Unfortunately the areas held under each description of rent are not available. As the figures shew there has been a considerable decrease in the area cultivated by the owners themselves. This is due chiefly to the increase of transfers, but partly also to the rise in cash rents, which has made it now worth the owners' while to let their surplus land to tenants-at-will. Previously as will be shewn below cash rents were so low that the owners made little or no profit by letting their lands, and consequently they preferred to cultivate them as far as possible themselves.

Rents.

Cash rents.

The previous position as regards cash rents is thus described in the old Gazetteer :—

Hitherto the great majority of the tenants paying at cash rents have been holding at customary privileged rents, which had their origin in the days when land was plentiful and cultivators were few. During the last few years, however, and especially since the revision of the record-of-rights, there has been a marked tendency on the part of the owners to insist on their right to receive larger rents. Notices of ejectment are often served merely to enforce a demand for higher rent. Speaking generally, it may be said that, in the past, full rents were confined to, (*a*) estates owned by single individuals or families, or very small bodies of owners, (*b*) land cultivated by non-resident tenants, especially if these were of low caste, (*c*) the neighbourhood of towns. As population increases and the land is more and more subdivided among the owners, and the competition for holdings increases, rents will surely rise; although privileged rents will no doubt long continue to be paid by tenants holding under village communities of the same caste.

This prediction has been verified. For the reasons given (to which must be added the extent of transfers to outsiders) cash rents paid by tenants-at-will are now, generally speaking, competitive unless the tenants are members of, or of the same caste as, the proprietary body.

At the recent settlement cash rents were submitted to an exhaustive analysis with a view to ascertain the full fair rent paid on the chief classes of soil. Cash rents are of two kinds, those paid on single classes of land, and lump rents paid on plots containing different classes of land. In order to arrive at the "full fair rent" required by the assessment instructions, rents were subdivided into :—

(*a*) rents paid by tenants-at-will to owners,

(*b*) rents paid by tenants-at-will to mortgagees,

(*c*) rents paid by mortgagors to mortgagees,

(*d*) rents paid by *sájhis* (partners) to owners.

The great majority of full fair rents are to be found in classes (*a*) and (*b*), those in class (*c*) tending to be rack-rents or to include

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adjustments of debts, and those in class (*d*) to be unduly low because the tenant is really a partner and brings capital into the partnership.

Cash rents.

The above rent table was scrutinized holding by holding, and abnormal rents were eliminated. Figures shewing the total cash rents paid by tenants-at-will and the rents remaining after the elimination process had been completed are given in the assessment reports, but except in the case of the Gurgáon tahsil attestation had not been completed at the time they were compiled. Final figures were not compiled for Rewári, but for Palwal, Núh and Firozpur they are contained in Appendix III of the Financial Commissioner's reviews of the assessment reports of these *tahsils*.

The following table shews the average maximum and minimum rent usually paid per acre on each class of soil in each *tahsil*. The figures are taken from the statements of full fair rents :—

1	2	3	4	5	6	7
Tahsil.	Class of soil.	Highest average rents.	Assessment circle in which paid.	Lowest average rent.	Assessment circle in which paid.	Average of the tahsil.
		Rs. a. p.		Rs. a. p.		Rs. a. p.
Rewári	Cháhi ...	7 13 0	Chahat Mitha	5 15 0	Chahat Khári	6 11 0
	Dahri ...	3 14 0	Sáhibi ...	3 1 0	Do. Mitha	3 3 0
	Narmot ...	3 2 0	Do. ...	2 13 0	Do. Khá i	2 15 0
	Magda ...	2 11 0	Pahár ...	2 5 0	Do. Do.	2 7 0
	Bhur ...	2 1 0	Sáhibi ...	1 5 0	Do. Mitha	1 10 0
Palwal...	Cháhi ...	5 11 0	Bángar ...	3 10 0	Khádar ...	5 8 0
	Nahri ...	6 11 0	Do. ...	3 0 0	Do. ...	6 11 0
	Narmot ...	4 15 0	Do. ...	3 2 0	Do. ...	4 10 0
	Magda ...	4 4 0	Do. ...	2 14 0	Do. ...	4 3 0
	Bhur ...	2 15 0	Do. ...	1 14 0	Do. ...	2 13 0
Núh ...	Cháhi ...	6 0 0	Táoru ...	4 6 0	Dáhar ...	5 4 0
	Nahri ...	3 6 0	Bángar ...	...	...	3 6 0
	Abi ...	4 8 0	Táoru ...	3 13 0	Dáhar ...	3 14 0
	Dahri ...	3 13 0	Dáhar ...	2 2 0	Bángar ...	3 13 0
	Narmot ..	4 3 0	Do. ...	3 14 0	Do. ...	4 0 0
	Magda ...	3 8 0	Do. ...	2 8 0	Táoru ...	2 13 0
	Bhur ...	2 3 0	Do. ...	1 10 0	Do. ...	1 14 0
Firozpur	Cháhi ...	7 15 0	Dáhar ...	4 0 0	Chiknot ...	7 0 0
	Nahri ...	4 12 0	Bángar ...	...	...	4 12 0
	Abi ...	7 12 0	Dáhar ...	4 3 0	Chiknot ...	6 14 0
	Dahri ...	6 8 0	Do. ...	4 12 0	Bhuder ...	6 2 0
	Narmot ...	5 9 0	Do. ...	3 14 0	Chiknot ...	4 12 0
	Magda ...	6 6 0	Do. ...	4 4 0	Bángar ...	5 4 0
	Bhur ...	4 3 0	Do. ...	1 15 0	Bhuder ...	2 6 0
Gurgáon	Cháhi ...	8 4 0	Bahora ...	5 2 0	Sáhibi ...	6 5 0
	Abi ...	4 0 0	Gurgáon ...	2 10 0	Sohna ...	3 11 0
	Dahri ...	7 4 0	Bahora ...	2 8 0	Bhur ...	3 11 0
	Narmot ...	6 2 0	Do. ...	2 7 0	Sáhibi ...	3 9 0
	Magda ...	3 7 0	Gurgáon ...	2 0 0	Bahora ...	3 14 0
	Bhur ...	1 11 0	Bahora and Sohna ...	1 3 0	Sáhibi ...	1 8 0

Kind rent.

