

Integrated Area Development Plan for District Jhansi



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D00348

AREA PLANNING DIVISION
STATE PLANNING INSTITUTE
UTTAR PRADESH

SEPTEMBER, 1980

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309.26
UTT-5

Sub. National Systems Unit,
National Institute of Educational
Planning and Administration
17-B, SriAurobindo Marg, New Delhi-110016
DOC. No. D-348.....
Date..... 27/8/82.....

F O R E W O R D

The Fifth Five Year Plan had recommended the formulation of location specific integrated area development plan for each district in the country. The present study, "Integrated Area Development Plan for District Jhansi" is the first attempt made in this State. The study under-taken by the State Planning Institute satisfies some of the main criteria laid down by the Planning Commission, Government of India. Though the integrated area development plan has been prepared for the district Jhansi its implications are much wider and, the methodology adopted is replicable in other districts of the State with some modifications.

The present study is, thus, an important step in the formulation of the integrated area plans. The study provides necessary locational guidelines for establishing various institutions and facilities in specific areas of the district and suggests implementation of inter-sectoral programmes in an integrated manner. In fact, area planning has been recognised as an indispensable technique for comprehensive development of an area based on integration of functional and spatial factors which may further ensure proper linkages in the inter-sectoral programmes to derive an optimum benefit for the inhabitants of the area on their implementation. The methodology pursued in the study is bound to improve in the subsequent exercises which may be under-taken in other district of the State.

The model district plan of Jhansi district has been prepared in three volumes. The first two volumes viz. "Planning for Rural Growth Centres" and "Inter-Block variations and priorities for Development" have already been published and released.

The present volume, an Integrated Area Development Plan for Jhansi District is now being released after the receipt of valuable comments from the District Magistrate, Jhansi and after necessary revision of the plan where-ever deemed proper.

The members of the team under the guidance of Sri J.C.Budhraj, Director, Area Planning Division have worked hard on the Project. Collectors of Jhansi District Sarva Sri Dilip Kumar and P.L.Punia showed keen interest in this work deserve our thanks for their comments.

Date: March 11, 1981.

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CHAPTER - I

Introduction:

1.1 Historical Review of District Level Planning in India and Uttar Pradesh.

The country has already accepted the principle of development through planned efforts. The Planning process started in the year 1951 when the First Five Year Plan was launched for securing planned development of the country with a view to raising the standard of living of the masses.

Successive Five Year Plans have stressed the importance of decentralizing the planning process, so that National and State Plans may reflect local potentials and priorities. Planning experience has shown that macro-level decisions on sectoral schemes and financial outlays tend to ignore the socio-economic and physio-geographic variety of conditions in different parts of the country and may fail to bring about inter-sectoral synchronization of development at the local level. This over-looking of the spatial dimension in planning has led to the emergence of regional imbalances. It has also resulted in considerable infructuous effort as well as heavy burden on public exchequer.

Thus, integrated planning at the local level is of crucial importance. It is, in particular, the sine qua non for the benefits of planning to reach the poor and weaker sections of the society and also taking care of the special needs of economically backward areas.

After about three decades of planning and development in the country, it is now quite clear that a balance has to be struck between national priorities and local needs of a region/district. The macro level sectoral planning has, no doubt, shown some gains at the local level but the impact has rather been uneven. This has created problems specially for backward areas. It is, therefore, obvious that within the framework of national priorities, a regional plan at macro level should be prepared which should provide necessary guide-lines within which detailed planning at micro level can be done. The efforts made

in the previous three decades through National Development Plans in the country have given rise to the need of comprehensive regional development plans at sub-national, state and sub-state levels. Such a realization would help in more effective implementation of National and State development plans. National and State plans would get an effective coordination, integration and synchronization in space and time if they are properly executed through regional or area development plans.

Strategy for balanced regional growth has been incorporated in various Five Year Plans at National level. The First Five Year Plan aimed at raising productivity and achieving possible measures of social justice. In the Second Five Year Plan, the emphasis was laid on preparation of comprehensive development plans to increase the national income, achieve rapid industrialization through establishment of basic and heavy industries and reduce inequalities, whereas in the Third Five Year Plan, efforts were concentrated mainly on the sectoral planning, neglecting horizontal relationship in space. In the beginning of the Third Five Year Plan, it was felt that the development efforts through the earlier two five year plans have not taken into consideration the horizontal dimension of planning, ignoring the complementary parts of projects like industries, irrigation, agriculture. The main lacuna of the regional planning efforts in the earlier five year plans was that benefits of development programmes could not diffuse over a larger region and consequently, the rural areas still remained undeveloped or underdeveloped. Therefore, efforts for regional development were made in the light of lacuna stated above, and in Third Five Year Plan the following policy was stated:-

"In each region, the nature of the problem and the impediments to rapid development in particular fields should be carefully studied, and appropriate measures devised for accelerated development. The essential object should be to secure the fullest possible utilisation of the resources of each region, so that it can contribute its best to the national pool and take its due share from the benefits accruing from national development".

