APPENDICES
INTRODUCTION TO THE SAMPLE VILLAGES

1. Bahadurpur

**Situation**

Long 78° 46.5' E., Lat. 28° 37' N

The village lies in the Fateh upland about a mile to the south of Raja-ka-Sahaspur railway station and about a mile to the west-south-west of Bilari town. (Fig. 15)

The sugar mills at Raja-ka-Sahaspur R.S. has its extension in one of its plots. Two rail tracks and a number of roads and paths have their passage through its lands.

**Physiographic Features**

The whole area is a level loamy plain so much so that by walking along the rail tracks one can see the whole of it.

Drainage is quite satisfactory. A few shallow ponds serve as reservoirs for rain-water and check sheet wash so that very few signs of soil erosion are noticeable excepting where the digging of earth for building the rail tracks has created relatively steeper slopes which facilitate the erosion of the field margins.

Water table is 10 to 12 feet below ground level.
People

There are 576 persons and 244 livestock living in this village where the cultivated area is just 250 acres and gardens 23 acres. Each acre thus supports about 2.1 persons and one livestock. There are 21 cows and 68 buffaloes. But their milk total yield is 16 lbs. and 13 lbs. per day respectively. The average family strength is 4.64 persons. 30% persons are earning hands. The rest are their dependents. 31.5% persons are cultivating labourers and their dependants, 16% persons are cultivators of land wholly or mainly owned and their dependents without any supplementary means of income. The rest earn their income from various sources.

Agrarian Structure

About 60% land holdings in this village are less than one acre each. 30% more are less than 5 acres each. Only 5% of the land holders have 10 acres or more of land. A single family owns 115 acres managed by one person, who owns one power cane-crusher, a tractor, a trolly and a centrifugal machine. 80.5% residents of the village hold only 13.7% of its gross area. The majority of the holdings were considerably scattered until 1955-56 A.D., when their consolidation was effected here. After the consolidation, however, the number of land holdings has increased by 15.1% and the arable area has decreased somewhat owing to the provision of certain requirements like compost pits, bhaljan, punchat ghar etc. (cf. Figs. 28 & 29).
Types and Trends of Land use

The total area of the village is 327.96 acres. It has no forest and no grassland. The arable dominates the landscape. Since 1873-74, the arable land has decreased somewhat. Simultaneously, the banjar has decreased by 82.9%. But the land agriculturally unproductive has increased by 487.6% owing to the extension of railways, roads, paths, buildings etc. Land under orchards has increased by 228.2% and land under water by 52.5%. There is no more scope for the extension of the arable land.

Crop Pattern

Wheat and sugarcane together make up 65.7% of the total cropped area. (Figs. 41 and 42) 83.6% of wheat alone is irrigated and 91.5% of sugarcane is irrigated. Of the total cropped area only 9.2% is double cropped.

Irrigation is provided by two private tube-wells in the village. Besides, it is available from the State tube wells in the neighbourhood. Irrigation is done mostly for the rabi, about 70% of which is irrigated. Of the kharif about 50% is irrigated. 31% of irrigated rabi is under wheat. 99.9% of irrigated kharif is under sugarcane.

The village is bound on the south and south-west by an extensive orchard mostly of mangoes. On the south-east is a narrow strip growing vegetables. Fig. 62 indicates how land use may be planned in this village.
Situation

Long 78° 42.4'E., Lat. 28° 40'N.

It is situated about 6 miles to the N.W. of Bahadurpur (Fig. 15). From Mahmudpur Bari and Mainather on the metalled road connecting Moradabad with Sambhal it is only 2 miles to the east.

Physiographic Conditions

The Ari nadi has a sinuous course through its lands (Fig. 54) owing to which it suffers from a comparatively defective drainage. The soils include all types of dumats. Besides a little inferior bhur is also found. But not more than 16.6% of them are below the quality of Dumat II. Its topography is slightly undulating. Water table is 10 to 12 feet deep.

