# CHAPTER IV.

# PRODUCTION AND DISTRIBUTION. SECTION A.-AGRICULTURE, ARBORICULTURE AND LIVE STOCK.

Table No. XIV. gives general figures for cultivation and irrigation, and for Government waste land; while the rainfall is shown in Tables Nos. III. and IIIA. and IIIB. Table No. XVII. shows statistics of Government estates. Table No. XX. gives the areas under the principal staples, and 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. Land tenures, tenants and rent, and the employment of field labour have already been noticed in Chapter III, Section D.

The total annual f<sup>-</sup>ll of rain and the manner in which it is distributed throughout the year are shown in Tables Nos. III, IIIA. and IIIB. The seasons, so far as they affect the staple food grains, have been discussed in Chapter III, page 40.

The Assessment Reports published separately for each tahsil in the years 1885 to 1888 contain full details of the system of agriculture followed in every part of the district, the nature of the crops grown in the irrigated and unirrigated lands and the extent to which crop areas vary from year to year. The district includes a great variety of soil, and agriculture is carried on under widely different conditions in different parts, but throughout the greater part of Ambála the regular two-year course of agriculture prevails, land lying fallow for a whole year and then being cultivated for two successive crops. The benefits of the long fallow are well understood, and it is only in the exceptional circumstances of irrigated lands, or of an unusually favourable rainfall, that the practice is departed from. There has been comparatively little change of system in the last forty years. The demands of the export trade have led to some increase in the area grown with wheat and cotton, the latter in the Kharar tahsil especially, and the tendency of fixed cash assessments has been to encourage generally the more valuable crops, such as sugarcane, tobacco, poppy, vegetables and spices. All these however require specially favourable conditions of soil and industry, and the area on which they can be grown is necessarily limited. The great mass of the people still depend on the staple grains and pulses, wheat and gram in the spring harvest and maize, rice, moth and másh in the autumn, together with a large charri crop

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grown as fodder for their cattle. Almost the only agricultural implement which has been accepted by the people as an improvement on the traditional methods of their forefathers is the small iron roller sugar mill originally introduced from Behar about ten years ago. There was for a long time much opposition even to this, in spite of the ease with which it is worked as compared with the wooden mills (belna or kolhu) formerly in use, and it is still not universally accepted, but the popularity of the iron mill is now assured, especially since the - Náhan foundry took to turning out a large number of an improved pattern at a great decrease in the original cost price.

The soils.

rrigation.

The soils most commonly recognised by the people are highly manured homestead lands (niai), loam (seoti), clay (dákar), very stiff clay used for rice cultivation only (dahr), flooded land, (sailab) and sandy soil (ret or bhur). There are many other local terms indicating various degrees of fertility, but these represent the principal classes of land on which crops can be grown without irrigation. The land irrigated by wells is all alike called cháhi, whether irrigated from Persian wheels, the leather bag (charas) or small hand lever wells (dhingli). Where the soil is much damaged by sand blown up from sand drifts or the beds of hill streams it is said to be *urár már* and where damaged by surface drainage or ravine cutting (as is very commonly the case in Ambála) the term used is *darrar*.

The small extent of irrigation in the district, whether from wells or streams, has been described on page 3. The only parts in which wells are extensively used over any considerable area are the uplands of the Pipli and Rúpar tahsils. In Pipli the average depth to water in the different circles is in the Khadir 9 feet, Bet Márkanda 18 feet, Northern Chachra 19 feet, Bangar 24 feet, and Southern Chachra 25 feet. The depth increases as one proceeds westwards and southwards, but this rule is modified by the effect exercised by the hill streams in raising the water level of the Bet and two Chachra circles. The wells are only worked in the day time. In the upland circles the water-bearing stratum is good, but the wells are generally old and many of them cannot be worked full tides as the supply of water becomes exhausted. Even in the Khadir the Persian wheel is rarely used, the bucket being considered superior. The appliances of a bucket will cost about Rs. 17, and the annual expenditure may be taken at about the same sum, some parts of the apparatus last for while for several and bucket, which vears, the rope cost Rs. 6 or 7, should be renewed twice a year if the well is fully worked. The cost of sinking a well is about Rs. 250 in the Khadir, Rs. 300 in the two Chachra circles, Rs. 325 in the Bangar, and Rs. 375 in the Bet. In the Southern Chachra bricks are cheap. Four bullocks are required to work a well all day and in the Bangar circle there are usually four for each well. In the other circles two are oftener employed, but of course a great deal depends on

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the means and industry of the cultivator. In the upland circles a good yoke of oxen costs about Rs. 80 or 90. The price has Agriculture, Ardoubled in the past thirty years, and this has proved, and will boriculture and prove, a hindrance to the extension of irrigation.

In the Rúpar Dhaia the wells are deep and expensive to work, involving much labour to both men and cattle, but the water-supply is good and the irrigation of great value, especially for the wheat and sugarcane crops. The charas is used exclusively. Many of the wells have two runs and are worked with complete double sets of apparatus. Strong cattle are required, and have to be obtained from the great cattle raising country of Sirsa and Hissár. A good pair of well bullocks, fully grown, will cost at least Rs. 120 to 150, and being such valuable property they are very carefully looked after. It is a common practice for a number of villages to combine together to send down a party to the Hissár cattle fairs to buy up as many bullocks as are required, and they gratefully acknowledge the benefit it is to be able to do this without running the serious risk of thefts on the way back, which had to be encountered in former times.

The following description of the use of manure and the Manure and rosystem of rotation of crops as practised in the district was furnished for the Famine Report of 1879 (page 256) :--

" On land constantly manured the average weight of manure per acre is 300 maunds; on land occasionally manured 350 maunds per acre every fourth or sometimes every fifth year.

