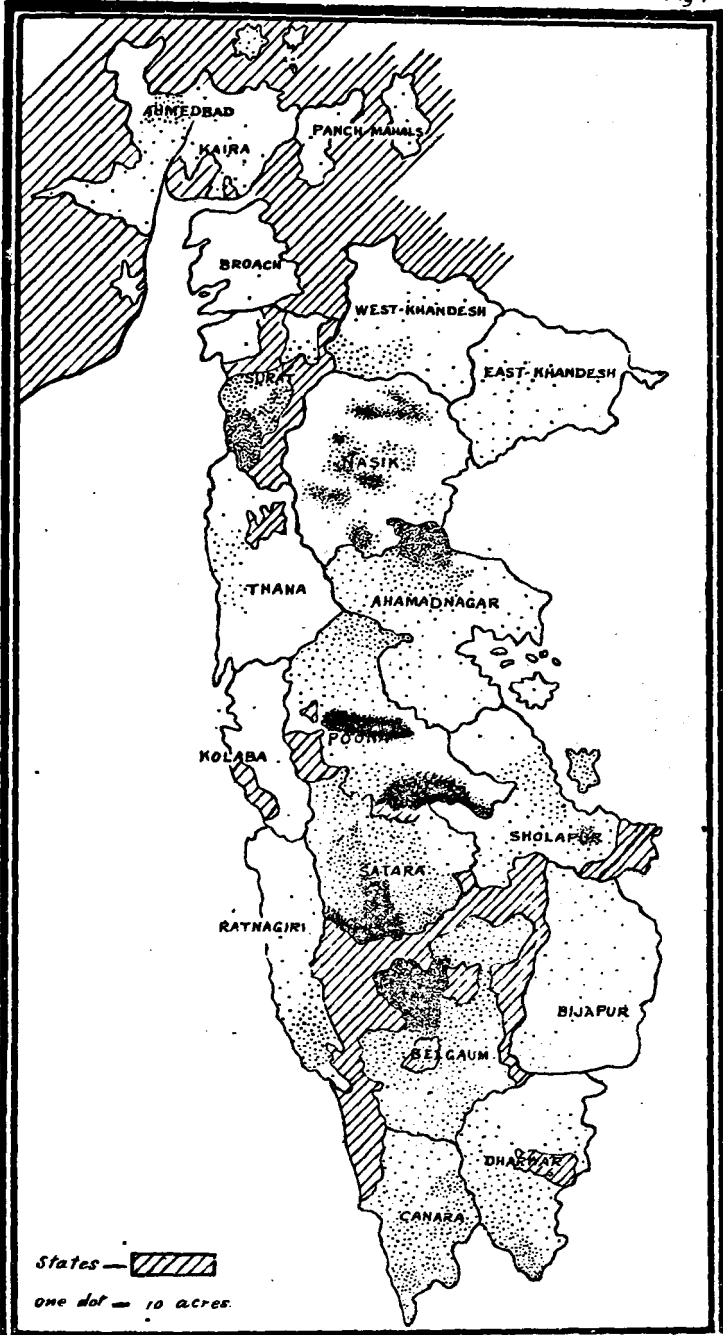
Pundya (pale yellow) grown on the Deccan canals and in the Deccan districts.

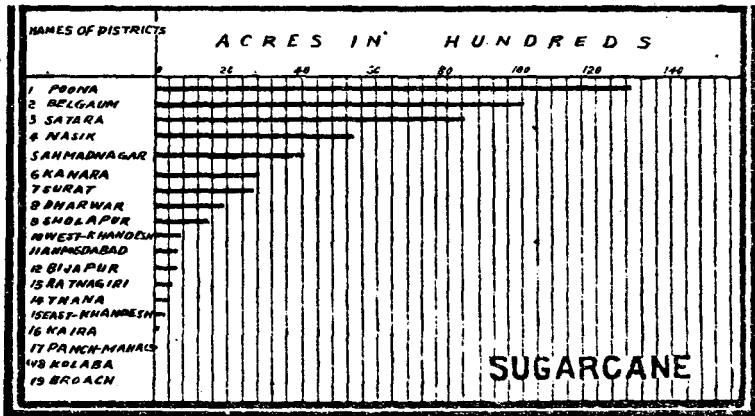
Kabirya (striped) in Sholapur, in the Walva taluka of the Satara district, and in parts of Kanara.

Malbari (pale yellow) in the Surat District.

SUGARCANE

Fig 7





Medium thick canes less juicy than the above group—

Kavangiri or *Kala Malbari* (medium thick red cane) in the Konkan and in the Nasik District.

Bangdya : in parts of Nasik, though it is now disappearing.

Thin and hard canes—

Khadya, in the western parts of Nasik and in West Khandesh.

Wansi, in parts of the *Mallad* tract.

The area occupied by the medium and thin varieties is only relatively small.

Sugarcane is always an irrigated crop in Bombay. It requires heavy manuring and regular watering to get the best results, and it does better on level well-drained soils. Soils two to four feet deep with good drainage are specially suitable, and in such soils it requires watering once in ten days. On shallow soils it requires watering every sixth to eighth day. In the Karnatak districts all the cane is planted in December, while on the Deccan canals most of the planting is done in February and March. In the Surat district, cane is chiefly planted in November and December. On the Deccan canals the cost of cultivation of this crop comes to between 500 and 700 rupees per acre, though many people spend still more. On newly opened canals two ratoon crops are taken for about fifteen years : in the older sugarcane tracts the second ratoon does not pay, and only one ratoon is taken. In the oldest canal tracts ratoons have been almost entirely abandoned, and only plant cane is taken. Even on the new canals after the ratoon is taken, the land goes for a year or two under some dry crop.

The system of weights in different centres varies. In the Karnatak, *gul* is sold by the *atki* of about 247 lbs.; at Kopargaon in the Ahmednagar district by the *palla* which weighs 250 lbs.; while at Baramati in the Poona district *gul* is sold by the *atki* of 200 lbs. These are a few of the many different weights used for *gul*.

XI.—POTATO.

The potato crop only occupies a small area, but it is an intensive crop and is hence perhaps worthy of special attention. It is an introduced crop in this country, and first appears in the Bombay Presidency about 1840. It is said to have been first tried near Junnar in the Poona district, while later on it was introduced by Chinese prisoners at Mahabaleshwar about 1857.

Potato occupies about 8,200 acres in the Bombay Presidency. The Poona district, growing 6,345 acres, claims 77 per cent. of the total area, while Nasik, though it only grows 458 acres stands second. If we take the taluka as the unit, the Khed taluka of the Poona district

occupies 62 per cent. of the total area in the Bombay Presidency. The Sirur taluka of the Poona district claims 7 per cent., the district of Dharwar about 4 per cent., and the Junnar taluka, the Nasik and the Purandhar talukas about 3 per cent. each.

Khed, Mahabaleshwar, Belgaum, Dharwar and Ahmedabad (in the last case in the bed of the Sabarmati river) are well-known centres though the area at the latter four places is not very great.

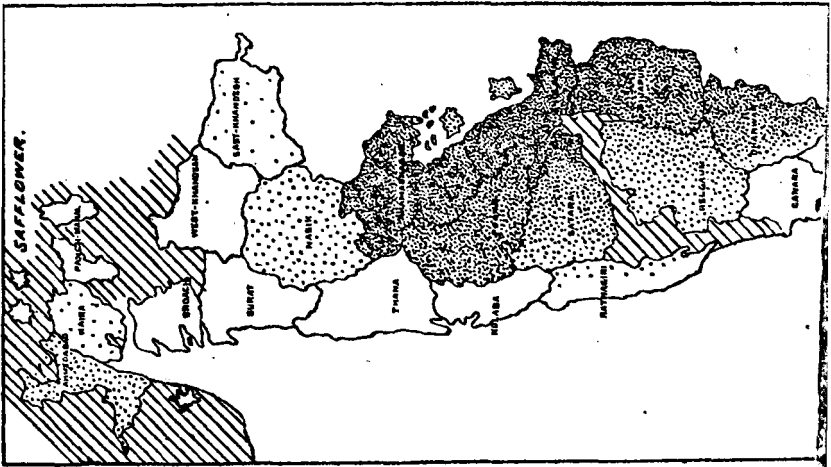
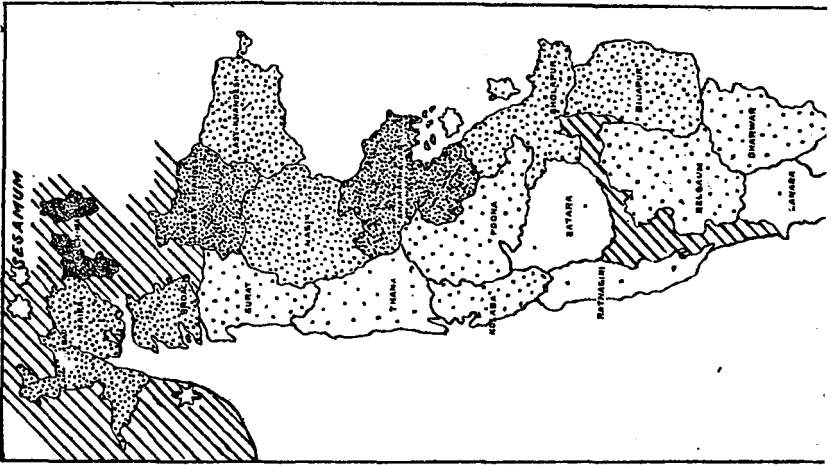
The potato crop is grown both in the *kharif* and *rabi* season in the Khed tract and near Mahabaleshwar. At Belgaum it is purely a *rabi* crop while at Dharwar it is a purely *kharif* crop. Near Ahmedabad potato is grown in the bed of the Sabarmati in the *rabi* season. *Kharif* potatoes have generally to depend on the rainfall. The crop takes about 3½ months to mature. In the method of growing usually adopted, about 1,000 to 1,100 lbs. of potatoes are required per acre for seed, and the outturn in average years is from about 5,000 to about 8,000 lbs. per acre, though over 16,000 lbs. per acre has been reached. In good years it is a paying crop, but if the crop fails, the loss is very great on account of the high cost of seed.

Large quantities of Italian seed potatoes come to the Bombay Presidency every year, as freshly imported seed has in the past nearly always given better returns than seed potatoes locally grown. It is a crop which has a considerable future in the *Mallad* tract and on the Deccan canals. In the Khed taluka, *rabi* potatoes are grown in fields which have grown *bajri* in the previous *kharif* season, while near Belgaum, the crop is taken in the rice fields after the rice crop is harvested.

XII.—TOBACCO.

Of the plants grown for their narcotic power, tobacco is probably the most important crop all over the world. It occupies 85,840 acres in the Bombay Presidency, of which the Kaira and Belgaum districts together claim about two-thirds. The Satara district stands third with 8,000 acres, followed by Ahmednagar and East Khandesh with about 4,000 acres each. Ahmedabad, Broach, Belgaum and Sholapur have about 2,000 acres each. The Konkan districts do not grow any tobacco. The cultivation of tobacco receives specially careful attention in the Nadiad, Petlad and Anand talukas of Kaira, the Walva and Karad talukas of Satara, and the Chikodi and Hukeri talukas of the Belgaum district.

Tobacco requires very careful treatment of the seed-bed and of the field. The field is well prepared and manured. Seedlings are ready for planting out when about forty days old. Seedlings are planted about 18 inches to 24 inches apart each way, in lines, in the month of August. After about six weeks they are topped keeping



ten to fifteen leaves, the lowest three of which are subsequently removed. After topping of the plants suckering continues, and at the same time the land has to be hoed and weeded. Tobacco stands in the field for about five months. It is both an irrigated and a *jirayat* or dry crop. In Gujarat, tobacco is generally irrigated; in the Deccan it is generally taken as a *jirayat* crop.

The method of harvesting and curing varies according to the kind of tobacco to be made. Harvesting, drying in the field, pitting or heaping, tying into bundles and stacking require considerable skill and attention.

The outturn of the *jirayat* crop varies between 600 to 1,000 pounds per acre, and of the irrigated crop between 1,000 and 1,600 pounds per acre.

XIII.—OIL SEEDS.

Oil seeds taken together claim 5.3 per cent. of the total cropped area and occupy 1,337,163 acres. It may be noted here that though large quantities of cotton seed are exported for its oil, cotton has not been included in the statistics as an oil seed. The attached table shows the distribution of the important oil seeds by districts.

The figures in the attached table show that safflower, sesamum, groundnut, niger, linseed and castor occupy the major portion of the area which is occupied with oil seeds, and taken together, they form a very important group of crops in the Bombay Presidency. Many of these supply edible oils, a few supply medical oils, while others supply lubricants and other oils required in different kinds of industries. Most oil cakes are useful as cattle food, while all of them can be used as concentrated manures.

The following table gives the percentage of oil content as well as the percentage of oil that is generally expressed from the common oil seeds, as grown in Western India:—

Name of oil seed.	Chemical percentage of oil.	Percentage of oil expressed.
Groundnut	44 to 49	38 to 42
<i>Til</i> (Sesamum)	45 to 50	40 to 45
Castor	46 to 50	40 to 42
Linseed	37 to 44	32 to 38
Safflower	30 to 32	20 to 25
Niger	35 to 40	28 to 32
Cotton seed	18 to 21	12 to 14

The following table gives the uses to which the oils and the by-products of the important oil seeds are put :—

Name of oil seed.	Use of		Remarks.
	Oil.	Cake.	
Safflower ..	Used in cookery and is said to be useful for oil paints.	Cattle food and manure.	Flowers of some varieties of safflowere supply dyeing material.
Sesamum ..	Used in cookery ..	..
Groundnut ..	Used in cookery and is found useful in soap making ..	..	Kernels in the pods are eaten raw or roasted. The straw makes good cattle food.
Niger seed ..	Used in cookery ..	..	Seeds are used in chutney.
Linseed ..	Used in cookery, paints and varnishes.	..	
Castor ..	For medicinal use, for lubrication and in hard soaps.	Manure.	
Cocoanut ..	Used in cookery and in making vegetable margarine and in candle making.	Cattle food.	Kernel is used in cookery and is eaten. Husk makes fibre.

Most oils are also used for lamp oils though they burn slowly.

Most of the oil expressed in the Presidency is consumed locally, every tract having a liking for the oil of its staple oil seed ; only part is exported. Part of the edible cake is used as cattle food, part is used as manure, and part (generally factory cake) is exported. Castor cake is solely used as manure. Oil cakes are extensively used for manuring sugarcane, and the value of different cakes is determined

by the percentage of nitrogen they contain. The following table gives the average percentage of nitrogen and phosphoric acid contained in the cakes. These cakes which supply nitrogen at the cheapest rate are generally used as manure, especially for sugarcane.

Name of cake.	Percentage of Nitrogen.	Percentage of Phosphoric acid.	Remarks.
Groundnut cake ..	8	1.5	Is found specially useful for sugarcane.
Safflower ..	6	2	
Sesamum ..	5	2	Extensively used for cane and serves to check white-ants.
Niger ..	4	2	
Castor ..	4	2	
Cocoanut ..	3	1	

It may here be remarked that the most economical plan would be to feed oil cakes to cattle and use their droppings as manure, provided the whole of the latter could be preserved, as most of the nitrogen and phosphoric acid contained in the cakes is obtained in the dung and urine voided by the cattle. In practice, however, it is difficult to conserve even half the quantity of dung and more so to conserve any appreciable quantity of urine in India, where cattle are not stall fed.

The following table gives the average analysis of oil cakes generally used as cattle food. The value of cake as cattle feed depends mostly upon its albuminoid and oil contents. Some cakes like cocoanut cake and groundnut cake get rancid when stale and it is necessary to feed these fresh :—

Name of cake.	Percentage of Albuminoids.	Percentage of oil.	Remarks.
Groundnut cake ..	48	10-13	Gets rancid if stored for a long time.
Safflower ..	32	7-10	Is easily digestible.
Sesamum ..	36	10-12	
Niger ..	27	10-12	

Oil seeds represent a fairly large proportion of the exports of Bombay. The average quantities of oil seeds, cake and oil exported annually, previous to the war, were as under. (The table is worked out from the figures for 1907-08 to 1912-13):—

Name of commodity.	Quantity.	Value.
		Rs.
Oil seeds ..	63,247 Tons ..	95,76,838
Cake ..	10,552 Tons ..	8,02,688
Oil ..	94,961 Gallons ..	2,47,832
	Total ..	1,06,27,358

It may be noted that cotton seed, poppy seed, etc., are included in the calculation.

Safflower.—The total area of this crop in the Presidency is 426,617 acres, occupying the largest acreage of all the oil seeds. Most of the area is found in the *rabi* portion of the Desh tract, Ahmednagar, Sholapur, Bijapur and Poona districts, claiming together about three-fourth of the total area. Next come Dharwar and Belgaum. The Konkan and Gujarat do not grow any safflower except a little in Ahmedabad.

It is usually grown as a subordinate crop with *rabi jowar*, wheat, and gram, though sometimes it is sown alone on the head lands. Often four to five rows of safflower are sown round the main *rabi* crops named above to prevent cattle getting to it, the spiny nature of safflower serving as a temporary hedge. The area reported is the area supposed to be occupied by safflower alone.

The seed contains 32 per cent. oil and yields 25 per cent. in the country ghani which deals with large quantities all over the Bombay Presidency. Large quantities of safflower seed are also exported. The cake is used as cattle food and is also found to be a very useful concentrated manure for sugarcane on the Deccan Canals. Well prepared safflower cake contains about 38 per cent. albuminoids and at least 6 per cent. nitrogen.

In certain villages in Kaira district the farmers used to gather flowers of this crop which in old times supplied an indigenous dye.

The stalks and other parts of the safflower plant are of no value.

Sesamum (Til).—The total area under this crop in the Bombay Presidency is 255,429 acres, and it occupies the second place among oil seeds. Ahmednagar claims no less than 22 per cent. of the area

Fig. 11

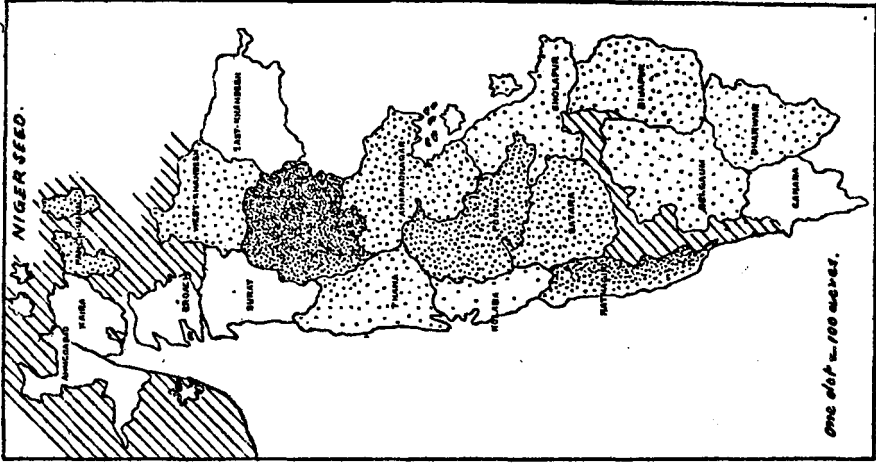
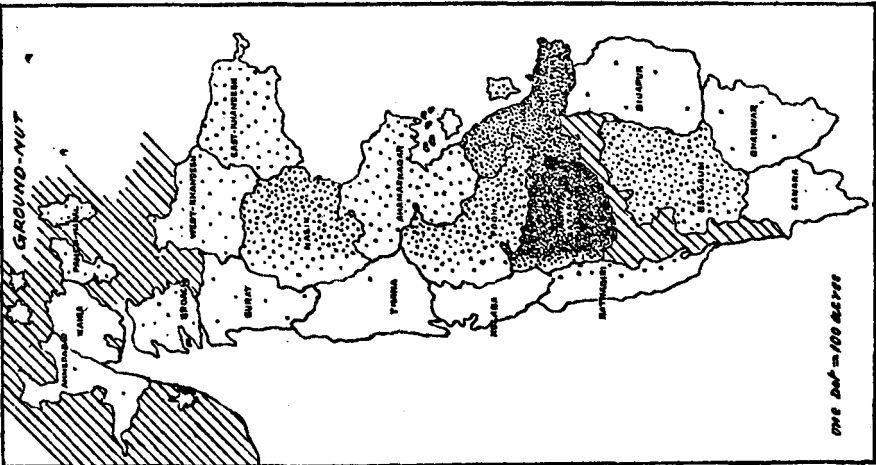


Fig. 10



under sesamum, followed by West Khandesh and the Panch Mahals with 13 to 14 per cent. each. Nasik has 10 per cent., and East Khandesh, Bijapur, Ahmedabad and Sholapur grow about 5 to 6 per cent. each of the area in the province.

There are three varieties of sesamum commonly grown, namely, white sesamum, red sesamum and black sesamum. The white variety is earlier and also richer in oil, containing about 48 per cent. of oil; the red and black varieties contain about 46 per cent. of oil. The seeds yield about 40 to 45 per cent. of oil on the weight of seed in the country *ghani*. The cake makes very good food for cattle, containing over 30 per cent. of albuminoids. The stalks of *til* are not eaten by cattle.

Til flourishes on lighter soils. It does not stand heavy rainfall when young. In Gujarat it is sown mixed with *bajri*. In some districts in the Deccan it is sown alone though in others it is a subordinate crop. The area reported is the area supposed to be occupied by *til* alone, allowing for mixtures.

Large quantities of sesamum are exported to Belgium, France, Germany and Italy.

When sesamum is grown alone it yields from 300 to 400 lbs. of seed per acre.

Groundnut.—Groundnut is one of the more important oil seed crops in India. It is largely cultivated both in the Madras and Bombay Presidencies. In the Bombay Presidency it occupies 214,912 acres and stands third among the oil seed crops. Of the total area under groundnut Satara grows 42·4 per cent., Sholapur 22·6 per cent. and Belgaum, Nasik and Poona about 8 to 9 per cent. each. The remainder is distributed between East and West Khandesh, parts of the Karnatak, and Gujarat.

Although large quantities of groundnut are crushed locally and fairly large quantities are used as food, the crop forms a considerable portion of the exports in oil seed. Groundnut generally goes to France. Groundnut is imported into Bombay from Madras and the Nizam's territories and exported by rail to the United Provinces and the Punjab.

Groundnut cake is a rich cattle food containing about 45 per cent. albuminoids. It is also a very useful manure for sugarcane on the Nira and Godavari Canals, and usually contains from seven to eight per cent. of nitrogen.

The crop is grown as *jirayat* or dry as well as irrigated. It does well on light and medium soils. In the tracts receiving more than 40 inches of rainfall early groundnut, the seed of which is generally imported from abroad, does not require irrigation. Groundnuts are

chiefly cultivated in the western talukas of Satara, Poona and Nasik where most of the crop grown now consists of the early foreign varieties. Lately the crop—Spanish peanut variety—is extending in Khandesh and in some parts of Gujarat such as North Ahmedabad. In Khandesh the Spanish peanut is likely to take a place in rotation with cotton as the receipts of this crop compare very favourably with those of cotton.

Big Japanese, Pondichery, Spanish peanut and Small Japan are the principal foreign varieties grown in the Bombay Presidency. These were introduced by the Agricultural Department. Of these Spanish peanut and Small Japan are the early varieties and are generally grown without irrigation. The other varieties are later, though not so late as the country variety and require one or more waterings where the rainfall is scanty. Even these varieties are harvested about a month earlier than the country variety, and in the Satara district even Big Japanese and Pondichery are grown as a dry crop in the Western talukas.

Groundnut is a *kharif* crop and is sown with the first fall of rain. Early varieties are harvested in September and October and late ones in November and December.

The average outturn per acre varies from 800 to 1,600 lbs. of unhusked seed containing from 65 to 75 per cent. of kernels. The percentage of oil in the kernels comes to from 45 to 50. From an acre of groundnut about 800 lbs. of very good fodder is obtained.

Niger seed.—The total area under this crop is 202,798 acres, and of this nearly half is claimed by the Nasik District. Poona follows with about 15 per cent. Ratnagiri will come next; Satara claims about 7 per cent. Other districts grow less than 5 per cent. Gujarat does not grow niger seed, except a small area in the Panch Mahals.

Niger seed is a *kharif* crop. It does well on shallow soils, and in the Konkan and the *mallad* tracts it is rotated with coarse millets. In some parts of the country a light sprinkling of niger seed is found in the *bajri* crop.

The seed contains from 41 to 43 per cent. of oil and yields in the country *ghani* from 30 to 32 per cent. of oil, which is used for household purposes and especially in cooking. The oil cake makes a good concentrated food for cattle containing about 28 per cent. of albuminoids. The cake contains about 4 per cent. of nitrogen, and is found to be good manure for the sugarcane crop in the Nasik District.

The outturn per acre usually obtained is about 300 lbs.

