

CHAPTER IV.

PRODUCTION AND DISTRIBUTION.

SECTION A.—GENERAL STATISTICS OF AGRICULTURE.

Chapter IV, A.
General Statistics
of Agriculture.

Table No. XIV gives general figures for cultivation and irrigation and for Government waste land, while the rainfall is shown in Tables III, III A, and III B. Table XVII gives statistics for Government estates. Table XX gives the areas for the principal staples, and Table XXI the average yield for each. Statistics of live stock will be found in Table No. XXII. Further statistics are given under their various headings in the subsequent paragraphs of this chapter.

Soils.

The soils of the district have been already described. In the district, as a whole, the amount of moisture which can be obtained is of far more importance than the class of soil in which cultivation is carried on.

The soils of the tract may be broadly classified into three divisions :— (1) a fairly heavy, and in parts, hardish loam (*kathi* or *karrī*) which is known as *rausli* in the Delhi direction, and *nivān* in the Budlada tract ; (2) a light shifting sandy soil called *bhūr* or *tiba* (hillock) the latter term referring to the undulating character of the ground in which it is found ; (3) a very heavy clay (*sotar*) which becomes as hard as iron and impossible to till except when flooded. Of the two former classes the loam (*kathi*) is generally preferred, but in a district where rainfall is precarious, the light sandy soil has its advantages. As is well known, less moisture is requisite for germination and growth in it than in a loamy soil, and in consequence a crop of some sort or other will grow in it on a scanty rainfall under which the heavier loam would remain unsown, but with a fair supply of moisture the latter will give a crop far superior to any thing that can be taken from the former. Owing, moreover, to the greater evaporation from light soil more frequent falls of rain are required to renew moisture than is the case in the more loamy soil.

In the tract in which light soil is mostly found sandy hillocks (*tibas*) are intermixed with loamy valleys (*tal*) the soil of which benefits somewhat by the drainage from the sandy hills. Some of the most fertile spots in the district are those which consist of loamy soil in proximity to a piece of waste land of higher level (*upráhan*). The shifting nature of the sandy soil, as already noticed, renders agricultural operations in it difficult as the seed is apt to be choked with blown sand.

The manner in which the hard *sotar* clay is flooded by the Ghaggar and Joiya has already been noticed, and it has been shown how in Tahsil Fatabahád the stream is confined in a comparatively narrow channel in consequence of which the flood waters are deeper and the soil emerges less early than in Sirsa where the spread of the water is much greater and the flood shallower in consequence of which Kharíf crops can be grown on some of the flooded area.

Of the hard *sotar* clay there are three varieties, depending not on their intrinsic qualities but on their relative levels with reference to the flood water.

The soil which is situated lowest is called *dábar* and is found in low-lying depressions at a greater or less distance from the main stream and connected with it by natural channels (*phats*) or very often by artificial water-courses or *nalas*, and these depressions are generally utilized as *kunds* or rice beds, the supply of water to which is regulated by artificial embankments. The land which is slightly higher than this is generally devoted to gram sowings, as the large amount of *dúh* grass and weeds found in it render it unfit for wheat cultivation.

The land at a higher level still including the highest land touched by the floods is comparatively free from grass and weeds and is called "*mahra*." It is devoted, if possible, to the cultivation of wheat, or wheat and gram, or barley. Being the highest flooded land it of course emerges soonest and dries quickest, so that when the floods fall early the moisture (*ál* or *vattar*) left will evaporate before the time for wheat sowing in November and December, and in this case gram will be sown as in the lower levels which emerge later and remain moist longer. In fact in the latter a fairly good crop of gram, sown in September, will be obtained in any year in which the floods are not extraordinarily early in time and small in amount. Wheat is sown in the lower levels also, if sufficiently free of weeds, and if the floods are suitable in time.

The amount of rainfall is a matter of primary importance in a district in which over 90 per cent. of the cultivation is unirri-
Seasons and rain-
fall.

gated; and given the amount much depends on its distribution over the various seasons. The summer rains should begin towards the end of June, and the maximum rainfall should occur in that month and in July, and there should be fairly heavy showers in August and September. The ideal rainfall for the district would perhaps be as follows. A very heavy fall in Har (June and July) and fairly heavy ones at intervals throughout Sawau and Bhadon (middle of July to middle of September). There should also be some rain in Asauj (September-October).

On the rainfall of June and July depend the sowings of all the Kharíf crops, and that of August and September is no less important, for on it are dependent the ripening of the Kharif and the sowing of the Rabi in unirrigated and unflooded tracts,

Chapter IV, A.

General Statistics
of Agriculture.Seasons and rain-
fall.

Without fair showers in the winter months from December to February the Rabi will not ripen, if it does not fail altogether.

The zamíndárs estimate the rainfall by the number of finger breadths (*ungal*) to which the moisture (*al*) penetrates into the subsoil. A rainfall of 100 *ungals* in the summer and autumn is supposed to supply all the moisture which is requisite for the husbandry both of the Kharif and Rabi. A striking peculiarity of the rainfall of the district is its partial distribution locally, in some cases certain villages will have rain sufficient for sowing, while the lands of contiguous villages will lie untilled.

The year is divided into three seasons; the hot weather (*garmiyán*) from Phagan (February-March) to Jeth (May-June), the rains (*chaumása*) from Har (June-July) to Asauj (September-October), and the cold weather (*siyál*) from Kátik (October-November) to Mah (January-February).

Agricultural year

Preparations for the new agricultural year are made in Jeth, *lanas* are formed and land is then taken on rent for the year; but the commoner practice in unirrigated lands is for the latter to be delayed till the nature of the seasonal rainfall is known. Plough cattle are purchased prior to this at the fairs in Chait.