" Land cropped with wheat has generally lain fallow since the last rabi crop or on dry lands since the penaltimate kharif; it is ploughed very often, as many as eight times, and never less than five times. In October after ploughing, wheat land is 'closed,' as it were, with the soldgea, i.e., bushed and rolled and left till sowing time in November. For gram agriculturists are not nearly so particular ; the land is not ploughed often, and hard rice land is used. Bar-ley is cultivated like wheat. Wheat and barley land is often cropped with sugar-cane and cotton afterwards, lying fallow after the rabi harvest in April till sowing time, which for cotton would be in Asár (June), or for sugar-cane till the following March, in which case the land will have had a rest of nearly a twelve month. After a gram crop the same land is generally cropped with rice and in the same way gram may follow rice. Where sugar cane is grown, the land, as explained before, lies fallow all through the kharif; it is ploughed a number of times-more, even, than wheat land. In báráni land there is usually a two-harvest (i. e., a whole year's) fallow before and after a cane crop. After ploughing in October the surface soil is closed up and smoothed across with the sohaga for the entire cold weather, and in March the sugar-cane is sown ; after every successive shower of rain it is weeded and earthed up. Among kharif crops, cotton lat d is ploughed in the cold weather, and it is sown in June. It does not particularly matter when the other kinds of kharif crops, such as makki, Jowár, bájra, are sown, and the land does not require much previous ploughing:

"As regards rests to unmanared lands, wheat land is commonly cropped with chari at once after a wheat crop and then lies fallow for a whole year, and rice land and sugar-cane land also are generally left fallow afterwards, or dur-ing the cold weather season, though if there is an *early* crop of rice, owing to the favourable and seasonable rain, land cropped with rice is not unfrequently cultivated with gram; but, except on *khadar* land near hill streams, gram on rice land is a catch crop. The only particular difference in treatment of manured and unmanured and irrigated and unirrigated land is, that irrigated land which has been manured will be ploughed much oftener than unirrigated land which has not been manured, but there will not be any material difference in the rotation or succession of crops."

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Manure and rotation of crops,

To add to this description it is only necessary to say that the ordinary peasant thoroughly understands the value of manure, especially for his irrigated lands. His difficulty is not so much that he will not use it, or dislikes the trouble, as that it simply is not to be had when once he has exhausted bis slender share of the village heap. The one substance which lies at his door, and which caste prejudice forbids him to use is bone dust. A familiar sight at every Railway station is the pile of bones collected for exportation. The only use to which bones are put in the villages is for the decoration of the *Chuhro's* pig-stye, a very frequent object all over the district, much to the scandal of the worthy Muhammadan to whom the village pig (bad) is a constant eyesore.

Table No. XX. shows the area under each of the more important crops grown during the last five years with tahsil details for the year 1891-92. The whole conditions under which these crops are grown, the agricultural calendar followed, and the implements used by the peasant are described at great length in the Ludhiana and Karnal Gazetteer volumes and the account given there need not be repeated. The Ludhiána description applies accurately to corresponding parts of the northern tahsils of Ambála, and the Karnál account to the south of the district. The two crops in Ambála which are less common in other districts of the Eastern Punjab are poppy (3,000 to 3.500 acres) and rice (70,000 to 125,000 acres). The poppy crop can only be grown with irrigation and requires high cultivation. It is only attempted by cultivators of the best class, and is grown best by Sáinís and Málís. With them it is a favourite crop as it occupies the ground only a short time, while the heavy manuring which land under poppy must receive enables them to grow a fine maize crop immediately afterwards. Notwithstanding the expense of the cultivation and the heavy extra tax levied on the crop under Excise regulations the profits realised are usually very large, and it is mainly from their poppy and tobacco that the Sáinís are able to make a fair living in spite of exceedingly small holdings which often average barely two acres per family.

Rice.

The rice grown in Ambála is of several kinds, both fine and common. Fine rice is planted out from a small plantation when the seedlings are a few inches high, while the commoner varieties are generally sown broadcast. The yield from fine rice is much the heavier of the two and the grain sells at least 20 per cent. dearer. The fine rice most generally grown is ziri or chahora. Irrigation is not usual in the case of ziri, and the crop is therefore liable to serious risks from a break in the rains, but when the rains are opportune the outturn is very large. Chahora is grown in the Neli circle of the Kharar tahsíl and in the Morni hills. The crop is irrigated by duets from the Ghaggar or hill streams and is always highly remunerative, but the drawback in this case is that the tracts where it can be grown are very unhealthy and there is a difficulty in getting enough hands

Poppy.

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to cultivate properly. Altogether some 20,000 acres of fine rice are grown in the district as against 100,000 of common rice. Agriculture, Ar-The varieties of the latter are endless. Those most generally grown are sati (a coarse red rice) and dholu. The crop is never irrigated, and only does well about one year in four, when it gives good returns. In the other three years there is likely to be at least one in which the crop fails more or less completely from drought or floods, and it is always a capricious crop even at the best of times. There are large areas of very stiff clay soil in the southern tahsils which are hardly ever cultivated with anything but rice, but where the clay is not hopelessly stiff or choked with coarse grass the rice crop may be followed by gram.

Many crops are grown in the Morni hills which are not Morni hill crops; found elsewhere in the district. The commonest are the cereal mandua (eleusine corocana), the pulse kulthi (dolichos uniflorus) and the tuber kachalu (arum colocasia). By far the most valuable of the hill crops are the edible sugarcane (ponda), and the ginger (zingiber officinalis). Ginger is an expensive crop to grow costing some Rs. 40 to Rs. 50 an acre for seed alone, but the gross produce is seldom worth less than Rs. 120 an acre and in a good year may fetch a much higher price. The crop requires high cultivation, and will probably be followed by rice in the next two years. It is grown in very small patches, as few families can afford the outlay or command the labour necessary for cultivation on a large scale.

The following table shows the average yield of the principal Average yield of crops of the district as ascertained from a number of produce crops. Production experiments carried out in the course of the revised settlement food grains. between 1883 and 1886. The yield is stated in sers pakka per acre :---

		CROP.		,	Tahsíl Ambála.	Tahsíl Kharar.	Tahsíl Rúpar.	Tahsíl Naráin- garh.
Wheat					249	282	336	260
Gram					184	250	231	
Mixtures gram	of	wheat,	barley	and 	369	363	364	280
Fine rice					345	376	A I A	815
Coarse ri	ce		~	• • • 1	290		333	350
Maize	514				371	476	470	398
Másh and	man	ıg			139	167	166	125

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Area standard and vield.

The Government standard of area now in force in the district is a kacha bigha of  $\frac{5}{24}$  the of an acre or 1,0081 square yards. The zamindárs themselves commonly use a somewhat smaller kacha bigha roughly equivalent to one-sixth of an acre. When stating the produce of their fields they always express it in terms of kacha maunds to the kacha bigha. The maund used by them contains about 16 sers pakka and as the bigha they refer to is about one-sixth of an acre, an outturn of one maund to the bigha is roughly equivalent to 100 sers pakka (206 lbs.) to the acre. The estimates of yield given above are averages struck from experiments taken in all parts of the tahsil and with every variety of soil and season. A very fine wheat crop such as that grown in parts of the Rúpar Bet will yield as much as 700 sérs, say 22 bushels to the acre. On the other hand a large proportion of the area returned as under crop in the district is very poor, yielding perhaps 150 to 300 sers to the acre. On a broad general average it would not be safe to estimate the outturn of wheat on the total area under crop in an average year at much above 250 to 300 sers, or say 8 to 10 bushels, to the acre. The average consumption of food per head has been already noticed at page 40. It is believed to have been overestimated, but on the figures given a rough estimate of the total production, exports and imports was framed in 1878, and it was stated (page 151, Famine Report) that an annual import of some 2,985,500 maunds of grain was required to supplement the local production, consisting of rice from across the Jamna, and of wheat, maize, gram, and other pulses from the Punjab. The total population of the district is now nearly the same as when that estimate was made. The estimate was based on a population of 1,035,488 as against 1,033,427 by the Census of 1891.