Linseed.—The total area under this crop is 265,429 acres, and it thus takes the fifth place among the oil seeds in the Bombay Presidency. It is sown in the *rabi* season in deep, moisture holding, lands. It is generally grown alone and is the sole crop of the year. About 42 per

Fig 13

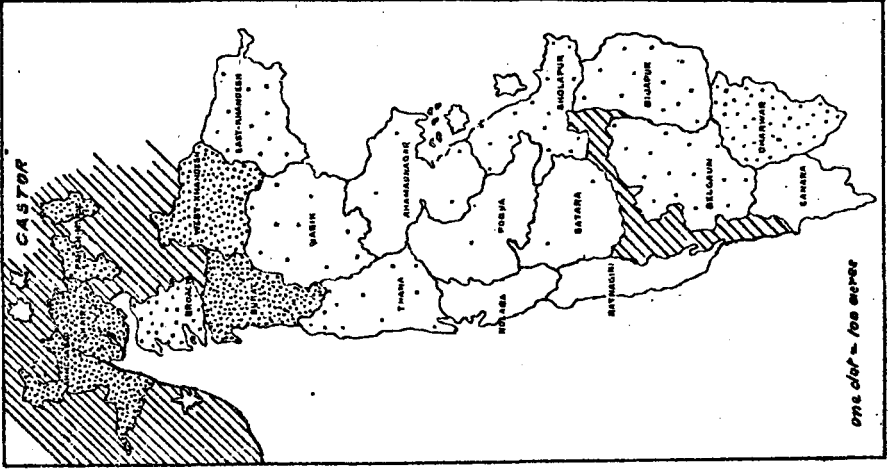
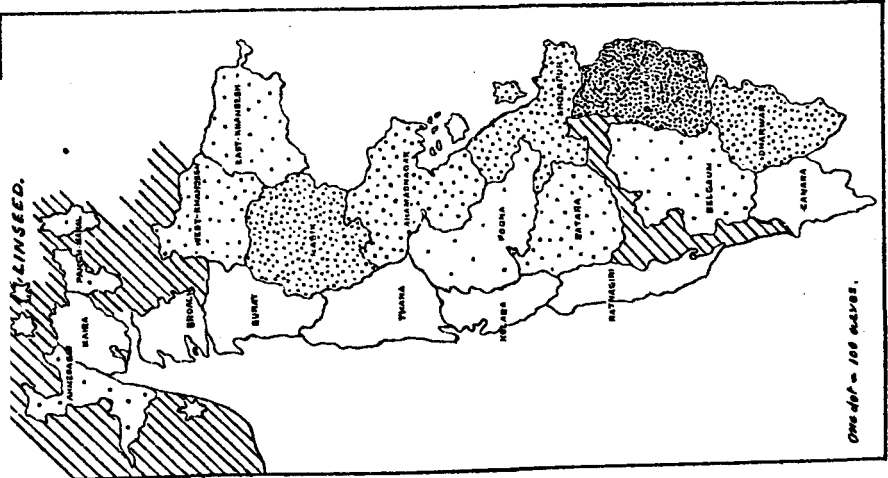


Fig 12



cent. of the total area is claimed by Bijapur. Nasik, Dharwar and Sholapur together make up about 40 per cent. while the remaining 18 per cent. of the area is found in other districts, except in the Konkan and in Gujarat where no linseed is grown.

The crop is grown for its seed which supplies exclusively oil and cake. In Europe and America the same plant is grown very largely as a fibre crop but this is never the case here. Most of our linseed is exported to the continent of Europe, and before the war this export amounted to about 130,000 tons per annum.

The seed contains from 37 to 44 per cent. of oil and yields about 32 to 38 per cent. in the *ghani*. The cake is among the most useful cattle foods but it is here also used as a manure.

A good crop with full even plant on deep black soil will yield about 500 lbs. seed per acre.

Castor seed.—The total area under castor is 89,235 acres, about three quarters of which is claimed by the Surat, Ahmedabad, Kaira and West Khandesh districts. The Panch Mahals has about 7 per cent. of the total area and Dharwar about 4 per cent.

There are a number of varieties of castor. The seeds of these contain from 45 to 52 per cent. oil and yield from 40 to 42 per cent. of oil in the country *ghani*. The oil is used as a lubricant and lamp oil in villages, and is largely in demand generally, as a lubricant, in soap making and in medicine. The oil cake is used as manure alone, and its quality is very variable according to the amount of husk left in the cake in pressing. When well decorticated it gives white castor cake containing about 6 to 7 per cent. of nitrogen but the quality more common in Bombay contains much husk and only about 4 per cent. of nitrogen. Castor cake cannot be fed to cattle as it causes first purging and then death. The stalks and the husk of the capsules are of no use except for fuel. Considerable quantities of castor cake are supplied by oil mills for the sugar-cane crop on the Deccan canals. There is a large export of castor seed from Bombay to the United Kingdom, the continent of Europe, and the United States of America.

The average outturn per acre may be taken at about 450 to 550 lbs. of seed.

Cocoanut.—The cocoanut palm is a tropical crop, being found in the countries and islands bordering on the Indian and Pacific oceans, and it is from the islands and sea coasts in the more tropical parts of these oceans that the world's supply is chiefly derived. Only the southern part of the Bombay Presidency is sufficiently tropical to grow cocoanut as a large commercial crop, and hence the total area under cocoanut is only about 28,000 acres, 50 per cent. of which is found in Ratnagiri, 40 per cent. in Kanara and 3 per cent. each in the Thana and Kolaba districts.

Fig 17

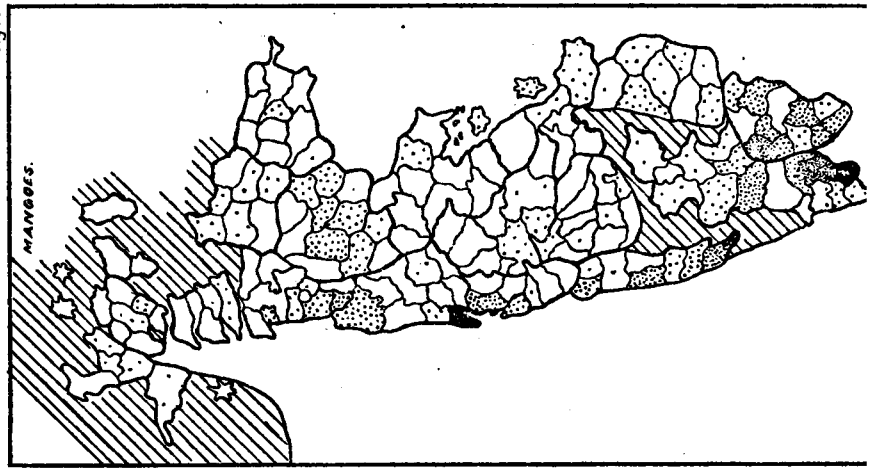
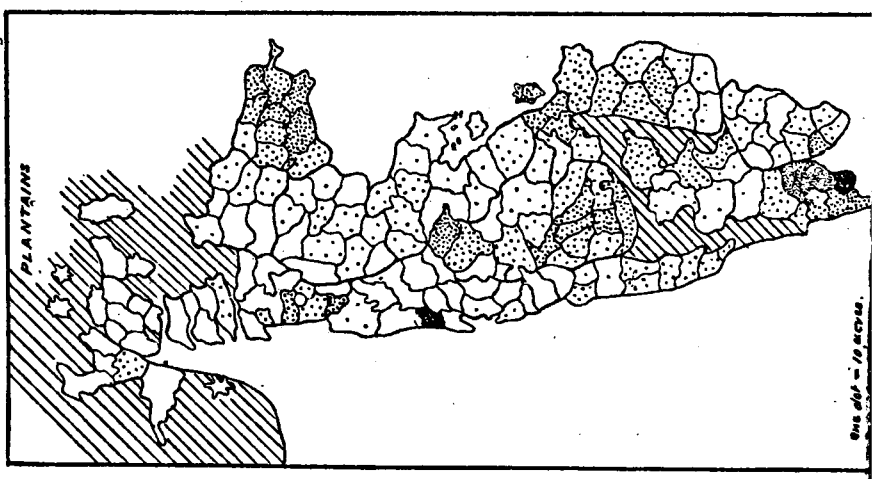


Fig 16



XIV.—FRUITS.

The common fruits grown and used in the Bombay Presidency are plantains or bananas, mangoes, guavas, oranges and other citrus fruits, pomegranates, grapes and figs. The mango probably occupies a larger acreage than is ever returned by the talukas as in most places it is planted round the villages and on unoccupied land. With this qualification, the area under the different fruit crops is shown in the attached table, district by district. The following notes on the distribution of each of these crops may be useful.

Distribution of fruits in the Bombay Presidency.

No.	Name of Districts.	Grapes.	Plantains.	Pomegranates.	Guavas.	Figs.	Oranges and Lemons.	Mangoes.	Total.
1	Ahmedabad ..	..	95	252	293	..	114	68	822
2	Katra ..	..	9	9	30	1	84	80	213
3	Panch mahals ..	..	3	21	4	..	6	..	34
4	Bronch ..	..	65	4	235	..	13	49	366
5	Surat ..	1	411	2	114	9	50	358	945
6	West Khandesh ..	..	157	1	97	..	88	141	434
7	East Khandesh..	2	2,059	3	415	1	220	62	2,762
8	Nasik ..	336	255	19	672	1	67	903	2,181
9	Ahmednagar ..	58	307	254	601	5	1,399	98	2,720
10	Poona ..	57	1,029	742	620	426	1,785	166	4,825
11	Sholapur ..	..	1,032	58	158	..	84	167	1,499
12	Satara ..	5	1,555	77	247	..	75	68	2,027
13	Belgaum ..	..	683	7	126	..	20	971	1,807
14	Bijapur ..	..	1,068	..	66	..	33	349	1,516
15	Dharwar ..	..	476	3	442	..	52	1,324	2,797
16	Thana ..	..	1,651	..	..	..	10	1,971	3,632
17	Kolaba ..	..	39	..	..	..	3	380	422
18	Ratnagiri ..	..	167 331	..	1 2	..	..	535 1,060	703 1,393
19	Kanara ..	..	5,200	..	3	..	4	1,205	6,412
	Total ..	457	16,261 331	1,452	4,124 2	443	4,171	9,395 1,060	36,303 1,393

Plantains or Bananas.—The total area under plantains in the Bombay Presidency is 16,213 acres. The largest centres of production are located in the districts of Kanara, East Khandesh, Thana, Satara, Bijapur, Sholapur and Poona each having an approximate area of 1,000 acres. In Gujarat and the Konkan (except in Thana) the crop occupies very little area. The fruit is very popular among all

nationalities and considerable quantities of plantains are exported from Bombay to Karachi and the Punjab.

The chief centres of cultivation are as follows :—

- (1) Near Bassein in the Thana District.
- (2) Sirai and Siddapur in the Kanara District.
- (3) Pachora, Jamner, Bhusaval, Raver, Jalgaon, (Asoda), and Chalisgaon in East Khandesh.
- (4) Khatav, Walva, Wai and Karad in the Satara District.
- (5) Bagewadi and Bijapur in the Bijapur District.
- (6) Sholapur, Madha, and Barsi in the Sholapur District.
- (7) Junnar and Khed in the Poona District.

Some of these tracts are handicapped for want of transport facilities and though they are more suitable than others, transport absorbs so much of the profit that plantain cultivation cannot extend as would otherwise be the case.

In most parts the crop occupies the land for about two years (*i.e.* for one harvest) though in some parts it is kept from four to ten years on the same land.

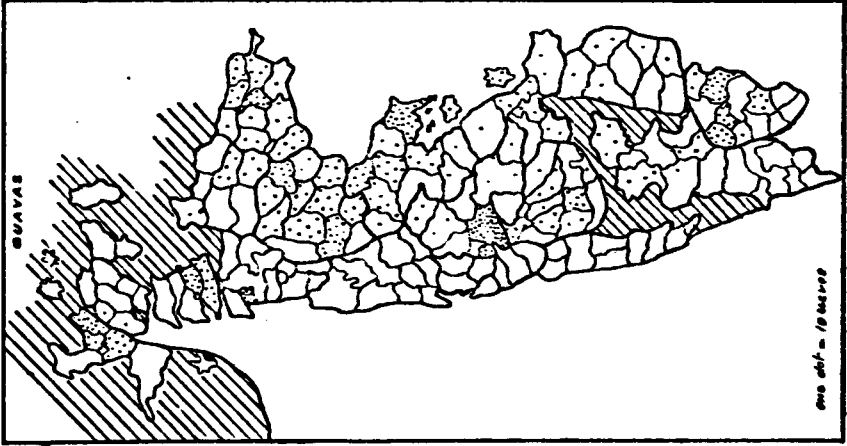
Mangoes :—This is perhaps the fruit *par excellence* of India, and the mangoes of Bombay are unrivalled in any other part of the country. Except in the sandy parts of Gujarat it is grown in all districts fairly generally, but the climate of the Konkan seems the ideal for the best varieties. These best varieties which are always in demand at a good price are the *Alphonso* or *Hapus* and the *Payari*. In the Konkan the mango begins to bear in the fifth year, but elsewhere it takes longer, but once established a mango plantation lasts for generations.

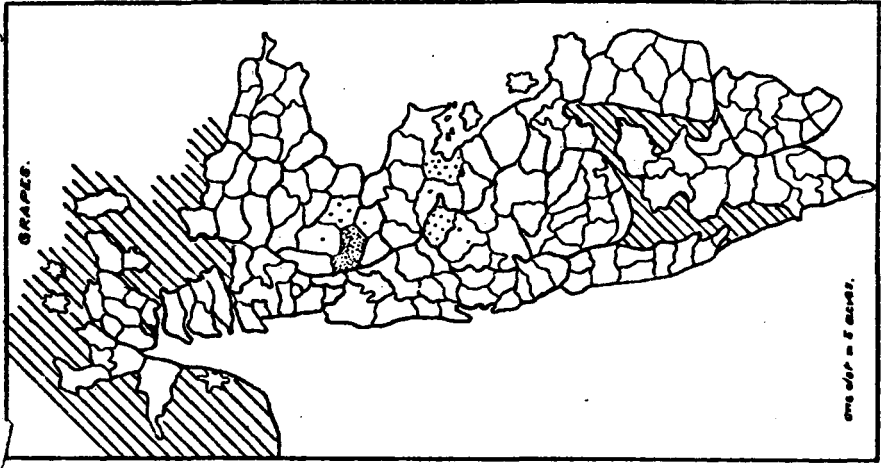
Fairly large quantities of mangoes from Madras and Goa find their way to Bombay, while large quantities leave Bombay for the Punjab, Sind, Baluchistan, and even for England and France.

Guavas :—The total area under guavas is 4,111 acres. The crop is well spread in the districts of the Deccan and Karnatak. It practically finds no place in the Konkan, and of the Gujarat districts, only Ahmedabad returns a fair area. Nasik, Poona, and Ahmednagar grow between 600 to 700 acres each. Dharwar and East Khandesh over 400 acres. The fruit is very popular with the Indian section of the population, and the Bombay Presidency does not export guavas. On the other hand, it imports this fruit from Agra and Delhi.

The crop is concentrated in the following talukas or their parts :—

- (1) Dholka and North Daskroi of Ahmedabad.
- (2) Broach and Ankleswar of Broach.
- (3) Chorashi of Surat.





- (4) Jalgaon of East Khandesh.
- (5) Nasik and Malegaon of Nasik.
- (6) Pathardi and Kopergaon (Ahmednagar).
- (7) Haveli of Poona.
- (8) Gadag and Dharwar of Dharwar.

Oranges and other citrus fruits.—The total area under oranges and other citrus fruits is 5,146 acres, of which the Bombay Presidency has 35 per cent. and Ahmednagar 27 per cent. In the Bombay Presidency oranges are grown in the Konkan and the Deccan. In the Deccan, Nasik, and Ahmedabad grow betwixt each other. Oranges are not grown in the Konkan and the Deccan to any extent in Gujarat. On the other hand there is a fair amount of oranges in the Thana district. But on the whole, the Bombay Presidency is an importing centre for citrus fruits, receiving oranges in particular from Nagpur, East Africa, Italy and Persia. There is however a small export trade to the Punjab, Kathiawar and Karachi.

Citrus fruits are concentrated in the following talukas or their parts:—

- (1) North Daskroi of Ahmedabad.
- (2) Chalisgaon of East Khandesh.
- (3) Rahuri, Shrigonda, Ahmednagar and Parner of Ahmednagar. (Rahuri, alone claims about 500 acres.)
- (4) Purandhar, Haveli and Sirur in the Poona District.

Pomegranates.—The total area under pomegranates is about 1,451 acres. More than half the area is claimed by the Poona district, where most is grown in the Haveli, Bhimthadi and Purandhar talukas. The Dholka taluka of the Ahmedabad district claims 15 per cent. of the total area in the Bombay Presidency. The Ahmednagar district grows about 15 per cent. most of it being claimed by the Pathardi, Rahuri, Ahmednagar and Sangamner talukas. Except in a few places like the Dholka taluka and a few villages in the Poona district the fruit is not of a superior quality. Fruits of better quality are imported from Muskat, Harvai (Baluchistan) and Peshawar.

Grapes.—The total area under grapes is only 457 acres, three-fourth of the area being concentrated round about Nasik and its suburbs. Of the remaining area about one-half is found at and near Ahmednagar and nearly half in the Junnar taluka of the Poona district. Grapes from Nasik are sent to Bombay, Poona, Calcutta, Lahore, Agra and other cities; while some fruit comes into the Bombay Presidency from Quetta, Malta and even from Spain. The cultivation of grapes is extending very fast at and near Nasik, which is found particularly suitable for this crop, and also in Khandesh, especially near Jalgaon (Nasirabad).

Fig
this lies
area else
large cer

This
by betel
entirely
detailed

Talu

...s.—The total area under figs is about 443 acres. Most of in the Purandhar Taluka of the Poona District. In fact, the swhere is negligible. But from the Purandhar Taluka all the litres are supplied by passenger train.

XV.—SPICES AND CONDIMENTS.

...group is represented in the Bombay Presidency principally nut, cardamoms and black pepper. These crops are almost grown in the Kanara, Ratnagiri and Kolaba Districts as below :—

...	...	Betelnut	Cardamon	Black Pepper	...
...	...	Acres.	Acres.	Acres.	...
Kolaba District.					
1 Allbag ..	370	..	..	..
2 Panwel ..	1	..	..	..
Total ..	371	..	..	..
Ratnagiri District.					
1 Venguria ..	1,308	..	..	..
2 Malvan ..	398	..	..	..
3 Deogad ..	106	..	..	..
4 Rajapur ..	254	..	..	..
5 Ratnagiri ..	263	..	..	..
6 Sangameshwar ..	15	..	..	..
7 Chiplun ..	117	..	..	..
8 Khed ..	3	..	..	..
9 Dapoli ..	1,368	..	..	..
Total ..	3,821	..	..	..
Kanara District.					
1 Karwar ..	33	..	..	..
2 Ankola ..	890	7	26	26	
3 Kumpta ..	654	..	53	53	
4 Honavar ..	864	..	39	39	
5 Siddapur ..	383	736	2,123	2,123	
6 Sird ..	5,795	550	1,620	1,620	
7 Yellapur ..	2,419	100	297	297	
8 Halliyal ..	169	2	2	2	
Total ..	18,019	1,395	4,160	4,160	

Fig 22

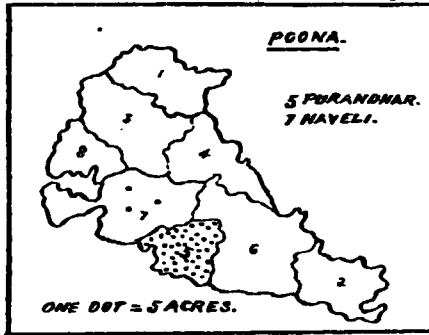
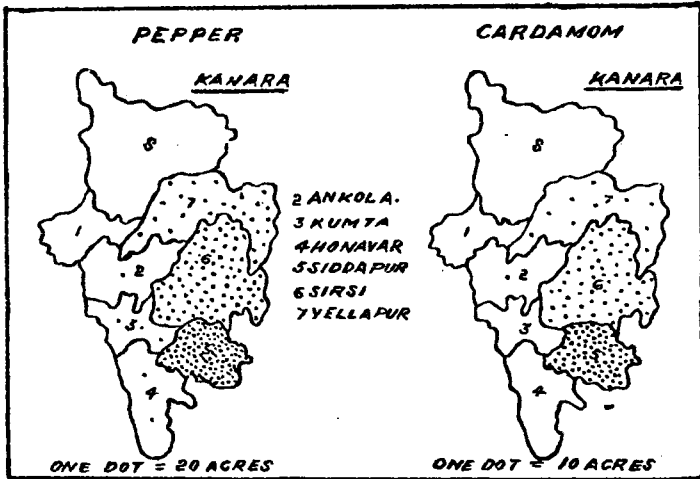


Fig 23



FIG 25

FIG 24



Betelnut.—The total area under Betelnut is about 22,211 acres, most of it (practically 82 per cent.) being claimed by Kanara. Ratnagiri grows 3821 and Kolaba 371 acres.

Cardamoms.—The total area under cardamoms is 1,395 acres. All of it is found in the Kanara district, where the Siddapur and Sirsi talukas claim 78 per cent. of the area, while the Yellapur taluka has about 100 acres under this crop. Almost all this crop is consumed in the country.

Black Pepper.—The total area under pepper is 4,160 acres. Half of the area is grown in the Siddapur taluka of the Kanara district, while Sirsi grows 1,620 and Yellapur 297 acres. Other talukas claim less than 60 acres each. Other talukas of the district practically do not grow pepper.

XVI.—VEGETABLES AND ROOT CROPS.

The market, soil, climate, supply of water and habits of the people in each locality are very important factors in determining whether vegetables shall be cultivated and also what vegetables shall be grown. The following are the principal root and vegetable crops grown in the Bombay Presidency:—

Roots and Bulbs.	Leafy vegetables.	English vegetables.	Other vegetables.
Potatoes	Methi (3). Math (4)	Cabbage.	Brinjals. (8)
Sweet-potatoes	Rajgira. (5)	Cauliflower.	Chillies.
Suran (1) or Elephant foot.		Knol-kol or Kohl-rabi.	Bhendi. (9)
Goradu (2) or Yam		Beet.	Chavli. (10)
Turmeric	Chakwat. (6) Alu. (7)	Tomatoes.	Cucurbits.
Ginger.			
Onions.			
Garlic.			
Carrots.			
Radish.			

1. *Amorphophallus campanulatus*. 2. *Dioscorea*. 3. *Trigonella foenumgraecum*. 4. *Amarantus gangeticus*. 5. *Amarantus paniculatus*. 6. *Chenopodium album*. 7. *Colocasia antiquorum*. 8. *Solanum melongena*. 9. *Hibiscus esculentus*. 10. *Vigna catiangu*.

Potatoes.—This crop has been previously dealt with. (See page 35.)

Sweet-potatoes.—Sweet-potatoes are grown in small patches all over the Bombay Presidency, though not very extensively. The total area is in fact only about 12,000 acres. The crop, however, does well on almost any kind of soil. There are two main varieties, white and red, the latter being more common. The crop is grown chiefly in the cold season though in some places it is cultivated also in the rains and even in the hot weather.

Suran or Elephant foot.—This crop is important in certain parts of Gujarat, especially in the valleys of the rivers Tapti, Purna and Ambika in the Surat district. It does not appear to thrive well in the Deccan. In Gujarat the cultivation is very careful and methodical. It is in fact a four year crop though the crops are harvested and replanted every year. The crop requires porous, well drained and rich soil. The produce is stored by Surat merchants in cellars and sold locally or sent to Bombay. More than three quarters of the *suran* from this tract goes to Bombay, though there is a fair local demand.

Turmeric, Ginger, Goradu Chillies, etc.—In certain parts of Gujarat, especially in the Ambika and Purna valleys, in the Jalalpur taluka of the Surat district, these crops are sown as a mixture. The system and method of planting is very methodical, a plant of each crop having a definite place in each bed. The cultivation is very intensive and regular rotation is followed. The crop is planted about the middle of May. In addition to rain water it requires irrigation from fifteen to seventeen times, the first five times in May and June and the remainder between October and January. The crop is harvested in February. Many variations of this method of cultivation are found in this part of Gujarat, certain of the constituents of the mixture being omitted, or even (like turmeric) being often grown alone. The cultivation is always, however, equally careful, and among the most intensive in India.

Turmeric is a very important crop in many parts of Satara and adjaecet districts in the Deccan, especially in the Krishna valley, being grown as a single crop. The same is the case both in the Sholapur and Belgaum districts, though not to the same extent.

Ginger is grown as a pure crop in parts of the Kaira and Thana districts, and in parts of Baroda State. Ginger, turmeric, and yams require, like *suran*, rich free working garden soils. Most of these crops, as grown in Gujarat, are marketed in Bombay.

Onions.—This crop is very important in the Deccan notably in the north of the Poona district, and in several talukas of the Nasik district,

notably, Niphad, Sinnar, Dindori and Nasik. It is also grown in certain parts of the Satara district (Walva taluka), and in West Khandesh near Dhulia. In Gujarat it is purely a crop of garden lands. In the Konkan and in Kanara its cultivation is now tending to spread.

Onions like free working, well drained soil of fair depth. They are usually taken as a cold weather crop, but have been found to do well even in the rainy season and in the hot weather.

Garlic is an important crop in the Sinnar and Niphad talukas of the Nasik district where it is very carefully cultivated. Elsewhere it is found in small areas all over the Bombay Presidency, the most important centres apart from Nasik, being Dharwar, Belgaum, Poona and Satara. It is a semi-cold weather crop grown under irrigation.

Other Vegetable Crops.—Little need be said about other vegetable crops. The most important of these are Brinjals, Bhendi, Beans of various kinds, and different varieties of cucurbits. Brinjals are grown almost everywhere, in garden land, but the chief cultivation is in Gujarat, particularly in the *goradu* or *besar* lands of Kaira district and the Baroda State. Beans, as vegetables, are also universally grown while cucurbits are found round a large proportion of rural dwellings, and are always in keen demand in all cities and towns.

English Vegetables, such as cabbage, cauliflower, beet root, and tomatoes have a very good market in all the cities of Western India, and specially in Bombay. These vegetables are usually grown in the cold weather in free working, well manured soils. Poona, Belgaum, and Nasik and other surrounding places are well known centres which supply these to Bombay and other markets.