The area under kind rents is nearly the same as it was at last settlement, *viz.*, about 16 per cent. of the total cultivated area of which equal shares are held by occupancy and non-occupancy tenants. The area under produce rents has decreased in

Rewári at the expense of cash rents, but this decrease has been counterbalanced by an increase in the canal-irrigated tracts of Palwal, Núh and Firozpur, where a kind rent is an increasingly popular form of rent of canal-irrigated crops. The rates at which kind rents were taken at the second regular settlement are as follows. For ordinary irrigated and well lands one-third, or if the conditions of production were more than ordinarily favourable, two-fifths. On naturally irrigated lands one-half of the produce was sometimes given, while on salt wells and on very poor sandy soils the proportion fell to one-fourth. The present rates average considerably higher. Of a well irrigated crop the landlord's share is always one-third. Of a canal-irrigated crop the share is always one-half (except of cane of which it is generally one-third), but the landlord shares with the tenant the cost of the seed and of the canal dues. In the case of cane the share is generally one-third with a corresponding share of the cost of the seed and canal dues. Of crops grown on flooded or exceptionally moist land the share is one-half; of ordinary unirrigated land the share differs in different *tahsils*. In Rewári it is generally one-third; in Palwal, Núh and Firozpur it is almost invariably one-half, while in Gurgáon it is sometimes one-half and sometimes one-third. The normal rate would probably be two-fifths, which was found by Mr. O'Dwyer to be the normal rate in Alwar, but the unirrigated area under kind rates is so small that it is extremely difficult to decide what the normal produce rent rate ought to be. A corresponding share of the straw is generally but not always taken.

Kind rent.

In Rewári and the adjoining part of the Gurgáon *tahsil*, when the rent is in kind, a fixed cash rent is sometimes taken on certain crops which it is not convenient or practicable to divide. This is called a *zabti* rent, and it is levied on such crops as cotton, tobacco, cumin, chillies, vegetables and fodder. The area under *zabti* rents is only 688 acres in Rewári and 4 acres in Gurgáon.

Zabti rents.

One hundred and fifty-two acres in the whole district (nearly all in Rewári and Gurgáon) pay a fixed amount of produce irrespective of the character of the harvest.

Fixed amount of produce.

Table 25 gives details of the wages of skilled and unskilled labour in large labour centres. The figures of 1905-06 compare as follows with the results of the preliminary wage census held in December 1909 under the orders of the Director of Agriculture :—

Wages of labour.

Year.	Skilled.		Unskilled.	
	Highest.	Lowest.	Highest.	Lowest.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1905-06	0 8 0	0 6 0	0 4 0	0 2 0
December 1909	0 8 0	0 4 0	0 4 0	0 1 6

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Wages of labour.

The figures for December 1909 are for rural labour centres only, no village having been selected for enquiry within two miles of any town. The rates for skilled labour are much the same all over the district, but the rates for unskilled labour vary, being higher in Rewári, Palwal and Gurgáon, where the demand for labour for railways, canals and factories has caused a substantial rise, and lower in Núh and Firozpur. In the three first named *tahsils* the rise during the last 20 years is estimated roughly at 50 per cent. while in the two last named the rise has been generally much smaller, and in places amounts almost to nothing. This seems to indicate that the rates are affected less by the price of common food grains than by the extension of railways, canals and factories as the prices of common food grains have risen uniformly throughout the district. Day labourers are not usually paid in kind, but away from large labour centres cotton pickers generally receive as payment one-tenth of their pickings.

Village artisans and servants on the other hand who render regular as opposed to occasional service to the village community are still paid for such service in kind. They are not, as in some districts, divided into classes for public and private work, nor is there any fixed roster of service; but families of menials are, by hereditary custom, attached each to its own family of proprietors, and their rights and obligations are recognized from generation to generation. In some villages, the dues of each class were fixed at settlement, and recorded in the administration paper, but in others they are settled by mutual arrangement, or left entirely to the discretion and liberality of the employer. As, however, the land-holders cannot get on without the *kamin*, the latter is often master of the situation, and protects himself from injustice and oppression by threatening to desert his home. Even where rates of remuneration have been fixed, non-proprietors are generally left to make their own arrangements by mutual agreement. The numbers of the principal classes (extracted from table 15) are as follows:—

Chamárs, 87,056; *chuhras*, 20,850; *kumhárs* 15,801; carpenters, 13,485; blacksmiths, 6,913; weavers, 2,345; washermen, 3,989; barbers 14,142.

The duties of the *chamár* are to mend shoes, carry fuel, assist in all kinds of agricultural operations, pitch tents and act as watchman for Government officers in camp, carry bundles, and generally to act as *buláhar* or village messenger. Besides the flesh and skins of dead animals, they get, in villages where dues are fixed, a quota of grain varying from 40 to 60 seers per annum from each family served, whether of owners or tenants, but sometimes a smaller allowance at harvest, and in addition thereto, one barley cake per day. They generally receive a present in cash on the occasion of a son's marriage, but no fixed sum is prescribed.

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The sweeper (*khákrob, bhangi, chuhra*) in return for keeping houses clean and removing nightsoil, generally receives half a barley cake per day from each family served, a present at marriages, and fees in cash or grain according to agreement besides a share of the flesh of dead animals. He is often fed for a considerable time while marriages are going on. A sweeper sometimes acts as *buláhar* and receives special allowances.