Demographic Features

The basti has a single hamlet. It is quite small having only 270 persons (census 1951). Out of them 90% are cultivators of land wholly or mainly owned and their dependents. 8% are cultivating labourers and their dependents and 2% derive their income from miscellaneous sources. Only 2% persons are literate. It is a village of jats and baghbans mainly. There are 31 houses and 68 households. The average family is 4.7 persons. One of the jats has a tractor.
Agrarian Structure

About 37% land holdings in this village are less than one acre each whereas only 2.7% holdings are above 10 acres each. These holdings were moreover scattered over small fields 84.1% of which were less than one acre each before consolidation. Only 2.9% plots are above 2 acres each. The biggest land-owner in this village owns 28.22 acres.

Types and Trends of Land use

The total area of the village is 241.63 acres. There is no forest and no grassland. The arable is the most important type of land use. Since 1872-73, the arable land has increased a good deal owing to the reclamation of the banjar, old fallows and land under water. Simultaneously, the land agriculturally unproductive has increased to some extent but its main increase has been associated with the consolidation of holdings.

Crop Pattern

Wheat alone and mixed covers 37.43% of the total cropped area in this village, Sugarcane 16.69%. Rabi amounts to 43.04% and kharif 55.98%. Irrigation has been greatly extended. 45.54% of the net cultivated area was irrigated in the year 1954-55. In the year 1872-73 it was only 12.16%. Besides the state tube well situated in the neighbouring village, local rehata and kncha wells are also providing some irrigation.
3. Pahladpur

**Situation**

Long. 78°41.0'E., lat. 28°26.2'N

Pahladpur is situated on the left bank of the lower Sot nadi (Fig. 8). It is accessible from Narauli and Junhta from where it is about 4 miles to the west-south-west.

**Physiographic Conditions**

Topographically, it has three haris: the upland har, the slope har, and the narrow khadar of the Sot valley (Figs. 4 and 43). The slope has suffered considerably from gullying effect but the upland and khadar are level strips of rich loam. There is no problem of drainage and waterlogging since the Sot is sufficiently wide to drain away any excess of water. A little bhur is found on the side of the valley. The slope har, has a degenerated dumat soil. Water table is 10 to 14 feet deep on the upland.

**Demographic Features**

The basti is perched on the margin of the upland. 184 persons live here (census 1951). Out of them 98% are cultivators of land wholly or mainly owned and their dependants. None is literate. The average family has 6.4 persons. There are only 19 houses and 29 households. There is only a single hamlet in the village. Formerly, this village had a bad reputation for malarial fever and wild animals but land reclamation has improved these things.
Types and Trends of Land Use

The total area of the village is 349.51 acres. There is no forest and no grassland. The arable predominates. There has been a great increase in the arable land owing to the reclamation of banjar, old fallows and land under water since 1873-74. There is little groveland.

Crop Pattern

Khairi is much larger than rabi and holds 62.65% of the total cropped area. Sugarcane holds 31.26%. Wheat alone and mixed (mainly with gram) holds 26.54%. Uphaali amounts to 11.5%. Owing to the presence of inferior soils on the slope both bajra and barley appear quite significant (Figs. 4 and 43). The small amount of unirrigated cotton is a relic of the old when the Katehr bangar used to produce sufficient quantities of it. The considerable amount of unirrigated sugarcane (56.77% of the total crop) owes to the suitability of the khadar har for it. 31.4% of the total cropped area is irrigated. Irrigation is available from a tubewell in the village.

4. Aaglia Hathar

Situation

Long. 78°40' E., Lat. 28°24' N.

* There is some difference in the spellings of names of villages in the survey of India maps, District Census Handbook, op. cit. and in other official records pertaining to the villages.
Haglia Kathair is situated about 3 miles to the east of Bahjoi town.

**Physiographic Conditions**

It lies in a level area in the southern upland (Fig. 8). The water table is 10 to 12 feet deep. The soil is inferior than Dumat II.

**Demographic Features**

The basti occupies the centre of the lands. It has a single hamlet. There are 60 houses and 129 households. In all 599 persons live here (census 1961). Of them only 10 are literate. The average family is composed of 4.65 persons. 90.3% persons are cultivators of land wholly or mainly owned and their dependants. 1.2% are cultivating labourers and their dependants. The remaining persons earn their living from miscellaneous sources.