XVII.—YIELDS OF CROPS.

The statement of the normal outturn of principal produce per acre given on page 53 is taken from the official records of the Bombay Government. These yields are said to have been fixed without elaborate and careful tests many years ago and the same have been handed down with slight modifications made at revisions conducted every five years. The normal outturn is supposed to be that which a cultivator has a right to expect with good cultivation in a normal year.

Another statement (page 56) of yields is worked out on the basis of the estimated actual outturns of crops for a number of years. These estimates are formed annually for every district, on the basis of the condition of the crops during their period of growth. It will be noticed

that these are in almost every case considerably below the normal outturn as defined above.

A third statement (page 58) shows the average yield of such important crops as give fodder in addition to grain. The procedure followed in order to obtain these figures is as follows:—From the material available on the Government farms (from the year 1904 to 1920) the proportion of fodder to grain for each crop has been fixed separately for each division of the Bombay Presidency. This having been done, the amount of fodder is calculated on the bases of the average yields, given on page 54:—

Statement showing the normal outturn per acre of stated crops of each district.

(Taken from the season and crop report quinquennium ending on 1917.)

Name of District.	Name of crops.							
	Jowar.	Bajri.	Rice.	Wheat.	Gram.	Tur.	Udid mug and meth.	Maize.
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Ahmedabad	1,080	840	1,440	560	500	560	510	1,080
Kaira ..	1,050	970	1,320	600	500	690	560	1,050
Panch Mahals ..	1,050	825	1,200	700	600	570	510	1,190
Broach	1,160	700	900	600	500	600	625	1,160
Surat ..	760	600	1,560	560	500	680	640	1,160
West Khandesh ..	650	500	1,080	600	500	960	600	720
East Khandesh ..	650	500	1,080	600	500	960	600	720
Nasik ..	520	360	1,080	460	350	960	520	520
Ahmednagar ..	540	340	1,040	460	380	960	500	540
Poona ..	500	340	1,120	350	320	800	510	500
Sholapur ..	540	320	900	400	360	960	520	500
Satara ..	720	360	1,120	480	380	1,200	550	720
Belgaum ..	800	400	1,140	560	400	960	510	800
Bijapur ..	540	320	800	400	340	960	500	540
Dharwar	1,000	450	1,140	500	500	1,200	540	900
Thana ..	700	340	1,200	400	400	370	400	500
Kolaba ..	..	..	1,320	400	380	410	470	500
Ratnagiri ..	..	400	1,020	..	320	430	340	800
Kanara ..	900	450	1,320	..	480	560	500	900

Name of District.	Names of crops.							
	Nagfl.	Vark.	Kodra.	Cotton.	Sugar-cane.	Groundnut.	Linseed.	Seamum.
	Lbs.	Lbs.	Lbs.	Lbs. Lint.	Lbs. Gul.	Lbs.	Lbs.	Lbs.
Ahmedabad ..	1,440	1,360	1,320	125	6,000	..	350	400
Kaira ..	1,440	1,330	1,275	115	6,000	..	..	400
Panch Mahals ..	1,420	1,290	1,132	100	5,000	..	360	400
Broach ..	1,500	1,025	1,025	130	7,000	2,500	..	450
Surat ..	1,200	1,140	1,120	120	7,000	2,500	..	400
West Khandesh ..	900	800	900	110	7,000	2,500	360	400
East Khandesh ..	900	800	900	110	7,000	2,500	360	400
Nasik ..	850	840	804	100	7,000	2,500	360	400
Ahmednagar ..	900	820	800	90	7,000	2,500	360	400
Poona ..	900	850	800	90	7,000	2,500	360	400
Sholapur ..	900	800	800	90	7,000	2,500	360	400
Satara ..	900	820	800	90	7,000	2,500	360	400
Belgaum ..	900	840	800	100	7,000	2,500	360	400
Bijapur ..	900	700	800	90	7,000	2,500	360	400
Dharwar ..	1,200	920	800	120	7,000	..	360	400
Thana ..	770	1,050	640	..	7,000	..	..	300
Kotaha ..	800	1,140	800	..	4,000	..	..	300
Ratnagiri ..	680	900	675	..	4,000	..	..	300
Kanara ..	1,470	1,530	..	..	6,000	..	..	300

Statement showing the average outturn per acre of stated crops of each district.

Name of District.	Names of crops.							
	Jowar.	Bajri.	Rice.	Wheat.	Gram.	Tur.	Udid Mug and Math.	Malza.
	Average	of 14 years	from	1906 to	1920 —	Average	of 10 years	
Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Ahmedabad ..	601	518	951	385	331	274	284	846
Kaira ..	661	551	1,135	393	306	435	302	604
Panch Mahals ...	736	597	1,029	419	352	437	812	852
Broach ..	725	412	567	438	320	358	428	644
Surat ..	861	485	1,297	431	364	540	469	889
West Khandesh ..	471	322	776	418	370	770	394	531
East Khandesh ..	615	318	646	460	386	657	450	472
Nasik ..	281	236	824	317	235	589	377	355
Ahmednagar ..	311	209	734	263	104	534	325	400
Poona ..	309	217	929	278	202	430	297	293
Sholapur ..	345	137	468	240	173	493	209	270
Satara ..	532	228	737	329	248	732	366	475
Belgaum ..	578	247	850	383	260	583	314	580
Rajapur ..	365	184	475	278	217	518	272	481
Dharwar ..	678	285	784	898	339	792	867	577
Tahna ..	423	202	1,073	305	314	274	291	400
Kolaba ..	465	289	1,255	..	286	335	400	433
Batnagiri ..	600	239	830	..	207	264	214	620
Kanara ..	437	225	1,007	..	264	221	285	465

Name of District.	Names of crops.							
	Nagl.	Varl.	Kodra.	Cotton.	Sugar- cane.	Ground- nut.	Lin- seed.	Sesam- seed.
	from 1909 to 1913-14.							
	Lbs.	Lbs.	Lbs.	Lbs. Lint.	Lbs. Gal.	Lbs.	Lbs.	Lbs.
Ahmedabad ..	676	718	706	84	4,988	2,229	214	264
Kaira ..	985	890	796	70	4,373	1,802	196	228
Panch Mahals ..	1,045	794	855	69	3,104	1,860	224	277
Broach ..	912	543	642	100	4,696	2,400	..	302
Surat ..	1,082	988	1,000	90	6,130	2,253	..	322
West Khandesh ..	72	543	495	83	5,540	2,394	290	282
East Khandesh ..	608	555	659	77	5,825	2,633	259	318
Nasik ..	674	629	379	69	6,393	2,101	271	245
Ahmednagar ..	711	585	546	61	6,297	2,107	247	237
Poona ..	735	613	531	49	6,023	2,425	189	300
Bholapur ..	374	412	347	42	5,776	1,912	223	180
Satara ..	636	554	476	56	5,818	2,341	228	270
Belgaum ..	677	582	476	69	6,084	2,248	269	255
Bijapur ..	458	420	408	58	5,488	1,249	257	300
Dharwad ..	850	632	476	89	5,761	2,214	264	248
Thana ..	574	825	400	..	6,325	..	..	351
Kotaba ..	689	973	701	..	3,700	..	..	327
Ratnagiri ..	493	643	480	..	3,333	1,822	..	..
Kanara ..	917	858	..	..	5,756	..	..	201

I.—Statement showing the average grain yield (in the case of sugarcane gul) of different crops in different tracts in Bombay Presidency.

Lbs.

No.	Name of crop.	Gujarat.	Khandesh.	Central Division.	Karnatak.	Konkan including Karwar.	Remarks.
1	Jowar	716·8	543·0	355·6	540·3	481·25	
2	Bajri	512·6	320·0	205·4	238·7	238·75	
3	Wheat	413·2	439·0	285·4	353·0	305·00	
4	Rice	995·8	711·0	738·4	703·0	1,041·25	
5	Gram	334·6	378·0	210·4	272·0	267·75	
6	Groundnut	1,000·0	1,000·0	1,000·0	1,000·0	1,000·00	
7	Sugarcane	4,658·2	5,682·5	6,061·4	5,761·0	4,778·50	
8	Maize	767·0	501·5	358·6	546·0	479·50	
9	Nagli	940·0	837·5	626·0	661·7	668·25	
10	Tur	408·8	713·5	555·6	631·0	273·00	
11	Other pulses	359·0	368·4	368·4	317·7	297·50	
12	Other cereals	792·2	535·1	535·1	499·0	685·00	
13	Senamum	278·6	300·0	226·0	235·3	293·00	
14	Fodder crops	..	..	..	..	..

II.—Statement showing the average yield of dry fodder of different crops in different tracts in Bombay Presidency (in the case of sugarcane yield of green tops is taken).

Lbs.

No.	Name of crop.	Gujarat.	Khandesh.	Central Division.	Karnatak.	Konkan including Karwar.	Remarks.
1	Jowar	1,792·0	1,221·75	800·10	1,732·99	1,082·82	
2	Bajri	720·0	720·0	595·66	595·66	658·80	
3	Wheat	909·04	557·53	428·10	529·50	387·35	
4	Rice	1,414·03	1,305·73	1,305·73	1,305·73	1,197·44	
5	Gram	361·87	275·94	189·36	198·56	198·56	
6	Groundnut	2,200·00	2,300·00	2,400·00	1,200·00	1,500·00	
7	Sugarcane	6,056·66	7,387·25	7,879·82	7,849·00	6,212·06	
8	Maize	1,150·5	752·25	537·9	819·00	719·25	
9	Nagli	2,256·0	810·0	1,502·4	1,852·76	1,269·68	
10	Tur	735·84	1,070·25	777·84	757·2	355·55	
11	Other pulses	574·4	589·44	589·4	508·82	476·00	
12	Other cereals	1,584·2	1,070·02	1,070·2	998·0	1,371·8	
13	Senamum	334·82	360·0	271·2	232·36	351·6	
14	Fodder crops	5,000·00	5,000·0	5,000·0	5,000·0	5,000·0	

XVIII.—IRRIGATION.

Water is indispensable for every kind of product of the soil. Most crops require at least 350 times as much water during their growth as the dry material (including straw) they produce. Where there is any doubt of the water which falls in rain being sufficient to supply the necessary quantity, irrigation is resorted to in almost all countries. But in countries like the Bombay Presidency where the rainfall is not only very unequally distributed throughout the year, and even during the period when a crop is grown, but is also very uncertain, irrigation becomes an essential in raising many crops, and of advantage, if available, with nearly all.

Considerable parts of the Bombay Presidency, especially the districts of Ahmednagar, Poona, Sholapur, Bijapur, parts of Nasik, Satara, Dharwar and Belgaum, suffer periodically from famine caused by the failure of rainfall and in these areas irrigation, from whatever source, is of extreme value where it can be obtained.

The great advantage of irrigation has been recognised for many centuries, and seems to have been realized by the early rulers and communities ages ago. The very large number of wells, and the old *bandharas*, or embankments across the rivers found in the country (especially in the Nasik, Khandesh and Satara districts) give testimony to this. The old works, mostly communal, were small but efficient. The British Government has constructed large irrigation works and have projected still larger canals. Many once arid regions, like the tract between the Nira river and Baramati in the Poona district, now smiling with beautiful crops and a well fed population show the benefit of the money invested in the works, and even though the canals may not be very remunerative directly to the Government the indirect advantages are far reaching, and they warrant the execution of bigger schemes.

The following is the list of canals which supply water for perennial crops like sugarcane :—

- | | | | |
|----|----------|--------|----------------------|
| 1. | Pravara | in the | Ahmednagar District. |
| 2. | Godavari | ” | ” |
| 3. | Nira | ” | Poona |
| 4. | Mutha | ” | ” |
| 5. | Krishna | ” | Satara |
| 6. | Girna | ” | Nasik |
| 7. | Ozar | ” | ” |
| 8. | Kadva | ” | ” |

9. Hatmati in the Ahmedabad District.
10. Ekrak " Sholapur "
11. Godak " Belgaum "

In old times private and communal *bandharas* served a very useful purpose, and even now the Nasik district demonstrates how communal *bandharas* are efficiently managed with the least possible waste of water. There are as many as 296 *bandharas* in that district (185 of them being only on 17 rivers) and they have been accustomed quite recently to supply water for about 30,000 acres. Similar *bandharas* are seen in the West Khandesh and the Satara districts, but not in such large numbers.

The area in the Bombay Presidency that is irrigated by wells, tanks, private canals, and Government canals is given in the statement which follows (page 60) from which it will be seen that in the year 1914-15 the following acreage was irrigated.

175,419	acres by Government canals.
17,788	" private canals.
490,023	" wells.
131,318	" tanks and storage lakes.
88,987	" other sources.
<hr/>	
903,535	average total area irrigated.

The table attached shows the total area cropped and the area irrigated from different sources. It also indicates the percentage of the irrigated area to the total cropped area. Taking the Bombay Presidency as a whole, this percentage only come to 3.6. Of the irrigated area, about 54 per cent. is served by wells, 26 per cent. by tanks or storage lakes, private canals and other sources, and 19.4 per cent. by Government canals.

Irrigation wells are particularly frequent in the Satara, Poona, Nasik, Ahmednagar, Sholapur, East Khandesh, Ahmedabad and Kaira districts. Kanara, Dharwar, Kaira, Belgaum and Surat have a larger number of tanks than the other districts. Nasik stands first in the number of *bandharas*, while Government canals serve the largest areas in Poona, Ahmednagar and Nasik districts.

Irrigated area in the Bombay Presidency.

Name of District.	Net cropped area under cultivation.	Total irrigated area.	Percent- age.	Area irrigated.			
				Government Canals.		Private Canals.	
				Area.	Percent- age.	Area.	Percent- age.
	Acres.	Acres.		Acres.		Acres.	
Ahmedabad ..	1,103,923	78,741	7.13	17,075	21.7	..	..
Katra ..	634,427	39,753	6.26	6,726	16.9	..	..
Panch Mahals ..	420,206	3,761	0.89	731	19.4	..	..
Broach ..	556,216	448	0.08	..	..	..	..
Surat ..	453,181	9,775	2.15	2	0.02	..	..
West Khandesh ..	1,390,912	26,405	1.93	10,977	41.5	2,160	8.1
East Khandesh ..	1,976,077	26,378	1.36	1,705	6.3	154	0.6
Nasik ..	1,986,370	93,499	4.70	33,486	35.8	3,792	4.05
Ahmednagar ..	2,755,054	85,900	3.11	11,989	13.9	..	..
Poona ..	1,896,506	132,929	7.08	60,665	45.6	8,538	6.4
Sholapur ..	2,050,240	100,075	4.88	12,906	12.8	..	..
Satara ..	1,502,464	97,772	6.50	8,452	8.6	620	0.6
Belgaum ..	1,673,384	51,871	3.09	6,000	11.5	429	0.8
Bijapur ..	2,947,451	17,774	0.60	140	0.7	286	1.5
Dharwar ..	2,102,710	94,815	4.50	4,565	4.8	1,451	1.5
Thana ..	442,281	6,155	1.39	..	..	..	..
Kolaba ..	348,841	1,806	0.51	..	..	..	..
Ratnagiri ..	168,798	11,089	6.56	..	..	56	0.5
Kanara ..	210,326	24,089	11.42	..	..	322	1.3
Total ..	24,619,862	903,535	3.66	175,419	19.4	17,788	1.9

Name of District.	Area Irrigated.					
	Wells.		Tanks.		Other Sources.	
	Area.	Percentage.	Area.	Percentage.	Area.	Percentage.
	Acres.		Acres.		Acres.	
Ahmedabad ..	40,090	50·9	19,373	24·6	2,203	2·8
Kaira ..	29,814	74·9	2,919	7·3	294	0·7
Panch Mahals ..	2,891	76·8	135	3·6	4	0·1
Broach ..	448	100·0	..	..	..	..
Surat ..	5,657	57·8	3,945	40·3	171	1·7
West Khandesh ..	12,300	46·6	243	0·9	725	2·7
East Khandesh ..	24,126	89·8	53	0·2	840	3·1
Nasik ..	49,516	52·9	1,217	1·3	5,488	5·8
Ahmednagar ..	66,137	76·9	..	..	7,774	9·05
Poona ..	57,666	43·3	3,196	2·4	2,864	2·1
Sholapur ..	86,655	86·6	..	..	514	0·5
Satara ..	50,696	51·8	1,904	1·9	36,100	36·9
Belgaum ..	32,112	61·9	8,792	16·9	4,538	8·7
Bijapur ..	16,130	90·7	842	4·7	396	2·2
Dharwar ..	3,202	3·3	76,086	80·2	9,511	10·03
Thana ..	5,087	32·6	2	..	1,066	17·3
Kolaba ..	1,495	82·7	5	0·2	306	16·9
Ratnagiri ..	5,303	47·8	910	8·2	4,821	43·4
Kanara ..	696	2·9	11,696	48·5	11,372	47·2
Total ..	490,023	54·2	131,313	14·5	85,987	9·8

XIX.—LIVE STOCK.

The close relationship between the crops and the live-stock makes it necessary to add one or two tables showing the numbers and distribution of the principal domestic animals in the parts of Western India with which we are dealing.

The live-stock of the Bombay Presidency consists of the common farm animals, cattle and buffaloes, sheep and goats, poultry and a comparatively small number of horses, asses and mules.

The following statement shows the total number of each class as returned in the year 1915-16 :—

Cattle including buffaloes	..	91,57,395
Horses and Ponies	..	1,19,619
Asses and Mules	..	99,877
Sheep and Goats	..	40,13,668

Of the total number of cattle about 37 per cent. are working cattle, 32 per cent. cattle kept for milk, the remaining 31 per cent. being young stock, stud bulls, etc.

The proportion of males to females for cattle and buffaloes is shown below :—

	Cattle.	Buffaloes.
Males	..62 per cent.	20 per cent.
Females	..38 per cent.	80 per cent.

This shows that the cultivator gives more care to the male calf of a cow and the female calf of a buffalo. The excess of male cattle is increased by a very considerable import of bullocks and bull-calves from the Malva plateau in Central India, and from the Mysore plateau in the south. Nevertheless the above figures illustrate how the buffalo is primarily the milch animal of the country, while the bullock is chiefly kept as a work animal on the farm.

Work cattle.—Oxen and he-buffaloes, as measured by total value and universal service, form the most important class of live-stock on Indian farms. Steam and oil engines are still curiosities and are only found here and there for pumping water. Horses and mules are scarcely used in connection with agriculture. The road traffic is almost entirely carried by means of bullock-carts.

Oxen form about 93 per cent. of the work-cattle and buffaloes in the Bombay Presidency, the remaining being he-buffaloes. In Gujarat the proportion of oxen to he-buffaloes comes to 100 to 1, in the Central Division to 100 to 3, in the Karnatak to 100 to 8, and in the Konkan to 100 to 29. The he-buffalo is found more useful for rice

cultivation, and the small number of he-buffaloes, used in Gujarat, in the Central Division and in the Karnatak are found chiefly in the rice-growing tracts of these divisions.

The attached table shows among other things, the acreage which can be worked by one pair of cattle in each district. The statement shows considerable variation. In the Ratnagiri district the average area per pair of work animals is only about three acres, while in Bijapur it reaches thirty-one acres. It can be roughly said that the Konkan and the rice-tracts near the ridge of the Western *ghats* require a larger number of working cattle than the *mallad* tract, while *desh* tract needs less than the *mallad* tract. In the Konkan and in the *khari*f tract of the *desh* the land is more intensively worked than in the *rabi* tract. The latter, moreover, having deep soils, does not require such frequent ploughing.

Milch Cattle.—The buffalo is essentially *the* milk animal of India, but although there are certain milch breeds of buffaloes which give fair quantities of milk, on the whole the buffalo as a class gives very little milk compared with the yields obtained from cows in Europe and America. The cow again, is kept more for her bull calf, though she contributes a scanty supply of milk. Unlike other countries where cattle are valuable as producers of beef as well as producers of milk, cattle in the Bombay Presidency are not stall fed to any considerable extent. Milch cattle usually give milk only a few months in the year, and calve about once in two years. Hence their dry periods are long, and even when in milk they are generally poor milkers, while, in fact, a very large proportion of them are not milked at all, their sole utility being as producers of bull calves and of manure. It is, therefore, very difficult to form any approximation of the average milk yield obtained, but an annual production of about 800 lbs. of milk per buffalo and 300 lbs. per cow (apart from the amount consumed by the calf) may be taken as an average for the Bombay Presidency.

If we take the milch animals recorded in the quinquennial cattle census of 1915-16 and the population of 1911 (since the figures of the census of 1921 are not yet available) the quantity of milk produced per head of population comes to about one-eighth of a pound. Taking into account the large quantities of milk and *ghee* absorbed by cities like Bombay and Ahmedabad, it will be seen what an infinitesimally small quantity is available to the poor in other parts of the country.

Fodder supply.—Mr. Keatinge, the late Director of Agriculture, has recently given the following rough statistics of the land in the Bombay Presidency.

(1) Cultivated area	..	..	24 million acres.
(2) Uncultivated occupied area	..	7	,, ,,
(3) Unoccupied waste	..	1	,, ,,
(4) Forest	..	7	,, ,,
(5) Not available (roads, buildings, water, etc.)	..	5	,, ,,

It is not easy to calculate how much fodder (2), (3), (4) and (5) will supply. The statements at the close of this note (page 69) give the estimated average quantity of fodder available annually from important crops in each Division, from which it is seen that the cultivated crops of the Presidency supply about 6 lbs. of fodder daily to each cattle and horse. The daily ration of fodder per head is greater than this, being about 10 pounds in the Karnatak, about 6·6 pounds in the Deccan, 4·4 pounds in Gujarat, and only 2·7 pounds in the Konkan. The balance required has, of course, to be made up,—so far as it is made up at all by grass grazing. It may be remembered that this ration of fodder has to be made up by grazing on privately owned and Government waste lands, on forest grass lands and on communal grazing areas (*guracharan*) to some extent.

How far these resources are capable of filling the additional requirements of the animals it is, as already noted, difficult to say. But the unequal distribution of these grass and grazing resources brings about the result that while in some areas (particularly in the *mallad* tracts, in upper Gujarat, and in the Satpuras, there is in normal years plenty of grass, in other parts such as the eastern *desh* tract, and many parts of the Konkan, there is always a scarcity during a considerable part of the year. There is, in fact, an immediate and urgent need in many of these areas to grow and to conserve more fodder. This is especially the case in view of the uncertainty of the rains in many of the regions where the fodder supply is shortest, and where the future development of agriculture is most closely bound up with the maintenance of the agricultural animals in good condition.

No.	Name of District.	Cattle.			
		Plough Cattle.		Oxen and buffaloes for other purposes.	
		Oxen.	He-buffaloes.	Oxen.	He-buffaloes.
1	2	3	4	5	6
1	Ahmedabad ..	107,177	358	2,337	350
2	Kaira ..	94,290	15	817	26
3	Panch Mahals ..	123,642	32	663	43
4	Broach ..	56,702	10	837	121
5	Surat ..	107,989	4,540	4,652	46
6	West Khandesh ..	161,110	2,090	6,167	312
7	East Khandesh ..	212,038	417	9,643	1,314
8	Nasik ..	249,790	25,698	10,630	827
9	Ahmednagar ..	280,750	5,152	5,111	575
10	Poona ..	247,976	5,411	6,246	659
11	Sholapur ..	173,867	3,622	5,241	1,888
12	Satara ..	209,770	11,261	3,282	690
13	Belgaum ..	167,914	25,190	3,745	859
14	Bijapur ..	184,521	2,244	3,551	1,486
15	Dharwar ..	206,323	13,739	5,046	616
16	Thana ..	147,177	43,012	3,669	415
17	Kolaba ..	92,376	42,580	2,335	314
18	Ratnagiri ..	96,349	17,725	806	180
19	Kanara ..	80,514	21,300	4,387	1,799
	Total ..	3,000,275	224,336	79,164	12,470

This statement does not include any cattle or area from the villages for which statistics are not regularly prepared. The area worked by one pair of cattle is therefore not affected any way.

No.	Name of District.	Total	Net area cultivated in the corresponding year 1914-15.	Area worked by a pair of cattle.	Remarks.
1	2	7	8	9	
1	Ahmedabad ..	110,222	1,108,923	80.00	
2	Kaira ..	95,148	634,427	13.23	
3	Panch Mahals ..	124,380	420,206	6.75	
4	Broach ..	57,670	559,216	19.39	
5	Surat ..	117,227	453,181	7.73	
6	West Khandesh ..	169,619	1,390,912	16.40	
7	East Khandesh ..	223,412	1,976,077	17.68	
8	Nasik ..	236,945	1,986,370	13.84	
9	Ahmednagar ..	291,588	2,755,054	18.89	
10	Poona ..	260,292	1,894,506	14.57	
11	Sholapur ..	184,618	2,050,240	22.21	
12	Satara ..	225,003	1,502,464	13.35	
13	Belgaum ..	197,708	1,673,384	16.92	
14	Bijapur ..	191,802	2,947,451	30.73	
15	Dharwar ..	225,724	2,102,710	18.63	
16	Thana ..	194,273	442,281	4.55	
17	Kolaba ..	137,605	848,841	5.06	
18	Ratnagiri ..	115,009	168,793	2.93	
19	Kanara ..	106,000	210,826	3.90	
	Total ..	3,316,245	24,619,862	Average 14.65	

*Statement showing the quantity of fodder available per head
of cattle per annum as well as per day.*

No.	Names of Districts.	Name of Division.	Total quantity of fodder available during the period of one year.	Total number of cattle including horses.	Quantity of fodder available per animal per annum.	Quantity of fodder available per animal per day.	Remarks.
1	Ahmedabad ..	Gujarat ..	2,937,799,308	1,840,066	1,597	4·4	The figures showing animals have been taken from crop and season report of Bombay Presidency for the year 1915-16.
2	Kaira ..						
3	Panch Mahals ..						
4	Brosch ..						
5	Surat ..						
1	East Khandesh ..	Deccan ..	10,439,042,845	4,332,462	2,409	6·6	The figures about the areas of crops have been adopted from season and crop report for the year 1914-15.
2	West Khandesh ..						
3	Nasik ..						
4	Ahmednagar ..						
5	Poona ..						
6	Sholapur ..						
7	Satara ..						
1	Belgaum ..	Karnatak ..	6,339,540,807	1,724,204	3,677	10·07	
2	Bijapur ..						
3	Dharwar ..						
1	Thana ..	Konkan ..	1,343,127,918	1,380,282	973	2·7	
2	Kolaba ..						
3	Ratnagiri ..						
4	Karwar ..						
	Bombay City ..			58,808			
	Total ..		21,059,510,678	9,335,817	2,256	6·1	

45754

Statement showing the quantity of fodder from various crops available in various Divisions of Bombay Presidency.