Where there is canal irrigation agricultural operations commence in Chait (March-April), with the preparation of the soil for the cotton (*bári*) crop by watering and ploughing and by the subsequent sowing of the crop. In irrigated lands *jowár* for fodder (*charri*) and a little indigo are also sown about this time or a little later. If there is a good fall in March an early *bájra* crop will be sown in *bárání* lands, as was extensively done in the present year 1891-92; and cotton will also be sown in unirrigated lands. On the first fairly heavy fall of rain in the latter end of Hár (June-July) ploughing and the sowing of Kharif crops is commenced with the utmost vigour in *bárání* lands. If there have been fairly good rains in the previous winter a large area will have already received a preliminary ploughing for the Kharif.

If the rain comes fairly early in the last half of June, *bájra* (spiked millet) and *múng* will be the crops first sown. If the rain continues *jowár* (great millet) and other pulses such as *moth* and *másh* will be sown in Sāwan (July-August). If the rains are delayed till the end of June or beginning of July, *bájra* and the pulses *moth*, *mung* and *másh* will be sown intermingled and probably also *jowár* and perhaps *til*. If the rains are very late and it is certain that if the first sowings fail there will be no time for further ones, all the unirrigated Kharif crops, both millets and pulses, will be sown intermingled in the hope that some at least will ripen. In canal irrigated lands the zamíndár will sow a little *jowár* during July (Hár Sāwan) as fodder for his cattle. When the Kharif crops have been sown the zamíndár in *bárání* tracts will, if there is promise of rain for

sowing, turn his attention to the preparation of some portion of his holding for Rabi crops, and in irrigated lands this is of course being carried on daily. In the flooded lands the cultivator is at this time, Sawan (July-August), engaged in sowing his rice crop supposing that the floods are favourable. If there is a good shower in Sawan Bhadon (August or early days of September) *jowár* and *moth* mixed will be sown in *báráni* tracts, especially if the rain has not been favourable for the earlier Kharif crops. In Bhadon (August-September) the Kharif crops have to be weeded and guarded by day against the depredations of birds and at night against those of animals.

Chapter IV. A.
General Statistics
of Agriculture.
Agricultural year.

If there is a fairly good fall in the early days of Asauj (September-October) a large *báráni* area will be sown with gram (*chana*) and *sarson* (mustard seed) mixed, or if the fall comes later in the end of Asauj or the beginning of Kátik, corresponding to the end of October, they will be sown mixed with unirrigated barley. In the flooded tract in places where the soil dries up quickly, gram is sown during the first half of the month and gram and barley mixed (*bejhar*) towards the end, while if the moisture is retained well up till Kátik (October) *gochani* (gram and wheat) is sown. Meanwhile on lands irrigated either from the canal or from wells the zamíndár has been diligently preparing his land by ploughing and watering for the Rabi wheat crop, but little barley is sown on such lands.

By this time the Kharif crops should have ripened if the sowing rains were fairly up to time. On the canal the *charri* (fodder) is cut from the middle of Asauj in to Kátik corresponding to the end of September or beginning of October. The cotton pickings begin in Kátik (October-November) and continue at intervals up to the middle of Poh, *i. e.*, the end of December, both in irrigated and unirrigated lands. All the unirrigated Kharif crops and the rice in flooded lands ripen in Kátik unless the season is an unusually late one. They are then cut, and if the zamíndár has no Rabi crops to sow are threshed and winnowed at once. Often, however, under a press of work the crops are cut and stacked in the fields and threshed at leisure afterwards.

Meanwhile the cultivator of canal or well-irrigated land begins to put in his wheat crop. From the end of Kátik, corresponding to the first ten days of November, sowings continue as the preparation of the fields is successively completed up to the end of Mangsír, corresponding to the middle of December. The cotton pickings are in the interval being completed and some land prepared for the tobacco crop in irrigated tracts. In Mangsír (November-December) the threshing of the Kharif crops is completed if this has not been done before, and in Poh (December-January) and Máh (January-February) tobacco is sown and transplanted in the irrigated tracts and the wheat crop is watered.

that the Hariána cows are crossed. The Farm bulls are purchased by the authorities in the surrounding districts, and distributed for breeding purposes among the zamíndárs and appear to be greatly appreciated. The Farm lands lie east, north and west of the town of Hissár. The boundary is marked by masonry pillars and part of it runs through part of the town itself. There are three farms, the Home, the Salli and the Chaoni. The Home farm lies east of the town about 200 yards from the Mori gate and is the oldest of the Farm buildings, having been erected at the time of the original institution of the Farm. The Salli farm is about 5½ miles to the north-west and the Chaoni farm about 2 miles to the south-west of the town. The soil of the Farm lands is generally loamy.

Chap. IV, B.
Gene
ma Ani-
Cattle Fax

Besides grasses the Bír abounds with *jal*, *kair*, *jand* and *ber* trees (wild plum), the first predominating; all of these bear fruit. The fruit of the *jal* tree is called *pilu*, and is much eaten by the poor people. The fruit of the *kair* tree is called *tent*, and is used by the people generally for pickling; when young and green it is like capers, when ripe it is called *pinju*, and, being of a sweetish flavour, is eaten by the poorer classes. The fruit of the *jand* is called *sangar*, resembling a bean; when tender and green, it is used as a vegetable. The *ber* tree (*stzyhpur jujuba*) or wild plum has a fruit like the cherry. The fruit also is called *ber*. The dried leaves, called *pala*, are excellent fodder.