Potters (*kumhár*) are required to supply earthen vessels free of charge to all proprietors, and for the camps of Government Officers, and the usual remuneration is 10 seers of grain per plough at every harvest, and a fee in cash on the marriage of a son or daughter.

The rates vary very much in different villages, and in many places are not fixed at all. *Kumhárs* also make money by letting out donkeys for hire and burning bricks.

The blacksmith (*lohár*), and carpenter (*kháti, barhai*) are obliged to repair all agricultural implements, supplying fuel and tools, but receiving the necessary iron and wood from the owners. Payment is made for new implements and all other work. The dues of both are the same, *viz.*, a quota of grain varying from 20 to 45 seers per plough at each harvest, and a fee on the marriage of a son or daughter.

Washermen (*dhobi*) and water-carriers (*sakka, bhishti*) are only found in large villages, and where the women are secluded. The former is required to wash clothes for all male proprietors, and receives from those who employ him the same dues as the *kumhár*. The latter supplies water where the women of the household cannot draw it, and receives from each family one cake per day, 10 to 15 seers of grain at each harvest, and fees on the marriage of a son or a daughter.

The barber (*hajjám, nái*) is expected to shave everybody free of charge, to take messages, arrange contracts of betrothal and marriage, and do various kinds of miscellaneous work. He sometimes gets a cake for shaving, and 10 seers of grain at harvest; but he depends chiefly on the presents given at betrothals and marriages, which vary according to the means and position of the parties. There are very few *doms* in the district. They take messages, negotiate betrothals and perform certain ceremonies at funerals, and are remunerated as barbers.

The *teli* (oil presser), *gadariya* (shepherd), *juláha* (weaver), *rangrez* (dyer), *chipi* (calico printer), *sunár* (goldsmith), and *bhát* have no defined rights and obligations, but are paid by the job for work done and service actually rendered.

Table 26 shews the price at head-quarters on the 1st January of each year of the staple food grains forming the common food of the people. The rise since 1905 has been enormous and is due

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to the bad seasons. After two good harvests there has been a fall in 1910, and the price of all food grains, except, perhaps, wheat, will probably continue to fall if the seasons remain favourable.

Wages of labour.

The price of wheat is determined largely by conditions prevailing outside India. Both at the second and third regular settlements an enquiry was made into the prices obtained locally by agriculturists when disposing of their produce, and this enquiry was made the basis of the commutation prices assumed for the valuation of the Government share of the produce. The prices assumed then and now compare as follows:—

1	2	3	4	5	6	7	8	9	10	11	12	13
	Jowár.	Bájra.	Mung.	Moth.	Til.	Cane.	Cotton.	Wheat.	Barley.	Gram.	Sarson.	Tárámíra.
Prices at last settlement	17	18	18	17	40	...	56	21	15	17	28	21
Sanctioned now	20	23	30	22	60	45	64	32	22	23	45	32
Rise per cent.	18	21	67	29	50	...	14	52	47	35	61	52

The above prices are in annas per maund. They differ from the Gazette prices because they are harvest prices. The all-round rise of prices in each *tahsil* as shewn in the preliminary report on prices submitted by Mr. Hamilton in 1904 is as follows:—

	Per cent.
Rewári	27
Palwal	32
Nuh	26
Firozpur	39
Gurgáon	25

For the high prices which have ruled since 1905 these figures would be much too low, but as already stated the price of most crops will probably fall when a succession of good harvests has restored prosperity. The effect of the improvement of communications within and without the district has had a marked effect in levelling up prices all over the district. It was noted that the prices assumed at the second regular settlement for the different *tahsils* did not vary greatly from one another, nowhere being more than 10 per cent. above or below the average. At the third regular settlement the difference in the various *tahsils* was so small that uniform prices were assumed for the whole district.

Material condition of the people.

The standard of living of the middle class clerk is probably much the same as in other districts, and has risen considerably. He now always wears a coat, waist-coat, shirt and trousers, and sometimes a collar, necktie, and English boots or shoes instead of

the old *kurta* or *angrakha*, small turban and *dhoti*. His house will rarely be found without chairs, stools, a table, a lamp, *nawár* bedstead, *daris*, boxes and wall pictures. He also demands a better lighted and better ventilated house than the old fashioned mud hovel.

Material condition of the people.

The material condition of the ordinary cultivator and day labourer is very poor. They have no sources of income other than agriculture, and owing to the scarcity of land and the precariousness of the rainfall the surplus of good years is swallowed up by the first year of famine or severe scarcity. As Chapter I shews, their dress, food and household furniture are of the simplest and cheapest kinds, and there has been no appreciable rise in their standard of living. A general account of the economic condition of the peasantry is given in Section A of this Chapter.

Section C.—Forests.

There are no forests in the district.

Section D.—Mines and Mineral Resources.

Iron.

Iron ore exists in the hill range near Firozpur and at Patan Udepurí, a few miles south of Firozpur; in the time of the Nawábs of Firozpur the trees on the hills were rigorously preserved, and the ore was worked and smelted at Firozpur, there being 22 furnaces at work, each of which could turn out two maunds of iron in 18 hours. But on annexing the country the hills were abandoned to the village communities, and the consequent decrease in the supply of fuel soon rendered the manufacture unprofitable, and it has long been abandoned. Traces of copper exist in the range east of Firozpur, on the road to Rewári.

Mica.

Mica is found near Bhúndsi, and is occasionally extracted.

Plumbago.