No.	Name of crop.	Gujarat Division.		Deccan Division.		
		Area in acres.	Quantity of fodder available.	Area in acres.	Quantity of fodder available.	
1	Jowar ..	533,286	955,648,512	K	432,397	5,28,281,035
				C	3,074,589	2,459,978,659
2	Bajri ..	375,158	270,113,760	K	685,777	493,759,440
				C	3,479,517	2,072,609,096
3	Wheat ..	269,075	244,559,938	K	192,812	107,498,474
				C	534,654	228,885,577
4	Rice ..	336,337	475,590,608	K	46,367	60,542,783
				C	203,798	266,105,163
5	Gram ..	93,529	33,798,575	K	43,895	12,112,386
				C	237,059	44,889,492
6	Groundnut ..	2,781	6,118,200	K	6,287	14,460,100
				C	183,158	439,579,200
7	Sugarcane ..	3,579	26,673,207	K	1,107	8,177,686
				C	32,805	258,497,495
8	Maize ..	115,658	133,064,529	K	3,474	2,613,317
				C	22,511	12,108,667
9	Nagli, Ragl or Marva.	98,526	25,222,656	K	10,603	8,588,430
					209,330	314,497,392
10	Other cereals (Wari, Sava, Kodra, Dengli, Berati, etc.)	191,479	303,379,328		206,069	2,205,350,438
11	Tur ..	59,582	44,842,819		282,581	261,118,973
12	Other pulses (Kulthi, Mug, Udid, Masur, Lang, Wal etc.)	121,314	69,682,762		879,884	518,638,825
13	Sesamum ..	73,730	24,649,414	K	53,594	19,293,840
				O	100,539	27,266,177
14	Fodder crops (Jowara, Lucerne, guinea grass).	64,891	324,455,000	K	240	1,200,000
				C	14,598	72,990,000
	Total ..	2,338,925	2,937,799,308		10,937,645	10,439,042,645

Note.—It was desired to work out figures for the two Khandesh Districts separately; but the acreage under pulses was not returned separately, hence the two Districts also are included in C. D. and the whole Division is called Deccan Division. Since the outturn of fodder per acre of different crops is different in Khandesh and Central Division the total quantity of fodder from important crops is given separately.

K— area in East and West Khandesh Districts.

C— area in Nasik, Ahmednagar, Poona, Sholapur and Satara Districts.

No.	Name of crop.	Karnatic Division.		Konkan Division.	
		Area in acres.	Quantity of fodder available.	Area in acres.	Quantity of fodder available.
1	Jawar ..	2,462,014	4,389,746,342	1,254	1,357,644
2	Bajri ..	578,644	344,675,085	23	15,130
3	Wheat ..	525,861	278,443,400	214	82,893
4	Rice ..	260,439	340,063,016	831,266	995,391,159
5	Gram ..	108,693	21,582,082	3,236	642,540
6	Groundnut ..	22,234	26,680,800	452	678,000
7	Sugarcane ..	12,923	96,780,347	3,855	23,947,414
8	Maize ..	13,716	11,233,404	498	358,187
9	Nagli, Ragi or Marva.	69,523	128,809,434	130,750	166,010,660
10	Other cereals (Wari, Sava, Kodra, Dengli, Berati, etc.)	284,546	283,976,508	95,505	131,013,759
11	Tur ..	164,585	124,623,762	6,825	2,426,629
12	Other pulses (Kulthi, Mug, Udid, Masur, Lang, Wal etc.).	278,772	141,705,383	39,910	18,997,160
13	Sesamum ..	22,883	6,461,244	4,683	1,646,543
14	Fodder crops (Jowars, Lucerne, guinea grass).	28,952	144,760,000	112	560,000
	Total ..	4,833,785	6,339,540,807	1,118,583	1,343,127,918

No.	Name of crop.	Total		Remarks.
		Area in acres.	Quantity of fodder available.	
1	Jawar ..	6,508,540	8,935,012,392	
2	Bajri ..	5,119,119	3,181,172,511	
3	Wheat ..	1,522,616	859,470,282	
4	Rice ...	1,678,207	2,137,692,729	
5	Gram ..	486,412	113,025,075	
6	Groundnut ..	214,912	487,516,800	
7	Sugarcane ..	54,269	414,076,149	
8	Malze ..	155,857	159,378,104	
9	Nagil, Ragl or Marva.	518,732	643,128,572	
10	Other cereals (Wari, Sava, Kodra, Dengil Barati, etc.).	777,599	2,923,720,033	
11	Tur ..	513,573	493,012,183	
12	Other pulses (Kulthi, Mug, Udid, Masur, Lang, wal etc.).	1,319,880	749,024,130	
13	Sesamum ..	255,429	76,317,218	
14	Fodder crops (Jowars, Lucerne, guinea grass).	108,793	543,965,000	Average yield of dry fodder taken to be 5,000 lbs. per acre.
	Total ..	19,223,938	21,059,510,678	

PART II.

**CROPS OF EACH DISTRICT OF THE BOMBAY
PRESIDENCY.**

AHMEDABAD.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreages.

A

No.	Taluka.	Cotton.	Jowari.	Bajri.	Wheat.	Rice.	Math.	Gram.	Castor.	Seasame.	Sugar-cane.	Other crops.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	North Daskroi ..	18,237	23,757	18,563	1,472	5,366	2,964	213	3,377	419	18 26	12,332	86,768
2	South Daskroi ..	33,801	35,796	24,063	15,323	36,034	2,560	1,198	3,714	606	305 161	18,266	171,660
3	Dholka ..	39,143	41,235	7,252	65,496	15,299	1,321	3,205	1,908	2,540	113 46	24,487	201,994
4	Dhanduka ..	71,534	97,593	45,709	44,359	11	2,134	8,040	6	3,627	108 442	13,976	287,097
5	Viramgaon ..	1,16,820	58,345	36,877	15,187	1,747	4,717	698	4,716	1,123	... 55	12,259	251,989
6	Prantij ..	5,308	2,922	31,239	3,978	10,011	23,929	11,444	2,446	7,200	92 23	80,743	129,402
	Total ..	284,343	259,648	163,793	145,815	68,468	37,625	24,798	16,162	15,605	636 753	112,113	1,128,916

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentage of crops.										Total.
		Cotton.	Jowari.	Bajri.	Wheat.	Rice.	Math.	Gram.	Castor.	Seasame.	Sugarcane.	
		%	%	%	%	%	%	%	%	%	%	
1	North Daskrol ..	6.41	9.15	11.34	1.009	7.84	7.87	0.86	20.89	2.68	$\frac{2.88}{8.46}$	
2	South Daskrol ..	11.88	13.78	14.70	10.51	52.63	6.80	4.83	22.98	3.88	$\frac{47.95}{21.88}$	
3	Dholka ..	18.77	15.88	4.42	44.92	22.34	3.51	12.92	11.78	16.23	$\frac{17.77}{6.10}$	
4	Dhanduka ..	25.15	137.59	27.92	30.42	0.02	5.67	32.42	0.03	23.24	$\frac{16.99}{58.70}$	
5	Viramgaon ..	40.91	22.47	22.52	10.41	2.55	12.53	2.81	29.18	7.19	$\frac{7.30}{7.30}$	
6	Prantij ..	1.87	1.12	19.08	2.73	14.62	63.60	46.14	15.13	46.71	$\frac{14.46}{8.06}$	
	Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	$\frac{100.00}{100.00}$	

The second figure given in each case under sugarcane represents the condition in 1917-18.

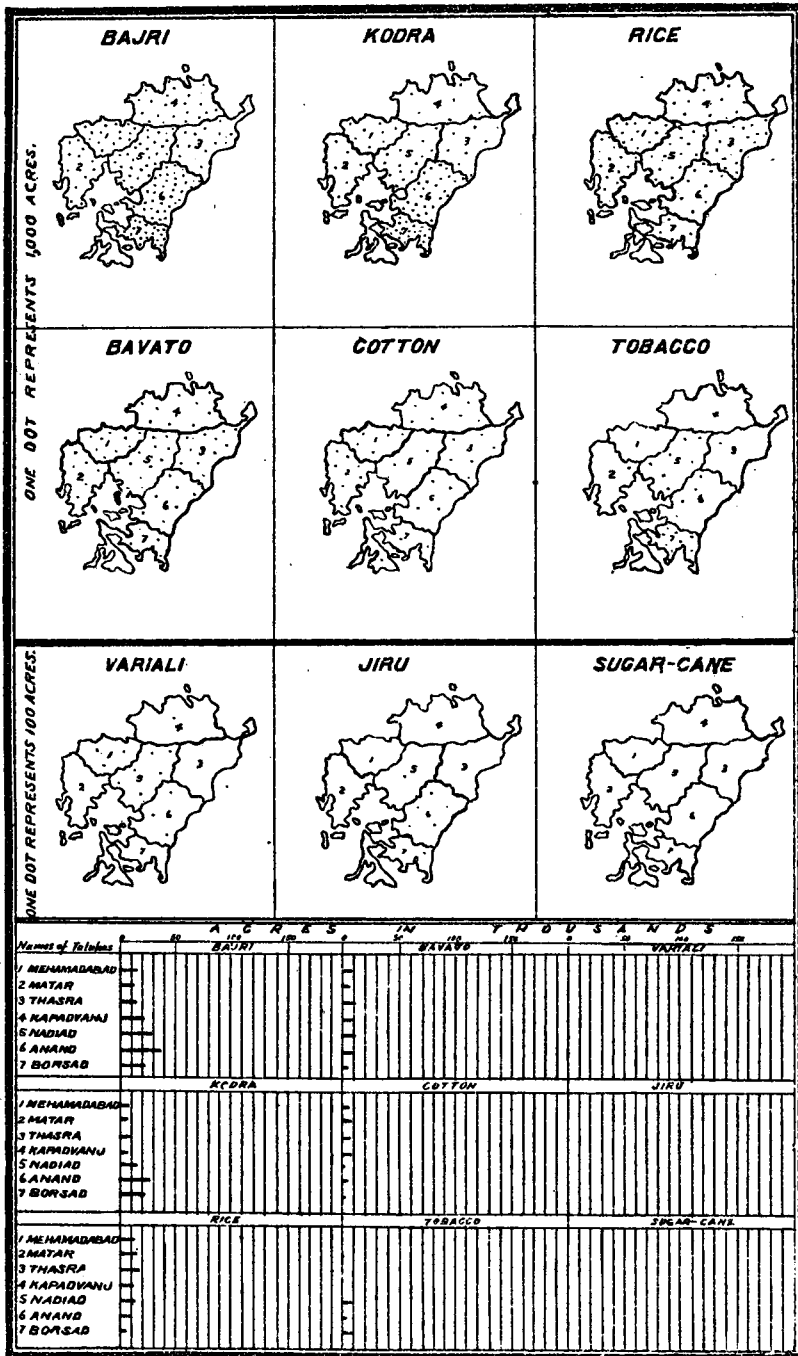
Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

	Name of Taluka.	Percentages.										Total.	
		Cotton.	Jowari.	Bajrl.	Wheat.	Rice.	Math.	Gram.	Castor.	Seesame.	Sugar-cane.		Others.
		%	%	%	%	%	%	%	%	%	%	%	%
1	North Daskroi ..	21·02	27·38	21·39	1·69	6·18	3·41	0·24	8·89	0·48	0·02	14·30	100·00
2	South Daskroi ..	19·69	20·85	14·02	8·92	20·99	1·49	0·69	2·16	0·35	0·18	10·66	100·00
3	Dholka ..	19·38	20·41	3·59	32·42	7·57	0·65	1·59	0·94	1·26	0·05	12·14	100·00
4	Dhanduka ..	24·92	33·99	15·92	15·45	0·03	0·74	2·80	0·02	1·26	0·03	4·89	100·00
5	Virangaon ..	46·16	23·15	14·63	6·02	0·69	1·87	0·27	1·87	0·44	0·00	4·90	100·00
6	Prantij ..	4·10	2·26	24·14	3·07	7·74	13·49	8·84	1·89	5·63	0·07	23·77	100·00

KAIRA

Fig. 27



KAIRA.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreage.

A

No.	Taluka.	Bajrl.	Kodra.	Rice.	Bavto or Nagali.	Cotton.	Tobacco.	Variahl.	Jiru.	Potatoes.	Sugarcane.	Others.	Total.
		A cres.	A cres.	A cres.	A cres.	A cres.	A cres.	A cres.	A cres.	A cres.	A cres.	A cres.	A cres.
1	Mehmedabad ..	15,017	8,452	13,225	9,207	5,625	6,619	340	13	18	$\frac{9}{9}$	21,700	74,905
2	Matar ..	12,068	6,147	15,288	6,440	7,735	1,377	21	23	1	$\frac{20}{25}$	81,015	80,135
3	Thasara ..	15,541	8,266	17,003	11,150	6,997	1,345	18	3	2	..	18,011	78,336
4	Kapadwanj ..	22,675	6,183	13,337	9,946	7,981	201	106	3	7	$\frac{2}{2}$	39,772	100,203
5	Nadiad ..	28,727	15,644	14,385	13,212	2,768	7,712	639	101	91	$\frac{27}{6}$	30,249	113,645
6	Anand ..	36,797	27,350	9,712	7,598	4,140	4,937	352	503	29	$\frac{23}{8}$	28,563	120,004
7	Borsad ..	22,091	21,502	5,672	4,104	3,190	9,846	2	131	3	$\frac{42}{37}$	25,409	91,992
	Total ..	152,016	93,544	89,222	61,657	88,336	26,117	1,568	867	151	$\frac{123}{37}$	194,719	650,220

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentage of crops.										Total.
		Bajrl.	Kodra.	Rice.	Bavto.	Cotton.	Tobacco.	Variall.	Jiru.	Potatoes.	Sugarcane.	
		%	%	%	%	%	%	%	%	%	%	
1	Mehmadabad ..	9·81	9·04	15·49	14·93	14·67	2·68	21·68	1·50	11·92	$\frac{7·31}{10·34}$	
2	Matar ..	7·89	6·57	17·13	10·44	20·18	5·27	1·34	2·65	0·66	$\frac{16·26}{28·73}$	
3	Thasra ..	10·16	8·84	19·06	18·08	18·25	5·15	1·15	0·35	1·32	$\frac{\dots}{0}$	
4	Kapadwanj ..	14·83	6·59	14·95	16·13	20·55	0·77	12·50	0·35	4·64	$\frac{1·68}{2·30}$	
5	Nadiad ..	18·79	16·71	16·12	21·43	7·22	29·53	40·75	22·03	60·27	$\frac{21·95}{6·89}$	
6	Anand ..	24·06	29·24	10·88	12·32	10·80	18·90	22·45	58·01	19·20	$\frac{18·70}{9·20}$	
7	Borsad ..	14·45	22·99	6·36	6·66	8·32	37·70	0·13	15·11	1·98	$\frac{34·14}{42·53}$	
	Total ..	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	$\frac{100·00}{100·00}$	

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

0

No.	Name of Taluka.	Percentages.											Total.
		Bajri.	Kodra.	Rice.	Bavto.	Cotton.	Tobacco.	Variall.	Jiru.	Potatoes.	Sugarcane.	Others.	
		%	%	%	%	%	%	%	%	%	%	%	%
1	Mohmadabad ..	20·05	11·28	18·46	12·29	7·51	0·98	0·45	0·02	0·25	0·012	28·98	100·00
2	Matar	15·07	7·67	19·08	8·03	9·65	1·72	0·03	0·03	0·001	0·02	88·70	100·00
3	Thaara ..	19·84	10·55	21·70	14·23	8·93	1·72	0·02	0·004	0·003	....	23·01	100·00
4	Kapadwanj ..	22·63	6·17	18·31	9·92	7·86	0·20	0·19	0·003	0·007	0·002	39·71	100·00
5	Nadiad ..	25·28	13·77	12·66	11·63	2·44	6·78	0·56	0·17	0·08	0·02	26·61	100·00
6	Anand ..	30·66	22·79	8·09	6·33	3·45	4·11	0·29	0·42	0·02	0·02	23·82	100·00
7	Borsad ..	24·01	23·37	6·16	4·46	3·47	10·70	0·002	0·14	0·003	0·04	27·65	100·00

77

PANCH MAHALS.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreage.

A

No.	Taluka.	Maiz.	Rice.	Gram.	Bajri.	Seasame.	Cotton.	Bavto.	Kodra.	Ragi or Nagali.	Wheat.	Other crops.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Godhra ..	26,366	29,002	13,400	21,764	17,009	4,906	11,675	8,632	9,368	1,476	18,448	162,046
2	Kalol and Halol ..	2,560	29,532	2,587	23,107	3,550	29,336	7,593	6,872	5,074	233	26,732	137,196
3	Dohad and Zalod ..	82,082	10,567	37,991	105	13,908	175	772	4,068	1,676	12,251	32,980	196,575
	Total ..	111,028	69,101	53,978	44,976	34,467	34,417	20,040	19,572	16,118	13,960	78,160	495,817

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentage of crops.										Total.	
		Maiz.	Rice.	Gram.	Bajri.	Seasame.	Cotton.	Bavto.	Kodra.	Ragi.	Wheat.		
1	Godhra ..	% 23·74	% 41·97	% 24·82	% 48·39	% 49·34	% 14·25	% 53·26	% 44·10	% 58·12	% 10·57		
2	Kalol and Halol ..	2·82	42·73	4·79	51·37	10·30	85·23	37·89	35·11	31·48	1·67		
3	Dohad and Zalod ..	73·93	15·29	70·88	0·23	40·35	0·51	3·85	20·78	10·39	87·75		
	Total ..	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00		

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentages.											Total.
		Maiz.	Rice.	Gram.	Bajrl.	Seasame.	Cotton.	Bavto.	Kodra.	Ragl.	Wheat.	Others.	
		%	%	%	%	%	%	%	%	%	%	%	%
1	Godhra ..	16.27	17.90	8.27	13.43	10.49	3.02	7.20	5.32	5.78	0.91	11.41	100.00
2	Kalol and Halol ..	1.81	21.52	1.88	16.84	2.58	21.38	5.53	5.00	3.69	0.17	19.53	100.00
3	Dohad and Zalod ..	41.75	5.37	19.32	0.05	7.07	0.09	0.39	2.07	0.85	6.23	16.81	100.

BROACH.

The following statement shows the distribution of important crops by Talukas. Figures in the following statement show actual acreage.

A

No.	Taluka.	Cotton.	Jowari	Wheat.	Lang	Rice.	Tur.	Seasame.	Bajri.	Tobacco.	Sugarcane.	Others.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Broach ..	50,142	24,968	3,317	18,281	5,821	2,496	2,263	540	1,077	$\frac{5}{11}$	3,341	107,261
2	Amod ..	46,210	17,292	3,115	10,313	686	886	771	591	124	....	1,254	81,242
3	Wagra ..	84,010	33,249	26,911	12,975	76	112	861	574	169	....	2,147	110,884
4	Jambusar ..	57,114	25,760	25,222	728	4,383	4,867	3,047	4,943	258	....	1	13,195
5	Ankleswar ..	50,356	39,005	11,108	2,330	2,313	3,888	2,340	1,267	675	$\frac{12}{38}$	4,539	118,413
	Total ..	2,37,832	1,40,364	69,673	39,627	13,279	12,249	9,782	7,915	2,303	$\frac{17}{50}$	24,276	557,317

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentage of crops.									
		Cotton.	Jowari.	Wheat.	Lang.	Rice.	Tur.	Seasame.	Bajri.	Tobacco.	Sugarcane.
		%	%	%	%	%	%	%	%	%	%
1	Broach	21.08	17.78	4.76	33.51	43.88	20.88	23.13	6.82	46.76	$\frac{29.41}{22.0}$
2	Amod	19.42	12.32	4.47	26.02	5.16	7.23	7.88	7.47	5.88	....
3	Wagra	14.80	23.68	38.62	32.74	0.57	0.91	8.80	7.25	7.34	....
4	Jambusar	24.01	18.35	36.20	1.84	33.00	39.73	31.15	62.45	11.20	$\frac{....}{2.0}$
5	Ankleswar	21.17	27.85	15.94	5.88	17.42	31.74	29.03	16.00	29.81	$\frac{70.59}{76.0}$
	Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	$\frac{100.00}{100.}$

The second figure given in each case under sugarcane represents the condition in 1917-18.

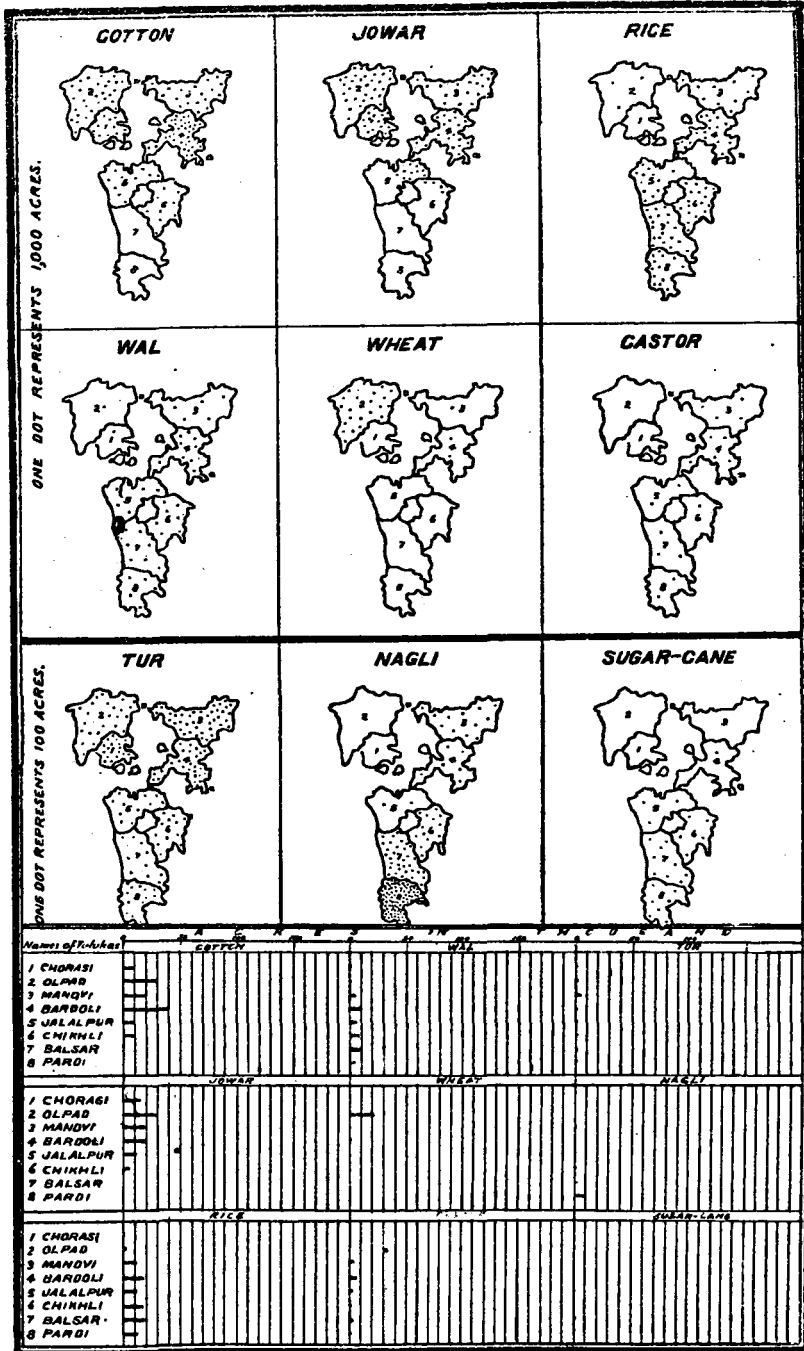
Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentage.											Total.
		Cotton.	Jowar.	Wheat.	Lang.	Rice.	Tur.	Seasame.	Bajri.	Tobacco.	Sugarcane.	Other.	
		%	%	%	%	%	%	%	%	%	%	%	%
1	Broach ..	46·75	23·28	3·09	12·98	5·42	2·32	2·11	0·50	1·004	0·005	3·14	100·00
2	Amod ..	56·88	21·28	3·83	12·69	0·84	1·09	0·95	0·78	0·15	0·00	1·56	100·00
3	Wagra ..	30·67	29·99	24·27	11·70	0·07	0·10	0·77	0·51	0·15	0·00	1·77	100·00
4	Jambusar ..	40·93	18·46	18·08	0·52	3·14	3·49	2·18	3·54	0·18	0·00	11·48	100·00
5	Ankleswar ..	42·52	30·10	9·38	1·97	1·95	3·28	2·39	1·07	·57	0·01	3·76	100·00

SURAT

Fig 30



SURAT.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreages.