The present strength of cattle in the Farm is given in the margin. A certain number of

Cattle.	Number.
Herd bulls	70
Other bulls	27
Cows	3,426
Ploug h bulls	96
Ordnance bullocks	20
Bull calves	1,017
Heifer calves	1,942
Young bullocks	165
Rams	58
Sheep	127
Lambs (male, female)	258
Mares	122
Camels	47
Army transport bullock	207
Ewes ... ..	...
Goats	106
Mules	273
Total	8,537

bull calves are reserved for breeding purposes, some to recruit the Farm stock and others for distribution to districts and village proprietors. The rest are castrated and kept separately from the other cattle. When they are four years old a careful selection is made, and those that are fit for the purpose of Artillery draught are made over to the Commissariat Department at Ferozpur. The heifer calves are reserved at the farm

for breeding purposes. As many as are rendered unfit for such, whether by age or by natural faults, are cast and sold by public auction.

In the villages a promising young steer is often kept and reared by the zamíndárs. When a full grown bull (*kháqar*) he is considered the common village property. He is allowed to wander about at leisure and does no work. He covers the village cows and what fodder is required for him is provided out of the village *malba*.

Private Bulls.

Chapter IV, B.
Domestic Animals.
Sheep and Goats.

Sheep and goats, especially the former, have, during late years, increased largely and are now kept in very considerable numbers by the zamindárs. In many cases the rearing of sheep has become a regular industry with the Chamárs and Dhanáks of the villages. A man will take a few sheep from a town butcher (*kassáb*) or trader (*byopari*) and will rear them for him pasturing them on the common village waste. In return for his trouble he keeps half the lambs born, the other half going to the trader. Sheep are greedy feeders and eat much of the *pala* on the waste besides doing damage to trees. The proprietors in many villages object to their presence, and there is now a general wish to raise the grazing fees levied for them which have hitherto been one or two annas per annum. The usual price of a sheep is from Re. 1 to Rs. 2.

Sheep breeding from Government rams is confined to the Cattle Farm at present.

Horses and Mules.

The local breed of horses is in no way above the average as camels are largely used for riding purposes; still good animals are sometimes to be had.

Horse breeding on the branded mare system was introduced in the Hissár District in the winter of 1882-83. There are now 276 branded mares. There are two horse stallions in the district; one at Hánsi, the property of Government, and one at Hissár, the property of the District Board. They are under the charge of a Zilladár paid from provincial funds and two salotris entertained by the District Board. The Horse Breeding Department exercises a general superintendence and control. Operations have been fairly successful. There are no horse fairs.

Mules.

There are three donkey stallions in the district; one at Hissár, the property of Government, and one each at Sirsa and Fatehá-bád, the property of the District Board; but little mule breeding is carried on except at the Hissár Cattle Farm. A mule is very rarely seen in the district.

Donkeys.

The donkeys of the district are miserably small animals but can carry considerable loads for their size. They belong entirely to the village Kumbárs who partly in consequence of the supposed unclean nature of the animals are of low caste.

Camels.

The camel is a most useful and important animal in this district. He is employed in all parts for riding and carrying loads, and where there is lighter soil, he does a large portion of the ploughing. The Rahbaris keep large numbers of camels with which they carry for hire.

A camel begins to work at four years of age, and a female gives her first young in her fifth year, after 13 months gestation, and bears five or six times at intervals of two years. Camel's milk is often drunk and the hair (*fat*) is shorn and made into ropes and sacks. The camel is fed on *pala* and the straw of *moth* and gram when available, but in any case he can find grazing where no other domestic animal could.

A camel fair is held at Bhiwani in Kátik (October-November). About 1,000 animals are collected, but little trade is carried on at it.

Chapter IV, B.
Domestic Animals.

Domestic pigs are scarcely ever seen in the district and fowls are rare in the villages.

Poultry.

The district is a large one, and the population is very numerous. The principal occupations are agriculture and stock raising. The principal crops are wheat, rice, and sugarcane. The principal stock raised is cattle, and to a lesser extent sheep and goats. Poultry is not raised in any considerable numbers. The principal occupations of the population are agriculture and stock raising. The principal crops are wheat, rice, and sugarcane. The principal stock raised is cattle, and to a lesser extent sheep and goats. Poultry is not raised in any considerable numbers.

SECTION C.—OCCUPATIONS, INDUSTRIES AND COMMERCE.

Chapter IV, C.

Occupations,
Industries and
Commerce.Occupations of the
people.

Table XXIII shows the principal occupations followed by males over 15 years of age as returned at the Census of 1891. The figures are, however, practically meaningless as the classification of occupations is based on an European and not a native model, and the differentiation of occupations is not nearly so complete as that contemplated by the Table.

The only main broad classification which can be made is that between those whose occupation is agriculture, simple or combined, or whose income depends on the land and others who have no connection with agriculture.

The figures in the margin show the distribution of the

Population.	Towns.	Villages.
Agricultural	25,782	5,48,685
Non-agricultural	70,799	1,30,740
Total	96,581	6,79,425

whole population into agricultural and non-agricultural calculated on the assumption that the number of women and children dependent upon each male of 15 years is the same whatever his occupation. These figures include as agricultural all those whose occupation was returned as agriculture, simple or combined, and also all landowners and tenants.

It may be said that practically the whole of the rural population are dependent on agriculture for their subsistence, and the line between the agriculturists and the non-agriculturists in the villages is a narrow one.

Village menials, such as the Khati and Lohar, whose primary occupations are wood and iron work respectively, the Chamár who works in leather, the Dhániak who weaves the village cloth supplement the earnings of their peculiar trades by the cultivation of land. Agriculture is undoubtedly regarded as one of the most respectable occupations and a member of the menial castes who abandons his caste occupation for agriculture, pure and simple, generally rises in the social scale. Many castes are founded upon difference of occupation, often very minute. Thus the Chamárs, Raigars and Khatiks who all work in leather are different castes, the difference being due to the fact that the Chamár will only work with the skins of bullocks, cow and buffaloes and will not tan them, a Raigar will tan them, and a Khatik will both tan them and work in the skins of sheep and goats.