During the Fourth Five Year Plan on the assessment and evaluation of performances at the national and State levels it was felt that for want of clear policies for area development programmes at the

district level, benefits of various programmes could not percolate to the rural areas. Therefore, it was concluded that District Plans should be made an essential component of the National Plan and the State Governments should be held responsible for their planning and implementation.

Regional Development in National Planning has been conceived of at three distinct levels :

- (i) formulation of regional development policy in national planning,
- (ii) preparation of regional physical plans for sub-regions within states and working out a comprehensive plan for the State on the basis of these plans, and
- (iii) preparation of area development plans for different districts and blocks.

In the Fifth Five Year Plan it was clearly stated that the basic lacuna of the previous plans has been that involvement of people at the grassroots was not taken into consideration in the planning process. Therefore, "Planning process should begin at the district level and should be gone further to smallest manageable unit like the village or the block".

A review of the planning process in India indicates that district planning has been consistently advocated, from one Plan to another, as a means of achieving one or more of the following objectives:

- (a) ensuring local participation and evoking local enthusiasm;
- (b) mobilizing local resources;
- (c) obtaining feed-back in terms of field level experience for making planning process at State level more realistic;
- (d) facilitating integrated physical planning to establish closer correspondence between resource endowment and potentials of an area and the contents and magnitude of development programmes taken up therein and greater complementarity between inter-dependent programmes falling within the sphere of different departments; and
- (e) accelerating the development of backward groups/areas by identifying growth-inhibiting factors and counter-acting stagnation by providing for measures, facilities and incentives specifically suited to the particular physiogeographic and socio-economic situation.

Although there has been considerable emphasis on the preparation of District Plans, very few attempts have been made so far. In fact, in the preparation of any spatial framework of development, it is necessary to include plans for land use pattern, human settlement, layout of different types of roads, electricity transmission and the location of agricultural inputs, markets and industries which are based on the primary products of that area. Despite all these stresses on the need of district planning, so far only half-hearted and sporadic attempts have been made to put the idea of district planning into practice. Mostly district planning has been taken up only in a very limited sense, as a means of collecting "the felt needs of the people", essentially as an extension of the concept of community development. When the work on the formulation of district plans started, the approach was essentially aggregative and the procedure was to prepare first of all the village plans on the basis of the requirements listed by the Gram Sabhas and then to aggregate these plans at the Block level for formulation of Block plans, which were ultimately aggregated at the district level to formulate district plans. These plans were essentially a collection of the "felt needs of the people" and generally covered those items in detail, in which the State had to provide for either the financial or personnel resources. These plans were not so much the frameworks of potentials and projections of the likely demand or production or investment but charters of demands drawn up by a hierarchy of institutions about what the Government should do in the area during the next five years.

As a result, the district plans, by and large, concentrated on the requirements of power, irrigation works, communications, public health and medical facilities, educational institutions, drinking water, etc. Neither for village plans nor for block or district plans was any attempt made either to describe the rationale for the demand or to quantify the benefits likely to accrue from their fulfilment or to order the inter se priorities for different proposals within an inter-related and integrated framework. Proposals pertaining to each sector were included mainly in the plan document. The result was that except for the obvious items such as irrigation, power and roads, the other items of infrastructure, particularly the marketing and credit system, servicing and common facilities, etc. were some times even missing from it. The basic lacuna in district planning was that

it did not lay down the prescription that the drawing up of programmes should be preceded by an assessment either of the existing level of development or the analysis of past trends or an appraisal of the performance of ongoing schemes. As a result, the productive programmes, in so far as these figured in the district plans, were for the most part a series of statements without any set of realistic assessments about items such as land utilization, cropping pattern, extension of irrigation facilities, availability of institutional resources, anticipated pattern of demand, expansion of processing, marketing facilities, etc.