A

No.	Taluka.	Cotton.	Jowari.	Rice.	Wal.	Wheat.	Castor.	Kodra.	Tur.	Nagall.	Sugarcane.	Others.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Chorashi ..	10,581	15,205	927	924	554	363	1	1,781	....	$\frac{10}{7}$	5,635	35,871
2	Olpad ..	29,313	80,997	3,270	1,136	23,029	964	1	2,508	....	$\frac{1}{....}$	9,988	100,987
3	Mandvai ..	19,456	19,222	11,961	5,237	1,591	4,476	4,942	4,048	1,299	$\frac{1}{1}$	8,537	80,767
4	Barodli ..	37,391	19,507	18,548	10,482	2,411	52,510	586	2,710	660	$\frac{85}{121}$	8,052	105,691
5	Jalalpoor ..	10,864	11,651	11,109	5,785	76	2,554	38	1,119	203	$\frac{881}{1,344}$	4,570	54,350
6	Chikhali ..	9,104	4,346	17,945	7,015	59	1,061	2,118	1,274	1,481	$\frac{555}{689}$	4,362	49,310
7	Bulsar ..	287	457	19,229	7,449	9	3,027	5,073	1,194	3,273	$\frac{941}{794}$	3,347	44,266
8	Pardi ..	....	64	13,478	5,242	500	2,459	6,864	1,551	9,265	$\frac{749}{677}$	3,136	43,308
	Total ..	122,976	1,01,539	96,267	43,270	28,229	10,885	19,623	16,185	16,181	$\frac{2,723}{3,833}$	47,922	514,500

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentage of crops.									
		Cotton.	Jowar.	Rice.	Wal.	Wheat.	Castor.	Kodra.	Tur.	Nagli.	Sugarcane.
		%	%	%	%	%	%	%	%	%	%
1	Chorashi ..	8.60	15.06	0.75	2.13	1.96	1.82	....	11.00	0.00	$\frac{0.36}{0.18}$
2	Olpad ..	23.83	30.53	3.40	2.62	81.58	8.49	....	15.49	0.00	$\frac{0.03}{0.03}$
3	Mandavi ..	15.82	18.93	12.42	12.10	5.63	22.52	25.18	25.01	8.03	$\frac{0.03}{0.03}$
4	Bardoli ..	30.40	19.21	19.27	24.22	8.54	26.45	2.99	16.74	4.08	$\frac{3.12}{3.16}$
5	Jalalpur ..	13.71	11.47	11.54	13.37	0.27	12.84	0.19	6.91	1.25	$\frac{13.99}{35.06}$
6	Chikhali ..	7.40	4.28	18.64	16.21	0.20	5.28	10.79	7.87	9.15	$\frac{20.38}{17.97}$
7	Bulsar ..	0.21	0.45	19.97	17.22	0.03	15.22	25.85	7.38	20.23	$\frac{34.56}{25.93}$
8	Pardi ..	....	0.06	14.00	12.12	1.77	12.37	34.98	9.58	57.26	$\frac{27.53}{17.66}$
	Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	$\frac{100.00}{100.00}$

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentages.											Total.
		Cotton.	Jowar.	Rice.	Wal.	Wheat.	Castor.	Kodra.	Tur.	Nagali.	Sugarcane.	Others.	
		%	%	%	%	%	%	%	%	%	%	%	%
1	Chorashi ..	29.49	42.64	2.09	2.58	1.54	1.01	0.00	4.96	....	0.003	15.75	100.00
2	Olpad ..	29.04	30.71	8.24	1.12	22.81	0.69	....	2.48	....	....	9.91	100.00
3	Mandevi ..	24.09	23.80	14.81	6.48	1.97	5.54	6.12	5.01	1.61	....	10.57	100.00
4	Bardoli ..	35.88	18.45	17.55	9.92	2.28	4.98	0.55	2.56	0.62	0.08	7.63	100.00
5	Jalspur ..	31.03	21.44	20.44	10.64	0.14	4.69	0.07	2.06	0.37	0.07	9.05	100.00
6	Chikhall ..	18.46	8.81	36.39	14.28	0.12	2.13	4.29	2.58	3.00	1.13	8.86	100.00
7	Bulsar ..	0.60	1.03	43.44	16.83	0.02	6.84	11.46	2.70	7.39	2.13	7.46	100.00
8	Pardi ..	....	0.15	31.12	12.10	1.15	5.68	15.85	3.58	21.39	1.73	7.25	100.00

32

WEST KHANDESH.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreages.

A

No.	Name of Taluka.	Cotton.	Bajri.	Wheat.	Jowar.	Kulth.	Seasame.	Gram.	Math.	Ground-nut.	Sugarcane.	Others.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Dhulia ..	121,098	1,01,860	8,054	19,586	17,317	6,980	491	2,812	950	52 241	5,192	284,342
2	Sindkheda ..	112,935	71,954	16,599	15,196	11,067	3,018	1,359	5,469	361	19 26	5,692	243,663
3	Shirpur ..	64,300	30,362	7,237	8,194	4,652	3,608	1,436	1,821	17	1 10	3,468	125,146
4	Shahada ..	64,122	32,663	36,733	22,148	4,808	6,958	7,167	2,293	60	55 35	7,894	184,901
5	Taloda ..	7,691	2,760	24,298	10,624	76	5,672	5,739	169	9	3 6	15,249	72,290
6	Nandurbar ..	60,895	38,321	44,488	26,417	7,203	8,327	11,994	1,317	364	28 56	93,253	292,107
7	Sakri ..	47,658	81,278	7,194	8,664	20,824	3,294	4,753	832	302	601 945	36,942	212,342
	Total ..	478,199	859,198	144,653	110,229	65,947	37,807	32,939	14,718	2,063	753 1,317	167,600	1,414,791

The second figure given in each case under sugarcane represents the condition in 1917-18.

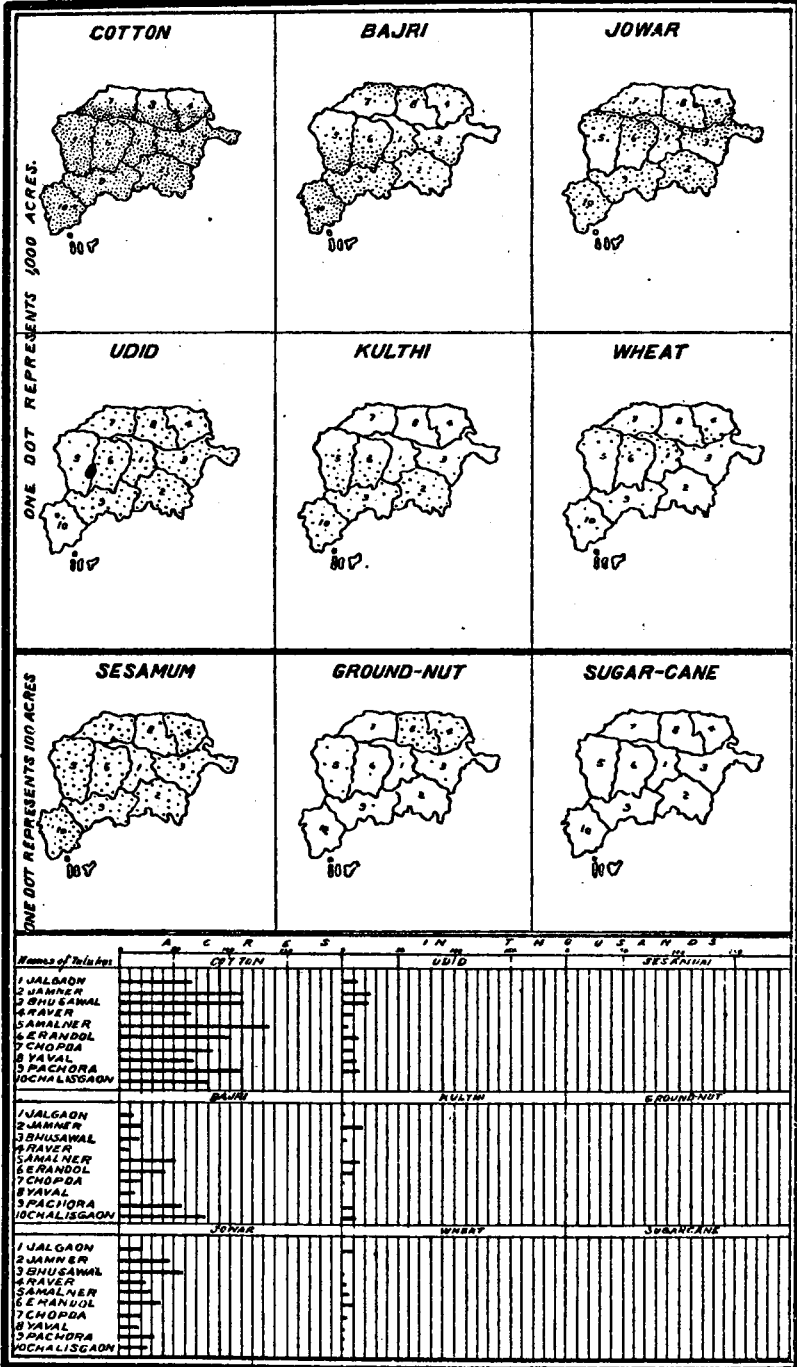
Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentages.											Total.
		Cotton.	Bajri.	Wheat.	Jowar.	Kulth.	Sesame.	Gram.	Math.	Ground-nut.	Sugarcane.	Others.	
		- %	%	%	%	%	%	%	%	%	%	%	%
1	Dhulia ..	42·55	35·82	2·83	6·89	6·09	2·43	0·17	0·99	0·33	0·018	1·89	100·00
2	Sindkheda ..	46·34	29·53	6·81	6·23	4·54	1·24	0·55	2·24	0·14	0·005	2·38	100·00
3	Shirpur ..	51·38	24·26	5·82	6·54	3·71	2·88	1·14	1·45	0·013	0·00	2·81	100·00
4	Shahada ..	84·67	17·66	19·86	11·97	2·60	3·76	3·87	1·24	0·03	0·03	4·31	100·00
5	Taloda ..	10·64	8·81	33·61	14·69	0·10	7·84	7·94	0·23	0·01	0·00	21·13	100·00
6	Nandurbar ..	20·67	13·12	15·23	9·04	2·46	2·85	4·10	0·45	0·12	0·01	31·95	100·00
7	Sakri ..	22·44	38·27	3·38	4·08	9·80	1·55	2·24	0·39	0·14	0·27	17·44	100·00

EAST-KHANDESH

Fig 32



EAST KHANDESH.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreages.

A

No.	Taluka.	Cotton.	Bajri.	Jowar.	Udid.	Kulith.	Wheat.	Sesame.	Gram.	Groundnut.	Sugarcane.	Other crops.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Jalgaon	66,210	14,368	23,360	12,975	2,163	10,219	568	2,114	188	$\frac{23}{31}$	10,598	142,786
2	Jamner	112,787	20,506	46,100	24,507	17,076	186	1,404	154	70	$\frac{20}{48}$	15,078	237,887
3	Bhusawal	112,142	18,456	59,366	21,256	4,946	2,117	1,741	373	371	$\frac{12}{46}$	16,926	238,206
4	Raver	65,299	7,550	24,504	7,082	346	5,071	1,606	503	796	$\frac{5}{56}$	15,165	127,927
5	Amalner	136,947	51,766	30,221	4,416	16,495	6,514	2,630	2,436	671	$\frac{53}{345}$	11,440	263,569
6	Erandol	99,390	42,231	38,751	14,095	9,924	8,807	1,363	1,659	178	$\frac{60}{117}$	16,088	232,546
7	Chopda	84,189	22,076	19,366	9,008	1,188	4,752	1,323	908	10	$\frac{9}{15}$	8,142	151,471
8	Yaval	68,560	14,499	19,253	13,958	540	3,699	746	364	1,646	$\frac{6}{22}$	8,150	131,421
9	Pachora	112,672	57,586	32,905	15,756	10,850	3,267	1,752	878	183	$\frac{64}{807}$	13,434	249,347
10	Chalisgaon	80,933	77,542	26,742	1,298	12,622	3,527	2,654	1,567	111	$\frac{102}{231}$	11,430	218,528
	Total	939,129	326,579	321,568	124,351	76,150	48,159	15,787	10,956	4,224	$\frac{354}{1,218}$	126,451	993,708

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentage of crops.									
		Cotton.	Bajri.	Jowar.	Udid.	Kulith.	Wheat.	Seasame.	Gram.	groundnut.	Sugarcane.
		%	%	%	%	%	%	%	%	%	%
1	Jalgaon	7.05	4.39	7.26	10.41	2.84	21.22	3.59	19.29	4.45	6.49 2.54
2	Jamner	12.00	6.27	14.33	19.70	22.42	0.38	8.79	1.40	1.66	5.65 3.94
3	Bhusawal	11.94	5.65	18.61	17.09	6.49	4.39	11.02	3.40	8.78	34.39 3.78
4	Raver	6.94	2.31	7.62	5.69	0.45	10.53	10.17	4.59	18.84	1.41 4.60
5	Amalner	14.58	15.79	9.39	3.55	21.66	13.52	16.66	22.22	15.88	14.97 28.32
6	Erandol	10.58	12.93	12.05	11.33	13.03	18.28	8.63	15.14	4.21	16.95 9.60
7	Chopda	8.97	6.76	6.17	7.24	1.56	9.87	8.38	8.28	0.23	2.54 1.23
8	Yaval	7.30	4.43	5.98	11.22	0.70	7.68	4.72	3.32	38.96	1.69 1.80
9	Pachora	11.99	17.63	10.23	12.67	14.24	6.78	11.09	8.01	4.33	18.07 25.20
10	Chalisgaon	8.62	23.74	8.31	1.04	16.57	7.32	16.81	14.30	2.63	28.80 18.96
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00 100.00

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentages.											Total.
		Cotton.	Bajrl.	Jowar.	Udd.	Kulth.	Wheat.	Seasame.	Gram.	Groundnut.	Sugarcane.	Others.	
		%	%	%	%	%	%	%	%	%	%	%	%
1	Jalgaon ..	46·37	10·06	16·36	9·08	1·51	7·15	0·39	1·48	0·13	0·01	7·46	100·00
2	Jamner ..	47·42	8·19	19·37	10·30	7·17	0·07	0·59	0·06	0·03	0·01	6·79	100·00
3	Bhusawal ..	47·08	7·74	25·18	8·92	2·07	0·89	0·73	0·15	0·15	0·005	7·14	100·00
4	Raver ..	51·04	5·90	19·15	5·53	0·27	3·96	1·25	0·39	0·62	....	11·89	100·00
5	Amalner ..	51·94	19·64	11·46	1·87	6·25	2·47	0·99	0·92	0·25	0·02	4·39	100·00
6	Erandol ..	42·74	18·16	16·06	6·06	4·26	3·78	0·58	0·71	0·07	0·02	6·96	100·00
7	Chopda ..	55·58	14·57	13·11	5·94	0·78	3·13	0·87	0·60	0·06	00·05	5·41	100·00
8	Yaval ..	52·16	11·03	14·65	10·47	0·41	2·81	0·56	0·27	1·25	00·04	6·39	100·00
9	Pachora ..	45·18	23·09	13·19	6·32	4·35	1·31	0·70	0·35	0·04	0·02	5·45	100·00
10	Challgaon ..	37·03	35·48	12·23	0·59	5·77	1·61	1·21	0·71	0·05	0·04	5·28	100·00

NASIK.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreages.

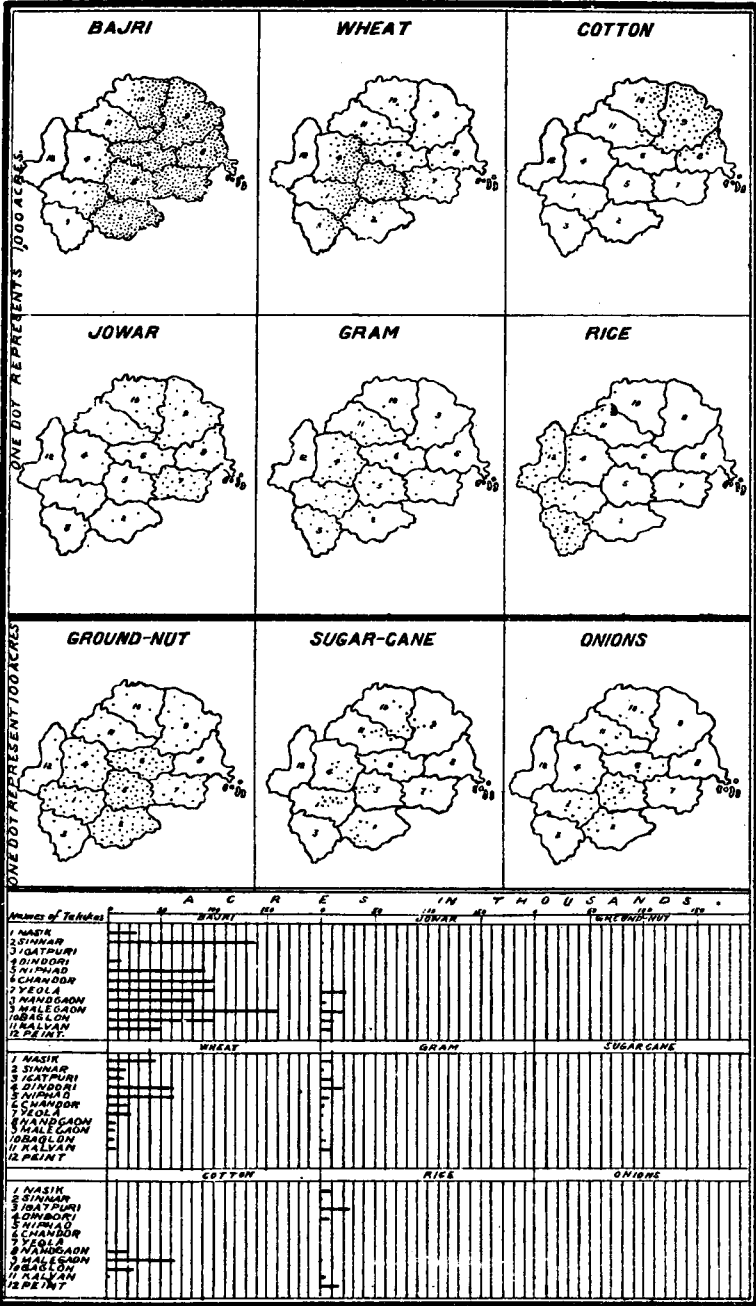
A

No.	Taluka.	Bajri.	Wheat.	Cotton.	Jowar.	Gram.	Rice.	Ground-nut.	Sugarcane.	Onions.	Methi.	Others.	Total.
		Acres.	Acres.	Ao es.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Nasik ..	27,654	45,373	....	1,023	9,178	8,093	2,097	877 1,241	796	501	51,831	147,433
2	Sinnar ..	137,196	16,874	111	2,436	3,563	1,714	3,528	809 1,209	552	198	49,045	215,626
3	Igatpuri ..	847	16,538	....	808	8,834	25,459	334	9 27	6	4	64,462	117,301
4	Dindori ..	11,223	61,471	....	782	17,538	7,736	1,935	946 1,411	187	240	80,639	182,697
5	Niphad ..	92,706	61,069	108	2,146	6,684	186	3,924	664 1,960	1,431	484	33,089	202,391
6	Chandwad ..	98,124	17,996	529	3,303	3,644	182	2,747	238 1,097	458	161	29,128	156,560
7	Yeola ..	100,481	22,162	1,234	21,112	2,058	2	903	118 570	156	35	29,900	178,221
8	Nandgaon ..	81,139	6,241	18,489	5,683	586	9	85	8 16	88	12	18,445	129,685
9	Malegoan ..	159,339	6,323	61,245	18,275	2,389	684	1,129	395 590	84	129	46,400	296,892
10	Baglan ..	98,796	6,201	25,383	11,952	4,324	798	692	727 1,147	282	56	43,215	192,426
11	Kalwan ..	50,009	8,799	3,782	9,492	9,065	5,786	603	580 829	352	104	55,532	144,104
12	Peint ..	....	22	....	24	337	15,214	306	.... 4	....	....	68,758	84,661
	Total ..	856,514	269,069	110,881	77,036	68,700	65,893	18,133	5,431 10,041	4,342	1,924	570,104	2,047,997

The second figure given in each case under sugarcane represents the condition in 1917-18.

NASIK

Fig 33



Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentage of crops.									
		Bajri.	Wheat.	Cotton.	Jowar.	Gram.	Rice.	Groundnut.	Sugarcane.	Onions.	Methl.
		%	%	%	%	%	%	%	%	%	%
1	Nasik.	8.23	16.86	....	1.83	13.86	12.29	11.56	16.33 12.85	18.88	26.04
2	Sinnar	16.02	6.27	0.10	3.16	5.19	2.60	19.46	14.40 12.04	12.71	10.20
3	Igatpurl	0.10	6.15	0.0	1.05	12.86	38.65	1.84	0.17 0.26	0.14	0.21
4	Dindori	1.81	22.84	0.0	1.02	25.53	11.75	10.67	17.42 14.05	4.81	12.47
5	Niphad	10.82	22.70	0.10	2.79	9.73	0.28	21.09	12.23 19.51	32.96	25.16
6	Chandwad	11.46	6.69	0.48	4.29	5.30	0.27	15.15	5.30 10.92	10.55	8.37
7	Yeola	11.73	8.24	1.11	27.40	2.99	0.08	4.98	2.17 5.07	8.59	1.82
8	Nandgaon	9.36	2.82	16.67	7.38	0.85	0.01	0.10	0.15 0.15	0.88	0.62
9	Malegaon	18.60	2.85	55.23	23.72	4.20	1.08	6.23	7.27 5.87	1.98	6.70
10	Baglan	11.58	2.30	22.89	15.50	6.29	1.21	3.81	13.89 11.42	6.49	2.91
11	Kalwan	5.88	3.27	3.41	12.82	13.20	8.78	3.38	10.66 8.25	8.10	5.40
12	Peint	....	0.08	0.0	0.08	0.49	23.10	1.68	.... 0.08	....	....
	Total	100.00	100.00	100.0	100.00	100.00	100.00	100.00	100.00 100.00	100.00	100.00

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Taluka.	Percentages.											Total.
		Bajri.	Wheat.	Cotton.	Jowar.	Gram.	Rice.	Ground-nut.	Sugarcane.	Onions.	Methi.	Others.	
		%	%	%	%	%	%	%	%	%	%	%	%
1	Nasik ..	18.75	30.70	....	0.69	6.23	5.49	1.42	0.60	0.54	0.34	35.17	100.00
2	Sinnar ..	63.63	7.83	0.05	1.13	1.65	0.79	1.63	0.37	0.26	0.09	22.57	100.00
3	Igatpur ..	0.72	14.09	....	0.69	7.52	21.71	0.28	0.007	0.005	0.003	54.99	100.00
4	Dindori ..	6.14	133.64	....	0.43	9.59	4.23	1.06	0.51	0.011	0.13	44.17	100.00
5	Niphad ..	45.81	30.17	0.06	1.06	3.30	0.09	1.89	0.33	0.70	0.24	16.35	100.00
6	Chandwad ..	62.67	11.49	0.34	2.10	2.32	0.12	1.76	0.18	0.29	0.11	18.62	100.00
7	Yeola ..	56.38	12.44	0.69	11.85	1.15	0.01	0.50	0.06	0.09	0.02	16.82	100.00
8	Nandgaon ..	61.79	4.81	14.26	4.38	6.45	0.07	0.027	0.006	0.03	0.009	14.24	100.00
9	Malegaon ..	53.67	2.13	20.63	6.16	0.97	0.23	0.38	0.13	0.03	0.04	15.63	100.00
10	Baglan ..	51.84	3.22	13.19	6.21	2.25	0.40	0.36	0.38	0.15	0.3	22.47	100.00
11	Kalwan ..	34.70	6.10	2.62	6.59	6.29	4.02	0.42	0.40	0.24	0.07	38.55	100.00
12	Peint ..	....	0.02	....	0.02	0.40	17.97	0.36	....	....	....	81.23	100.00

AHMEDNAGAR.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreage.