Causes of injury to crops.

If the crops are not carefully watched when ripening some considerable damage may be done by pigs and deer in the plains, and monkeys in the hills. ' These larger animals are however at any time much less destructive than the caterpillars and insect blights which attack the growing crops, and the white ants which infest the soil in many parts of the district, eating the roots and doing much injury to the rabi crops especially. Field rats only make their appearance occasionally. There was a perfect plague of them in 1883, a very dry year, and the damage done by them to the cotton crop was enormous. The rats climbed the plants just as the cotton was coming into season, destroying the cotton in the buds to get at the seed, and the fields were dotted over with little heaps of debris, but strangely enough there was hardly a sign of a return of the pest in later years Of calamities other than those due to animal life the most to be feared are floods and hailstorms. Frost does little harm except to cotton. If timely rain has fallen in June the cotton will have been sown at the proper season and the picking will be over by the end of December or the first week in January, before excessive cold sets in.

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If however the rains are late and sowings cannot be effected till July the pickings go on through January and February, and the extreme cold will then do considerable harm to the crop. The crop is tolerably certain to be more or less of a failure unless sown by the 10th of July at latest, and every day's delay beyond that means serious loss in the outturn. Lightning is, believed to have an injurious effect on crops coming into flower both in the spring and autumn harvests. Gram is said to be specially liable to this risk from the violent thunderstorms which are not uncommon in the early spring. The prudent farmer will insure himself from the risk by sowing a thin line of linseed round his gram fields, and the small blue flowers of the linseed may be confidently expected to protect the gram from injury much in the way that the necklace of blue glass beads hung round his pony's neck wards off the evil eye.

The cotton crop is of so much importance in the district that it is worth while giving a few figures showing the results of some experiments carried out with great care in 1887, with a view to ascertaining whether natural khaki coloured (nankin) cotton should be introduced as a new staple. Ten sers of seed were sown in all, in two lots. Five sers were sown on the 17th June in 24 bighás, or 0.52 acres, of irrigated land at Oind in Rúpar, and five on the 5th July in 4 bighás, or 0.83 acres, at Kuráli in Kharar on unirrigated but manured land. The Oind experiment yielded 182 sers of cotton in 19 pickings between the 1st November and 4th February, and the Kuráli experiment 148 sers in 23 pickings between the 13th November and 21st February, giving an outturn of 350 and 179 sers respectively per acre for irrigated and unirrigated land. The very much heavier yield in the irrigated land was due not so much to irrigation after the crop was sown, as to the fact that the command of water enabled the experimenter to sow three weeks earlier in the one case than the other. The total produce of 330 sers pakka yielded the following results by ginning :--

					Cotton.	Seed.
Actual, in sérs				9.8.0	78	252
Equivalent per	acre,	in	sérs		58	188

At the harvest prices then current the value of the gross produce was Rs. 31 per acre (Rs. 19 for cotton and Rs. 12 for seed), from which would be deducted at ordinary rates Rs. 3 for cost of picking and Rs. 6 for ginning, in addition to the cost of cultivation. The cotton was a fine, strong plant with good fibre, and made up well as coarse cloth, but the net result of the experiments was to show that the staple would not be popular. Government decided that it could not take the place of dyed khaki cotton for army purposes, and the zamíndárs themselves preferred the ordinary cotton of the country firstly, on account of the colour, secondly, because the nankin cotton took from 15 to 20 days longer to come to maturity,

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and thirdly, because ordinary cotton yields on ginning about one-third cotton to two-third seeds, as against one-fourth cotton to three-fourths seed with the nankin variety. These objecttions were undoubtedly fatal, and further experiments were not attempted. More recently experiments have been tried with Nágpur, Egyptian and American cotton, the latter with good results as regards outturn.

# Table No. XVII. shows the whole area of waste land which is under the management of the Forest Department. The following note on the forests of the district was kindly furnished by Mr. Down, of the Forest Department in 1883 :--

"This Forest in the Ambála district, consisting of 11,829 acres, is situated on the right bank of the river Jamna near the heads of the Western Jamna Ganal, and about 32 miles north of the Jagádhri Bailway Station. It is bounded on the north and west by the territory of the Rája of Náhan. on the south by the territories of the Rája of Náhan and of the Sardár of Kalsia and village lands of Khizrábád and Lála Bansi Lál, and on the east by the lands of Kalesar. The Kalesar Government Forest lies principally between two low ranges of Siwálik hills running west from the Jamna. The valley is about nine miles long and is narrow, being about N<sub>4</sub> miles broad at the east end, and gradually decreasing towards the west. The forest in the valley is divided by a broad water-course called the 'Suk Ráu,' which carries off the drainage of both ranges into the Jamna.

"The growth in the valley is sal with a slight mixture of miscellaneous trees. The inward slopes, however, are  $\frac{3}{4}$  miscellaneous and  $\frac{1}{4}$  sal barkli (Lagerstromia parvifora) being very plentiful, though more so in t<sup>1</sup> northern than the southern ranges. The outward slopes of both ranges are very precipitous. The Government forest also extends to the south of the southern range from the Jamua to the Chekan Ghât. The ground here, however, is composed of small low hills much intersected with water-courses, and the growth is poor. There is no bamboo in the valley, but the Burror and Nangal estates south of the southern range contain a large quantity, but of small size. Babar grass is plentiful all over the low hills. The principal trees at Kalesar are sal, sein, sandum, barkli, ebony, dhaman, bahera, hurra, huldu, kachnár, bel, siris, khair, aunla, &c., &c. The produce is at present insignificant. The soil is good in the valley as far as the Chekan Ghât, west of which it becomes inferior and mixed with reddish clay. Boulders exist for a great dept everywhere, even on the bills. The soil south of the southern range is very inferior.