1.2 Need of District Level Planning :

As stated earlier, the concept of district planning was emphasised in the Fourth Plan mainly because of the fact that there was such a wide divergence between one area and another in the matter of levels of development, physio-geographic conditions, resource endowment, infrastructural facilities, institutional structure and social services that formulation of district plans on the basis of uniform policy and approach would fail to ensure the optimal utilization of the existing natural endowments and resource potentials. It was also recognised that without district or local level planning, there could be no hope for an acceleration in the pace of development of backward areas and the reduction of regional imbalances. Besides, district planning was also seen as a device for the integration of sectoral programmes which are otherwise drawn up in individual departments in water-tight compartments at the State level.

In the light of the observations, it seems desirable to recapitulate at this stage the main reasons which necessitate the formulation of district plans. These are described here as under:-

- (a) National and State Planning cannot take adequate care of the diversities of physio-geographical and socio-economic conditions existing in different areas;
- (b) unless these diversities are taken into account and programmes formulated accordingly, inter-regional disparities in the levels of economic development cannot be reduced;

- (c) resource development and fostering (and acceleration) of various economic activities requires coordinated action from many angles which cannot be organised effectively except in the context of particular spatial situations; and
- (d) although the 'district' is not the ideal unit for local level planning, it is the only unit at which work can be initiated in the immediate future within the framework of multi level planning.

1.3.Objectives, Approach and Methodology:

Having realised that the District Planning is invariably needed, a pertinent question arises as to what should be the objectives, approach and methodology for giving a motive force and a practical shape to it. In the Draft Five Year Plan(1978--83) of the Government of India, the principal objectives of planning are defined as achieving within a period of ten years:

- (i) The removal of unemployment and significant under-employment;
- (ii) an appreciable rise in the standard of living of the poorest sections of the population; and
- (iii) provision by the State for some of the basic needs of people in the target groups, like clean drinking water, adult literacy, elementary education, health care, rural roads, rural housing for the landless and minimum services for the urban slums.

The various approaches to area development, which were attempted during the Fifth Plan, included the resource-based or problem oriented development, the target-group, the incentive and the comprehensive area development. The major thrust assigned during 1978--83 plan for the rural areas is for increasing productivity through a strategy of growth for social justice and providing full employment to the rural sector within a ten-year time frame. Translating these objectives into programmes will require an extremely location-specific planning strategy for the rural areas. Thus, the district plan will have to be both a resource development as well as an infrastructure plan for supporting the production-cum-employment thrust of the block level planning. The requirement of infrastructure and the locations of various institutions like seed stores and plant protection centres will have to be worked out for optimum support to the spatial planning. The district

plan will also have to take into consideration the institutional support, input services and the marketing centres that have to be developed. Therefore, the main objectives, which are proposed to be covered under the present study, would be as follows:-

- (i) To study the natural endowments and resource potentials and to prepare resource inventory of the district;
- (ii) To make an analytical study of the utilisation of resource potentials with a view to finding out the constraints to development;
- (iii) To assess the level of development under different sectors of the economy of the district in a regional context;
- (iv) To make critical appraisal of the on-going schemes and identify growth inhibiting factors responsible for intra-district disparities;
- (v) To assess the consumption requirements of the people for a period of next five years, i.e., 1980-81 to 1984-85;
- (vi) To make an in-depth study of the spatial structure of the district with a view to finding out infrastructural gaps; and
- (vii) To suggest programmes for accelerating the tempo of developmental activities in order to generate income and employment opportunities.

Within the parametres of these broad objectives, the first pre-requisite would be a systematic presentation of the resource potentials, the performance of ongoing schemes and the assessment of the existing levels of development of the district. Thus, the first step in district planning would be the collection of data regarding the following:-

- (a) Natural resources (i.e., land, forests, water, minerals, etc.) and the extent of their utilisation;
- (b) Level of development in different sectors of the economy;
- (c) Existing levels of socio-economic infrastructure; and
- (d) Appraisal of ongoing schemes.

The next step would be the formulation of a perspective plan of development, indicating the major objectives to be attained and the economic activities to be taken up during the next plan of five years.