**Types and Trends of Land use**

The total area of the village is 251.47 acres. There is no forest and no grassland. Cultivation had extended to the maximum even in 1873-74. Yet, the craze for tillable land has resulted in further shrinkage of kacha nath, land under water, old fallows and banian.

**Crop Pattern**

It is par excellence a foodgrain growing area (Fig. 35). Wheat alone comprises 26.91% and wheat mixed with gram
11.99% of the total cropped area. Drier climate promotes the cultivation of bajra mixed with arhar which amounts to 17.51% of that. Maize is also significant with 13.88% of that. Sugarcane is not so important and covers only 7.2%. All foodgrains cover 73.85%. Rabli is rather more important than kharif. Irrigation is provided by tube wells and 58.6% of the net cultivated area is irrigated.

5. Semli

**Situation**

Long. 76° 27.5', Lat. 28° 46' N.

Semli is situated to the west of the Chhoiya nullah, tributary to the Sot nadi. It is accessible from Joya from where it is about six miles to the south. Sambhal is about 12 miles to its S.S.E.

**Physiographic Conditions**

No-where its soil is less than Dumat II. Water table is 5 to 8 feet. The area is surrounded by Bhur ridges and its drainage is defective.

**Demographic Features**

The basti has a single hamlet situated centrally in the lands. There are 197 persons living here (census 1951) out of whom 99% are cultivators of land wholly or mainly owned and their dependants. None is literate. There are 28 houses and 42 households. The average family is composed of 4.7 persons.
Types and Trends of Land use

The total area of the village is 272.86 acres. There is no forest and no grassland. Since 1873-74, much extension of cultivation has taken place. The banjar has been reclaimed. A little land has also been snatched from the ponds and kacha paths. Now there is no scope for further extension of cultivation (Fig.49). But in the year 1955-56 about 9.7% of the total ploughed area remained unsown owing to the last season's heavy showers in October (13.27 inches in 8 days) and the resultant udra, which is the main drawback of the area keeping it less fertile than the katehr.

Crop Pattern

Kharif occupies 66.64% of the total cropped area. Zaid harvest and vegetables are totally absent. Sugarcane is small (10.94%). Hajra mixed with arhar (31.99%) and jowar are the main kharif crops. Irrigation is easily available from persian wheels and whole of wheat is irrigated here.

6. Mizam kagla

situation

Long.78°27.25' E., Lat.28°43' N.

Mizam kagla is situated about two and a quarter miles north of Semli.

Physiographic Conditions

The chhota which passes near Semli has its course
through the fields of Nizam hagla. As a result we find a greater variety of soils here (cf. Khabri Gandu and Pahladpur). The predominating soils are Dumat I and II but a little Jhur I also exists in the south of the village. Water table is 5 to 10 feet deep but, after the rains water oozes out of the soil and overflows the wells.

**Demographic Features**

The basti consists of a single hamlet, where 120 persons live (census 1951). 85% are cultivators of land wholly or mainly owned and unowned and their dependents. 10% are cultivating labourers and their dependents and the rest get their income from miscellaneous sources. Only six persons are literate. There are 22 houses and 22 house-holds. The average family amounts to 5.45 persons.

**Types and Trends of Landuse**

The total area of the village is 184.28 acres. There is no forest and no grassland. Since 1874-75, the cultivation has greatly increased owing to the reclamation of old fallow and kandi. Groves have been cut down while some tillable land has also been snatched from the nadi and kach path (Fig. 44).

**Crop Pattern**

Wheat alone and mixed with barley covers 33.41% of the total cropped area. Sugarcane occupies 11.47% only. 12.93% cropped area is under Urd and 10.65% under groundnuts, which
are grown in the bhur har where a large baniar existed formerly.

Irrigation is available from both wells and tubewells.

7. Khaliqpur Kalan

Situation

Long. 78°20.5'E., Lat 28°56' N.

Khaliqpur Kalan is situated about 8 miles to the west of Amroha town, the intervening country being occupied by the Sot-head depression. From Lachhraon or Dhanaura it is about six miles to the east, the intervening country being occupied by the Hasanpur bhur. Ho puka road comes nearer anywhere.