"Government rights are absolute; but the Pathán jágirdárs of Khizrábád hold seven shares of Rs. 65 each in the gross revenne Water is very scarce, and during the hot months is only found in two or three places. The sál in the valley is protected by fire conservancy.

Jagádhri plantation (reserve). "This plantation, consisting of a long narrow strip of 200 acres, 3 roods and 10 poles, was commenced in 1868-69. It is composed entirely of *shiham*, and situated on the right bank of the Jamua about five miles frem the Railway Station of of Jagádhri. It extends from near and below the railway bridge over the Jamna for about two miles down stream. The soil is good *sailaba*."

Morni Forest.

In 1888 a proposal was made to constitute a reserved forest in the Morni tract in the interests partly of Government and partly of the Mir of Kotáha. Government was interested in the scheme in view of the protection of the hill sides from denudation, while it was suggested that the Mir, as the principal rightholder in the Morni jungles, would benefit by reservation in a large increase to the value of the forest products. In the report on the scheme submitted in October 1888 it was noticed that the existing forest growth, which is very dense in the higher ranges, is composed of miscellaneous scrub intermixed

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in the upper portions with Chil (Pinus Longifolia) and Chal (Conocarpus Latifolia). Lower down in the valleys the scrub is chiefly mingled with Sandan (Ougeinia Dalbergioides), Siris (Albizzia Stipulata), Sein (Pentaptera Tomentosa), Papri (Ulmus integrifolia), Kachnar (Bauhinia variegata), Khair (Acacia catechu), Biul (Grewia oppositifolia), Jingan (Odina wodier), Aonla (Phylanthus Emblica), Amaltas (Cassia Fistula), Sohanjna (Moringa Pterygosperma) and Bael (Aegle marmelos). There are no compact forests of Chil, but a fair number of these trees are found on the Morni range (east of Morni) and on the Nagal and Tipra Kothi ranges. In particular the trees are large and well grown in Bhoj Nagal below Tandok, while those on the Morni range are crooked and ill-formed, most probably in consequence of constant fires. Natural reproduction of Chil is excellent, and all that can be desired in places that have escaped fire. Low down in the valleys there are many fine Jaman (Eugenia Jambolana), Mahwa (Bassia Latifolia), Bahera (Terminalia Bellerica), Tun and Harrar trees. Large numbers of the latter grow in the cultivated fields of Bhoj Nagal, and yield a fair revenue of which the zamindárs have hitherto taken by far the larger share. Creepers are running rampant, and doing much harm, especially the Maljan (Bauhinia Vahlii.) The Sal tree (Shorea Robusta) is found nowhere in these hills, and it is exceedingly doubtful whether it could be introduced. The attempt was recently made to raise trees from seed obtained from Philibhit. This was a complete failure, as was only to be expected, owing to the wellknown difficulty in transporting Sal seed from a long distance. Under any circumstances the limit of the Sal tree is practically a few miles west of the Jamna. In the working plans of the Dehra Dur Forests it is prominently noticed that Sal cannot be grown further to the west on account of the excessive heat and dryness of the Punjab portion of the Sub-Himalayan range.

As regards the benefits arising to Government from a strict reservation it appeared likely that if it should be found practicable to close the low hills absolutely both from fire and grazing, a very marked improvement would take place rapidly leading eventually to diminution in the force of the hill streams. Rich lands in the plains would be protected from erosion, and Government would be saved heavy losses on account of land revenue remissions, and risk of damage to important lines of road and railway. Apparently this was the limit of the direct interest of Government in the scheme, and this interest applied to the lower hills only and not to the whole tract. Further good would be done indirectly by way of example in the event of any scheme however small being carried out successfully, but while the cost and trouble of reservation would fall on the Mír, he would, in the low hills at least, realise but a small portion of the ultimate gain. The scrub jungle which would grow over these hills would be invaluable as a protective covering, but would not be in itself a source of much

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revenue. Extension of cultivation would have to be forbidden absolutely, while even a moderate interference with existing rights of free grazing would meet with determined opposition from the people on whom the Mir depends for his revenue. Under these circumstances it seemed doubtful whether the Mir should be encouraged to undertake the closure of the low hills as a source of gain to himself. The case was altered if Government was willing to undertake the whole or part of the expense on its own account, but if Government was prepared to take direct action at all, it might do so more profitably in other parts of the range, where there has been greater denudation.

As regards the higher ranges of Morni and Tipra Government was not directly interested in the reservation scheme, except in so far as it would afford some guarantee against wasteful management in the event of the tract passing into inefficient hands. For protective purposes nothing could be better than the existing growth of dense scrub jungle covering nearly all the higher spurs. A careful examination of these hills showed that there is practically no erosion. There are occasional landslips, but even these are obviously due to natural defects in the hill conformation, and not to the undermining action of extensive torrents. The entire absence of drift wood along the beds of the streams within the hills, the moderate dimensions of their channels, the permanence of the terraced cultivation on even the steepest slopes, and the general depth and excellence of the soil are all alike evidence that no more effectual measures are required with a view to check the rush and volume of flood water. No clear instance of extensive damage was detected which could be directly traced to insufficient afforestation in these higher ranges. The volume of water carried down from these high hills must necessarily be large, but would not be appreciably lessened by stricter measures of protection than those already in force. It was noticed in every direction that it was not until the streams passed within the low ranges of the outer hills that they assumed the character of sand torrents causing so much destruction in the plains. The explantion seemed to be that the injury is due much more to the geological structure of these low hills than to the actual amount of flood water brought down to them from above.

The conclusion arrived at was that no large outlay on the forest would bring in any adequate return. The country is so rugged, and the scrub growth so dense that the cost of planting operations would be prohibitive. This conclusion was accepted after some discussion and Government eventually abandoned the reservation scheme in July 1890. The suggestions made for the improvement of the property, which could be carried out by the Mir independently of procedure under the Forest Act, noticed the advisability of systematic creper cutting; of encouraging the more extensive growth of the Harrar tree (*Terminalia chebula*) for the sake of Myrobalan fruit; of bamboo planting; of

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protection from fires by the appointment of fire guards, and by stopping the practice of firing the trunks of Chil trees to extract the resin ; and lastly of opening out the property by cutting small paths to improve communications. The following is a list of the more important trees growing in the Morni jungles :---

#### Used for building purposes and agricultural implements.

Khair-Acacia Catechu. Chal -Conocarpus Latifolia. Sein-Pentaptera Tomentosa. Shisham-Dalbergia Sissoo. Sandan.-Ougeinia Dalbergioides. Tun-Cedrela Toona.