In 1861 the late Dr. Thomson, Civil Surgeon of Gurgáon, reported the find of a deposit of plumbago near Sohná, and an account of his discovery was published in the *Panjab Gazette* of 4th January 1862. Some pencils were manufactured out of the plumbago found there, and at first there was good hope of the mine being really valuable, but eventually the substance was pronounced extremely poor and commercially valueless. Subsequently the locality was visited by Mr. Hacket, Geological Surveyor. The following extracts from his notes describe the result of his examination :—

"At the back of the town of Sohná, in the Gurgáon district, a thin irregular band of schist, possibly belonging to the Raiolo group, occurs in the quartzites. From these schists some specimens of plumbago have been taken. There are no traces of any excavations having been made, except a very small pit, which could not have been many feet deep. Anything that I could see was exceedingly poor and hardly

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deserved the name of plumbago, and I doubt if anything much richer was ever taken from this locality. The specimen sent to me by the Deputy Commissioner was as poor as those I picked up.

Gold.

"When examining these schists, the Sohná *lambardár* told me that after every rain, small quantities of gold were discovered in the sand, mud, &c., of the little water-courses at the bottom of the hill. I had up, and examined, *mehtars* of the town, who told me that it was true that they made a few rupees every year in this way, and that the heavier the rains the larger the amount of gold. Last year, for instance, as the rains were so slight, they did not get any, or did not think it worth while looking for. The only rocks exposed in this gully are the Alwar quartzites, and these schists. As I cannot imagine that the gold could be washed out of the hard quartzites, I presume it must come from these schists."

Slate.

Slates are quarried from the detached knot of hills near Khol, Májra-Bhálki, and some twelve miles west of Rewári; the chief quarry has been for some years worked by the Kángra Valley Slate Co. The slate in question corresponds with what is known as the Granwacke slate, which is laminated claystone, containing sand, mica, &c., and is inferior to clay slate. The cleavage does not appear as clean or as good as in slates from the hill districts, nor is the colour uniform or the grain fine. In Granwacke slates the laminæ of deposition on all the vertical planes parallel to the plane of stratification, and so far differ from clay slates whose laminæ cross the plane. But the slates, although not of first class quality, are good and serviceable and will suit most buildings. Slates from these hills have been very largely used in roofing and flooring the Stations of the Rájputáná Railway and other buildings in the neighbourhood. The following details were kindly supplied by the company's local manager. The system of quarrying adopted is very simple. A cutting is made from one slate bed to another and the upright slate is worked out with wedges and crowbars, the *debris* being removed in tip wagons. The labour is provided by the poorer proprietors and menials of the adjoining villages. The scale of pay in 1908 was:—

	Per diem. Annas.
Quarry men	3½
Pickers	3
Sawyers	2 to 2½
Boys (for removing *debris*)	1

The average daily attendance from the year 1907 was:—

Quarry men	12
Pickers	10
Sawyers	120
Boys	19
Total	161

Slate is also extracted from the hills at Basai Meo in the Firozpur *tahsil*.

Salt.

In 1883 there were flourishing salt works both near Sultánpur in the Gurgáon *tahsil* and round the town of Núh, but only the former has survived the competition of the cheaper lake salts. The following note on the present state of the industry has kindly been furnished by the Assistant Commissioner, Northern India Salt Revenue.

Mahál.

South-west of Delhi there are ten clusters of villages, known as the Sultánpur Mahál; covering an area of about 20 square miles situated partly in the Gurgáon and partly in the Rohtak districts where salt has been manufactured by solar evaporation of brine from wells from a period long antecedent to British supremacy. The Mahál comprises the villages of Sádrána, Sultánpur, Mahmúdpur, Saidpur, Zaidpur, Mubárakpur, Káliawas, Ikbálpur, Basírpur and Sailána. No salt is now manufactured at the last five owing to a decline in the demand for the salt.

Saidpur.

Three of the tracts were included in the Jharsa *pargana* and in 1836 lapsed to the British Government on the death of the Begam Sumroo. Until the Mutiny in 1857 five belonged to the Nawáb of Jhajjar and two to the Nawáb of Farukhnagar.

The salt produced at these sources, locally called *sars*, is named Sultánpuri and contains from 90 to 93 per cent. chloride of sodium.

The following give particulars of the *sars* in 1870 and 1908:—

Name of sar.	1870.		1908.	
	Wells in use.	Pans in use.	Wells in use.	Pans in use.
Sádrána	21	284	10	136
Sultánpur	39	435	15	140
Mahmúdpur	15	138	1	15
Saidpur	6	60	1	11
Zaidpur	15	602	2	35
Mubárakpur	72	1,308	...	...
Káliawas	3	35	...	...
Ikbálpur	16	243	...	...
Basírpur	49	530	...	...
Sailána	10	164	...	...
Total	246	3,799	29	337

The manufacture of salt is exclusively from brine raised from the wells. The supply seems inexhaustible as some of the works have been in operation for over 200 years without apparent deterioration.

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To each well is attached one or more sets or groups of chunam lined pans varying in size from 200 × 60 feet to 60 × 40 feet and from 10 to 12 inches in depth. Each set consists of about 9 pans the levels of which are so arranged as to allow of the natural flow of brine from the first to the last. These pans are annually repaired in February and March after which the highest pan, generally nearest to the well, is filled with brine and allowed to stand for one, two, or more days according to the season and weather. The brine is then run off into the second pan (the first being refilled with fresh brine) and then into the third and so on until the brine reaches the last pan but one (the condenser or *rasail*) where it is allowed to stand, receiving perhaps one or more accessions from the higher pans, until the salt begins to form, when the concentrated brine is run off into the last pan (the crystallizer or *nunkarh*) for a crop of salt. If the best salt is to be made the process of crystallization must be closely watched and the crop of salt must be gathered before the inferior allied salts, the sulphate and carbonate of soda, precipitate. After the removal of the crop of salt the bitterns (locally *kah*) are either run off or baled out with a reed scoop (locally *chhaj*) and thrown away as useless. If the allied salts are allowed to deposit, the crop of salt will be bitterish and inferior. Before running off the brine from the condenser into the crystallizer the manufacturer skims off all floating impurities and straw, leaves and the like resting on the brine, for this purpose he uses a cow's, or camel's rib or a broom. This skimming is known as *kiári dhona*. The period of manufacture of a single crop of salt varies from 3 weeks to a month in the winter, when evaporation is slow, to 10 days and even less in the hot weather, when evaporation is rapid.