Physiographic Conditions

To the north of the village a rainy season streamlet known as 'Jol' exists*. Besides a number of ponds lie in various parts of the village area. Towards the west and south the ground rises and the soils become sandier but the prevailing soils are fine loams and clays (Fig.4). The water table is 5 to 10 feet deep. But, after the rains, water oozes out of the soil and overflows the wells. It also collects in a shallow sheet in the depressed parts to the north.

* This is not shown on the survey of India one inch map of the area.
Demographic Features

The basti is composed of a single nucleated hamlet along a comparatively straight east-west running street. Towards the east and southeast, it is bound by big mango-groves, including a banjar and a graveyard. A small strip of vegetable plots lies along the northern flank of the basti.

573 persons and 325 livestock live in this village. There are 108 households and 76 houses. The average family is composed of 5.3 persons. Fachhada Chauhans and baghbans comprise the bulk of the residents. 95.6% persons are cultivators of land wholly or mainly owned and their dependents.

Types and Trends of Landuse

The total area of the village is 646.21 acres. There is no forest and no grass land. Cultivation has greatly extended since 1874-76 through the reclamation of old fallows.

Crop Pattern

Wheat alone and mixed with gram and barley occupies 34.36% of the total cropped area, lajra alone and mixed with arhar 13.14%, sugarcane 10.62%. The variety of soils is reflected in a great variety of produce but the offside situation is reflected in the smallness of sugarcane and vegetables (Fig.33).

Irrigation is available from a state tube-well and many persian wheels in the village.
Situation

Latidmatpur is situated on the Lari-Sangam doab about nine miles to the northwest of Amchha town on the Bacha road leading to Anrha. Latifpur lies about a mile and a half towards the northwest of Latidmatpur.

Physiographic Conditions

A small bhur ridge extends here from the northwest (Fig.4). The soils are mainly Durmat II and Bhur I. Water table is 20 to 25 feet deep.

Demographic Features

Latifpur has one hamlet where 546 persons live (census 1951). Only one is literate. About 60% persons are cultivators of land wholly or mainly owned and their dependents, 20% persons are cultivators of land wholly or mainly unowned and 20% persons derive their income from other sources. Laidmatpur has little population excepting the canal inspection bungalow and a school where 24 persons live (census 1951). The tillers of land live in the neighbouring villages such as Latifpur.

Types and Trends of Landuse

There is no forest, no grassland in either of the
villages. Khidmatpur has an area of 132 acres and Latifpur has 139 acres. The arable has progressed much since 1872-73 owing to the reclamation of banjar. Groves have decreased while all other types of land use have increased.

**Crop Pattern**

The predominance of lighter soils is reflected in the predominance of Bajra alone, which comprises 29.81% of the total cropped area in Khidmatpur and 41.01% in Latifpur. Irrigated wheat covers 25.40% in Khidmatpur and 6.87% in Latifpur. Unirrigated wheat alone and mixed with barley amounts to 6.31% in Khidmatpur and 9.12% in Latifpur. In sandier Latifpur barley alone covers 15.99% and in Khidmatpur it is 4.77%. Jowar occupies 9.97% in Khidmatpur and 7.94% in Latifpur. Irrigation is provided by the western Ramganga Canal which has made it possible to grow more sugarcane in Khidmatpur but the distance from sugar mills keeps it rather low (15.81%). At Latifpur the topography is unsuitable for much canal irrigation. So sugarcane amounts 1.84% only. Kharif is much more important in this area. It covers 60.66% of the total cropped area in Khidmatpur and 59.56% in Latifpur. 44.08% of the total cropped area is irrigated in Khidmatpur and 12.59% in Latifpur. Dofasli, Zaid harvest and vegetables are of little importance here (Figs. 50 & 51).
10. Chaki Khera

**Situation**

Long 78°13.5'E., Lat 28°51.5'N.

Chaki Khera is situated about three miles from Gajraula on the metalled road and railway line leading to Bachhraon and Dhanaura, both these tracks passing through the lands of this village.