#### Used for building purposes.

Chil-Pinus Longifolia. Jaman-Eugenia Jambolana. Mahwa-Bassia Latifolia. Pipal-Ficus Religiosa. Papri-Ulmus Integrifolia. Padul-Stereospermum Suaveolens. Pula-Kydia Calycina. Kakkar-Pistachia Integerrina,

# Used for building purposes and also lopped for fodder

Bor-Ficus Bengalensis. Bahera-Terminalia Bellerica. Ber - Zizyphus Jujuba. Dhak-Butea Frondosa. Siris-Albizzia Sipulata. Biul-Grewia oppositifolia. Jingan-Odina Wodier.

#### Lopped for fodder, but not used as timber.

Kachnar- Bauhinia Variegata. Kendu-Diosperos Mantana. Keim-Stephegyne Parvifolia. Dhamin-Grewia Tiliaefolia. Lasora-Cordia Myxa. Karaunda-Carissa Diffusa. Maljan -- Bauhinia Vahlii. Malkangni-Celastrus Senegalensis.

#### Miscellaneous trees.

Harrar-Terminalia Chebala. Aonla-Phylanthus Emblica. Bael-Aegle Marmelos. Chilla-Cæsaria Tomentosa. Keint-Pyrus Variolosa Sohanjna-Moringa Pterygosperma. Simbal-Bombax Malabaricum. Amaltas - Cassia Fistula. Kamola-Mallotus Philippinensis. Tezbal-Xanthoxylum Hostile. Harsinghar-Nyctanthes Arbortristis. Dhai-Woodfordia Floribunda.

Table No. XXII. shows the number of cattle, carts, and Agricultural imple-ploughs in each tabsil of the district as returned in 1892. The ments and applistock necessary for the cultivation of a small holding, say one of 10 acres, is, with the exception of the oxen, covered by a few rupees; a pair of ordinary plough bullocks may be bought for from Rs. 50 to Rs. 100, and the other implements would not cost more than Rs. 10. For well-land an additional expenditure of perhaps Rs. 220 is required for two pairs of bullocks and the well-fittings. More expensive bullocks are required to work the deep wells of the Rúpar Dhaia. Villages seldom have any large grazing areas. The cattle depend on stall feeding and whereever the soil is good the people find it pay better to grow fodder crops than to leave the land waste. The price of cattle has increased largely since 1860-61 in common with the general rise in the value of agricultural produce due to the opening out of the country by railway communications. The people are apt to complain of the increased cost of cattle, but their losses in this direction are much more than compensated for by the profits realised by the higher prices obtained for their crops and farm products. There is no evidence of disproportionate rise in the price of cattle, and as far as it goes the rise indicates a general

ances.

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boriculture and Live Stock.

Morni Forest.

## CHAP. IV .--- PRODUCTION AND DÍSTRIBUTION.

Chapter IV, A.

Agriculture, Arboriculture and Live Stock.

Agricultural implements and appliances.

growth of prosperity in the country rather than a diminution in the resources of the agriculturist. The breed of cattle is open to improvement, but the quality of plough bullocks used depends largely on the work required of them. It is useless to attempt farming in heavy clay soils, or where deep irrigation wells are worked, unless with strong bullocks costing Rs. 60 to Rs. 100 a pair. On the other hand it is bad farming for a man with a five acre holding of light alluvial soil to use such expensive animals, when half the price would be sufficient for the work required of them. The zamíndárs are quite alive to the advantages of the stronger breeds, and buy them up freely when really required, but for ordinary purposes the weaker home-bred cattle answer better than those imported because they have been accustomed to stall-feeding all their lives, and do not feel the change when suddenly cut off from the grazing in the open to which the finer cattle of the jungle tracts are accustomed. In common with most districts of the Eastern Punjab there is a strong prejudice in Ambála against the use of male buffaloes for ploughing or other farm work. It is tolerably certain that this prejudice will give way as soon as the people really feel the question of cattle supply to be a difficulty.

Government breeding operations; f airs

A few Government stallions have been kept in the district since 1868, but very little horse-breeding has been done till the last two years. A scheme has been recently developed for largely increasing breeding operations on the Wards' estates of the district and there are now twenty local stallions employed in addition to four provided by the Civil Veterinary Department. Of the local stallions eight are kept up by the District and Municipal Boards, two by Sardár Jiwan Singh and ten by other Sardárs who are Wards of Court. Altogether these twenty-four stallions supply 2,200 branded mares and there are in addition five donkey stallions for mule and donkey breeding. The Deputy Commissioner writes that many more stallions could be usefully employed, and that the number provided for locally will soon be thirty-five as the zamíndárs willingly take advances from Government for the purchase of stallions. Arabs which have broken down at racing or polo are being purchased and kept for serving mares at a fee of 14 rupees.

Experiments are also being tried in cattle and sheep breeding. Hissár bulls and Kathiawar cattle and nearly pure bred English rams and ewes have been imported on two Wards' estates and rams are being taken up by some of the neighbouring zamíndárs. The young stock promise well, but the sheep are not yet acclimatized.

There is now a salutri zillahdár in the district, and also a salutri in charge of a new Veterinary Hospital. Castration is becoming popular. A horse and cattle fair was instituted in 1891 and is becoming a very popular institution. Government contributes Rs. 250 from Imperial Funds towards the expenses of the fair which is held at Ambála city in April. Rupees 500 are

#### CHAP. IV .- PRODUCTION AND DISTRIBUTION.

contributed by Provincial Funds for prizes to horses, Rs. 1,200 by District Funds and Rs. 300 by private subscriptions, and in addition the District Fund now contributes Rs. 400 for prizes to cattle. Some 2,000 to 3,000 horses are at present brought to the fair. A cattle fair has also been recently started in the Government breed-Jagádhri tahsíl for the last Saturday in every month.

Large quantities of pigs and poultry are kept in the district by Chuhras. The pige are filthy feeders, but the flesh is in great demand among the lower classes. There is a large demand for poaltry in the neighbouring hill stations. All through the summer months a string of banghiwalas may be seen carrying fowls up to the hills in baskets. The prices obtained there make the keep of poultry highly remunerative in Ambála.