Many of the agriculturists of the district are in military employ. The Rájput, though an inferior cultivator and farmer, makes a good cavalry soldier.

Principal indus-
tries and Manufac-
tures.

Table XXIV gives statistics of the manufactures of the old Hissár District as they stood in 1881-82. No later statistics are available.

Chapter IV, C.

Occupations,
Industries and
Commerce.Principal indus-
tries and manufac-
tures.

The district of Hissár has no manufactures of importance. The manufacture of crude saltpetre has already been alluded to and the process described. The contract for working the saline earth near a village site is often taken by a *baniya* who pays seigniorage fees to the proprietors. The actual manufacture is carried on by a class of men called *Shoragars* who are generally the servants of the contractor. The dirty brown crystals are sent by the contractor to be refined at the licensed refineries at Bhiwáni, Sirsa and Hánsi.

Coarse country cloth is made by the Chamárs and the Dhanaks and the Julahas in nearly every village. The customary price is 5 solis = 80 hands (*haths*) to the rupee.

The *tehi* or oil presser is not uncommonly found in the village. Oil pressing is carried on with the *kohlu*. The principal portions of the machine are as follows:—

Kohlu.—The vessel in which the oil seed is put.

Lát.—A heavy pole, the end of which revolves in the *kohlu*.

Jabi.—A small wooden vessel like a shoe for taking out the extruded oil.

Chandela.—A flat piece of wood for sweeping stray bits of oil seed into the *kohlu*.

Pát.—A beam attached loosely to the *kohlu* and revolving horizontally round it some few inches above the ground.

Manakatan.—A beam fixed vertically in the *pát*.

Mohri.—A piece of wood which is fastened by a hinge to the *lát* which itself slopes up obliquely.

Pair.—The bullock track; *kussar*—an iron spike for stirring the oil seed in the *kohlu*. The *kohlu* is driven by one bullock who wears blinkers.

In Fatehábad a caste called Dabgar are famous for the manufacture of leather scales and *kuppas*, or leather vessels for oil and *ghi*.

Mr. Lockwood Kipling, Principal of the Lahore School of Art, kindly furnished the following note on some of the special industries of the district, for the previous edition of the Gazetteer.

“Mr. Ogilvie has given an account of the brass and bell metal (*kansí*) trade of Bhiwáni in this district, from which it appears that about 200 artizans are employed, and that their earnings vary from Rs. 7-8 to Rs. 8 per mensem. The ware is exported to all parts of the Punjab and to Rájputána. Ornamental work does not appear to be made, but the *kansí* cups and platters sent to the Punjab Exhibition were fairly well finished. Brass is imported from Calcutta, but mainly for re-export to Bikánir and old broken brass (*phut*) is chiefly used

Chapter IV, C.

Occupations,
Industries and
Commerce.Principal indus-
tries and manufac-
tures.

for local purposes. Some brass is manufactured from imported copper and zinc in the proportion of 24 seers of copper to 16 seers of zinc in the maund of 40 seers. The cost of the metal thus manufactured is calculated at Rs. 26 per maund. *Kansi* is made with copper and pewter. The cost is Rs. 39-8 per maund. Besides its brass trade, Bhiwáni has a name for carved *chaukats* or doors. Elaborately carved models mounted with brass were sent to the Exhibitions at Lahore and Calcutta, and one is now in the Lahore Museum. In this district the leathern *hukka*, metal bound, common in many parts of the Punjab, is quaintly adorned with strips and studs of copper, brass and sometimes silver, roughly engraven. The execution is rough, but no fault can be found with the design. Good *hukkas* thus adorned cost from Rs. 5 to Rs. 12 and last a long time. The embroidered woollen *ohrnas* or *chadars* of the district are worthy of mention, for though nothing could be more homely than the material, or more simple than the design, they are thoroughly good and characteristic in effect. Two breadths of narrow woollen cloth are joined with a curious open work sewn and covered with archaic ornaments in wool and cotton thread of different colours, needle wrought in a sampler stitch. The cloth is a fine red, though somewhat harsh and coarse in texture and though all the designs are in straight lines, human figures and creatures are sometimes oddly indicated. The price of these *chadars* was originally about Rs. 4, but since a sort of demand has arisen among amateurs interested in Indian fabrics, the rate has been doubled. It is scarcely likely that the woollen *phulkari* will grow, like the silk and cotton one, from a domestic manufacture for local use into a regular production for export trade. Similar *chadars* are made and worn in the Sirsa District. The better known cotton *phulkari* embroidered with silk is of exceptional excellence in this district. From Hissár and Hânsi *chadars* and *ghagrás*, of dark indigo or madder-dyed rough country cloth with orange coloured silk in bold patterns, diversified by the insertion of small circular mirrors have been sent to various exhibitions. The mirrors come from Karnál, where globes of thin glass, about four or five inches in diameter, are blown and silvered on the inside. These are broken up and the fragments are used for *shishádár phulkaris*, and formerly in the *shishádár* plaster work to be seen in buildings of the last century. In the Amritsar District are merchants who have pushed the *phulkari* to such good purpose that it has become a profitable industry. It is possible that the extension of the railway may do something for the hitherto purely local and domestic industries of this district."

Commercial classes.

The commercial classes are principally of the Baniya caste and include every gradation of the trader or shop-keeper, from the petty village *baniya* who sells *nán-tel* to the substantial banker and grain-dealer who has transactions with all parts of India. Towards the north a few Khattris and Aroras are met with. Some of the commercial houses in Bhiwáni and Sirsa are very wealthy and have branches in many other large cities.

Of the larger traders not a few are men of energy and ability with a capacity for organization which enables them to conduct commercial enterprises of a no mean order. The commercial classes are showing an increasing desire to acquire proprietary rights in land and are in many cases anxious to advance money to agriculturists on the security of land.