**Physiographic Conditions**

It is an adhek village situated on the western margin of the Hasanpur bhur overlooking the Bagad nadi (Fig. 52). In it, therefore, we see three hars: the bhurland har, the slope har and the khadar of the bagad nadi. The bhurland is undulating in character, the slope is unsmooth and the khadar is a low-lying tract where water stands long after the rains. Water table is 5 to 25 feet deep. There is a state tube well on the bhurland but its water cannot be carried over the slope and undulating parts of bhurland.

**Demographic Features**

It has been an uninhabited village until recently. The census of 1951 recorded only 6 houses and 6 households with a total number of 37 inhabitants here. When the writer visited, it had 58 persons, six of whom were literate. All are cultivators of land wholly or mainly owned and their dependents. Other tillers of its lands live in neighbouring villages.
particularly at Salempur Gosain where a big jagirdar's fortress seems to have provided shelter in times of emergency.

Agrarian Structure

The total area of the village is 371.99 acres out of which about 137 acres are owned by the local residents, 56 acres are owned by the Gosain jagirdar of Salempur and the remaining 179 acres of land are divided among 97 families living in the neighbourhood. These people have to make long walks for tending their fields. 80.65% holdings are below 5 acres each and 8.06% holdings are above 10 acres each. The residents of the village have 81 livestock whereas the non-resident landholders own 254 livestock. The nearness of the Ganga Khadar permits the rearing of these heads of livestock since there is always some grass along the water channels.

Types and Trends of Landuse

There is no forest and no grassland. Banjar has been reclaimed. But, simultaneously the arable land has decreased somewhat owing to the extension of roads, railway and basti.

Crop Pattern

Kharif predominates with 68.61% of the total cropped area and bajra alone is very important (20.73%). Sugarcane is 23.13%. It is irrigated in the bhurland but unirrigated in the khadar. Owing to the Khadar strip rice covers 6.48%. In the rabi, unirrigated wheat mixed with barley covers 16.31%. Irrigated wheat covers only 4.26%.
11. Lagarhour Chhoiya

Situation

Long. 78°24.5'E., Lat. 28°31.5'N.

It is situated 16 miles to the south of Hasanpur, about one and a half mile to the west of Sondhan Muhammadpur. No metalled road comes nearer than 10 miles from the village.

Physiographic Conditions

The soil is all bhur mostly of an inferior description. There is a small chhoiya nullah passing through this village. Its bed provides some of the best soil. Topography is uneven. Water table is 5 to 25 feet deep.

Demographic Features

The basti occupies the centre of the village lands and is sited on the chhoiya bank. There live 112 persons (census 1951) in 25 households. Only one person is literate. The remaining are cultivators of land wholly or mainly owned and their dependents. Many of the tillers of the village live in the neighbourhood, particularly in Sondhan Muhammadpur, which is a big village. This pattern of settlement is not much different from that seen in Chaki Ahera.

Types and Trends of Landuse

The total area of the village is 527.37 acres. There is no forest, no grassland and little groves. There is extension
of cultivation and reduction of all other items. But as compared to the year 1953-54, there is a considerable fall in actual cultivation in the recent years owing to the higher rainfall resulting in the phenomena of waterlogging and Choiva or udla. A significant feature of the arable in this village is the clear demarcation in the rabi and kharif hars (Fig. 34).

**Crop Pattern**

The light and dry soils are reflected in the predominance of barley alone which has 48.10% of the total cropped area whereas wheat alone and mixed with barley has 3.22%. In the kharif, bajra alone covers 32.28% and moth, a dry pulse, 3.63%. Sugarcane occupies only 1.70% and maize 3.66% both of which are grown in the choiya har.

Irrigation facilities are absent, here.


**Situation**

Long. 78°13′ E., Lat. 28°43′ N.

Matena Old and Matena New Mustekam are two adjoining villages situated in the Ganga Khadar, about a mile to the northwest of Gangacholi and 3½ miles to the west of Hasanpur.