#### SECTION B.-OCCUPATIONS, INDUSTRIES, AND COMMERCE.

Table No. XXIII. shows the principal occupations followed Occupations of the by males of over 15 years of age as returned at the Census of 1881. But the figures are perhaps the least satisfactory of all the Census statistics, for reasons explained in the Census Report of 1881; and they must be taken subject to limitations which are given in some detail in Part II, Chapter VIII of the same report. There are no corresponding figures as yet available for the Census returns of 1891, but the total population has not varied appreciably in the decade, and there is no reason to suppose that the figures would show any great change in the present distribution among the different classes. More detailed figures for the occupations of the people, without distinguishing males of over 15 years of age, are given in Table No. XVII, Part B. of the Census Report for 1891.

Table No. XXIV. gives statistics of the large manufactories of the district as they stood in 1892. Commercially and indus- tries and manufactrially the district is not an interesting one. Its manufactures are few and unimportant. \ Rúpar is famous for its production of small articles of iron-work, and Ambála for darrís (carpets). Coarse country cloth is woven in almost every village, but for local consumption only. (Mr. Lockwood Kipling, Principal of the Lahore School of Art, has kindly furnished the following note on some of the special industries of the district :--

"Considering the history and traditions of this district it is disappointing to find so few remnants of either Muhammadan or Hindu art still alive and in practice. At Sirhind and other places in the neighbourhood are unusually fine but little known examples of Patha architecture, while some parts of the dis-trict are peculiarly sacred in Hindu estimation. At Ambála itself there is nothing to be seen but the large Military Cantonment. A Lucknow figure-modeller has established himself in the bázars, and produces small figures in terra-cotta, representing servants, fakirs, and other characteristic types. These are quite equal to the average standard of Lucknow figure-modelling. Basketwork in bamboo is a growing trade. Lady's work tables, occasional tea tables, flower stands and other fancy articles copied from European originals are the usual forms, in addition to baskets for native use. At Dera Basi and some

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ing operations ; fairs. Other domestic animals.

people.

Principal indus.

tures.

Terra.cotta.

Basket work.

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Chapter IV, B.

Occupations, Industries and Commerce.

Cotton prints.

Brass ware.

Shahábád industries.

Musical instruments.

Paper lace.

Course and nature of trade.

other villages cotton prints, unlike those of any other district in the Punjab, are made. Country cloth of very narrow width is used, and the patterns are generally diapers equally distributed, resembling the prints imported into Europe from which the first idea of "Indian chintz" was taken. The usual Punjab practice now is, on the other hand, to treat the surface to be ornamented as a complete composition, with borders and panels. These prints are sent into the hills and carried a long way into the interior. In some of the more elaborate patterns the fabric is strikingly like woellen cloth. Jagadhri has a well-deserved reputa-tion for brass-ware. Tasteful and pretty lamps with branching arms touched with colour on the leaves, and many other forms of brass-ware, are here exceptionally well made. Shahábád is spoken of as excelling in some handicrafts, but they seem to be practised by one or two individuals only. Two silversmiths from this place contributed to the Exhibition of 1882 very good specimens of chiselled silver, such as openwork bracelets set with turquoises, and belt clasps of excellent, though somewhat minute, workmanship. They are also the best seal-engravers in the Province, being capable of cutting intaglios of armorial and other subjects, as well as the usual Persian writing for signet rings. Here also is a virtueso in the manufacture of musical instruments, such as saringis, tambúras, &c. Mulberry and tun are the woods generally employed, and ivory carving and inlay with wood-carving in low relief are freely introduced. He has also produced the *pique* inlay known in Bombay work-boxes, made by arranging tiny rods of metal, sandalwood, and particoloured ivory of geometric section in patterns which are glued up and then sawn across in sections, each section in patterns when are greed up and then sawn actors in sections, each section, like a slice of the English sweetmeat called 'rock,' being a repetition of the pattern ready for insertion in a ground. From the same place from time to time specimens of one of the many puerilities in which native ingenuity and skill are so often wasted are sent. This is a sort of paper lace-writing paper cut into a dainty openwork of foliage and other forms with great delicacy and some skill in design. There are examples of this triviality in the Lahore Museum."

There are small flour mills in Ambála city and cantonments and an ice manufactory in cantonments. The principal factory of the district is the Government Canal Workshop at Rúpar, where large castings can be turned out. There is also a large iron foundry at Náhan in the neighbouring State of Sirmur in the hills, which now supplies most of the iron sugar mills used in Ambála.

There are no statistics available for the general trade of the district. The exports and imports of food-grains have already been noticed at page 82./ Many of the more considerable towns have their weekly market days for the disposal of country produce; and it is at these markets that most of the business of the district is transacted./ The principal weekly markets are at Jagádhri, Khizrábád, Búria and Kharar: at Ambála, Rúpar and a few other places, supplies are always plentiful, and no special market day is recognized. The trade of the towns is noticed under their several headings in Chapter VI.

Ambála, Rúpar and Jagádhri, situated except Rúpar on the Railway, are the chief trading centres in the district, and even from these there are no well established lines of trade. The district is one of the most populous in the Punjab, and it is doubtful if it does more than supply its own wants in the way of food grains, and in bad years large imports are required of both grain and fodder. All miscellaneous products find a ready sale in the numerous hill stations within easy reach of the district.

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Ambála city is a considerable grain mart, receiving grain and cotton in large quantities from the district, and from the Occupations, Insouthern parts of the Ludhiana district and also from the independent Native States of Patiála, Nábha and Jínd, and exporting them both up and down country. It carries on a considerable trade in hill products, such as ginger, turmeric, potatoes, opium, and *charas*, &c. From the south it imports English cloth and iron : and from the the Punjab, salt, wool, woollen and silk manufactures. In return, it manufactures and exports cotton goods, especially darris, in considerable quantities.

Rúpar is an important mart of exchange between the hills and plains: it carries on a considerable trade in grain, sugar and indigo; salt is largely imported from the salt range mines, and exported to the hills, in return for iron, ginger, potatoes, turmeric, opium, and charas. Country cloth is manufactured in the town and largely exported to the hills. The smiths of Rúpar have a reputation for the manufacture of locks and other small articles of iron.

Jagádhri carries on a considerable trade in metals, importing large quantities of copper and iron from the hills and from Calcutta and Bombay, converted into vessels, &c., of different sorts and sizes, and exporting to the North-Western Provinces and Punjab.

A considerable quantity of borax is manufactured at Sadhaura, and sal-ammoniac at Gumthala and Seana Sayadan, and is exported both up and down country.

During the American war a large cotton market was established at Kuráli in the Kharar tahsíl, on the Rúpar and Kharar road, and for many years a thriving trade was done. The cotton of the neighbourhood is still celebrated, but the special importance of the market has passed away now that the normal condition of the cotton trade has been restored. But even now it is said that as much as five lakhs worth of cotton changes hands at Kurali in the year.