The district plan would normally consist of the following four categories of schemes:-

- A.1. Schemes to be executed by the people themselves either through their own resources or through institutional or government assistance of loans or grants;
 2. Schemes to be executed by the cooperative and corporate sectors;
 3. Schemes to be executed by the local bodies like Gaon Sabhas, Kshetra Samities, Zila Parishads, Corporations, Municipalities, Notified Area and Town areas;
 4. Schemes to be executed by the government departments as a part of the State Plan;
 5. Centrally sponsored schemes; and
 6. Schemes of the Central sector.
- B. Schemes planned at the state level but located in a district.
- C. Inter-district State schemes.
- D. Central Projects and schemes located in a district.

The formulation of a plan for accelerated and balanced development of the district requires an understanding of spatial patterns and variations in levels of development from one area to another. For this purpose, intra-district disparities have to be studied in details which would help in (i) identification of constraints to development, (ii) analysis of locational patterns of economic activities by types and levels of production, (iii) analysis of infra-structural and social facilities to bring out the patterns of coverage/concentration and (iv) evaluation of resource base in terms of the possibility of developing activity-mix based on the potentials of the area.

The other steps involved in the formulation of the district plan are stated below:-

- (i) Identification of the problems, difficulties and constraints to development;
- (ii) Assessment of needs of the area;
- (iii) Study of spatial structure and identification of central places for location of activities/functions in a decentralised manner;

- (iv) Formulation of strategies for development;
- (v) Preparation of perspective plan of development within the parametres of National/State policies and goals;
- (vi) Formulation of sectoral programmes on the basis of a realistic assessment of priorities, problems and resources, taking into consideration the regional priorities; and
- (vii) Involvement of local people.

Therefore, while thinking of a new approach to district planning, three basic considerations will have to be kept in view. The first is that planning is essentially a process of intervention aimed at accelerating, improving and reorienting the existing plan of development in conformity with the basic objectives of planned development. The second consideration, which has assumed particular relevance in the immediate context, is that activity profiles and, finally, the overall programmes for action have to be quantitatively and qualitatively related to the nature and size of the problems of unemployment, under-employment and poverty. The third consideration, which is also of great importance, relates to the identification of the aspirations, felt needs, preferences of the people and their willingness to accept programmes and make allocations of both the financial and material resources for the various programmes proposed. Thus, the new approach to district planning differs from the earlier approaches essentially because it is reoriented towards the achievement of certain socio-economic objectives and the accrual of benefits to certain specific categories of beneficiaries and does not concern merely with the achievement of certain overall growth rates or particular sectoral targets.

CHAPTER - II.

SYNOPTIC VIEW OF JHANSI DISTRICT.

2.1 Administrative and Development Units:

The newly carved out district of Jhansi comprises four tehsils, viz., Garautha, Jhansi, Mauranipur and Moth. According to 1971 Census, the district has 10 towns out of which Jhansi town group consists of Jhansi Municipal Board, Jhansi Cantonment and Jhansi Railway Settlement Notified Area. Besides these, there are 7 other towns, viz., Mauranipur, Babina, Santhar, Chirgaon, Ramipur, Gursarain and Hisar Gird. There are eight development blocks, 80 Gram Sewak Circles, 65 Nyaya Panchayats, 584 Gaon Sabhas and 855 revenue villages in the district. Blockwise details of these administrative units are given in table 2.1.

TABLE - 2.1

ADMINISTRATIVE AND DEVELOPMENT UNITS

Sl. No.	Name of Tehsil	Name of Development Block.	V.L.W. Circles	Nyaya Panchayats	Gaon. Sabha	Revenue Villages		Total
						Popul-ated	De-pop-ulated	
0	1	2	3	4	5	6	7	8
1.	Moth	1. Chirgaon	10	7	76	103	17	120
		2. Moth	10	7	84	123	25	148
2.	Garautha	3. Gursarain	10	9	84	108	10	118
		4. Banaur	10	9	78	101	14	115
3.	Mauranipur	5. Mauranipur	10	10	67	84	2	86
		6. Bangra	10	9	65	84	5	89
4.	Jhansi	7. Baragaon	10	6	70	82	6	88
		8. Babina	10	8	60	82	9	91
Total			80	65	584	767	88	855

Source : Statistical Bulletin, 1977, Office of the
Economics & Statistics Officer, Jhansi.