In some factories the brine is not detained for condensation but is allowed to flow into the crystallizer but this is not the usual practice. The salinity of the brine varies considerably in different wells and in the same well at different seasons. During the rainy season the water in the wells is hardly brackish but as the season advances the density rises until in the hot weather it is about 4° Beaumé or 4 per cent. salt.

On removal from the pans the salt is stacked in conical heaps on a platform alongside and while fresh the surface is stamped with the Government seal as a precaution. In a few days the surface hardens into a crust sufficient to withstand ordinary winter and spring showers.

The salt is always pure white unless discoloured by dust-storm. The salt fetches a better price when fresh and is never pitted until the approach of the monsoon rains when any remaining unsold must be stored in pits. Sultánpuri salt is not of uniform quality owing to variations in the quality of the brine in the wells and care or want of care in the process of manufac-

ture. The cost of production cannot be accurately ascertained as the mass of the workers are agriculturists during the rains and better part of the cold weather—their plough and cart bullocks draw the brine and the labour they employ is mostly that of their own household. They work on capital borrowed at exorbitant rates and practically the mahájans own the works.

The demand for Sultánpuri salt has been steadily declining for years and the few surviving works are struggling for bare existence. The salt is of fair quality, the principal works are on the railway, but the salt is expensive to make and cannot compete with Sámbhar salt from Rájputána and Lahori salt from the mines in the Punjab. The output of Sultánpuri salt now amounts to only about 70,000 maunds, and is on the steady decline. Most of the salt exported is consumed in the eastern districts of Oudh and in the Dehra Dun and Pilibhit districts where there is still a lingering demand for this salt.

The Government is entitled to a share in the produce which is realized by a cess, called Hákimi, levied at the rate of 3 pies per maund on all salt excised. Though an item of land revenue the cess is collected by the Northern India Salt Revenue Department for obvious reasons. In consideration of the rights of landholders in the lands occupied by the saltpans the Government pays through the Deputy Commissioner of Gurgáon in some cases a refund of from 5 to 50 per cent. of the Hákimi cess.

The preventive arrangements are controlled by the Commissioner, Northern India Salt Revenue, Agra, under the Indian Salt Act XII of 1882. Manufacture of salt is permitted by license and its manufacture, storage, excise and clearance are effected under the rules of the Northern India Salt Revenue Department. Departmentally the works are divided into two groups, one comprising the Sultánpur, Mahmudpur, Saidpur and Sádrána factories under a Superintendent, and the other comprising the Zaidpur factories under an Inspector subordinate to the Superintendent. The establishment under these officers consists of 56 petty officers and men.

Sulphur.

The town of Sohná has long been celebrated for the hot sulphurous spring, possessing no mean medical qualities, which issues from the foot of the Mewát hills, against the eastern side of which the town is built. The water at the present time wells up into a substantial reservoir, covered in with a dome-shaped roof. Round this well-house is a courtyard containing the bathing tanks, and closed in by well constructed native buildings. The largest tank measures 36 feet long by 24 broad, and 5 deep, and is supplied with water from the main reservoir. The virtue of the spring was first tested for Europeans in 1863, when a party of invalids was sent out from Delhi to try the water as a cure for the well-known Delhi ulcers. The report of the medical

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officer in charge was most satisfactory. The water was found to be at a temperature varying from 115° Fahr. to 125°. This was in the month of October. In 1872 a medical man, Dr. Charles Smith, was sent to report upon the springs as a cure in cases of rheumatism. The following is extracted from his report :—

"By reference to my note-book on the 9th February, I find that the temperature of the water was low, in consequence of a cold wind having been blowing for three or four days successively; on this occasion the temperature was 92°, while four days previously it had been 110° 5' Fahrenheit. On the above date, at 12 A.M., I found forty-five people of both sexes and all ages bathing in this very limited space, and I am informed that a certain time (during a *melá* or native fair) as many as two hundred and fifty may be seen bathing at the same time. When the water is comparatively cold, as it was on the 9th February, the bathers remain in the water ten or twenty minutes; when the temperature is higher, they remain as long as one and even two hours, and come out, as one may easily imagine, sick and faint. I found men bathing, washing their dirty clothes, and drinking the same water, and was not surprised to hear that diarrhœa and dysentery occasionally prevailed in the neighbourhood.

"On the same date (9th February) I examined the main spring which is uncontaminated by bathers. I found the temperature of the water 110° Fahr., or 18·5, warmer than the outside tank which was exposed to the wind. On looking into the well, which is about 21 feet deep, the water was found to be fairly clear and of a greenish colour; there was a vapour of steam on the surface, and bubbles of probably sulphurous acid gas were rapidly rising, and there was a strong smell of sulphur perceptible; my face exposed to this vapour rapidly broke out into beads of perspiration. This tank is of faulty construction, insomuch that the drain leads off only the surface water, whereas, as is obvious, much greater cleanliness would result by having it let off from the bottom by a syphon drain. That the tanks should be more frequently cleansed is evident, as natives suffering from open sores, itch, and all sorts of cutaneous diseases, bathe, and actually, as I saw, drink the same water. A capital bath has been built for the use of Europeans, but this is also faultily constructed. When I first arrived I found the bath empty. It is placed in a house, about fifteen yards from the main spring, from which an iron pipe leads the hot water to the bath: this iron pipe is only two inches in diameter, and has been considerably narrowed by the incrustation caused by the chemical action of the sulphurous acid on the iron of the pipe. The dimensions of the European bath are as follows :—18′ × 16′ × 5¾′. I used this bath daily after it was again filled, and enjoyed it much; the temperature never rose above 82° Fahr., in consequence of the faulty construction of the leading pipe above alluded to. This might be easily remedied by having a glazed tiled drain substituted for the iron pipe. The bath is now useless for all medicinal purposes, but is a very pleasant one for ordinary use.