**Physiographic Conditions**

The Matwali nadi seems to have left an old course
in Matena old and gradually moved west to join the Ganga river near Diaoli. Thus, Matera New has been recently gained from the bed of the stream. The former deserted course of the stream is marked by an arcuate pond, which partly forms a boundary between the two villages (Fig. 47). The southwestern boundary of the village still touches on the stream, which is of seasonal importance. Water table is 2 to 8 feet below ground level. Dumat I and Dumat II soils predominate but, patches of bhur I are also found.

**Demographic Features**

There are two settlements with a total population of 267 persons (census 1951), 97% of whom are cultivators of land wholly or mainly owned and their dependents, the rest getting their income from miscellaneous sources. Some of the landholders live at Gangacholi, Hasanpur etc. There are 192 persons with 36 houses and 36 households in Matena Old and 75 persons with 15 houses and 15 households in Matena New. The average family in these villages comes to slightly more than 5 persons.

**Types and Trends of Landuse**

The total area of the two villages is 446.05 acres. There is no forest, no grassland. The progress of cultivation is not marked.

**Crop Pattern**

There is an unusual predominance of unirrigated
wheat alone in these villages. Wheat covers 50.76% of the total cropped area in Matena Old and 62.01% in Matena New. The total rabi harvest covers 57.25% in Matena Old and 69.46% in Matena New. In the kharif, Maize, covers 13.45%, in the former, and 11.16%, in the latter, rice covers 12.44% in the former and 4.92% in the latter.

Irrigation is little practised here.

14. Bhaewanpur Khadar

SITUATION

Long. 78° 11' E., Lat. 28° 47' N.

Bhaewanpur Khadar lies a few miles to the north of the Matenas. It is approachable from Kankather N.S. from where it is only about one mile to the south.

PHYSIOGRAPHIC CONDITIONS

It lies in a meander on the right bank of the Matwali nadi. The soil is Dumat II with a few small patches of bhur in the northeast. Water table is 3 to 6 feet deep.

DEMOGRAPHIC FEATURES

It has no settlement. Its tillers live in Kankather. They are the 'pahi-kasht' kagis who generally hold land in more than one village of the diluvial Ganga Khadar. There are 43 commensal families, composed of 189 persons, who hold some land here. The average family has 4.4 persons. They have 184
livestock also or nearly 4.3 livestock per family. Nearly 85% holdings in this village are less than 5 acres each and there is none above 10 acres.

**Types and Trends of Land use**

- The total area of the village is 256.22 acres. There is no forest and no grassland. There has always been much banjar in this village though some of it has been reclaimed for cultivation and some has been brought under a metalled road. (Fig. 63).
- The banjar provides short grass after the rains. Since 1874-75, the arable could be extended owing to the protection provided by the raised track of the Moradabad-Delhi railway line, which passes to the north of it. The arable always includes some new fallow owing to the bad effects of the previous floods.

**Crop Pattern**

- There is much fluctuation in respect of the cultivated area and in the cultivation of individual crops owing to the extent of flooding. Rabi is always more important than kharif and wheat alone covers nearly 50% of the total cropped area. In the kharif, bajra covers about 15%, rice 6% and sugarcane about 13%. Nothing is irrigated.

**Situation**

- **Birpur Baryar**

  **Long. 78°52.5'E., Lat. 28°46'N.**

  Birpur Baryar occupies a position in the western section of the Ramganga khadar where the river widens out after
emerging south of the Kathghar bridge. It is about 4 miles from both Machharya R.S. and Kathghar R.S.

**Physiographic Conditions**

Pools of water left in the previous flood channels exist in the form of broken nullahs in the east and north of the village. Much of its land (57.6%) is covered with sand (Fig.11). Water table is 3 to 8 feet deep.

**Demographic Features**

It had a considerable settlement until recently, but the high floods of 1955 washed away the site almost wholly. The land settlement of 1940-41 recorded 24.73 acres under village settlement site and 17.66 acres under roads and graves. In the year 1955-56, only 0.43 acres were under basti and 5.6 acres under roads and graves. The census of 1951 recorded 320 houses and 343 households comprising 1510 persons in this village. Of them 6 were literate. 76% were cultivators of land wholly or mainly owned and their dependents. 7.7% were cultivators of land wholly or mainly unowned and their dependents, 5.3% were cultivating labourers and their dependents, 1.6% were non-cultivating owners of land and their dependents, 4.4% were engaged in production other than cultivation, 1% were employed in commerce and 4.8% derived their income from miscellaneous sources. Evidently, it was a large village then, but now it is quite small having a few houses only.
Types and Trends of Land use

The total area of the village is 1290.32 acres. There is no forest and no grassland and little groves. There is a decrease of every type of land excepting banjar which has gained due to the influence of floods.