2.2 Natural Resources:

2.2.1 Natural Sub-Regions and Topography of the District.

The district of Jhansi occupies the extreme South West corner of U.P. It lies between the parallels of $25^{\circ} 13'$ and $25^{\circ} 57'$ North latitude and the meridians of $78^{\circ} 40'$ and $79^{\circ} 25'$ East longitude. The whole of its Western and Southern boundary is contiguous with the State of Madhya Pradesh. District Jalaun lies on its North and on its East lies district Hamirpur. The Central Railway connects the district to the West with Delhi, to the South with Bombay, to the North with Kanpur and to the East with Allahabad via Manikpur, having a total lay out of about 269 km. of railway. Some of the important railway stations are Babina, Rura, Ranipur road, Barwa Sagar and Mauranipur. The district is also well connected and served by pucca roads, with three National Highways passing through it. The first leads to Kanpur, the second to Sagar and the third to Shivapuri, having the road length of 63 km., 83 km. and 18 km. respectively.

The general land-scape presents a vista of bare undulating plains interspersed with rocky hills or ravined river beds and unattractive plains of black cotton soils. The intrusion of Vindhyan plateau is most marked in the peninsular protuberance to the south and particularly in its Western side.

Physiographically, the district can be divided into two parts. First is the North-East portion which is by far the most fertile patch. The development blocks falling in this region are Chirgaon, Moth, Bamour, Gursarain and Mauranipur. The second is the South-West part which is mostly rocky because of prominent extension of Vindhyan plateau with red soil belt spread over it. Forests are also found in this region. The development blocks falling in this part include Bangra, Baragaon and Babina.

2.2.2. Climate and Rainfall:

The climate of the district is prone to high variability of rainfall from year to year and excessive heat during summer which is due to barrenness of rocky nature of the soil. The hot weather begins earlier and lasts longer. The temperature in the district during 1977-78

was recorded to be the maximum with 46.9°C and the minimum with 2.1°C. The average annual rainfall in the district during the period from 1969-70 to 1977-78 is found to be 915.8 mm. The yearwise figures of temperature and rainfall for Jhansi district during the period 1969-78 are given below:-

TABLE - 2.2
TEMPERATURE AND RAINFALL.

Year	Temperature (Centigrade)		Rainfall (Millimeter)	
	Maximum	Minimum	Normal	Actual
1	2	3	4	5
1969-70	46.1	4.0	917.6	1124.9
1970-71	44.2	2.7	917.6	628.9
1971-72	46.1	2.1	917.6	906.8
1972-73	47.8	3.1	917.6	683.6
1973-74	44.6	2.3	917.6	648.8
1974-75	44.6	1.1	917.6	1026.0
1975-76	46.8	3.9	917.6	915.0
1976-77	47.1	3.1	917.6	789.8
1977-78	46.9	2.1	917.6	1518.6

2.2.3 Rivers and Drainage System:

The important rivers of the district are Betwa, Dhasan, Jamini and Pahuj. Betwa and Dhasan leave the district in the north, passing into the Jalaun district. Pahuj flowing through the Western parts of the district, passes through Madhya Pradesh. Dhasan forms the boundary between this district and the district of Hamirpur and passes into Jalaun. Jamini enters the district in the South from Madhya Pradesh and traversing through the middle of the district, joins Betwa in the north. The other rivers are seasonal. Most of the rivers of the district flow from South to North and from South to South-East. There are three dams across the river 'Betwa', the oldest being 'Parichha' which was constructed during 1881 to 1886. The second is upstream at 'Dhukwan' and the latest is multi-purpose project known as 'Matatila'.

2.2.4 Soil Types:

The main soils of the district are mixed red and black. 'Mar', 'Kabar', 'Parwa' and 'Rakar' are the main varieties of the soil. The red soil is found on the plateau tops and upper slopes. 'Mar' and 'Kabar' are generally found in the plains of north-east portion of the district. 'Mar' is very fertile soil and produces rich crops of wheat and gram. 'Kabar' is distinguished by extreme hardness but it is also a fertile variety of soil 'Parwa' is also a fertile soil and with irrigation and manure can produce many types of crops. 'Rakar' is a refuse soil lying on the sloping ground or in ravines. It is too weak for continuous cultivation. Large areas have only shallow soil and, therefore, remain uncultivated in the absence of adequate irrigation facilities.

2.2.5 Land Use Pattern:

The total geographical area of the district is 5,06,312 hectares. The area under forest, culturable waste, fallow land and land put to non-agricultural uses during 1976-77 was 32,575 ha., 78,929 ha., 31,515 ha., and 30,655 ha. which were 6.4%, 15.6%, 6.2% and 6.0% respectively of the total geographical area. The net area sown was 3,03,885 ha. (i.e. 60 per cent) which is higher than the State average of 57.35 per cent.