Chapter IV, C.

Occupations,
Industries and
Commerce:

Commercial classes.

The Sunárs do a considerable amount of business as bankers, but not on a very large scale.

The chief centres of trade are Bhiwáni, Hánsi, Hissár and Sirsa. The town of Fatehábád used to act to some extent as a trade centre for the Náli country, but the construction of the Railway has almost entirely destroyed any importance it once had in this respect. The line passes some 11 or 12 miles to the west of the town and the trade of the Náli tract instead of going to Fatehábád makes straight for the Railway at Bhattu. Had the line been taken to Fatehábád the latter would by this time have no doubt been a large and thriving commercial town.

Course and nature
of trade.

Before dealing with the trade of the principal centres it is necessary to notice the by no means insignificant local trade which does not pass through these centres at all, especially in time of scarcity. As has been already remarked the zamindárs are in no way entirely dependent on the produce of their fields. In times of scarcity and high prices the Bishnoi and Bagri Jat will start with their camels in June and July and purchase grain in the Náli or in the Jangal tract of Patiála and carry it home for domestic consumption, or sometimes their operations will extend further and they will purchase and carry the grain to the villages in the south of the district where they will sell at a profit. Kumhars with their donkeys will often do the same. The purchases are frequently made on advances (*punji*) obtained from the local *baniya*, after repayment of which with interest the enterprising zamindár has a small margin of profit left. The Deswáli Jats have comparatively few camels or carts and do little or no petty trade of this kind.

Rural trade.

The zamindár commonly takes his own grain to market and thus obtains the benefit of the higher prices ruling in the trade centres, but in times of scarcity it is of course to a considerable extent made over to the *baniya* in settlement of accounts.

The construction of the Rewári-Ferozepore Railway may be said to have revolutionized the trade centres of the district. Formerly the trade between the west and the districts round Delhi went along the Delhi-Sirsa Road which passed through the towns of Hánsi Hissár, Fatehábád and Sirsa, and all these towns were to some extent centres of this through trade, while Bhiwáni with Sirsa shared the export trade to the States of Rájputána. The trade between east and west now, however, passes along the Railway and Hánsi and Hissár are no longer such centres as before, but markets for the collection and export of the local produce and for the import and distribution of such

Trade routes and
centres.

Chapter IV, C.

Occupations,
Industries and
Commerce.Trade routes and
centres.

commodities as are required by the surrounding agricultural population. Bhiwáni has, however, not only maintained its position as a centre of through trade, but that trade has developed. The trade with Sirsa and the adjacent parts has probably diminished as this goes by Railway, but exports of wheat, flour, sugar, cotton-goods, and iron to the part of Rájputána known as Shekhawati, and to the States of Bikánir and Jaisalmer have largely increased. The construction of the Bikánir-Jodhpur Railway, however, will probably be a somewhat severe blow to this trade. The grains locally produced are of course also collected at Bhiwáni and exported to Delhi and down country when there is a surplus. There is also a large retail trade with the adjacent villages.

Sirsa had formerly a considerable through trade with Lahore, Karáchi and Ferozepore, but most of this now goes direct by Railway and the through trade of Sirsa is as in the case of Bhiwáni, with Bikánir and the other States of Rájputána.

The export of grain locally produced from the district towards the east (*bisáwar*) is of course very fluctuating depending as it does on the demand (*máng*) and prices ruling in those parts and also on the local ones which constantly fluctuate owing to the precarious nature of agricultural results.

SECTION D.—PRICES, WEIGHTS AND MEASURES. Chapter IV, D.

The statement in the margin shows the prices in sérs per rupee of agricultural produce in different parts of the district assumed for the purpose of framing produce estimates at the settlements of the Sirsa district in 1881, 1882, and at the recent settlement of the four southern tahsils of the present Hissár district. Table XXVI gives the retail bazar prices for commodities from 1868-69 to 1890-91. The wages of labour are shown in Table XXVII and rent rates in Table XXI, both sets of figures, especially the latter, are probably of more than doubtful value.

Staple.	Hánsi, Bhiwáni, Hissár, Fatehábad.	Barwála, Fatehábad, Náli.	SIRSA.	
			Bágar, Náli.	Rohi.
Wheat	25	27	24	25
Barley	35	40	48	55
Gram	35	40	42	50
Barson ... ..	...	...	24	24
Jowár	37	42	45	50
Báira	32	38	35	40
Moth	37	37	45	50
Mung	37	37	30	30
Til ... ..	...	...	20	18
Rice (unhusked) ...	...	...	30	...
Gwar ... ..	...	...	50	60

Prices, Weights and Measures. Prices, wages, value of land, rent rates.

Table XXVI gives the retail bazar prices for commodities from 1868-69 to 1890-91. The wages of labour are shown in Table XXVII and rent rates in Table XXI, both sets of figures, especially the latter, are probably of more than doubtful value.

As would be naturally expected in a district like Hissár when destitute of Railway communication, the history of prices has shown some remarkable fluctuations in the past, but the period of the former settlement of Sirsa and of the recently expired settlement of the four southern tahsils of the district witnessed a remarkable and very substantial rise in prices. The table in the margin gives the rise in prices per cent. in the case of the two tracts in question.

	Wheat.	Barley.	Gram.	Jowár.	Báira.	Moth.	Mung.
Four southern tahsils	59	32	45	52	91	85	83
Sirsa tahsil	60	35	26	42	34	...	...

per cent. in the case of the two tracts in question.

This remarkable rise appears to have begun after the famine of 1860-61, which taught zamindárs and grain-dealers the advantage of watching the prevailing market rates and regulating their transactions thereby.