A

No.	Name of Taluka.	Bajri.	Jowar.	Cotton.	Wheat.	Safflower.	Sesame.	Gram.	Linseed.	Groundnut.	Sugarcane.	Others.	Total area.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Nagar ..	72,509	122,778	15,361	7,255	16,224	5,943	1,860	295	677	$\frac{82}{43}$	32,084	274,518
2	Parner ..	1,47,217	76,178	1,310	17,798	13,935	951	2,018	267	434	$\frac{136}{882}$	68,334	823,508
3	Shrigonda ..	54,955	121,365	7,862	3,783	20,702	2,410	2,247	700	321	$\frac{42}{225}$	42,223	256,610
4	Karjat ..	44,434	76,566	17,553	1,862	11,414	4,045	1,583	337	411	$\frac{14}{72}$	28,582	189,301
5	Jamkhed ..	44,500	49,675	7,638	2,974	5,055	1,029	3,135	823	1,265	$\frac{9}{185}$	20,347	136,450
6	Shevgaon ..	60,371	55,862	83,948	3,523	3,164	8,944	6,155	1,307	7	$\frac{7}{178}$	18,134	241,422
7	Pathardi ..	68,686	22,303	30,772	1,386	1,584	3,581	1,400	549	91	$\frac{67}{278}$	19,183	169,892
8	Newasa ..	80,506	77,085	77,076	14,080	9,309	9,465	7,973	1,085	92	$\frac{51}{176}$	20,131	297,433
9	Rahuri ..	90,197	53,284	22,676	12,202	5,320	4,983	3,565	453	539	$\frac{453}{803}$	19,648	213,320
10	Kopergaon ..	138,163	31,928	6,035	50,486	4,066	6,063	4,817	1,026	1,651	$\frac{2,377}{6,214}$	81,035	277,652
11	Sangamner ..	188,293	16,761	1,911	3,582	667	9,138	1,136	55	552	$\frac{593}{852}$	46,878	269,566
12	Akola ..	58,776	6,907	....	5,418	485	221	5,765	1	290	$\frac{298}{410}$	86,857	165,018
	Total ..	1,068,812	712,687	272,742	124,324	91,925	56,773	41,244	7,398	6,330	$\frac{4,079}{10,394}$	423,436	2,814,750

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentage of crops.									
		Bajrl.	Jowar.	Cotton.	Wheat.	Safflower.	Sesamum.	Gram.	Linseed.	Groundnut.	Sugarcane
1	Nagar	6.78	17.23	5.63	5.84	17.65	10.47	3.30	3.99	10.70	$\frac{0.78}{0.41}$
2	Parner	13.77	10.69	0.48	14.31	15.16	1.67	4.89	3.61	6.85	$\frac{3.33}{8.54}$
3	Shrigonda	5.14	17.08	2.88	3.04	22.52	4.24	5.45	0.46	5.07	$\frac{1.02}{2.17}$
4	Karjat	4.16	11.02	6.43	1.50	12.42	7.12	3.84	11.31	6.49	$\frac{0.34}{0.69}$
5	Jamkhed	4.16	6.97	2.80	2.39	5.50	1.81	7.60	11.12	19.98	$\frac{0.22}{1.79}$
6	Shevgaon	5.65	7.82	30.78	2.43	3.44	15.75	14.92	17.66	0.11	$\frac{0.17}{1.72}$
7	Pathardi	8.82	3.13	11.28	1.11	1.72	6.30	3.61	7.42	1.44	$\frac{1.64}{2.69}$
8	Newasa	7.53	10.82	23.48	11.30	10.12	16.67	19.33	14.67	1.45	$\frac{1.25}{1.70}$
9	Rahuri	8.43	7.48	3.31	9.81	5.70	3.76	3.64	6.12	3.51	$\frac{11.15}{7.78}$
10	Kopergaon	12.93	4.43	2.21	40.60	4.42	10.68	11.68	13.87	26.08	$\frac{58.27}{60.18}$
11	Sangamner	17.61	2.35	0.70	2.88	0.72	16.09	2.75	0.74	3.72	$\frac{14.53}{8.25}$
12	Akola	5.50	0.97	....	4.36	0.53	0.33	13.98	0.00	4.58	$\frac{7.30}{4.03}$
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	$\frac{100.00}{100.00}$

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

Mo.	Name of Taluka.	Percentages.											Total.
		Bajri.	Jowar.	Cotton.	Wheat.	Safflower.	Sesamum.	Gram.	Linseed.	Ground-nut.	Sugarcane.	Others.	
		%	%	%	%	%	%	%	%	%	%	%	%
1	Nagar ..	26.41	44.72	5.59	2.64	5.81	2.16	0.49	0.10	0.24	0.01	11.7	100.00
2	Parner ..	45.49	23.54	0.40	5.50	4.80	0.29	0.62	0.03	0.13	0.01	19.6	100.00
3	Shrigonda ..	21.41	47.29	3.06	1.47	8.07	0.94	0.37	0.27	0.12	0.01	16.3	100
4	Karjat ..	23.47	41.50	9.27	0.98	6.03	2.14	0.43	0.44	0.22	0.007	15.1	100
5	Jamkhed ..	32.61	36.40	5.60	2.19	3.70	0.75	2.30	0.80	0.92	0.006	14.9	100
6	Shevgaon ..	24.99	23.15	34.77	1.46	1.31	3.70	2.54	0.54	0.008	0.008	7.5	100
7	Pathardi ..	52.32	13.12	18.11	0.81	0.93	2.11	0.88	0.32	0.05	0.04	11.3	100
8	Nevasa ..	27.06	25.91	26.11	4.72	3.13	3.18	2.68	0.36	0.03	0.01	6.8	100
9	Rahuri ..	42.23	24.97	10.63	5.72	2.49	2.33	1.67	0.21	0.25	0.21	9.2	100
10	Kopergaon ..	49.76	4.46	2.17	18.18	1.46	2.18	1.73	0.37	0.59	0.85	11.2	100
11	Sangamner ..	69.85	6.21	0.70	1.32	0.24	3.39	0.42	0.02	0.20	0.22	17.4	100
12	Akola ..	35.61	4.18	....	3.28	0.29	0.13	3.49	....	0.17	0.18	52.6	109

POONA.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreage.

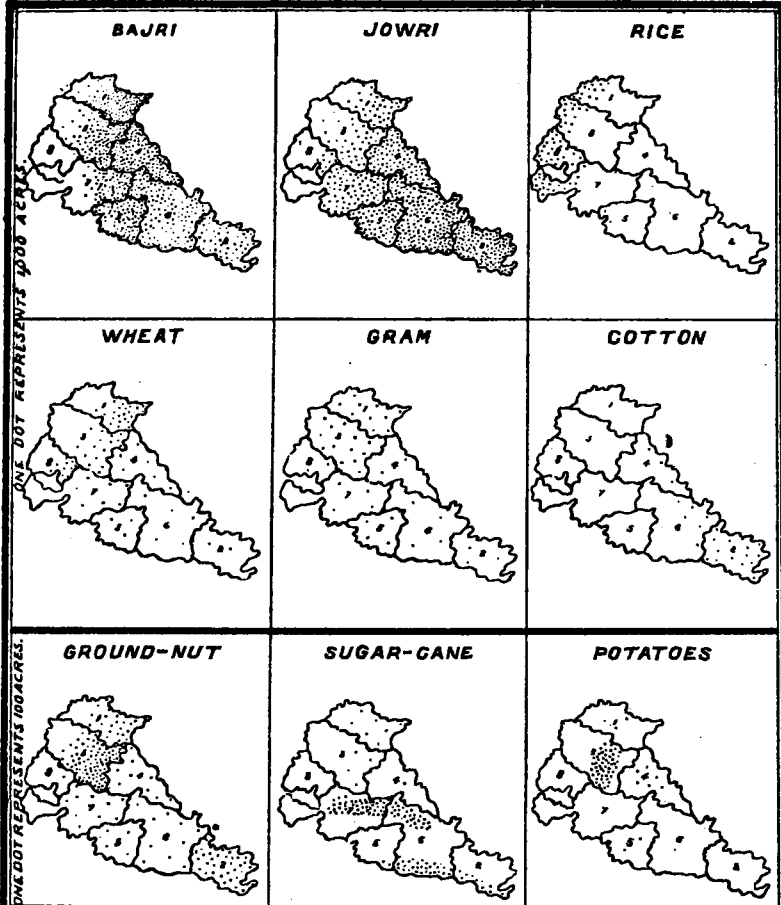
A

No.	Name of Taluka.	Bajri.	Jowar.	Rice.	Wheat.	Gram.	Cotton.	Ground-nut.	Sugarcane.	Potatoes.	Sesamum.	Others.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Junnar ..	119,664	33,580	12,687	23,468	10,259	....	2,238	<u>712</u> 1,298	269	81	44,047	247,028
2	Indapur ..	56,081	124,428	450	1,920	3,499	16,115	3,440	<u>1,027</u> 1,954	....	716	84,328	242,014
3	Khed ..	113,908	36,669	15,286	16,078	13,161	8	9,416	<u>450</u> 765	5,193	215	76,854	287,178
4	Sirur ..	134,013	88,464	13	6,142	2,011	3,342	985	<u>159</u> 685	617	1,486	49,713	286,945
5	Purandhar ..	83,900	64,568	2,478	2,992	4,025	1	421	<u>231</u> 1,098	222	238	84,658	193,839
6	Bhimthadi ..	145,927	198,194	1,285	4,794	4,641	6,244	1,025	<u>5,941</u> 6,548	6	1,844	56,923	426,824
7	Haveli ..	73,179	75,668	20,191	7,550	4,469	7	1,087	<u>4,620</u> 4,781	44	163	41,534	228,502
8	Mawal ..	2,173	10,876	21,892	10,722	2,496	3	126	<u>56</u> 78	54	....	22,539	70,937
	Total ..	728,985	632,462	74,282	73,686	44,561	25,720	13,736	<u>13,196</u> 17,207	6,345	4,743	360,506	1,993,262

The second figure given in each case under sugarcane represents the condition in 1917-18.

POONA

Fig. 35



Name of Talukas	A G R I C U L T U R E			I N T H O U S A N D S		
	WHEAT	GRAM	GROUND-NUT	WHEAT	GRAM	GROUND-NUT
1 JUNNAR	1	1	1	1	1	1
2 INDAPUR	2	2	2	2	2	2
3 KHED	3	3	3	3	3	3
4 SIRUR	4	4	4	4	4	4
5 PURANDHAR	5	5	5	5	5	5
6 BHIMTHADI	6	6	6	6	6	6
7 HAVELI	7	7	7	7	7	7
8 MAVAL	8	8	8	8	8	8
	RICE			COTTON		
1 JUNNAR	1	1	1	1	1	1
2 INDAPUR	2	2	2	2	2	2
3 KHED	3	3	3	3	3	3
4 SIRUR	4	4	4	4	4	4
5 PURANDHAR	5	5	5	5	5	5
6 BHIMTHADI	6	6	6	6	6	6
7 HAVELI	7	7	7	7	7	7
8 MAVAL	8	8	8	8	8	8

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentage of crops.									
		Bajri.	Jowar.	Rice.	Wheat.	Gram.	Cotton.	Groundnut.	Sugarcane.	Potatoes.	Sesame.
		%	%	%	%	%	%	%	%	%	%
1	Junnar	16.42	5.80	17.08	81.87	23.02	....	11.93	5.89 7.54	4.24	1.70
2	Indapur	7.69	19.67	0.60	2.60	7.85	62.65	18.36	7.78 11.35	....	15.09
3	Khed	15.62	5.79	20.58	21.82	29.53	0.08	50.25	3.41 4.44	80.89	4.53
4	Srur	18.38	13.99	0.02	8.33	4.51	12.99	5.25	1.20 3.98	9.72	31.33
5	Purandhar	11.52	10.21	3.33	4.06	9.03	00.04	2.24	1.75 6.38	8.49	5.02
6	Bhimthadi	20.02	31.85	1.73	6.50	10.41	24.27	5.47	45.02 38.05	0.09	38.88
7	Haveli	10.04	11.98	27.18	10.24	10.03	0.027	5.80	35.01 27.78	0.69	3.43
8	Maval	0.29	1.72	29.47	14.55	5.59	0.011	0.67	0.42 0.45	0.85	....
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00 100	100.00	100.00

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing how the gross cropped area of each Taluka is allotted to different crops the gross cropped area of each Taluka being represented by 100.

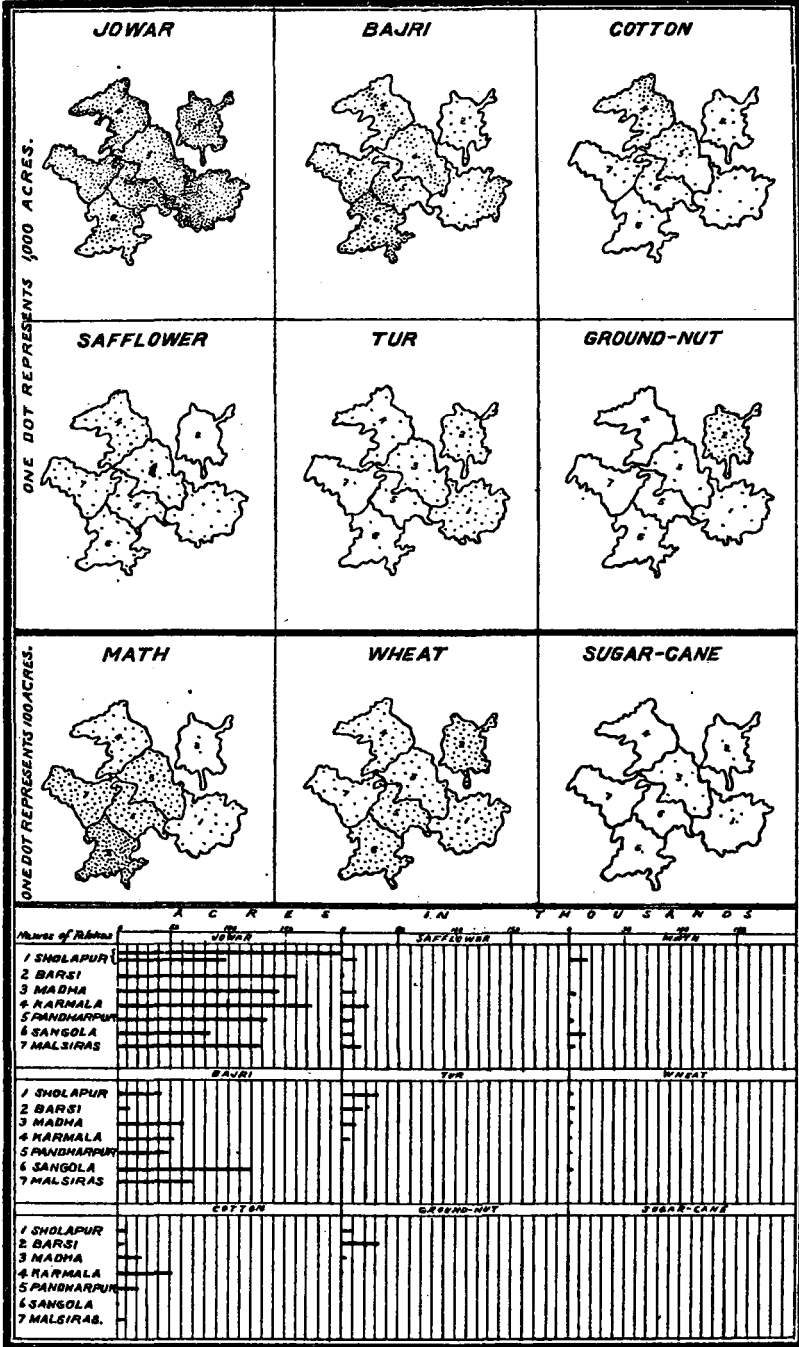
C

No.	Name of Taluka.	Percentage.											Total.
		Bajri	Jowar.	Rice.	Wheat.	Gram.	Cotton.	Ground nuts.	Sugarcane.	Potatoes.	Sesamum.	Others.	
		%	%	%	%	%	%	%	%	%	%	%	%
1	Junnar ..	48·44	13·59	5·13	9·51	4·15	....	0·90	0·29	0·10	0·03	17·86	100·00
2	Indapur ..	23·17	51·42	0·18	0·79	1·44	6·66	1·42	0·42	Nil	0·29	14·21	100·00
3	Khed ..	39·66	12·77	5·32	5·59	4·58	0·003	3·28	0·16	1·79	0·07	26·78	100·00
4	Sirur ..	46·70	30·83	0·004	2·14	0·70	1·16	0·34	0·05	0·22	0·50	17·36	100·00
5	Purandhar ..	43·33	33·32	1·28	1·54	2·07	....	0·21	0·12	0·11	0·11	17·91	100·00
6	Bhlmthadl ..	34·19	46·43	0·30	1·12	1·08	1·46	0·24	1·39	0·001	0·43	13·36	100·00
7	Havell ..	32·02	33·11	8·84	3·30	1·96	0·003	0·43	2·02	0·02	0·07	13·18	100·00
8	Mawal ..	3·06	15·83	30·86	15·11	3·52	0·004	0·18	0·08	0·07	....	31·79	100·00

100

SHOLAPUR

Fig 36



SHOLAPUR.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreage.

A

No.	Name of Taluka.	Jowar.	Bajri.	Cotton.	Safflower.	Tur.	Groundnut.	Math.	Hemp.	Wheat.	Sugarcane.	Others.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Sholapur ..	298,600	42,201	9,417	13,057	31,017	7,446	1,643	8,006	3,815	$\frac{419}{734}$	20,554	436,175
2	Barsi ..	159,472	13,617	7,509	1,692	17,227	34,529	294	5,329	5,296	$\frac{236}{616}$	31,081	276,282
3	Madha ..	144,492	60,807	25,884	13,331	13,654	4,437	5,878	9,001	2,083	$\frac{695}{502}$	19,852	300,124
4	Karmala ..	175,654	53,281	52,710	21,306	7,212	660	2,278	4,652	2,800	$\frac{22}{115}$	25,155	345,530
5	Pandharpur ..	135,823	48,652	11,792	10,668	1,778	639	4,469	1,089	2,918	$\frac{48}{518}$	12,676	230,547
6	Sangola ..	85,795	117,651	2,493	10,518	1,815	834	14,773	1,960	4,155	$\frac{143}{820}$	21,167	261,304
7	Malsiras ..	128,785	67,307	8,035	15,664	1,086	199	5,803	299	1,221	$\frac{9}{260}$	6,912	235,394
	Total ..	1,128,601	403,516	117,340	86,236	73,784	48,744	35,218	30,336	22,088	$\frac{1,566}{3,065}$	137,407	2,085,856

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Jowar.	Bajri.	Cotton.	Safflower.	Tur.	Groundnut.	Math.	Hemp.	Wheat.	Sugarcane.
		%	%	%	%	%	%	%	%	%	%
1	Sholapur ..	26.46	10.46	7.99	15.14	42.04	15.28	4.66	26.89	17.27	$\frac{26.75}{23.98}$
2	Barsi ..	14.13	3.37	6.87	1.96	23.85	70.84	0.83	17.57	23.97	$\frac{15.07}{20.09}$
3	Madha ..	12.80	15.07	21.97	15.45	18.51	9.10	16.69	20.67	9.43	$\frac{44.33}{16.37}$
4	Karmala ..	15.56	13.20	44.73	24.70	9.76	1.85	6.47	15.33	11.77	$\frac{1.40}{3.75}$
5	Pandharpur ..	12.03	12.06	10.00	12.37	2.40	1.31	12.69	3.59	13.21	$\frac{3.08}{16.89}$
6	Sangola ..	7.60	29.16	2.11	12.19	2.46	1.71	41.95	6.46	18.81	$\frac{9.13}{10.44}$
7	Malsiras ..	11.40	16.68	6.82	13.16	1.47	1.41	16.70	0.98	5.53	$\frac{0.19}{8.48}$
	Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	$\frac{100.00}{100.00}$

The second figure given in each case under sugarcane represents the condition in 1917-18.

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentages.											Total.
		Jowar.	Bajri.	Cotton.	Safflower.	Tur.	Groundnut.	Math.	Hemp.	Wheat.	Sugarcane.	Others.	
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Sholapur ..	68.46	9.68	2.16	2.99	7.11	1.71	0.38	1.84	0.87	0.09	4.71	100.00
2	Barshi ..	57.72	4.98	2.72	0.61	6.23	12.49	0.11	1.98	1.92	0.08	11.24	100.00
3	Madha ..	48.14	20.26	8.62	4.44	4.55	1.48	1.96	2.99	0.69	0.23	6.62	100.00
4	Karmala ..	50.84	15.42	15.26	6.14	2.09	0.19	0.66	1.35	0.75	0.006	7.28	100.00
5	Pandharpur ..	58.91	21.10	5.11	4.68	0.77	0.28	1.94	0.47	1.27	0.02	5.49	100.00
6	Sangolá ..	32.83	45.02	0.95	4.03	0.60	0.32	5.65	0.75	1.59	0.05	8.10	100.00
7	Malsiras ..	54.71	28.59	3.41	6.65	0.46	0.08	2.50	0.13	0.52	0.001	2.94	100.00

SATARA.

The following statement shows the distribution of important crops by Talukas.
 Figures in the following statement show actual acreage.

A

No.	Name of Taluka.	Jowar.	Bajari.	Groundnut.	Math.	Gram.	Wheat.	Kulci.	Sugarcane.	Tobacco.	Turner.c.	Other crops.	Area.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Satara	49,609	18,169	11,968	474	3,772	3,824	2,125	649 1,228	56	172	24,660	114,178
2	Jawali	19,605	1,634	4,485	33	1,199	3,879	701	170 376	....	56	37,037	68,799
3	Wai	40,138	34,494	2,172	3,403	3,447	3,809	4,428	376 825	9	352	25,476	118,104
4	Koregaon	47,843	40,098	5,547	1,447	7,103	4,089	4,850	251 527	59	239	20,432	131,938
5	Man	24,264	139,327	425	27,135	834	2,981	4,367	74 508	41	4	11,577	211,029
6	Khataw	44,802	97,204	3,125	11,262	7,528	6,476	8,400	483 2,171	180	72	21,565	201,095
7	Khanapur	66,004	56,018	5,899	11,178	6,386	6,834	6,732	796 1,508	148	1,342	26,316	187,603
8	Tasgaon	66,608	14,449	6,880	4,417	8,782	2,754	6,237	472 1,031	1,693	717	27,793	140,862
9	Walwa	78,180	3,441	14,702	2,556	13,679	7,329	2,533	2,433 3,774	4,743	887	71,478	201,911
10	Karad	61,419	15,718	18,007	1,763	4,986	1,952	2,051	2,294 3,512	1,221	1,644	24,257	135,312
11	Patan	26,481	1,188	18,005	5	1,572	1,780	246	535 1,282	16	200	57,931	107,959
	Total	523,803	421,740	91,215	63,733	59,236	45,487	42,670	8,533 16,742	8,166	5,685	348,522	1,618,790

The second figure given in each case under sugarcane represents the condition in 1917-18.

SATARA—continued.

Statement showing the distribution of important crops by Talukas; the distribution is shown by percentages.

B

4
5-14

No.	Name of Taluka.	Percentages of Crops.									
		Jowar.	Bajrl.	Groundnut.	Math.	Gram.	Wheat.	Kulthi.	Sugarcane.	Tobacco.	Turmeric.
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Satara ..	9.26	4.81	18.12	0.74	6.86	7.97	4.98	$\frac{7.61}{7.82}$	0.69	8.08
2	Jawal ..	8.74	0.39	4.92	0.05	2.02	8.58	1.64	$\frac{1.99}{2.24}$	....	0.98
3	Wal ..	7.66	8.18	2.88	5.84	5.82	8.37	10.37	$\frac{4.41}{4.92}$	0.11	6.19
4	Koregaon ..	9.13	9.50	6.08	2.27	11.99	8.94	11.37	$\frac{2.94}{3.14}$	0.72	4.20
5	Man ..	4.63	38.03	0.46	42.57	1.40	6.55	10.23	$\frac{0.86}{3.02}$	0.50	0.07
6	Khataw ..	8.55	23.61	3.43	17.67	12.72	14.24	19.69	$\frac{5.66}{12.96}$	2.20	1.27
7	Khanapur ..	12.60	13.28	6.47	17.54	10.68	15.02	15.77	$\frac{9.33}{9.02}$	1.81	23.61
8	Tasgaon ..	12.72	3.42	7.54	7.04	14.83	6.05	14.62	$\frac{5.53}{6.20}$	20.78	12.61
9	Walwa ..	14.92	0.84	16.11	4.02	23.07	16.12	5.94	$\frac{23.52}{22.54}$	58.08	15.60
10	Karad ..	11.72	3.73	19.75	2.77	8.44	4.29	4.82	$\frac{26.88}{20.98}$	14.97	28.92
11	Patan ..	5.07	0.28	19.74	0.09	2.65	3.02	0.57	$\frac{6.27}{7.66}$	0.19	3.52
	Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	$\frac{100.00}{100.00}$	100.00	100.00

The second figure given in each case under sugarcane represents the condition in 1917-18.

SATARA—concluded.