2.2.6 Availability of Ground Water Resources:

The use of ground water resources in Jhansi is restricted to a large extent because of the typical topography consisting of rocky hills, unattractive plains of black cotton soil and vindhyan plateau. According to the Survey of 1976 carried out by the Directorate of Ground Water Resources, U.P. the annual net recharge in the district is estimated at 726 M.C.M., out of which total annual draft is about 415 M.C.M. Thus, the balance is 311 M.C.M. which can be further tapped for irrigation purposes through developing minor irrigation works at appropriate places in the district.

2.2.7 Forests:

Forests, which constitute 6.4 per cent of the total geographical area of the district, are mostly found in Jhansi and Mauranipur tehsils. Babul, Mahuwa, Tendu, Salai and Dhak are the main forest trees. Tendu

leaves are used in Bidi industries. A considerable quantity of lac is also found in the existing forests of the district. The area covered under plantations of economic importance is reported to be about 4861 ha. while that of fast growing species is 355 ha. only. The total area covered under fuel trees is about 18,000 ha.

2.2.8 Minerals :

The district appears to be rich in mineral wealth. Pyrophyllite is found in Bijri and Dhaukua tracts. Iron ore is found in Bewar series of rocks in small quantities. Copper is available in the south of Sonarai Soapstone, Felspar and Quartz are also found in limited quantity. Granite, which has great diversity in texture as well as mineralogical composition, is also found in Jhansi and Moth tehsils.

2.2.9 Livestock:

Livestock population is a measure of agricultural inputs in the form of animal power, availability of milch cattle for production of milk and also as a source of raw material for leather and tanning industries. In 1972, Jhansi had 6.33 lakh livestock population. In 1978 it rose to 6.53 lakh, out of which there were 2.16 lakh (33%) male and 2.39 lakh (36.6%) female cattle/buffaloes. Population of goats, sheep and pigs was found to be 138336, 50203 and 7982 respectively. Blockwise livestock population is given in table 2.3.

The general quality of livestock in the district may be rated as poor. Majority of the milch cattle are indigenous and of local breed. Average milk yield per cow per day is hardly half litre and that of she-buffalo about one litre only. The delayed maturity and poor rate of reproduction have become common features owing to lack of proper health cover and non-use of balanced cattle feed which forces livestock owners to keep a large number of unproductive animals. Hides and skins are also not properly utilized.

2.2.10 Fisheries :

Despite having the low rainfall, Jhansi district is rich in fisheries wealth because of its peculiar type of soil texture. The district has an ideal configuration for the formation of lakes and construction of reservoirs. The central soil tract of tehsil Jhansi is studded with lakes and tanks. The most important ones are at Garhmanu,

Sisori, Barwa Sagar, Magarwara and Konchha. These lakes and tanks have proved to be of great value particularly for fisheries development.

As per survey conducted by the Fisheries Department, the Perennial water area is spread over 6,955 hectares and only 123 hectares is seasonal. Thus, the total water area comes to 7,078 ha., out of which the area under pisciculture is about 6,880 ha. In addition, reservoirs, where fishing is also done, are spread over an area of 8,853 ha. The perennial water area is concentrated mostly in Bangara, Mauranipur, Chingraon and Gursarain blocks.

Following are the important reservoirs where fishing is done by the Fisheries Department.

1. Kamla Sagar	2460 hectares
2. Barwa	2427 ,,
3. Lachra	1220 ,,
4. Pahari	1095 ,,
5. Farichha	1090 ,,
6. Pahuj	518 ,,

2.3 Human Resources:

2.3.1 Population:

According to 1971 Census, Jhansi district had a population of 8.70 lakh, out of which 4.63 lakh were male and 4.07 female. In 1961, district population was 7.14 lakh. Thus, the decennial growth rate during the period 1961--71 was 21.78 per cent as against 19.8 per cent for the State and 20.2 per cent for Bundelkhand region.