The table in the margin shows the average value of land in rupees per acre for sale and mortgage at various periods. The figures for the periods between 1885-86 and 1890-91 are taken from Table XXXII.

PERIOD.	SALES.		MORTGAGES.	
	Total.	To new agriculturists.	Total.	To new agriculturists.
1868-69 to 1873-74 ...	4.3	...	3.9	...
1874-75 to 1877-78 ...	5.5	...	3.3	...
1878-79 to 1881-82 ...	5.2	...	3.4	...
1885-86 to 1887-88 ...	8.0	8.0	6.0	5.0
1888-89 to 1890-91 ...	9.4	16.3	8.4	7.8
1885-86 to 1890-91 ...	8.8	12.6	7.4	6.8

Value of land. in rupees per acre for sale and mortgage at various periods. The figures for the periods between 1885-86 and 1890-91 are taken from Table XXXII.

The quality of land varies greatly and the value returned is often fictitious, so that not much

reliance can be placed in the figures. But they show clearly,

Chapter IV, D.

Prices, Weights
and Measures.

Value of land.

and this is corroborated by other considerations, that the value of land is steadily rising.

The new and enhanced assessment will, for a time at least, have the effect of decreasing the value of land for purpose of sale and mortgage, but it will ultimately with increase of cultivation and development rise much above its present figure. Incidentally it may be noticed that the figures seem to show that the prices given by non-agriculturists for out and out sales of land are higher than those given by agriculturists, while the amounts which the former are ready to advance on mortgage of a given area are less than those which agriculturists will advance.

Rent rates.

Rents, as has already been noticed, are paid in the great majority of cases in cash, and as many of those paid by tenants-at-will in zamindári villages are akin to competition rents they provide us with a valuable index of the value of land. Indeed, as will be shown in the next chapter, the recent re-assessment of the southern tahsils of the district has been mainly based on the cash rents paid in zamindári villages by tenants-at-will. The figures in Table XXI are not in a form adapted to give much information as to the standard of rents in the district, nor in fact can any standard be arrived at which shall be applicable to the district as a whole.

The following statement compares the average rent rates per acre paid by tenants-at-will in zamindári and pattidári villages at the settlement of 1863, in 1886-87 just before the recent Settlement and in 1890-91 at its close. The rents in bhayácharah village are as a rule in no sense competition rents; they have been added for comparison. The statement refers to the four southern tahsils of the district.

TAHSIL.	Circle.	Year.	Zamindári	Pattidári	Zamindári	Bhayá- charah villages.
			villages.	villages.	and Pattidári villages.	
			Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
BHIWANI	Bagar ...	Settlement	0 8 9	0 8 6	0 8 7	0 8 10
		1886-87 ...	0 7 10	0 7 2	0 7 4	0 7 10
		1890-91 ...	0 8 0	0 7 1	0 7 3	0 6 3
	Hariána ...	Settlement	...	0 7 1	0 7 1	0 9 1
		1886-87 ...	1 2 0	0 10 8	0 11 8	1 1 3
		1890-91 ...	0 12 6	0 9 7	0 10 0	1 6 5
HAWSI	Hariána Canal	Settlement	1 8 8	1 3 4	1 6 4	1 2 0
		1886-87 ...	1 9 3	2 1 3	1 12 6	1 5 4
		1890-91 ...	1 15 9	3 4 6	3 1 0	1 10 4
	Hariána Bārání	Settlement	1 3 2	0 11 8	0 14 0	0 8 4
		1886-87 ...	1 1 4	0 13 4	0 15 0	0 10 8
		1890-91 ...	1 1 10	0 15 1	1 0 5	0 10 6
MISSAR	Bagar ...	Settlement	0 9 7	0 7 9	0 8 9	0 7 8
		1886-87 ...	0 11 2	0 8 8	0 10 0	0 7 9
		1890-91 ...	0 13 4	0 8 11	0 10 6	0 7 11
	Hariána Canal	Settlement	0 14 7	...	0 14 7	1 1 2
		1886-87 ...	1 0 11	...	1 0 11	1 8 11
		1890-91 ...	1 0 10	0 14 10	1 0 5	1 8 10
Hariána Bārání	Settlement	0 12 5	0 10 9	0 11 11	0 9 6	
	1886-87 ...	0 11 5	0 13 3	0 14 2	0 12 11	
	1890-91 ...	1 2 11	0 13 1	1 0 11	0 13 3	

TAHSIL.	Circle.	Year.	Zamindári	Pattidári	Zamindári	Bhayá-
			villages.	villages.	and Pattidári villages.	chárah villages.
			Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
FATEHABAD ...	Hariána ...	Settlement	0 10 3	...	0 10 3	0 7 9
		1886-87 ...	0 13 2	...	0 13 3	0 11 11
		1890-91 ...	0 14 4	...	0 14 4	0 11 6
	Bagar ...	Settlement	0 11 4	0 9 10	0 11 6	0 6 10
		1886-87 ...	0 13 5	0 12 4	0 13 6	0 9 10
		1890-91 ...	0 13 11	0 12 8	0 13 6	0 10 2
	Náli Báráni ...	Settlement	0 10 0	0 11 8	0 10 1	0 8 9
		1886-87 ...	0 13 9	0 11 9	0 13 7	0 10 9
		1890-91 ...	0 14 1	0 12 4	0 14 0	0 11 6
	Náli Sotar ...	Settlement	0 12 6	0 12 0	0 12 1	0 7 11
		1886-87 ...	0 13 9	0 13 1	0 13 4	0 12 4
		1890-91 ...	0 14 6	0 13 6	0 13 6	0 11 2
BARWALA ...	Hariána ...	Settlement	0 12 1	0 12 2	0 12 1	0 9 8
		1886-87 ...	0 14 3	0 15 2	0 14 6	0 10 9
		1890-91 ...	0 15 0	1 2 2	0 15 9	0 12 0
	Náli Báráni ...	Settlement	0 12 2	0 10 6	0 11 0	0 8 7
		1886-87 ...	0 14 1	0 13 9	0 13 11	0 12 9
		1890-91 ...	0 15 4	0 15 10	0 15 7	0 10 10
	Náli Sotar ...	Settlement	...	0 6 6	0 6 0	0 9 6
		1886-87 ...	0 14 4	0 13 0	0 14 0	0 8 11
		1890-91 ...	1 1 1	0 14 11	1 0 9	0 8 0

Chapter IV, D.