"I must add that the population appear healthy, and I have noticed no skin diseases amongst them, or ulcers, or boils. There is a very comfortable dâk bungalow at Sohná, now rarely frequented, in which Europeans might make themselves quite at home, bringing their own servants and bedding. Invalids suffering from rheumatism, or Delhi boils, or cutaneous diseases, might give this place a trial. Those who might be too helpless to go to the bath could have the water brought to them to the bungalow in *chatties* or *mussaks*, and have it raised to any temperature by boiling and then putting it into their own baths. The country round Sohná is very

pretty and fertile, and the rocky ridge which surrounds the place affords a nice change to those accustomed to the uniformity of the plain scenery. Small game abound in the fields and neighbouring jungle ; vegetables are procurable, and the drinking water is pure and soft. The water of the hot spring possesses bleaching properties of no mean order. I have now, in conclusion, to state that I have no hesitation in asserting that all the men whom I brought out from Delhi have derived great benefit from the use of the hot sulphur-spring baths, assisted by the change of air, warmer temperature, and comfort of the hospital marquees ; and I would venture to recommend that on another occasion further experiments be tried in similar cases, also for Delhi boil and cutaneous diseases. I would also beg to suggest that improvements be made to the tank, that a house be built over it to exclude the cold air and afford greater comfort by keeping up the temperature of the waters ; again, that the sanitary state of the town be looked to, as it would be unadvisable to establish a sanitarium at this place before some action is taken in this respect."

Sulphur.

The present state of the baths is much as described by Dr. Smith. The European bath is completely out of repair and is never used, and the water of the springs is little used by Europeans, as the spring head is not satisfactorily protected against percolation from the surrounding baths. The bungalow at Sohná is a District rest-house and not a dâk bungalow.

Saltpetre.

Unrefined saltpetre is extracted from the earth of old village sites in the east of the district. The extractors are Agris, whose operations resemble those described above in the manufacture of salt. There are two refineries—one at Palwal and the other at Hodal. The unrefined saltpetre is sent to these factories and refined by the following method. Earthpans are prepared and earth containing saltpetre is placed in them and they are then filled with water. When the saltpetre has accumulated in liquid form, the liquid is taken out of the pans and after being poured into a large iron pan is heated for three or four hours to boiling point. It is then run into another pan in which 15 maunds of crude saltpetre are placed and the mixture is boiled for an hour. The salt sinks to the bottom and the remaining liquid is poured into boxes specially made for the purpose. At the end of six days crystals form, and the process is complete.

Section E.—Arts and Manufactures.

Hand Industries.

Cotton weaving.

The only important centre of this industry is at Rewári, where some 500 looms are at work. The chief Rewári manufacture is narrow *pagris* about six inches wide by sixteen yards long, which are exported to the Panjab and to Jaipur, Jodhpur and other neighbouring states for wear as under-*pagris*. A wider *pagri* is also made. These are sent to Delhi where they are bleached and fringed with *kalabatun*. The yarn used is all English of 40 to 200 counts. An unfringed *pagri* of 90 counts, 6 inches wide by 16 yards long, sells for Re. 1-1-0. The industry is thriving and 800

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pagris are turned out per diem. Elsewhere in the district cotton weaving is a decaying industry. In almost every town there are weavers who are of the Juláha, Koli, Dhának and Chamár caste. They purchase spun cotton at 1¼ sers per rupee and weave coarse country cloth called *gárha*, which sells at 2 annas per yard. *Gárha* is still used by the rural population, but is being gradually supplanted by the cheaper machine made cloth. A weaver's plant costs about Rs. 15. There is at present no co-operation among the weavers.

Calico-printing.

Calico-printing is done by *chhipis* in three or four of the larger villages in each *tahsil*. About 200 men are engaged in the industry and earn from 4 to 5 annas per diem. The printing is done on coarse cloth, which is used for making the clothes worn by the village women. The industry is declining owing to the growing preference for chintz which is cheaper and better looking.

Brass-work.

The only hand industry of the district which is of special importance is Rewári brassware, as to which the following note furnished by Mr. Lockwood Kipling, former Principal of the Lahore School of Art, is extracted from the old Gazetteer :—

"At Rewári there is a large manufacture of brass-ware. The greater bulk consists, of course, of cooking utensils; but fancy articles involving chasing, engraving and parcel tinning are also produced and exported. The value of the articles produced in 1881-82 was estimated at Rs. 90,525. A selection from the brass-wares usually sold was made for the Calcutta Exhibition by Mr. Christie of the Police, and included among some coarse and rough workmanship much that was good and characteristic. Lamps of different sorts, the standard *shamadán* and hanging lamps, cart-bells, inkstands and pen-cases, *hookahs*, temple-bells, and water vessels of different sorts, nearly all of which were in cast brass, made up the collection. Such ornament as was used was lightly chased and wanting in force and definition, and the finish left much to be desired. It must be remembered, however, that all these articles are intended to survive for a long time daily use by a rustic and heavy-handed people, and to be periodically scrubbed with sand and water. The construction of the cart-bell *(zang)* is curious, the mouth being closed by a number of leaf like plates turning inwards and upwards from the rim, like the recurved petals of a flower. This arrangement ought to produce a characteristic vibration which perhaps suggested the name *zang*. *Hookahs* are here made with ears or handles, parcel-tinned and engraved through the tin into the brass; like Moradábád ware, but without the black ground. The brass-wares of Rewári are sent to various parts of the Panjab and into Rájpútána."