Block-wise demographic characteristics are given in the following table:-

TABLE - 2.3

BLOCKWISE LIVESTOCK POSITION (AS PER 1978 CATTLE CENSUS) IN DISTRICT JHANSI

Sl. No.	Block	Cattle			Buffaloes			Goats	Sheep	Pigs	Others	Total	Poultry birds
		Male	Female	Total	Male	Female	Total						
0	1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Baragon	19311	17872	37183	2460	11097	13557	14064	5391	1063	229	71487	6085
2.	Babina	23741	22163	45904	2804	12695	15499	19193	6911	665	198	88370	8670
3.	Chirgaon	20386	11386	31772	2134	10249	12383	11093	5226	493	212	61179	4572
4.	Moth	22113	18709	40822	2238	15134	17372	11090	4133	1543	251	75221	6185
5.	Bangra	38955	20518	59473	1152	5757	6907	15923	5922	1241	83	89549	5064
6.	Mauranipur	25814	21732	47546	1576	7521	9097	18215	4539	1385	116	80898	7142
7.	Gursain	22570	20842	43412	1636	10385	12021	26321	9377	988	177	92236	8032
8.	Bamaur	27906	24225	52131	1658	8794	10452	22437	8704	604	103	94431	5969
Grand Total		200796	157447	358243	15658	81630	97288	138336	50203	7982	1309	653361	51718

TABLE - 2.4

BLOCKWISE DEMOGRAPHIC CHARACTERISTICS

Sl. No.	Name of Block	Total Population	Density of population	Percentage of rural population to total population	Percentage of SC/ST population to total population	Sex Ratio	Literacy Percentage
0	1	2	3	4	5	6	7
1.	Moth	96716 (11.12)	145	87.89	28900 (29.88)	884	23.7
2.	Chirgaon	77349 (8.89)	143	88.35	21705 (28.06)	882	25.6
3.	Bamaur	82490 (9.48)	98	100.00	26464 (32.08)	878	23.6
4.	Gursarain	88521 (10.17)	120	89.43	29853 (33.72)	884	24.2
5.	Bangra	80332 (9.23)	136	100.00	27897 (34.7)	870	19.8
6.	Mauranipur	101897 (11.71)	196	69.53	32872 (32.3)	881	26.1
7.	Baragaon	266419 (30.62)	531	25.40	53811 (20.2)	884	42.0
8.	Babina	76414 (8.78)	112	77.10	18499 (24.2)	858	18.4
	TOTAL	870138	170	67.9	240001 (27.60)	879	29.0

Source : District Census Handbook, 1971.

Note : Figures given in parentheses of col. 2 denote percentages to its vertical totals.

It is clear from the above table that the highest concentration of population (30.62 per cent) was in Baragaon block followed by Mauranipur (12.60 per cent), Moth (11.12 per cent) and Gursarain (10.17 per cent). The density of population in the district was 172 persons per sq. km. of area in 1971, as compared to 300 for the whole State. Thus, the district is sparsely populated excepting Baragaon where density of population is found to be very high, i.e., 531. In fact, this block falls in the sub-urban areas of Jhansi and, therefore, has higher density. The lowest density of population (98) was in Bamaur block.

Rural & Urban Population:

Following table shows sex wise distribution of population between urban and rural areas:

TABLE - 2.5

POPULATION DISTRIBUTION IN RURAL AND URBAN AREAS

					('000)
Sl. No.	Area	Male	Female	Total	Percentage to total population
0	1	2	3	4	5
1.	Urban	148	131	279	32.1
2.	Rural	315	276	591	67.9
	TOTAL	563	407	870	100.00

Above table reveals that share of rural population in total population during 1971 was 67.90 per cent. Growth rate of urban population during 1961--71 was 19.3 per cent which is lower than the growth rate noticed for the total population of the district, indicating slow process of urbanisation. Growth rate of urban population during the period 1951--61 was 13.6 per cent only, while district population during this period showed an increase of 27.5 per cent. When compared to the growth rate of urban population, it confirms the finding of slow process of urbanisation in the district.

Among the development blocks, Bangra and Bamaur have no urban towns, whereas Mauranipur and Baragaon have respectively 26.1 per cent and 32 per cent urban population. Town-wise details of the population for the years 1951, 1961 and 1971 are given in the following table:-

TABLE - 2.6

TOWNS AND THEIR POPULATION

Sl. No.	Name of Town	Population in			Percentage Increase in	
		1951	1961	1971	1961	1971
0	1	2	3	4	5	6
1.	Jhansi Town	106333	140217	173292	31.9	23.6
2.	Jhansi Cantt.	16075	21126	14903	31.4	(-) 29.5
3.	Jhansi Rly. Settlement	4957	8369	9940	68.8	18.8
4.	Santhar	8920	9449	11708	5.9	23.9
5.	Chirgaon	5460	7514	9012	37.6	19.9
6.	Gursarain	4566	6504	9351	42.4	43.8
7.	Mauranipur	15982	20224	25651	26.5	26.8
8.	Rampur	5698	6793	7769	19.2	14.4
9.	Babina	3821	13751	13275	289.4	(-) 3.5
10.	Hasari	3208	4010	4416	25.0	10.1
TOTAL		174729	237957	279317	36.2	17.4