Prices, Weights
and Measures.
Rent Rates.

These figures show clearly that rent rates have risen considerably during the currency of the recently expired settlement and there is certainly room for a still further rise.

The unit of length for measuring distances on the ground is the *kadam* or double pace, and the term as employed by the zamindár does not signify any definite number of feet or inches. The recognised official unit of length at the settlement of the Sirsa district in 1852 and that of the Hissar district in 1863 was the *gatha* of 99 inches. In the revised settlement of Sirsa the unit adopted was a *kadam* or *gatha* of 66 inches, while that employed in the recent settlement of the four southern tahsils was one of 57 inches

Measures of length,
area, weight and
capacity.

The cloth measure in common use is as follows:—

3 ngals = 1 girihs.

16 girihs = 1 gaz.

This gaz is equal to 32 inches.

Among the zamindárs the measures of length other than for the ground are as follows:—

2-balisht = 1 bath = 18 inches.

2 baths = 1 gaz = 36 do.

12 gaz = 1 pachosi.

8 pachosis = 1 adha.

The *bath* is in reality an indefinite length. The *murwa bath* is the most common and is measured from the projecting bone of the elbow round the end of the fingers held out straight back to the knuckles or some times to the wrist.

Chapter IV, D.

Prices, Weights
and Measures.Measures of length,
area, weight and
capacity.

Area.

The carpenter's measure is as follows :—

4 pains	= 1 tassu.
24 tassus	= 1 gaz.

This gaz is said to equal 33 inches.

The zamíndár has no peculiar area unit of his own. In the former settlements the *pakka* bigah, equivalent to $\frac{2}{3}$ acre, was taken as the unit of area, and to this the zamíndár has now become accustomed. The side of one square *pakka* bigah is equal to 20 *gathas* (*kadams*) each 99 inches long.

20 biswansis	= 1 biswa.
20 biswas	= 1 bigah.

In the revised settlement of the Sirsa district a bigah was taken to be equal to 20 biswas, a biswa being equivalent to 45 square *kadams* each 66 inches long. This bigah was thus the same as the *pakka* bigah. The area unit employed in the recent settlement of the four southern tahsils of the district is the *kacha* bigah which is $\frac{1}{3}$ of the *pakka* bigah or $\frac{5}{12}$ of an acre. The side of a square *kacha* bigah is 20 *kadams* each 57 inches in length. The subdivisions of the *kacha* bigah are the same as those of the *pakka* bigah.

Measures of
weight.

The smaller measures of weight employed for gold and coins are as follows :—

8 rattis or chawals	= 1 másha.
12 máshas	= 1 tola.
5 tolas	= 1 chhitank.
16 chhitanks	= 1 sér.

Grain is almost invariably measured by weight units and not by capacity units.

The higher weight measures are as follows :—

2 chhitanks	= 1 adhpao = $\frac{1}{8}$ sér.
2 adhpaos	= 1 paobhar = $\frac{1}{4}$ sér.
2 paos	= 1 adhser.
2 adhser	= 1 sér.
5 séras	= 1 pansera or 1 dhari.
20 sérs	= 4 dharis or 1 dhaun.
40 sérs	= 2 dhauns or 1 man or 82 $\frac{1}{2}$ pounds.

Practically no measures of capacity are used.

Fodder is sold by *pulis* or bundles, but the quantity contained in a *puli* is indefinite. In some cases jowár and bájra stalks are sold by being tied in a *jeori* or rope 7 *haths* long. The quantity which can be thus tied is called a *paral* and weighs 2 or 2 $\frac{1}{2}$ maunds.

For the division of grain at the threshing flour an earthen vessel (*matka* or *chati*) is used and is called *nép*. For spirituous liquors the units employed are the gallon and quart.

SECTION E.—COMMUNICATIONS.

Chapter IV, B.

Communications.

The figures in the margin show the communications of the district as returned in quinquennial Table I of the Administration Report for 1889-90. Table XLVI shows the distances from place to place as authoritatively fixed for the purpose of calculating travelling allowance. Table XIX shows the area taken up by Government for roads and railways in the district.

Railways ...	123 miles.
Metalled roads ...	21 "
Unmetalled roads ...	870 "

There are no navigable rivers nor is there any river traffic in the district.

Ferries.

There are five ferries on the Ghaggar in Tahsil Fatehábád, viz., at Rattia, Aláwalwás, Kalautha, Jákhál and Sádhanwás. The income from them is very small, and they are maintained more for the convenience of the neighbouring villages than for general traffic which is generally stopped in the rainy season as camels are then of little use.

Ferry boats are maintained when necessary at Khareka, Jhorar, Bansidhar, Panihári and Surbadh in the Sirsa tahsil. At the first two places the roads from Sirsa to Dabwáli and Sirsa to Abohar cross the Ghaggar.

The Rowári-Ferozepore Railway runs through the district for 122 miles with stations at Bhiwáni, Bawáni Khera, Hánsi Satraud, Hissár, Jakbaud, Adampur, Bhattu, Ding, Suchan Kotli, Sirsa, Gudha and Kálánwáli.

Railways and Railway stations.