Information about the present state of the industry has been kindly furnished by Mr. A. Latifi, C. S., who is collecting information for the Provincial Monograph on Hand Industries. The trade is entirely in the hands of the *kaseras*—the local name given to the sellers of brass-work—who have 25 shops and employ from 100 to 125 *thatheras* (brass-workers,) of Baniao rigin. They also employ 24 Muhammadans to make pewter (*kánsi*). This is made by mixing one maund of copper with 11 sers of tin, and the makers receive Rs. 10 per maund. Plates (*thálí*) of pewter sell at Rs. 2 per [illegible] and cups (*katora*) at Rs. 1-12-0.

Brass sheets are imported from Bombay at a cost of 14¾ annas per ser, and old brass for moulding is imported from Lahore at Rs. 25 per maund.

Brass-work.

The *kaseras* pay the *thatheras* at the following rates :—

	Hammered brass per maund.	Casting per maund.
	Rs.	Rs.
Plates	3 to 4	8 to 9
Vessels	12 to 13	16

The finished articles are sold at the following rates per ser :—

	Hammered.			Cast.		
	Rs.	A.	P.	Rs.	A.	P.
Plates	1	2	0	1	1	0
Vessels	1	6	0	1	5	0

Cast brass vessels have to be turned. About three vessels can be turned in one day with the assistance of a labourer to turn the lathe, who is paid 8 annas per diem.

Glass.

Glass bangles are manufactured at Ráipur and Pingor in the Palwal *tahsil*, at Basai Meo in the Firozpur *tahsil*, and at Khajuri in the Rewári *tahsil*. The *kánch* is generally procured from Delhi or Aligarh at Rs. 2 per maund, but the Basai Meo workers manufacture their own. The workers are called *kacheras* and are said to be of Rájpút origin. They earn about 4 annas per diem and work for eight months in the year, stopping work during the four harvesting months and going out as agricultural labourers. Only coloured bangles are manufactured. The larger size sells at 8 annas per thousand and the smaller at 4 annas. The bangles find a sale all over the district as it is still considered necessary for the women of all tribes to wear bangles during the lifetime of their husbands. The industry is not flourishing as bangles of European make are preferred to the local product.

Basket-work.

Morhas (stools and chairs of basket-work) are made at Garhi and Bolni in the Rewári *tahsil*, and at Farukhnagar in the Gurgáon *tahsil* where *múnj* grows plentifully. Other basket-work, dyeing and shoemaking do not call for any special mention.

CHAP. II. E. Arts and Manufactures. Factories.

Table 28 gives details of the existing four factories of the district. No. 3 started in October 1905 and No. 4 in November 1909, while No. 5 worked for one year only and was then given up. Land is now being acquired for another cotton mill at Hodal. The outturn of the three older factories during the three years 1907—1909 is as follows:—

Name of Factory.	Year.	Cotton cleaned in lbs.	Cotton pressed in lbs.
Harmukh Rai and Gobind Rai (Palwal)	1907	16,999,899	5,726,263
	1908	1,191,200	397,600
	1909	9,280,000	3,093,360
New Mofussil Co. (Palwal)	1907	6,278,647	2,154,240
	1908	266,720	95,080
	1909	5,479,454	1,826,485
Ram Bilás-Jauri Mal (Hodal) ...	1907	3,453,675	...
	1908	962,325	...
	1909	1,749,950	...

The Hodal factory has no pressing machinery, and sends its cleaned cotton to Kosi to be pressed. The pressed cotton is all exported to Bombay.

There are too few factories to affect internal migration. Labour is supplied from the menial population of the locality in which the factories are situated. The prevailing rates of pay are as follows:—

Class of work.	Sex of worker employed.	Rate of pay.
		Annas.
Filling opener with uncleaned cotton	Male	4
Ginning	Female	3 and 3½
Carrying from opener to ginning machine... ...	Male	6
Pressing	Male	8

At these rates the factories find no difficulty in procuring labour and the operatives are comfortably off.

Section F.—Commerce and Trade.

Means of Communication.

Commerce and trade.

The trade of the Rewári and Gurgáon *tahsils* concentrates on Rewári and Gurgáon, served by the B. B. and C. I. Railway, and that of the three other *tahsils* concentrates on Palwal, Hodal and Kosi served by the Agra-Delhi Chord Railway. The chief marts are Rewári, Sohna, Núh, Firozpur Jhirka, Hodal and Palwal. The construction of the East Indian Railway and later of the Agra-Delhi Chord Railway have much reduced the importance of Firozpur Jhirka as a mart. Formerly the produce of the south of the district and of the adjacent parts of Bhartpur and Alwar was collected at Firozpur, and exported thence to Mathra, Agra, Cawnpore and Lucknow by road. This trade has now seriously decreased.

The trade of Palwal and Hodal, on the other hand, has increased owing to the opening of the Agra-Delhi Chord Railway, and the establishment of cotton mills at these towns. They are, however, rather overshadowed by the much larger town of Kosi which is only 9 miles from Hodal and draws much of the trade which would otherwise flow to the two Gurgáon towns. Besides brassware and *pagris* Rewári exports barley, oilseeds, and kharif millets and pulses. The barley of the Rewári *tahsil* is noted for its especial excellence and in good years some two or three lakhs of maunds are exported to the hill breweries. The oilseeds are exported to Bombay, and the millets and pulses to Guzerát. The chief imports are wheat, rice, raw sugar, salt, raw cotton and yarn. Wheat is imported from the Punjab, rice from Bengal, raw sugar from the neighbouring districts of the Panjab and of the United Provinces, and salt from Lahore and Sámbhar.