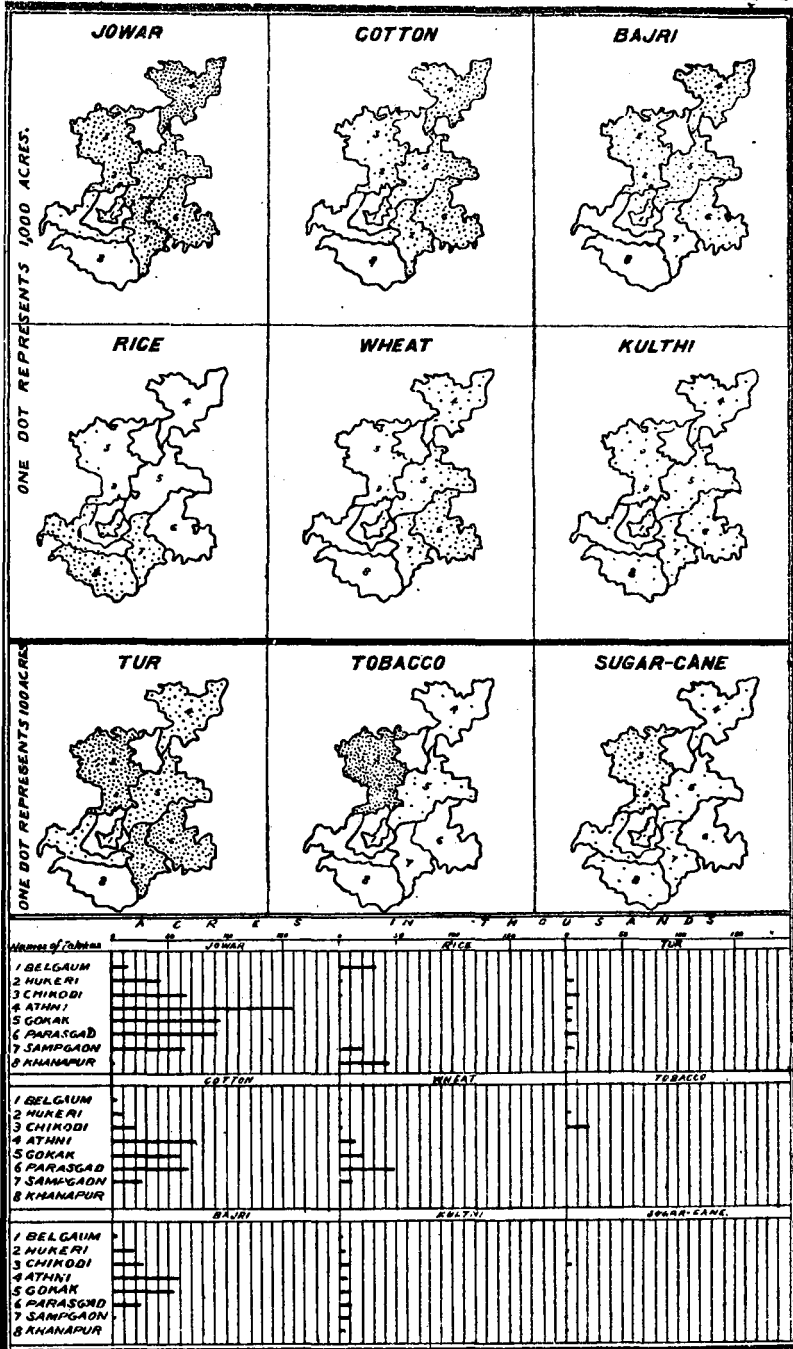
Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentages.											Total.
		Jowar.	Bajri.	Ground-nuts.	Math.	Gram.	Wheat.	Kulthi.	Sugarcane.	Tobacco.	Turmeric.	Others.	
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Satara ..	42.49	15.91	10.48	0.43	3.30	3.17	1.86	0.57	0.05	0.15	21.59	100.00
2	Jawali ..	28.50	2.37	6.52	0.06	7.74	5.64	1.02	0.24	0.00	0.08	53.83	100.00
3	Wai ..	33.98	29.21	1.84	2.88	2.92	3.22	3.75	0.32	0.08	0.30	21.60	100.00
4	Koregaon ..	36.26	30.39	4.20	1.10	5.38	3.08	3.67	0.19	0.04	0.18	15.51	100.00
5	Man ..	11.50	66.02	0.20	12.86	0.39	1.41	2.07	0.03	0.02	0.002	5.50	100.00
6	Khataw ..	22.28	48.34	1.55	5.60	3.74	3.22	4.18	0.24	0.09	0.03	10.73	100.00
7	Khanapur ..	35.18	29.86	3.14	5.96	3.37	3.64	3.59	0.42	0.08	0.72	14.04	100.00
8	Tasgaon ..	47.29	10.26	4.88	3.16	6.23	1.95	4.43	0.33	1.20	0.51	17.76	100.00
9	Waiwa ..	38.69	1.70	7.23	1.27	6.77	3.63	1.25	1.20	2.35	0.44	35.42	100.00
10	Karad ..	45.39	11.62	13.31	1.30	3.68	1.44	1.51	1.69	0.90	1.21	17.95	100.00
11	Patan ..	24.53	1.10	16.68	0.006	1.46	1.65	0.23	0.50	0.01	0.18	53.66	100.00

BELGAUM

Fig 38



BELGAUM.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreage.

A

No.	Name of Taluka.	Jowar.	Cotton.	Bajri.	Rice.	Wheat.	Kulthi.	Tur.	Tobacco.	Safflower.	Sugarcane.	Others.	Total.
		Acrea.	Acrea.	Acrea.	Acrea.	Acrea.	Acrea.	Acrea.	Acrea.	Acrea.	Acrea.	Acrea.	Acrea.
1	Belgaum ..	14,276	4,079	4,927	32,902	1,453	3,143	1,513	21	204	792 — 1,487	44,252	107,567
2	Hukeri ..	43,274	9,047	18,953	3,363	977	5,804	6,017	4,802	1,375	2,698 — 3,613	45,879	142,189
3	Chikodi ..	66,793	18,690	27,186	2,507	3,025	7,407	11,060	21,629	4,812	4,214 — 5,062	54,106	2 20,929
4	Athani ..	158,172	74,394	59,691	263	14,303	7,065	4,021	311	7,666	738 — 1,673	35,732	362,356
5	Gokak ..	95,219	58,780	55,455	287	20,700	10,245	5,239	1,025	3,880	756 — 1,278	50,860	302,456
6	Parasgad ..	92,125	66,739	25,633	101	47,218	11,243	10,129	34	7,466	159 — 294	43,436	304,282
7	Sampgaon ..	64,886	26,041	3,687	19,256	11,473	8,654	6,603	70	2,246	506 — 1,716	42,324	185,646
8	Khanapur ..	2,972	227	431	44,127	16	4,160	265	0	9	502 — 937	23,669	76,373
	Total ..	537,717	257,997	195,363	102,786	99,105	57,726	44,897	27,892	27,193	10,364 — 16,060	3,40,256	1,701,803

The second figure given in each case under sugarcane represents the condition in 1917-18.

BELGAUM—continued.

Statement showing the distribution of important crops by Talukas ; the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentages of crops.									
		Jowar.	Cotton.	Bajrl.	Rice.	Wheat.	Kulthi.	Tur.	Tobacco.	Safflower.	Sugarcane.
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Belgaum ..	2·66	1·58	2·51	32·01	1·47	5·45	3·37	0·08	0·75	7·64 9·25
2	Hukeri ..	8·05	8·51	9·68	3·27	0·99	10·05	13·42	17·22	5·06	28·03 22·49
3	Chikodi ..	12·42	7·24	13·88	2·44	3·05	12·83	24·63	77·55	15·89	44·66 31·51
4	Athani ..	29·41	23·83	30·47	0·28	14·42	12·24	8·93	1·11	23·25	7·12 10·41
5	Gokak ..	17·71	22·78	23·31	0·28	20·87	17·75	11·78	8·67	14·22	7·30 7·95
6	Parasgad ..	17·13	25·87	13·09	0·10	47·62	19·48	22·56	0·12	27·51	1·52 1·83
7	Sampgaon ..	12·06	10·10	1·83	18·73	11·57	14·99	14·71	0·25	8·23	4·88 10·68
8	Khanapur ..	0·55	0·07	0·22	42·93	0·01	7·21	0·59	...	0·03	4·84 5·83
	Total ..	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00 100

BELGAUM—concluded.

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentage.											Total.
		Jowar.	Cotton.	Bajarl.	Rice.	Wheat.	Kulthi.	Tur.	Tobacco.	Safflower.	Sugarcane.	Others.	
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Belgaum	18.27	3.79	4.58	30.59	1.35	2.93	1.41	0.02	0.19	0.73	41.14	100.00
2	Hukeri	30.43	6.36	13.33	2.36	0.69	4.08	4.23	3.38	0.97	1.90	32.26	100.00
3	Chikodi	30.23	8.46	12.30	1.13	1.37	3.35	5.00	9.79	1.95	1.91	24.51	100.00
4	Athani	43.65	20.53	16.47	0.07	3.95	1.95	1.11	0.09	2.12	0.20	9.86	100.00
5	Gokak	31.48	19.43	13.33	0.09	6.84	3.39	1.76	0.34	1.23	0.25	16.81	100.00
6	Parasgad	30.23	21.93	8.42	0.03	15.52	3.69	3.33	0.01	2.45	0.05	14.29	100.00
7	Samnagaon	34.95	14.03	1.93	10.37	6.18	4.66	3.56	0.04	1.21	0.27	22.80	100.00
8	Khanapur	3.39	0.30	0.56	57.77	0.02	5.45	0.35	0.00	0.01	0.66	30.99	100.00

BIJAPUR.

The following statement shows the distribution of important crops by Talukas.

[The figures in the following statement show actual acreage.]

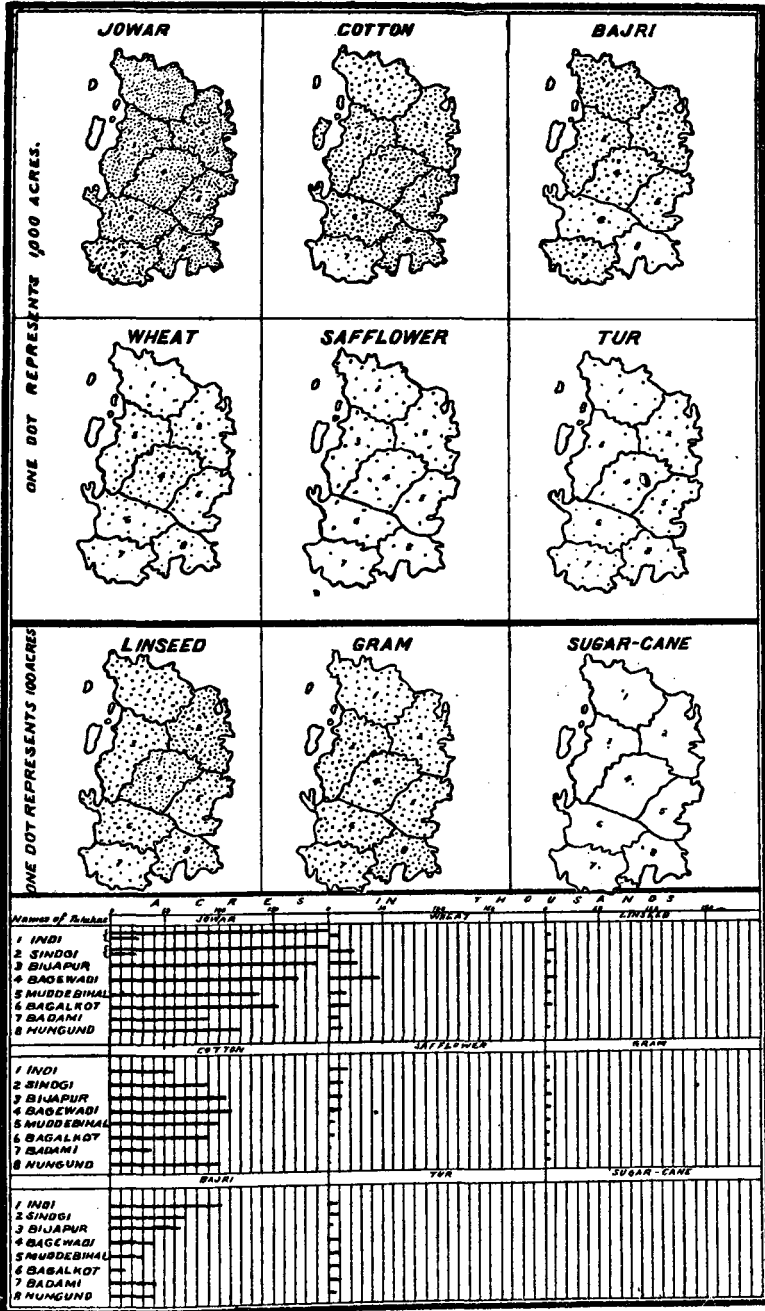
A

No.	Name of Taluka.	Jowar.	Cotton.	Bajri.	Wheat.	Safflower.	Tur.	Linseed.	Kulthi.	Gram.	Sugarcane.	Others.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Indi ..	226,627	57,605	108,588	9,547	16,109	7,668	5,674	1,662	4,149	142 — 380	16,820	44,954
2	Sindagi ..	222,317	88,681	69,224	24,034	13,097	11,033	11,183	3,570	4,449	81 — 160	22,269	469,888
3	Bijapur ..	189,888	106,946	66,797	26,658	12,526	3,233	4,456	3,508	5,933	97 — 422	15,298	435,070
4	Bagewadi ..	171,795	112,728	39,202	46,254	11,422	7,030	11,930	8,752	5,657	102 — 298	14,636	429,308
5	Mudebhal ..	137,887	98,780	30,412	16,277	4,000	10,285	4,842	5,176	4,070	18 — 71	9,940	321,687
6	Bagalkot ..	154,883	89,488	15,926	17,283	5,440	10,275	5,166	4,423	4,863	88 — 87	16,811	324,606
7	Badami ..	89,654	37,702	44,609	10,706	2,562	11,449	1,656	6,953	3,155	180 — 252	33,453	242,079
8	Hundgund ..	118,829	101,628	4,086	12,572	2,902	6,508	4,529	4,936	5,884	27 — 31	21,131	283,082
	Total ..	1,311,680	693,558	373,594	163,331	68,058	67,481	49,486	38,980	38,160	635 — 1,901	150,298	2,955,211

The second figure given in each case under sugarcane represents the condition in 1917-18.

BIJAPUR

Fig.39



BIJAPUR—continued.

Statement showing the distribution of important crops by Talukas ; the distribution is shown by percentages.

B.

No.	Name of Taluka.	Jowar.	Cotton.	Bajrl.	Wheat.	Safflower.	Tur.	Linseed.	Kulthl.	Gram.	Sugarcane.
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Indi ..	17·28	8·81	27·71	5·84	23·87	11·36	11·48	4·24	10·87	<u>22·86</u> 22·80
2	Sludagi ..	16·95	12·79	18·53	11·71	12	16·85	22·62	9·16	11·66	<u>4·88</u> 9·43
3	Bijapur ..	14·46	15·42	17·88	16·32	18·40	4·79	9·01	8·99	15·55	<u>15·27</u> 24·77
4	Bagewadi ..	13·10	16·25	10·44	23·32	16·78	10·42	24·13	22·45	14·82	<u>16·06</u> 17·52
5	Mudebhal ..	10·51	14·24	8·14	9·97	5·88	15·24	9·79	13·23	10·67	<u>2·83</u> 4·18
6	Bagalkot ..	11·81	12·90	4·26	10·58	7·99	15·22	10·45	11·36	12·74	<u>5·98</u> 5·13
7	Badami ..	6·83	5·44	11·94	6·55	3·76	16·97	3·35	17·84	8·27	<u>23·35</u> 14·80
8	Hundgund ..	9·06	14·65	1·09	7·69	4·26	9·64	9·16	12·66	15·42	<u>4·25</u> 1·82
	Total ..	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	<u>100·00</u> 100·00

The second figure given in each case under sugarcane represents the condition in 1917-18.

BIJAPUR—concluded.

Statement showing how the gross cropped area of each Taluka is allotted to different crops,
the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentages.											
		Jowar.	Cotton.	Bajri.	Wheat.	Safflower.	Tur.	Linseed.	Kulthi.	Gram.	Sugarcane.	Others.	Total.
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Indi ..	50·41	12·81	23·08	2·12	3·58	1·71	1·28	0·37	0·92	0·03	3·74	100·00
2	Sindgi ..	47·31	18·87	14·73	5·11	2·79	2·35	2·38	0·75	0·94	0·007	4·74	100·00
3	Bijapur ..	43·60	24·58	15·85	6·13	2·88	0·74	1·02	0·81	1·36	0·02	3·50	100·00
4	Bagewadi ..	40·02	26·26	9·08	10·77	2·66	1·64	2·78	2·04	1·82	0·02	3·41	100·00
5	Mudebhal ..	42·86	30·17	9·45	5·06	1·24	3·20	1·51	1·61	1·26	0·006	3·09	100·00
6	Bagalkot ..	47·71	27·57	4·91	5·82	1·67	3·17	1·59	1·36	1·50	0·01	5·18	100·00
7	Badami ..	37·03	15·57	18·43	4·42	1·06	4·73	0·68	2·87	1·30	0·07	13·82	100·00
8	Hundgund ..	41·98	35·91	1·44	4·44	1·03	2·30	1·60	1·74	2·08	0·01	7·46	100·00

DHARWAR.

The following statement shows the distribution of important crops by Talukas.
The figures in the following statement show actual acreage.

A

No.	Name of Taluka.	Jowar.	Cotton.	Wheat.	Rice.	Rala.	Kulthl.	Tur.	Chilles.	Mug.	Sugarcane.	Others.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Dharwar ..	42,078	29,261	18,911	19,187	6,265	6,879	3,986	689	2,089	$\frac{116}{388}$	16,252	145,719
2	Hubli ..	44,599	55,449	36,798	3,709	2,112	3,189	4,149	508	3,861	$\frac{15}{41}$	15,591	169,975
3	Navalgund ..	83,601	102,859	112,104	....	1,568	1,548	6,358	66	3,973	$\frac{8}{9}$	33,668	345,753
4	Gadag ..	109,091	118,608	51,870	136	19,288	6,337	9,279	370	9,945	$\frac{140}{357}$	38,077	363,141
5	Bankapur ..	47,063	39,028	5,004	17,361	7,294	6,642	4,020	614	3,853	$\frac{273}{423}$	18,080	149,232
6	Ranibenner ..	72,523	46,197	401	509	14,590	14,116	6,614	9,381	1,637	$\frac{54}{99}$	11,404	177,426
7	Hungul ..	13,441	10,365	82	45,889	5,146	6,728	1,802	1,331	3,275	$\frac{244}{1,115}$	14,045	102,148
8	Karajgi ..	81,242	65,189	1,256	2,966	14,190	12,246	6,624	3,994	7,458	$\frac{198}{377}$	15,499	210,362
9	Kalghatgi ..	12,599	4,308	38	36,501	1,073	1,915	1,424	464	1,173	$\frac{153}{458}$	9,669	69,317
10	Kod ..	38,522	12,332	38	27,381	5,728	19,014	4,002	31,185	3,840	$\frac{715}{1,978}$	30,808	167,365
11	Ron ..	67,858	83,270	36,863	78	4,443	732	4,149	79	3,539	$\frac{8}{34}$	22,089	223,156
	Total ..	612,617	566,866	283,365	153,717	81,607	73,396	52,207	48,676	44,643	$\frac{1,924}{5,284}$	224,980	2,124,088

The second figure given in each case under sugarcane represents the condition in 1917-18.

DHARWAR—continued.

Statement, showing the distribution of important crops by Talukas; the distribution is shown by percentages.

B

No.	Name of Taluka.	Average of Crops.									
		Jowar.	Cotton.	Wheat.	Rice.	Rala.	Kulthi.	Tur.	Chilles.	Mug.	Sugarcane.
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	
1	Dharwar ..	6·83	5·14	7·18	12·48	7·66	9·37	7·58	1·41	4·67	6·03
2	Hubli ..	7·23	9·69	13·97	2·41	2·57	4·34	7·94	1·03	8·65	7·34
3	Navalgund ..	13·66	18·49	42·60	....	1·91	2·10	12·38	0·13	8·90	0·77
4	Gadag ..	17·85	20·72	19·69	0·08	23·69	8·63	17·80	0·76	22·27	0·48
5	Bankapur ..	7·68	6·78	1·90	11·22	8·92	9·04	7·71	1·26	8·63	0·17
6	Ranibennur ..	11·83	8·14	0·15	0·33	17·85	19·23	12·60	19·27	3·66	9·27
7	Hungul ..	2·19	1·83	0·03	29·85	6·29	9·16	3·06	2·73	7·33	6·75
8	Karajgi ..	13·25	11·51	0·47	1·93	17·36	16·68	12·68	8·10	16·95	14·13
9	Kalghatgi ..	2·05	0·76	0·01	23·78	1·31	2·80	2·72	0·95	2·52	8·09
10	Kod ..	6·23	2·16	0·01	17·80	7·01	17·13	7·56	64·06	8·60	2·80
11	Ron ..	11·07	14·68	13·99	0·05	5·42	1·06	7·94	0·10	7·82	1·87
	Total ..	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	12·68
											10·29
											7·13
											7·95
											8·66
											87·15
											37·46
											0·41
											0·64
											100·00
											100·00

The second figure given in each case under sugarcane represents the condition in 1917-18.

DHARWAR—concluded.

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentage.											
		Jowar.	Cotton.	Wheat.	Rice.	Rala.	Kulthl.	Tur.	Chilles.	Mug.	Sugarcane.	Others.	Total.
1	Dharwar ..	Per cent. 28·80	Per cent. 20·08	Per cent. 12·98	Per cent. 13·16	Per cent. 4·23	Per cent. 4·72	Per cent. 2·73	Per cent. 0·47	Per cent. 1·43	Per cent. 0·07	Per cent. 11·33	Per cent. 100·00
2	Hubli ..	26·23	32·62	21·64	2·18	1·24	1·87	2·44	0·29	2·21	0·00	9·28	100·00
3	Navalgund ..	24·18	29·74	32·45	..	0·45	0·44	1·83	0·01	1·14	0·00	9·76	100·00
4	Gadag ..	30·04	32·66	14·28	0·03	5·31	1·74	2·55	0·10	2·73	00·03	10·53	100·00
5	Bankapur ..	31·53	26·21	3·35	11·63	4·32	4·45	2·69	0·41	2·40	0·18	12·32	100·00
6	Ranbennur ..	40·87	26·04	2·22	0·23	3·22	7·95	3·72	5·28	0·92	0·03	6·47	100·00
7	Hangul ..	13·15	10·14	0·03	44·92	5·03	6·58	1·56	1·30	3·20	0·23	18·81	100·00
8	Karajgi ..	38·62	30·91	0·59	1·40	6·72	5·70	3·14	1·87	3·53	0·09	7·58	100·00
9	Kalghatgi ..	18·17	6·21	0·05	52·65	1·54	2·76	2·05	0·66	1·68	0·22	14·01	100·00
10	Kod ..	23·01	7·30	0·02	16·36	3·42	7·82	2·39	13·63	2·29	0·42	13·34	100·00
11	Ron ..	30·40	37·31	16·50	0·03	1·90	0·35	1·85	0·03	1·58	..	10·05	100·00

THANA.

The following statement shows the distribution of important crops by Talukas.

Figures in the following statement show actual acreage,

A

No.	Name of Taluka.	Rice.	Nagh.	Varai.	Udid.	Kodra.	Niger seed.	Tur.	Wal.	Gram.	Sugar cane.	Others.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Shahapur ..	31,673	9,252	4,573	2,097	..	1,440	98	11	25	..	1,289	50,458
2	Murbad ..	29,646	9,325	2,923	2,643	..	1,364	102	46	188	..	1,693	47,930
3	Salsette ..	31,629	317	79	65	1	25	2	18	..	..	3,327	35,443
4	Bassein ..	32,789	1,433	192	591	259	55	175	787	188	$\frac{142}{136}$	8,532	40,143
5	Kalyan ..	36,353	2,040	658	317	..	264	67	489	473	..	928	41,589
6	Dahanu ..	51,725	6,845	1,364	2,183	7,544	594	1,948	1,978	221	$\frac{27}{48}$	4,461	78,820
7	Wada ..	26,541	16,738	6,038	2,493	..	2,799	1,714	18	281	..	1,162	57,784
8	Bhivandi ..	41,463	2,335	176	412	..	277	81	210	499	..	1,150	46,603
9	Mahim ..	44,731	1,825	489	1,013	306	111	285	835	174	$\frac{230}{326}$	985	50,484
	Total ..	326,550	50,110	16,492	11,764	8,110	6,929	4,472	3,892	2,049	399	18,487	449,254

The second figure given in each case under sugarcane represents the condition in 1917-18.

THANA—continued.

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentages of crops.									
		Bloe.	Nagl.	Varal.	Udid.	Kodra.	Niger seed.	Tur.	Wal.	Gram.	Sugarcane.
1	Shahapur ..	Per cent. 9·70	Per cent. 18·45	Per cent. 27·73	Per cent. 17·63	..	Per cent. 20·73	Per cent. 2·19	Per cent. 0·23	Per cent. 1·22	Per cent. ..
2	Murbad ..	9·07	13·61	17·72	22·47	..	19·63	2·23	1·13	9·17	..
3	Salsette ..	9·69	0·63	0·43	0·55	0·01	0·36	0·04	0·46	..	..
4	Bassein ..	10·04	2·36	1·16	5·02	3·19	0·79	3·90	20·22	9·17	35·59 26·66
5	Kalyan ..	11·13	4·07	3·99	2·69	..	3·81	1·50	12·56	23·08	..
6	Dahanu ..	15·84	13·66	3·27	13·13	93·02	3·57	43·56	50·32	10·79	6·76 9·41
7	Wada ..	3·13	33·40	36·61	21·19	..	40·40	33·33	0·46	13·71	..
8	Bhivandi ..	12·69	4·66	1·07	3·50	..	4·00	1·31	5·39	24·35	..
9	Mahim ..	13·70	3·64	2·96	3·61	3·73	1·60	6·37	3·61	3·43	57·65 63·92
	Total ..	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00

The second figure given in each case under sugarcane represents the condition in 1917-18.

THANA—concluded.