## SECTION C .- PRICES, WEIGHTS AND MEASURES. AND COMMUNICATIONS.

Table No. XXVI. gives the retail bázár prices of com- Prices, wages, rentmodities for the last ten years. The wages of labour are shown in Table No. XXVII, but the figures are probably of doubtful value. The following table shows the average price obtained for land in the different tahsils, for various periods as ascertained at the revision of assessment. The prices have not altered appreciably since 1886. The quality of land varies so enormously, and the value returned is so often fictitious

rates, interest.

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dustries and Commerce.

Cause and nature of trade.

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, C. that the figures cannot be wholly relied or. The prices given are for cultivated land in rapees per acre :-

#### Prices, Weights and Measures and Communications.

Prices, wages, rentrates, interest.

		SA	LES.			Morto	AGES.	
TAUSILS.	1850 to 1866.	- 1867 to 1876.	~1877- to 1886.	Total.	1850 to 1866.	1867 to 1876.	1877 to 1886,	Total.
Ambála	 Rs. 32	Rs. 58	Rs. 74	Rs. 66	Rs. 29	Rs. 41	Rs. 42	Rs. 41
Kharar	 18	61	108	69	29	69	66	66
Rúpar	 21	77	99	87	60	- 70	72	72
Naráingarh	 5	30	55	29	16	28	35	33
Jagádhri	 12	27	40	32	18	29	29	29
Pípli	 8	15	24	18	20	29	32	30

Labour.

The supply of day labourers is derived either from the chamar caste, or by temporary immigrants from Bikanir and Hariána. When employed in harvesting, labourers are paid in kind, receiving generally eight sers of grain per day in the neighbourhood of towns, and five sers in villages where labour is more plentiful and the necessities of the labourer smaller. Other agricultural labour is paid for in money at the rate of 21 or 3 annas a day. Wages in kind seem to remain stationary. but money wages have doubled within the last twenty years. Since however the prices of food and necessaries of life have risen in almost the same proportion, it is doubtful whether the actual condition of the labourer is much better than it was in old days. Skilled labour is better paid in towns than formerly in consequence of an increased demand. Artisans (such as carpenters, smiths, masons) can earn from three to five or even six annas a day according to their ability.

Weights and measures. The following is a list of the weights in use :--

${oldsymbol{A}}$ dh $paiya$	=	$\frac{1}{8}$ th	sér.	1	Dhaiséri	°., <u>–</u>	21	sérs
Paiya		$\frac{1}{4}$ th	22		Tinséri	1000	3	33
Adhséri	=		"		Chauséri	=	4	,,
Sér	-	1	23		Panséri or vo	atti =	5	22
Derhséri		11	,,,		Dhari	==2	10	. 9 9
Dosêri	=	2	sérs,		Dhon		20	> 1
					Man	-	40"	2.2

Metal weights are in use for all except the last two. The weights are kacha weights. A kacha man is from 16 to 20 pakka sérs, 16 being the commonest rate.

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The following tables are also in use :--

	Grain w	eigth	s.			G old	and	Sil	ver	weights.	
5	Rupees' weigh	t =	1	chittak.	8	Grains of	rice	-	1	ratti.	
16	Chittaks	262	1	sér.	8	Rattis	~	=	1	masha.	
40	Sél·s		1	man.	12	Mashas		=	1	tola.	

The following measures of length are in use :-

Ungal Chappa Mutthi Bilisht or biland	<ul> <li>one finger breadth.</li> <li>breadth of four fingers.</li> <li>clenched fist.</li> <li>Span, thumb tip to</li> <li>bitle finger tip.</li> </ul>	Hath Gaz Kadam	11 11 17	elbow to finger tip. about 2 haths. 16 chappas, or a double pace of 54 to 57 inches.
or biland	$\int -$ little finger tip.			

Table of carpenters' and masons' measure :-

6 Tuswasis	==	1	Pain.
2 Pains		1	Adwani
2 Adwanis	-	1	Tassu or 26th of an English yard.
24 Tassus	1277	1	Gaz.

The measures of area are the páo-bigha, adh-bigha, paunabigha, bigha, and so on. Inside the village site they measure not by kadams but by gaz.

The ordinary unit of land measurement is the kacha bigha of 20 square kadams varying from 850 to 1,000 square yards in different parts of the district. In the Government records of first settlement land is measured by the pakka bigha of 3,025 square yards, but for the purpose of the new settlement a fixed kacha bigha standard has been set up of 1rd the pakka bigha. In any case the bigha whether kacha or pakka, is divided into 2) biswas. In a few villages in the north of the district the zamindárs use the kanal and marla standard common in the Punjab districts. In the Morni hills laud measurements were made out at last settlement not by areas but by a local seed calculation known as bij and tol, the bij representing nominally the rate of seed supposed to be sown in different soils, and the tol the corresponding area or gross weight of seed sown. Since 1888 the ordinary bigha standard of  $\frac{5}{24}$  of an acre in force in the rest of the district has been introduced into this tract also.

The figures in the margin show the communications of the

Communi	cations			Miles
Navigable rivers, Sut	lej and	Jamns	a	72
Railways				87
Metalled Road, viz., D	strict r	oads, C	trand	
Trunk road, and An	nbala a	and h	aika	105
road		***		100
Unmetalled roads				491

lating travelling allowances; while Table No. XIX. shows the area taken up by Government for communications within the district.

Telegraph; Post. district as returned in Table No. I of the Administration Report for 1890-91 ; Table No. XLVI. shows the distances from place to place as authoritatively fixed for the purpose of calcu-

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The Sutlej and Jamna (except within the hills) are both

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Communications.

Communications; Telegraph; Post.

Rivers.	Stations	•	Distance in miles.	Remarks.
Sutlej	Sarai Awanko:		4	
	Miáni Rúpar Chahilán	•••	3 4 8	Ferry and mooring place.
Jamna	Mulána Bibipur Bái Ghật		··· 4	
	Dika Paubari Gumthála		- 11	Do.
				1

navigable for country craft throughout their courses within the district; through traffic on both these rivers is confined to certain portions only. The table in the margin shows the mooring places and ferries, and the distances between them,

following the downward course of each river. The Sutlej below Rúpar has seldom been open for navigation by boats since the opening of the Sirhind Canal, which draws off the great mass of the river water during the cold season. The canal is open for boat traffic during most of the year, and by giving notice beforehand arrangements can nearly always be made for the conveyance of travellers from Rúpar by boat to the North-Western Railway at Dauráha. The passage to Dauráha by country boat takes some eight hours as a rule. The journey up-stream takes much longer, unless a canal steam launch should be available. Except during the rains the Jamna is crossed by a bridge of boats at Ráj Ghât.