The trade of Gurgáon which is situated on the same line of railway resembles that of Rewári except that the export of barley is not so large, and there is the small export of Sultánpur salt to the United Provinces mentioned in section D.

The other three *tahsils* export cotton, oilseeds and gram. The cotton goes to the mills at Palwal and Hodal, and after being cleaned and pressed is sent down to Bombay. The oilseeds are exported to Bombay and the gram to Delhi. The imports are the same as in the other *tahsils* except in the case of cotton which he disposes of direct at the mills, the *zamíndár* sells all his produce to the local shopkeeper. A few camels are employed, but the general method of carriage in the district is by bullock-cart.

Section G.—Means of Communication.

Railway.

At the second regular settlement the only Railway line in the district was the main line of the Rájpútána-Málwa Railway which traversed the Gurgáon and Rewári *tahsils* with a small branch to Farukhnagar to carry the salt trade. In 1883 the Rewári-Bhatinda branch of the railway was opened, and in 1904 the

CHAP. II, G. Means of Communication.

chord line between Rewári and Phulera. So the Rewári *tahsil* is now exceptionally well served by Railways, containing no less than five stations. The most important recent addition, however, to the railways of the district was made in 1904 when the Delhi-Agra chord line was opened.

Railway.

It passes down the centre of the Palwal *tahsil* with stations at Asáoti, Palwal, Bámni Khera, Sholáká and Hodal, and has enormously improved communications in the Palwal *tahsil* as well as in the east of Núh and Firozpur and the south-east of Gurgáon.

The effect of the improvement of communications on prices has already been alluded to, and the value of railways in famine times is well known. In 1905-06 when there was a severe fodder famine in the Delhi Division, while fodder was plentiful in the Punjab, cheap fodder was poured into the district by rail. The growth of railways has, however, had no appreciable effect on the religion and language of the people.

Roads.

The total mileage of metalled and unmetalled roads in the district is 103 and 500 respectively, but metalled roads from Núh to Palwal (21 miles) and Núh to Firozpur Jhirka (23 miles) are under construction by the P. W. D. and on their completion the figures will be 147 and 456 respectively.

Metalled roads.

The following table gives information about the metalled roads of the district :—

1	2	3	4	5	6
Detail of road.	Mileage.	Class of road.	Owned by	Maintained by	Remarks.
Gurgáon Railway Station to Sohna.	18	A*	D. B.	P. W. D.	
Gurgáon Railway Station Road.	1¼	B	„	D. B.	
Sohna to Palwal ...	18	A	„	P. W. D. ...	The D. B. pays Rs. 3,306 per annum for maintenance to P. W. D.
Farukhnagar Town to Railway Station.	1½	B	„	D. B.	
Palwal to Railway Station.	1	B	M. C., Palwal ..	M. C., Palwal.	
Hodal to Railway Station.	1	B	„ Hodal ...	„ Hodal.	
Delhi to Mathra ...	30	Grand Trunk	P. W. D. ...	P. W. D.	
Gurgáon to Delhi ...	6	B	D. B.	D. B.	
Sohna to Núh ...	13	B	„	„	
Firozpur to Alwar ...	10	B	„	„	
Núh to Firozpur ...	23	A	„	P. W. D.	
Núh to Palwal ...	21	A	„	„	
Rewári Circular Road	3	B	M. C., Rewári ...	M. C., Rewári	
Road from Gokal Gate to Rewári Railway Station.	½	A	„ ...	„	

A.=True feeder to Railway.
B.=Local feeder.

P. W. D.=Public Works Department.
D. B.=District Board.
M. C.=Municipal Committee.

Thus of the total of 147 miles Government owns 30 miles of Grand Trunk Road, the District Board owns 111¾ miles, of which 80 miles are class A feeders and 31¾ miles are class B feeders, and Municipalities own 5¼ miles, all class B. feeders.

Metalled roads.

The large increase of the area of feeder roads during the last five years is most satisfactory, and all the most urgent needs of the district have now been supplied.

The road from Firozpur Jhirka up to the Alwar border requires to be properly metalled and this will be undertaken as soon as funds permit.

Feeder road from Núh and Firozpur *viá* Punahána to Hodal would confer a great benefit on the district, but they would not be easy either to make or to maintain. The provision of metalled roads in other parts of the district is not so important. The traffic between Rewári and Núh is never likely to be of much importance, while the country between Rewári and Gurgáon is not favourable for road-making, and as this part of the district is well served by railways, metalled roads are not absolutely necessary.

The metalling of the road between Núh and Frozpur Jhirka has opened up a line of country which was often impassable during the rains.

Unmetalled roads.

The principal unmetalled roads are—

Delhi to Rewári and Jaipur, *viá* Sháhjahánpur.

Rewári to Jhajjar.

Gurgáon to Delhi.

Gurgáon to Bahádurgarh.

Farukhnagar to Hodal, *viá* Bhundsi, Mandkaula and Hathin (old customs road).

Sohna to Rewári *viá* Táoru and Dharuhera.

Sohna to Jatauli Station, *viá* Bahora and Pataudi.

Núh to Táoru, *viá* Biwan Pass.

Núh to Hathin.

Núh to Punahána.

Firozpur Jhirka to Hodal, *viá* Khánpur Gháti and Punahána.

Firozpur Jhirka to Hodal, *viá* Gháta and Basai Meo.

Firozpur Jhirka to Tijara (over the Jhir Pass).

Palwal to Gurwári ferry.

Generally speaking, the unmetalled roads of the district are not good. In the Rewári and Gurgáon *tahsils* the country is so sandy that the roads are necessarily xtremely heavy. In the Táoru plateau the ravines are numerous and in the rainy season the roads are somtimes impassable. The road across the Jhir to