Crop Pattern

Here, jowar and maize become more important than other crops.

16. Machharya

Situation

Long. 78°48' E., Lat. 28°47' N.

Machharya is situated about four miles south of the Moradabad town in the khadar of the Gangan nadi. There is a railway station of the same name nearby.

Physiographic Conditions

The Gangan nadi meanders along its western and southern boundary and has left a number of ox-bow lakes, which have been reclaimed for cultivation (Fig. 38). But, during floods water spreads there. The village lands can be divided into a slope har and a khadar har. The water table is 3 to 7 feet deep. Loamy soils prevail.

Demographic Features

The village settlement is perched on a high ground in
the north-east corner of the lands. There are 119 houses and 145 households composed of 754 persons in the village (census 1951). It has a single hamlet. 68 persons are literate. 17.4% derive their income from transport and commerce.

**Types and Trends of Land Use**

The total area of the village is 497.67 acres. There is no forest and no grassland. There has been an extension of cultivation owing to the reclamation of banjar. Groves have been cut and some kacha tracks have also been ploughed. Water surface has increased, recently, owing to the flooding by the Gangsn nadi.

**Crop Pattern**

Rabi covers 52.66% of the total cropped area. In it wheat alone covers 26.36%, wheat mixed with gram covers 8.44% and wheat mixed with barley 1.87%.

17. **Ramawala**

**Situation**

Long. 76°52' E., Lat. 29°12.5' N.

Ramawala is situated between the Dhandi nadi and the Aurka nadi, about a mile to the north of the Thakurdwara town.

**Physiographic Conditions**

It lies in an undulating upland, dissected by gullies. The village has a curious shape designed for it by the streams.
There are some clayey depressions here and there, but generally
the soils are light dumats. Water table is 15 to 25 feet deep.

**Demographic Features.**

The area used to be little cared for in the second
quarter of the 20th century owing to the harrassment caused by
the Sultana dacoit and wild animals, and a scrub jungle was grow-
ing here until the refugees from West Pakistan were rehabilitated
in the years 1950-51. The basti of the village is divided into
three hamlets of small size. When the writer surveyed the village
in the year 1956, there were 356 residents in 78 commensal families
giving an average family strength of 4.56 persons. Each of these
families held 8.5 acres. They had 209 livestock, too. The size
of fields is much larger here than elsewhere. 50.3% are upto 1
acre each and 33.6% are above/ acres each. The smaller fields are
found in the rice-depressions.

**Types and Trends of Land use**

The total area of the village is 734.36 acres. There is
no forest and no grassland. Cultivation has been greatly extended
through the efforts of the refugees who have reclaimed the whole
of banjar and scrub (Fig.56).

**Crop Pattern**

36.12% cropped area is double-cropped. Kharif is more
important (56.02%). Wheat alone covers 11.80%. Wheat mixed with
gram 16.29%, gram 14.21%, rice 32.50% but sugarcane 3.13% only.
Situation

Long. 78°48' E., Lat. 29°4.5' N.

Tikhunti is situated on the westward bend of the Kurka nadi (Fig. 39). It is accessible from Dilari.

Physiographic Conditions

There is a typical jhadda or clayey depression in its northern part. The soils in the village vary from Kachhiana and Dumat I to Matiyar II and Bhur I. The southern part within the bend of the Kurka nadi has suffered much from soil erosion. Water table is 5 to 10 feet deep.

Demographic Features

It has a small basti with 32 houses, 45 households and 199 residents (census 1951). None is literate. All are dependent on cultivation for their living. 44.6% of the land is held by persons residing in the neighbouring villages (cf. villages in the bhur-lands and Ganga khadar). 70.9% holdings are less than 5 acres each and only 4.81% are above 10 acres each.