The North-Western Railway from Saháranpur towards Ludhiána runs through the district with downwards stations as follows :--

Sirhind to Sarai Banjara, 9 miles; Rájpúra, 6 miles; Simbhu, 7 miles; Ambála City, 6 miles; Ambála Cantonments, 5 miles; Kesri, 7 miles; Barára, 8 miles; Mustafábád or Unchachandna, 6 miles; Hingoli, 3 miles; Jagádhri, 7 miles. From Rájpúra there is a branch line to Patiála and Bhatinda, where a junction is effected with the Rewári-Ferozepore Railway.

The Delhi-Kálka Railway, opened in 1891, also runs through the district with stations as follows :--

Thánesar; Shahábád, (Karindwa), 14 miles: Ambála Cantonments, 12 miles; Dhulkot (for Ambála City), 5 miles; Lálrú, 6 míles; Ghaggar, 10 miles; Chandigarh, 9 miles; Kálka, 9 miles.

The main lines of metalled roads in the district are - (1) The Grand Trunk Road, which enters it from Karnál a few miles east of Thánesar, and runs nearly north as far as Ambála; from this point it turns north-west, and passes, a few miles further on, into Patiála territory. It crosses all the hill streams by bridges. The principal bridges are those of the Márkanda and the Ghaggar. Its total length within the district is 38 miles. (2) A cross road connecting Shahábád and Mustafábád viâ Adhoa. This road was metalled in 1866, but has not been kept in repair. (3) From Jagádhri to Chachrauli, the residence of the Chief of Kalsia. (4) The Ambála and Kálka

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road (for Simla). This leaves the Grand Trunk Road four miles above the Ambála Cantonment, and runs nearly due north to Prices, Weights Kálka, at the foot of the hills; distance 39 miles. The Ghagger and Measures and is crossed by a ford, 20 miles from Ambála; all other streams Communications. are bridged. A detention of a few hours sometimes occurs at the crossing after heavy rain in the hills. At most seasons however the river is easily fordable. The following table shows the principal roads of the district together with the halting places on them, and the conveniences for travellers and troops to be found at each :--

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Roads.

<u> </u>			
Route.	Halting Place.	Distance in miles.	Remarks.
Ludhiana and Kálka road, un metalled.	Morinda Kharar Rurki Chandigarh	 10 8 9	Unmetalled. Encamping-ground; police rest- house and a kacha sarai. Unmetalled. Encamping-ground; sarai, with a rest-house for European travellers. Unmetalled. Encamping-ground. Last 4 miles metalled. Encamping-ground; read bungalow, P. W. D.; and a sarai.
Ambála and Kálka road, metalled.	Ámbála Cantonments Láiru Mubárikpur Chandigarh	 13 9 11	<ul> <li>Metalled road. Encamping-ground; regular barracks for troops stationed; dåk bungalow; hotels, and sarai in the sadr bazør.</li> <li>Encamping-ground; sarai with burj for European travellers; and P. W. D. road bungalow.</li> <li>Encamping-ground; and a P. W. D. road bungalow.</li> <li>Encamping-ground; P. W. D. road bungalow; and a sarai.</li> </ul>
Grand Trunk Road.	Bara Ughána Moghal-ki-sarai Ambála Cantonments Shahábád Pípli ,	 13 10 11 13 13	Encamping-ground; sarai with burj for Euro- pean travellers. Dito ditto ditto. Encamping-ground; dåk bungalow; hotels and sarai. Encamping-ground; district officer's rest- house; P. W. D. road bungalow; and sarai. Encamping-ground; sarai; P. W. D. road bungalow.
Ambúla to Saháranpur.	Ambála Cantonments Shahábád Adhoa Chhappar Jagádhri	13 11 9 9	Encamping-ground, &c., as stated above. Encamping-ground, &c., as above. Unmetalled. Encamping-ground; P. W. D. rest-house. Encamping-ground; P. W. D. road bungalow; and a sarai. Encamping-ground; tahsil and thana; district officer's rest-house; and a sarai.

There are also district unmetalled roads from Ambála city to Pikowa, 33 miles; Pihowa to Thánesar, 16 miles; Thánesar viả Pípli to Ládwa, 12 miles; Ládwa viả Radaur to Jagádhri, 20 miles ; Jagádhri viá Khizrabád to Kalesar, 22 miles ; Khizrabád viá Beláspur, Sadhaura to Naráingarh, 30 miles ; Naráingarh to Manimájra, 29 miles; Manimájra to Kharar, 13 miles; Kharar to Rúpar, 18 miles; Ambála to Kála Amb, 29 miles; Ambála to Rúpar viâ Kharar, 45 miles. There are police and district rest-houses in several places.

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A telegraph line runs along the whole length of the railways, with offices at each station. There are also Telegraph Prices, Weights and Measures and offices at Shahabad and Thanesar towns connected with Communications. Ambála Cantonment on one side, and Kaithal, Karnál and Dehli on the other. At Barara Railway station (North-Western Railway) Telegraph.

a telegraph line branches off to Náhan in the Sirmur State. This line is also in communication with the Ambála Cantonment and city stations. At Jagádhri there is an office in communication with Ambála and Saháranpur. There is also a telegraph line from Ludhiána to Simla viá Rúpar, running along the Sirhind Canal from Dauráha to Rúpar.

Post.-The Post Offices are controlled from a Head Office in Ambála Cantonments. There are sub-offices or branch offices of the Imperial Post Office in the following places, at all of which Savings Bank as well as money order business, is conducted :----

In tahsil Ambála.-Ambála city and Railway Station, Barara and Mulána.

In tahsil Kharar.---Kharar.

In tahsíl Rúpar.-Rúpar and Morinda.

In tahsil Naráingarh .- Naráingarh, Sadhaura and Shahzádpur.

In tahsíl Jagádhri.-Jagádhri, Biláspur and Dádupur.

In tahsíl Pípli,-Pípli, Sanghaur, Ládwa, Shahábád and Thánesar.

There are 39 minor branch offices in the district at which money order business can be done. The branch offices are worked through the sub-offices, and some delay is unavoidable in the case of letters delivered or despatched from anything less than a sub-office. The sub-offices have been entered in italics in the list given above.

There are combined Post and Telegraph Offices at Ambála city, Rúpar, Jagádhri, Sháhábad and Thánesar.

Post.