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentages.											Total.
		Rice.	Nagl.	Varal.	Udd.	Kodra.	Niger seed.	Tur.	Wal.	Gram.	Sugarcane.	Others.	
1	Shahapur ..	Per cent. 62·77	Per cent. 18·34	Per cent. 9·06	Per cent. 4·16	Per cent. ..	Per cent. 2·85	Per cent. 0·19	Per cent. 0·02	Per cent. 0·05	Per cent. ..	Per cent. 2·55	Per cent. 100·00
2	Murbad ..	61·85	19·46	6·09	5·61	..	2·84	0·21	0·09	0·39	..	3·54	100·00
3	Salsette ..	89·24	0·89	0·22	0·18	0·003	0·07	0·005	0·05	..	..	9·33	100·00
4	Basseln ..	81·68	3·57	0·48	1·47	0·84	0·14	0·48	1·96	0·47	0·35	8·80	100·00
5	Kalyan ..	87·41	4·90	1·58	0·77	..	0·68	0·16	1·18	1·14	..	2·23	100·00
6	Dahanu ..	65·62	8·68	1·73	2·70	9·57	0·75	2·47	2·50	0·28	0·03	5·66	100·00
7	Wada ..	45·93	28·97	10·45	4·81	..	4·84	2·97	0·03	0·49	..	2·01	100·00
8	Bhivandi ..	88·96	5·01	0·39	0·88	..	0·59	0·17	0·45	1·07	..	2·47	100·00
9	Mahim ..	88·80	3·61	0·97	2·00	0·61	0·22	0·56	0·66	0·34	0·46	1·95	100·00

KOLABA.

The following statement shows the distribution of important crops by Talukas.

The figures in the following statement show actual acreage.

A

No.	Name of Taluka.	Rice.	Nagl.	Varal.	Kodra.	Wal.	Udid.	Sesamum.	Tur.	Mug.	Niger seed.	Others.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Allbag ..	40,252	366	213	..	1,801	88	..	12	21	12	2,093	44,653
2	Pen ..	38,245	2,602	1,800	1	680	88	99	93	107	100	167	43,982
3	Panvel ..	52,342	913	555	..	789	80	207	71	171	13	920	55,961
4	Karjat ..	35,910	3,983	2,272	20	743	219	244	56	115	213	824	44,099
5	Roha ..	21,641	3,479	3,262	678	1,899	29	194	83	171	99	76	37,611
6	Mangaon ..	32,398	11,066	10,371	5,229	1,699	1,163	461	868	575	728	320	64,878
7	Mahad ..	34,156	19,238	12,655	3,054	1,025	2,011	1,223	862	550	162	89	75,025
	Total ..	254,944	41,647	81,128	8,982	9,386	3,623	2,428	2,045	1,710	1,327	3,989	360,209

KOLABA—continued.

Statement showing the distribution of important crops by Talukas ; the distribution is shown by percentages.

B

No.	Name of Taluka.	Rice.	Nagil.	Varal.	Kodra.	Wal.	Udid.	Sesamum.	Tur.	Mug.	Niger Seed.
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Alibag ..	15·78	0·88	0·68	....	19·09	2·29	....	0·58	1·23	0·90
2	Pen ..	15·001	6·25	5·78	0·01	8·11	2·43	4·08	4·55	6·26	7·54
3	Panvel ..	20·58	2·19	1·78	....	8·81	0·63	8·52	3·47	10·00	0·98
4	Karjat ..	14·09	9·54	7·30	0·22	8·86	6·04	10·05	2·74	6·72	16·05
5	Roha ..	8·48	8·35	10·48	7·54	22·64	0·80	7·99	4·06	10·00	7·46
6	Mangaon ..	12·71	26·57	33·82	58·21	20·26	32·10	18·98	42·44	33·62	54·86
7	Mahad ..	13·40	46·19	40·65	34·001	12·22	55·50	50·37	42·15	32·16	12·20

KOJABA—concluded.

Statement showing the gross cropped area of each Taluka is allotted to different crops,
the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentages.											Total.
		Rice.	Nagli.	Varal.	Kodra.	Wal.	Udd.	Sesamum.	Tur.	Mug.	Niger seed.	Others.	
1	Alibag ..	90·14	0·82	0·48	..	8·58	0·18	....	0·08	0·04	0·08	4·69	100·00
2	Pen ..	86·95	5·91	4·09	0·002	1·55	0·20	0·23	0·21	0·24	0·23	0·38	100·00
3	Panvel ..	98·58	1·68	0·99	....	1·82	0·05	0·86	0·18	0·81	0·02	1·64	100·00
4	Karjat ..	81·43	9·08	5·15	0·05	1·68	0·50	0·55	0·18	0·26	0·48	0·78	100·00
5	Roha ..	68·46	11·005	10·82	2·14	6·007	0·09	0·61	0·26	0·54	0·81	0·24	100·00
6	Mangaon ..	49·94	17·06	15·99	8·06	2·62	1·79	0·71	1·82	0·89	1·12	0·49	100·00
7	Mahad ..	45·52	25·64	16·87	4·07	1·37	2·68	1·68	1·15	0·78	0·21	0·12	100·00

RATNAGIRI.

The following statement shows the distribution of important crops by Talukas. The figures in the following statement show actual acreages.

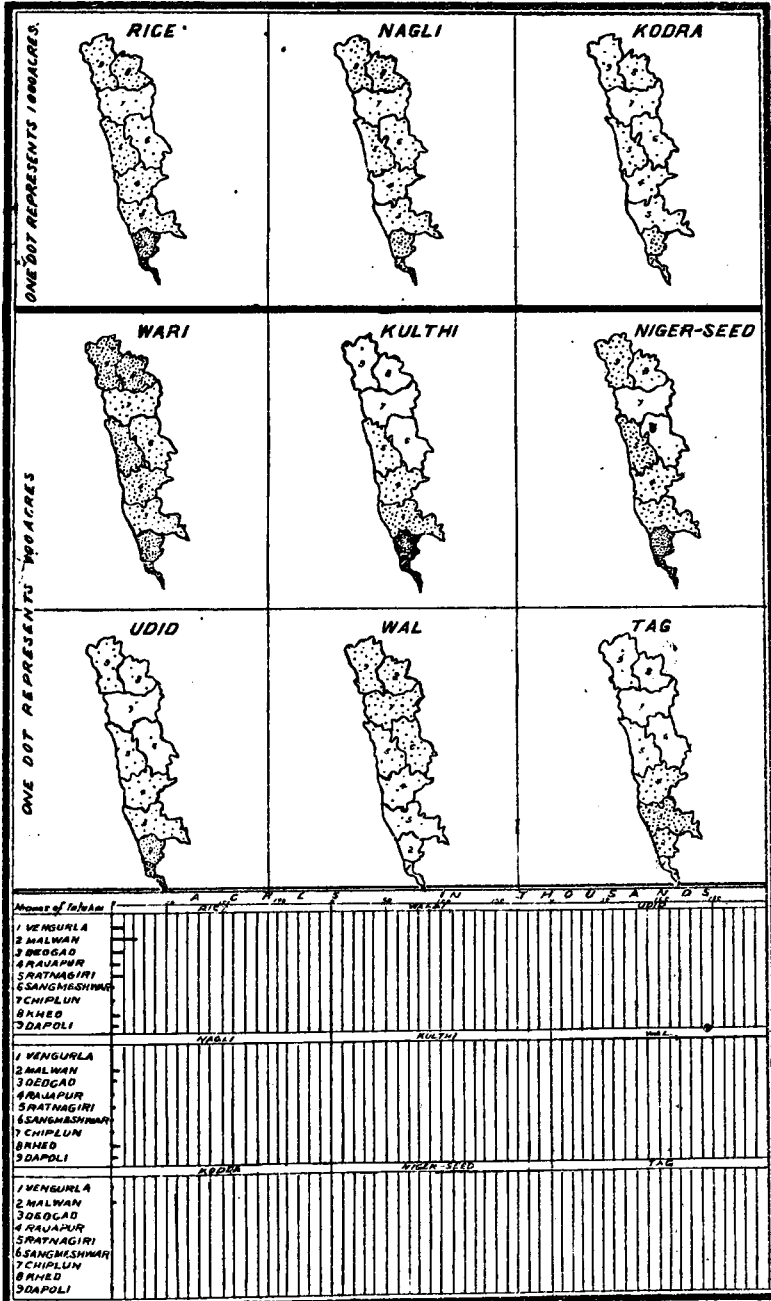
[Black figures represent the estimated acreage of the area for which regular statistics are not available.]

A

No.	Name of Taluka.	Rice.	Nagll.	Kodra.	Varal.	Kulthi.	Niger Seed.	Uddi.	Wal.	Tag.	Sugarcane.	Other crops.	Total cropped area.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Vengurla ..	8,275	1,862	949	369	1,199	746	775	..	52	13	4,125	18,365
		25,514	7,894	3,140	1,221	8,968	2,468	2,564	..	172	43 0	13,650	60,634
2	Malvan	28,064	6,575	4,314	1,667	5,392	1,891	1,122	25	275	371	4,439	49,185
		71,113	27,876	14,275	5,516	17,842	6,257	8,713	83	909	1,229 371	14,687	1,68,500
3	Devgad ..	9,067	4,156	1,502	1,000	1,665	883	478	94	1,581	103	886	21,415
		27,956	17,620	4,970	3,309	5,509	2,922	1,581	311	5,232	343 486	2,932	72,685
4	Rajapur ..	6,617	2,444	969	1,360	602	416	288	168	493	26	457	13,810
		20,402	10,362	3,206	4,500	1,992	1,377	887	556	1,598	86 106	1,512	48,478
5	Ratnagiri ..	9,298	4,518	2,839	2,256	398	1,386	204	268	85	15	1,136	22,408
		28,669	19,155	9,394	7,465	1,316	4,586	675	887	281	48 21	3,759	78,235

RATNAGIRI

Fig.43



6	Sangameshvar ..	3,209	2,719	1,460	749	20	158	33	490	2	6	89	8,935
		9,894	11,528	4,881	2,478	66	523	109	1,620	7	19	295	31,370
											16		
7	Chiplun ..	2,809	1,796	979	647	11	7	35	754	8	1	433	7,480
		8,061	7,614	3,240	2,141	37	23	116	2,497	27	3	1,433	25,792
											9		
8	Khed ..	7,181	6,451	2,281	2,175	1	216	97	392	19	..	93	18,906
		22,141	27,350	7,543	7,197	3	715	321	1,296	63	:	308	66,942
											3		
9	Dapoli ..	6,971	5,347	2,553	2,452	21	340	320	664	88	4	952	20,212
		21,494	22,669	8,443	8,114	70	2,780	1,059	2,197	291	13	3,150	70,285
											71		
	Total ..	76,491	35,808	17,346	12,675	9,309	6,543	3,332	2,855	2,593	539	12,610	1,80,661
		2,35,344	1,52,068	59,052	41,941	30,803	21,651	11,025	9,447	3,580	1,784	41,726	6,13,921
											1,093		

The second figure given in each case under sugarcane represents the condition in 1917-18.

RATNAGIRI—continued.

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Rice.	Nagl.	Kodra.	Varal.	Kulthi.	Niger seed.	Udid.	Wal.	Tag.	Sugarcane.
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Vengurla ..	10·82	5·19	5·82	2·91	12·88	11·40	23·26	0·00	2·00	2·41 0·91
2	Maivan ..	30·15	18·84	24·17	13·15	57·93	28·90	33·68	0·88	10·59	68·89 33·95
3	Devgad ..	11·85	11·59	8·43	7·89	17·85	13·50	14·34	3·29	60·95	19·23 44·47
4	Rajapur ..	8·65	6·81	5·43	10·72	6·47	6·36	8·05	5·89	18·63	4·82 9·69
5	Ratnagiri ..	12·16	12·60	15·91	17·80	4·28	21·14	6·12	9·39	3·28	2·69 1·92
6	Sangameshvar ..	4·19	7·59	8·18	5·90	0·22	2·42	0·99	17·15	0·09	1·06 1·47
7	Chiplun ..	3·67	5·00	5·48	5·11	0·13	0·11	1·05	26·43	0·33	0·17 0·82
8	Khed ..	9·39	17·98	12·78	17·16	0·01	3·33	2·91	13·72	0·73	0·00 0·27
9	Dapoli ..	9·12	14·90	14·30	19·36	0·23	12·84	9·60	23·25	3·40	0·73
	Total ..	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00 100·00

The second figure given in each case under sugarcane represents the condition in 1917-18.

RATNAGIRI—concluded.

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

C

No.	Name of Taluka.	Percentages.											Total.
		Bloe.	Nagil.	Kodra.	Varal.	Kulthi.	Niger seed.	Udd.	Wal.	Tag.	Sugarcane.	Other crops.	
1	Vengurla ..	42·08	18·02	5·18	2·01	6·55	4·07	4·23	0·0	0·28	0·07	22·51	100·00
2	Malvan ..	43·50	17·05	8·78	8·87	10·91	3·83	2·27	0·05	0·58	0·75	8·98	100·00
3	Devgad ..	38·46	24·24	6·84	4·55	7·58	4·02	2·18	0·43	7·20	0·47	4·08	100·00
4	Rajapur ..	48·90	22·29	6·90	9·68	4·29	2·96	1·91	1·20	8·44	0·19	3·25	100·00
5	Ratnagiri ..	37·61	25·18	12·82	9·79	1·73	6·02	0·88	1·16	0·37	0·08	4·98	100·00
6	Sangameswar ..	31·54	36·75	15·40	7·90	0·21	1·87	0·35	5·16	0·02	0·06	0·94	100·00
7	Chiplun ..	33·58	29·51	12·56	8·80	0·15	0·09	0·45	9·68	0·11	0·01	5·56	100·00
8	Khed ..	33·07	40·86	11·28	10·75	0·00	1·07	0·48	1·94	0·09	0·00	0·46	100·00
9	Dapoll ..	30·58	32·25	12·02	11·54	0·10	8·96	1·51	3·18	0·41	0·02	4·41	100·00

KANARA.

The following statement shows the distribution of important crops by Talukas.
The figures in the following statement show actual acreage.

A

No.	Name of Taluka.	Elce.	Betlenuts.	Miri pepper.	Nagll.	Sugar- cane.	Kulthi.	Udd.	Cardamom.	Chavil.	Mug.	other.	Total cropped Area.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1	Karwar ..	23,997	38	..	49	<u>203</u> 181	3	219	..	21	197	2,610	27,832
2	Ankola ..	16,363	880	26	165	<u>262</u> 242	10	346	7	119	181	2,376	20,735
3	Kumta ..	19,754	654	53	277	<u>214</u> 218	5	389	..	440	107	3,710	25,603
4	Honavar ..	25,455	1,686	89	834	<u>672</u> 765	318	518	..	589	320	6,319	36,75
5	Siddapur ..	12,475	6,383	2,123	42	<u>386</u> 368	30	97	736	..	8	2,159	24,439
6	Sirsi ..	19,245	5,795	1,820	89	<u>467</u> 644	208	90	550	3	12	2,462	30,541
7	Yellapur ..	20,538	2,419	297	174	<u>463</u> 300	195	70	100	6	30	2,193	26,480
8	Hallyal ..	35,459	169	2	1,495	<u>218</u> 226	1,265	10	2	2	36	2,876	41,534
Total ..		178,281	18,019	4,160	3,125	<u>2,885</u> 2,934	2,034	1,739	1,395	1,180	891	24,705	2,33,414

The second figure given in each case under sugarcane represents the condition in 1917-18.

KANARA—continued.

Statement showing the distribution of important crops by Talukas, the distribution is shown by percentages.

B

No.	Name of Taluka.	Percentages of Crops.									
		Rice.	Betlenuts.	Mirl.	Nagl.	Sugarcane.	Kulthi.	Udd.	Cardamom.	Chavli.	Mug.
		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Karwar ..	13·85	0·18	..	1·56	$\frac{7·04}{6·16}$	0·15	12·59	....	1·78	22·11
2	Ankola ..	9·44	4·88	0·62	5·28	$\frac{9·08}{8·24}$	0·49	19·89	0·50	10·08	30·81
3	Kumta ..	11·40	3·68	1·27	8·86	$\frac{7·41}{7·43}$	0·24	22·37	....	37·29	12·01
4	Honavar ..	14·69	9·36	0·94	26·69	$\frac{23·29}{26·07}$	15·68	29·79	....	49·91	35·91
5	Siddapur ..	7·20	35·42	51·03	1·94	$\frac{13·88}{12·20}$	1·48	5·58	52·76	....	0·89 +1
6	Sirsi ..	11·11	32·16	38·94	2·85	$\frac{16·19}{21·94}$	10·22	5·17	39·43	0·25	1·34 +1
7	Yellapur ..	11·85	13·42	7·18	5·57	$\frac{16·04}{10·22}$	9·58	4·02	7·17	0·51	3·87
8	Hallyal ..	20·46	0·94	0·05	47·84	$\frac{7·55}{7·66}$	62·19	0·57	0·14	0·17	4·04
	Total ...	100·00	100·00	100·00	100·00	$\frac{100·00}{100·00}$	100·00	100·00	100·00	100·00	100·00

The second figure given in each case under sugarcane represents the condition in 1917-18.

KANARA—concluded.

Statement showing how the gross cropped area of each Taluka is allotted to different crops, the gross cropped area of each Taluka being represented by 100.

0

No.	Name of Taluka.	Percentages.											Total.
		Rice.	Betelnut.	Miri.	Nagil.	Sugarcane.	Kulthi.	Udid.	Cardamom.	Chavli.	Mug.	others.	
1	Karwar ..	Per cent. 87·79	Per cent. 0·12	Per cent. ..	Per cent. 0·17	Per cent. 0·74	Per cent. 0·01	per cent. 0·80	Per cent. ..	Per cent. 0·08	Per cent. 0·72	Per cent. 9·54	Per cent. 100·00
2	Ankola ..	78·91	4·24	0·12	0·80	1·28	0·05	1·67	0·03	0·58	0·87	11·47	100·00
3	Kumta ..	77·15	2·55	0·21	1·08	0·84	0·02	1·52	..	1·72	0·42	14·49	100·00
4	Honavr ..	69·27	4·59	0·11	2·27	1·83	0·86	1·41	..	1·60	0·87	17·17	100·00
5	Siddapur ..	51·05	26·12	8·89	0·17	1·58	0·12	0·39	3·01	..	0·03	8·83	100·00
6	Sirsi ..	63·01	18·97	5·30	0·29	1·53	0·68	0·29	1·80	0·01	0·04	8·06	100·00
7	Yellapur ..	77·53	9·13	1·12	0·66	1·75	0·74	0·26	0·38	0·02	0·11	8·28	100·00
8	Haliyal ..	85·37	0·41	0·005	3·60	0·53	3·04	0·02	0·005	0·005	0·09	6·92	100·00

APPENDIX.

Glossary of Botanical, English and Vernacular names of crops.

Botanical Name.	English.	Marathi.	Gujarati.	Kanarese.
<i>I.—Cereals.</i>				
<i>Triticum</i>	Wheat	Gahu	Gehu	Godhi.
<i>Triticum Spelta</i>	Spelta Wheat	Khapli Jod		
<i>Sorghum vulgare</i>	Great millet	Jowari	Jowari	Jola.
<i>Pennisetum typhoides</i>	Bulrush millet	Bajri	Bajri	.....
<i>Zea mays</i>	Maize	Maka	Makai	Mekkejol Goingol.
<i>Orvza sativa</i>	Rice; Paddy	Bhat	Danga	Bhatja.
<i>Eleusine coracana</i>		Nagli or Na- chani	Bavto	Ragi.
<i>Panicum millaceum</i>		Vari	Gadlo, Kurl	Save, Baragu
<i>Panicum millare</i>		Sava	Cheno	....
<i>Hordeum vulgare</i>	Barley	Satu	Do.	Jave godh.
<i>Paspalum acrobiculatum</i>		Kodra	Kodra	Harik.
<i>Setaria italica</i>		Bala	Kang	Navani, Bala
<i>Panicum crusgalli</i>		Berti	Banti	Do.
<i>II.—Pulses.</i>				
<i>Cajanus indicus</i>	Pigeon-pea	Tur	Tuver	Togari.
<i>Vigna catieng</i>	Oow-pea	Chavall	Chola	Alsandi.
<i>Dolichos biflorus</i>	Horse-gram	Hulga	Kulthi	Hulke.
<i>Dolichos lab-lab</i>	Indian bean	Wal or Pawta	Wa	Avare.
<i>Cyamopsis psoralioides</i>	Custer bean	Guwar	Guwar	Chivali Raj.
<i>Phaseolus mungo</i>	Green gram	Mug	Mag	Hesaru.
<i>Phaseolus aconitifolius</i>	Kidney bean	Matki	Math	Madaki.
<i>Phaseolus mungo var radiatus</i>	Black gram	Udid	Adad	Uddu.
<i>Lathyrus sativus</i>	Chickling vetch	Lakh	Lang	....
<i>Lens esculenta</i>	Lentil	Masur	Masur	Channangi.
<i>Pisum sativum</i>	Peas (white)	Vatana	Vatana	Batagadle
<i>Cicer arietinum</i>	Gram	Harbara	Chana	Kadle.
<i>Oil Seeds.</i>				
<i>Arachis hypogaea</i>	Groundnut	Bhaimug	Bhoising	Bhaimug
<i>Guizotia abyssynica</i>	Niger seed	K a r l a o r Khurasani.	Ramtal	Gurellu.

APPENDIX—continued.

Botanical name.	English.	Marathi.	Gujarati.	Kanarese.
<i>Oil Seeds—continued.</i>				
<i>Sesamum indicum</i> ..	Sesamum ..	Til ..	Tal ..	Yellu.
<i>Ricinus communis</i> ..	Castor ..	Erand ..	Divel ..	Audla.
<i>Linum usitatissimum</i> ..	Linseed ..	Javas ..	Alsi ..	Agashi
<i>Carthamus tinctorius</i> ..	Safflower ..	Kardai ..	Kasambi ..	Kusubi.
<i>Gossypium</i> ..	Cotton ..	Kapas ..	..	..
<i>Others.</i>				
<i>Nicotiana Tabacum</i> ..	Tobacco ..	Tambakhu ..	Tamakhu ..	Hogesoppu Tabaku.
<i>Saccharum officinarum</i> ..	Sugarcane ..	Us ..	Sherdi ..	Kabbu.
<i>Vegetables.</i>				
<i>Dioscorea bulbifera</i> ..	Yam ..	Konfa Goradu ..	Goradu ..	Heggenasu.
<i>Curcuma longa</i> ..	Turmeric ..	Halad ..	Halдар ..	Arshana Beru.
<i>Zingiber officinale</i> ..	Ginger ..	Ale ..	Adu ..	Alla
<i>Allium cepa</i> ..	Onion ..	Kanda ..	Dungri Kando.	Ullegaddi.
<i>Allium sativum</i> ..	Garlic ..	Lasoon ..	Lasan ..	Bellohi.
<i>Daucus carota</i> ..	Carrots ..	Gajar ..	Gajar ..	Gajjar
<i>Raphanus sativus</i> ..	Radish ..	Mula ..	Mulangi ..	Muri.
<i>Solanum melongena</i> ..	Brinjal or egg plants.	Vangi ..	Vengan ..	Badnikai.
<i>Capsicum sp.</i> ..	Chillies ..	Mirchi ..	Marcha ..	Menashinakal.
<i>Hibiscus esculentus</i> ..	Lady's finger ..	Bhendi ..	Bhnda ..	Bhendekai.
<i>Cucurbitaceae sp.</i> ..	Cucurbits ..	....	....	....
<i>Trigonella fœnum græcum.</i> ..	....	Methi ..	Methi ..	Menthic.
<i>Amarantus paniculatus</i> ..	....	Rajgira ..	Rajagro ..	Rajgiri.
<i>Amarantus mangos tanus.</i> ..	....	Pokla ..	....	....
<i>Rumex vesicariu</i> ..	....	Chuka ..	....	....
<i>Chenopodium album</i> ..	....	Chakwat ..	....	....
<i>Brassica oleracea</i> ..	Cabbage ..	Kobi ..	Pangoli ..	Kobi gaddi.
<i>Brassica caulocarpa</i> ..	Cauliflower ..	Fulvar ..	....	....
<i>Brassica botrytis</i> ..	Knol khol Khol rabi.	Kaval nol ..	....	....
<i>Beta vulgaris</i> ..	Beet or Beet- root.	....	....	....
<i>Lycopersicum esculentum</i> ..	Tomatoes ..	Bailwangi ..	Vilaiti vangan ..	Ch a p p a badnikai.
<i>Solanum tuberosum</i> ..	Potato ..	Batata ..	Batata ..	Batata.
<i>Impomaea batatas</i> ..	Sweet potato ..	Ratall ..	Sakarla ..	Genasu.

APPENDIX—concluded.

Botanical name.	English.	Marathi.	Gujarati.	Kanarese.
<i>Fruit Trees.</i>				
Citrus medica Var acida ..	....	Limbu	.. Limbu	.. Limbe.
Citrus medica Aurantium ..	....	Narangi	.. Narangi	.. Kittale
Ficus Carica ..	Fig	.. Anjir	.. Anjir	.. Anjuri
Mangifera Indica ..	Mango	.. Amba	.. Ambo	.. Ma v i n h a n n u Mavu.
Musa paradisiaca ..	Banana tain, plan-	Kele	.. ....	Balehannu.
Psidium Guyava ..	Gnava	.. Peru	.. Jamrukh	.. Peral hannu. Shebe hannu,
Punica Granatum ..	Pomegranate	.. Dalimb	.. Dadum	.. Dalimba
Vitis Vinifera ..	Grape	.. Draksha	.. Draksh.	.. Drakh.

Glossory of technical agricultural terms.

Term.	Explanation.
Kharif	The term is applied to such crops as are grown in rainy season.
Rabi	The term is applied to such crops as are grown in winter.
Jirayat	The term is applied to crops grown without irrigation.
Bagayat	The term is applied to crops grown with irrigation.
Phusa	Chaff left after the trodding out of the grain under the feet of bullocks on threshing flour.
Rab	It is a term expressing the preparation of seed bed for Rice or other millets in the heavy rainfall tract by burning cowdung, tahal and grass arranged in layers one over the other.
Tahal	Branch loppings of trees.

CHECKED
2003-04