Sirsa is the head-quarters of a Railway Division. The staff there consists of the Executive Engineer, District Traffic Superintendent and Locomotive Superintendent, with a large number of subordinates. The line does a large carrying trade in grain from the tracts north of Sirsa towards Delhi and Bombay. The passenger traffic is of minor importance.

The following table shows the principal roads in the district together with the halting places on them and the conveniences for travellers to be found at each :—

Roads.

Route.	Halting place.	Distance in miles.	REMARKS.
Delhi to Sirsa	Mundháhal ...	...	Unmetalled. Encamping-ground and sarai.
	Sockhi ...	5	Partly metalled. Police bungalow.
	Hánsi ...	10½	Partly metalled. Dák bungalow. Police bungalow and encamping-ground.
	Hissár ...	16	Partly metalled. Dák bungalow and encamping-ground.
	Agroha ...	13	Partly metalled. Police bungalow and encamping-ground.
	Badopal ...	7	Encamping-ground.
	Fatehábád ...	10	Unmetalled. Dák bungalow and encamping-ground.

Chapter IV, E.
Communications.
Roads.

Route.	Halting place.	Distance in miles.	REMARKS.
Hánsi to Bhiwáni.	Hánsi	2	(As above).
	Bawáni	11½	Unmetalled. Encamping-ground.
	Bhiwáni	13	Unmetalled. Police bungalow, sarái and encamping-ground.
Bhiwáni to Dehli.	Bhiwáni ... ..	...	(As above). Metalled. Next halting place is Kharak in the Rohtak district.
Sirsa to Fázilka.	Sirsa ... ..	...	Dák bungalow, sarái and encamping-ground.
	Sohuwála	10	District Board rest-house, sarái.
	Odhán	8	Civil rest-house, sarái, encamping-ground.
	Pipli	6	Ditto, and encamping-ground.
	Dabwáli	12	Ditto, sarái and encamping-ground.

There are also unmetalled roads from Hissár to Bhiwáni 36½ miles; Hissár to Tosham 24 miles, and on to Kairu 12½ miles; Hissár to Tohána (*viá* Barwála) 46 miles; Tohána to Rattia 20 miles; Rattia to Fatehábad 17½ miles; Hánsi to Barwála 18 miles; Sirsa to Rori 20 miles, and on to Bhatinda; Sirsa to Dabwáli 36 miles, and on to Fázilka; Sirsa to Ránia 12 miles, and on to Bhatner; Sirsa to Ellenábád 25 miles; Sirsa to Jamál 13 miles.

Before the construction of the railway parts of the Delhi-Sirsa road, which was then the main line of communication in the district, were metalled. Now, however, all the district roads, with the exception of short distances near the towns, are unmetalled. Cart traffic can go along all the roads in the parts where the soil is firm, but in the sandy tract it is generally impracticable, and its place is taken by camels. The road from Tohána to Rattia, which runs for a considerable part of its length through the Ghaggar valley becomes impassable in the rains. The scanty rainfall does not hinder traffic on the other roads to any appreciable extent. The village roads are numerous and fairly good, being practicable for carts except in the sandy tracts. A good unmetalled road runs along the right bank of the Western Jumna Canal.

Dák bungalows and rest-houses. There are dák bungalows at Hissár, Sirsa and Hánsi. They are furnished, and the two former are provided with a Khansámah each. There are civil rest-houses at Kairu, Fatehábad, Dhanur, Odhán, Pipli, Dabwáli, provincial properties which have been transferred to the District Board. There are rest-houses at Sohuwála in Sirsa tahsíl and at Tosham which are the property of the District Board. Rest-houses are being or are about to be erected also at Báhúna, Budláda, Chantála and Ellenábád. The municipal building at Bhiwáni is built in the

Hissar District.]

form of a bungalow and is used as a rest-house. All the above buildings are furnished, but are unprovided with servants.

Chapter IV, E.

Communications.

In addition to the above there are police rest-houses at Siwáni, Sirsa, Rori, Ránia, Barwála Tohána, Rattia, Balsamand, Bhiwáni, Sorkhi, Tosham, Bahal and Agroha; and canal rest-houses at Narnaund, Lundi Khara, Hánsi, Hissár and Mengni Khara. The above are all furnished, but unprovided with servants.

Dák bungalows and rest-houses.

Saráis are maintained by the District Board at the following places:—Bhiwáni, Bhattú, Sirsa, Narel, Odhán, Rori, Sohúwála and Dabwáli.

Saráis.

There are 34 Imperial Post Offices in the district located as follows:—

Post Offices.

Tahsil Hissár.	Hánsi.	Bhiwáni.	Fatehábád.	Sirsa.
Hissár. Balsamand. Barwála.	Hánsi. Bawáni. Narnaund.	Bhiwáni. Bapaura. Bahal. Kairu. Siwáni. Tosham. Tigrána. Chang.	Agroha. Bahúna. Bhattu. Fatehábád. Ahrwan. Budlads. Rattia. Tohána. Pabra. Jamalpur.	Sirsa Chautala. Dabwali. Ellenábád. Gudah. Jamal. Jodhka. Ránia. Rori. Kalanwali.

All these are money-order offices and there are also Savings Bank offices at Hissár, Hánsi, Bawáni Khara, Bhiwáni, Fatehábád and Sirsa. The Hissár office is a second class head office, all the others are branch offices with the exception of those at Bhiwáni, Fatehábád, Hánsi, Bawáni Khara and Sirsa, which are sub-offices.

A line of telegraph runs along the whole line of railway with offices at each station. There are also Postal telegraph offices of the second class at Sirsa and Bhiwáni and of the third class at Hissár and Hánsi. A line of telegraph runs across country from Bhiwáni to Rohtak.

Telegraph.