Types and Trends of Land use

The total area of the village is 538.50 acres. There is no forest and no grassland. The cultivation has been greatly extend- ed since 1871-72 through the reclamation of banjar and land under water.
Crop Pattern

Kharif is usually more important and, therein, rice predominates with about 31%, followed by jowar (14%). In the rabi wheat alone predominates with about 29% followed by gram with 11%. There is a great variety of crops grown here in small amounts and sugarcane is one of them with 0.89% of the total cropped area. Dofasli amounts to 16%. Irrigation is required, here, only in dry periods. In the year 1871-72, as much as 32.82% of the total cropped area was irrigated from wells, ponds and nadi, but in the year 1957-58, only 1.74% was irrigated.

19. Daulat Bagh

Situation and Physiographic Conditions

Long. 78°46.5 E., Lat. 28°51’ N.

Daulat Bagh has two parts, one lies in the bed of the Ramganga and is known as Daulat Bagh Ahtmal, while the other lies on the bank of the river and is known as Daulat Bagh Mustehkam. The former is uninhabited; the latter now forms part of Moradabad Municipality. Formerly the two were combined in one village (Fig.11). The hurhi (old) Ramganga nullah forms the boundary between the two. The soil is Kachhiana and Gauhan dumats. Water table is 4 to 8 feet deep.

Demographic Features & Agrarian Structure

The main basti adjoins Moradabad town closely. But many of the cultivating baghbang live in small huts built in their tiny
farms; the pattern of settlement reflecting the need of protecting the fields from the trespassers. The fields are also hedged with thorny bushes. The average family of the baghans comprises 5.9 persons. Both the land holdings and field plots are very small, here. 65.44% holdings in Daulat Bagh Mustehkan are just upto 0.25 acre each and there is none above 5 acres. 76.8% plots are upto 0.50 acres each and there is no cultivated field above two acres. Even in Daulat Bagh Ahtmali 61.12% holdings are upto 0.50 acre each and there is no holding above 5 acres.

Types and Trends of Land use

The total combined area of Daulat Bagh Mustehkan and Ahtmali is 123.45 acres. The area of Daulat Bagh Mustehkan is 94.29 acres only. There is no forest and no grassland but fruit orchards are quite extensive (Fig.46). There is a big night-soil compost yard maintained by the Municipal Board in this locality. Gradually the building construction, schools and other urban requirements are encroaching upon the arable.

Crop Pattern

Dofali covers 37% of the total cropped area here. 86.4% is irrigated. All the three harvests are raised. But total rabi cereals cover only 3.94% whereas rabi vegetables cover 34.44%, mad vegetables, condiments, etc., 17.40%, kharif vegetables and spices 12%, maize 23.16% and jowar fodder covers 7.8% of the total cropped area. There is little place for foodgrains, here. Kacha wells and the foul water drain coming from the town provide irrigation.
Situation & Physiographic Conditions

Long. 78° 34' E., Lat. 28° 35.5' N.

Hauz Badesra forms a part of Sambhal Municipality. It occupies a depression, formerly a tank (Hauz) which has been reclaimed, gradually (Fig. 45). The soils are Kadkhiana and Gauhan dumats. Water table is 2 to 5 feet deep.

Demographic Features

There is no separate basti for it. People live in the adjoining mohallahs of Sambhal. The average family of the baghban tillers, here, is 5.8 persons. Both the land holdings and field plots are very small as in Daulat Bagh Mustehkam.

Types and Trends of Land use

The total area of Hauz Badesra is 77.24 acres. There is no forest and no grassland but some area is devoted to orchard. Since 1873-74, there has been some progress of cultivation but the increase in the areas of gardens and agriculturally unproductive land is note-worthy. Gradually, building and road construction is encroaching upon the arable.

Crop Pattern

Dofasli amounts to 41.85% of the total cropped area. Irrigated area amounts to 59.46%, kharif 39.68%, maize 30.57%. In the rabi, potatoes cover 42.09%, wheat 6.70% and barley 4.28%. Zaid harvest 5.99%, while vegetables and spices in kharif cover 6.99%.