Above table gives two revealing facts. First, the rate of urbanisation during 1951-61 was faster than in the following decade. Secondly, a few towns such as Gursarain and Jhansi Rly. Settlement have expanded much faster than other towns of the district. Incidentally Jhansi Cantt. and Babina are townships whose population during 1961--71 decreased. The population of Babina which was only 3,821 in 1951 considerably increased to 13,751 in 1961 mainly because of concentration of defence establishments during this period.

2.3.2 Scheduled Caste/Tribe Population, Sex Ratio and Literacy:

2.3.2.1 S.C./S.T. Population:

The following table shows block-wise scheduled caste and scheduled tribe population of the district:-

TABLE - 2.7

SCHEDULED CASTE AND SCHEDULED TRIBES POPULATION OF DISTRICT JHANSI

(1971)

Sl. No.	Name of Block	Population		Percentage to total population
		Total	S. C./S. T.	
0	1	2	3	4
1.	Chirgaon	77349	21705	28.1
2.	Moth	96716	28900	29.9
3.	Gursarain	88521	29853	33.7
4.	Bamaur	82490	26464	32.1
5.	Mauranipur	101897	32872	32.3
6.	Bangra	80332	27897	34.7
7.	Babina	76414	18499	24.2
8.	Baragaon	266419	53811	20.2
TOTAL		870138	240001	27.6

The scheduled caste population in the district was 27.6 per cent of the total population in 1971 as against 21 % in the State. The highest concentration is in Bangra and Gursarain blocks. The development blocks in which the percentage of scheduled caste population to total population is greater than the district average are Moth, Chirgaon, Bamaur, Gursarain, Bangra and Mauranipur.

The following table shows absolute increase of males and females and the sex-ratio for the years 1951, 1961 and 1971.

TABLE - 2.8

MALE AND FEMALE POPULATION AND SEX-RATIO

Sl. No.	Year	Population ('000)		Sex Ratio
		Male	Female	
0	1	2	3	4
1.	1951	294	269	916
2.	1961	378	337	890
3.	1971	463	407	879

It would be evident from the above table that there has been a declining trend in sex ratio of the district. However, this decline during 1961--71 was less as compared to the previous decade.

Literacy :

The literacy percentage in the district during 1961 was only 20 per cent which increased to 29 per cent in 1971, as against only 21.7 per cent in the State. This literacy percentage was the highest (42%) in Baragaon and the lowest (18.4%) in Babina. Moreover, all the blocks, except Bangra and Babina, are found to be relatively advanced in the matter of educational development. Though the literacy percentage of the district is higher than the State average, there is a great variation in urban and rural literacy. In rural areas 32.3 per cent of the males and only 6.8 per cent of the females were found literate. The corresponding percentage for urban were 57.4 and 40.9 respectively.

2.3.3. Population Composition:

The block-wise percentage of workers to total population and that of cultivators and agricultural labourers to the total workers are shown in the table below:-

TABLE - 2.9

PERCENTAGES OF WORKERS TO TOTAL POPULATION AND CULTIVATORS/
AGRICULTURAL LABOURERS TO TOTAL WORKERS(1971).

Sl. No.	Block	Total Workers	Percentage of workers to total population	Percentage of cultivators & agricultural labourers to total Population.
0	1	2	3	4
1.	Chirgaon	22123	28.54	83.56
2.	Moth	28838	29.82	85.20
3.	Gursarain	25780	29.12	84.89
4.	Bamaur	24156	29.28	88.82
5.	Mauranipur	29115	28.53	69.51
6.	Bangra	24037	30.12	87.43
7.	Babina	23417	30.47	68.18
8.	Baragaon	70658	26.64	27.08
	District	248124	28.52	65.41

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6.	Bangra	24037	30.12	87.43
7.	Babina	23417	30.47	68.18
8.	Baragaon	70658	26.64	27.08
	District	248124	28.52	65.41

that

It is clear from the above table that the percentage of total workers to total population in the district during 1971 was 28.52, as against 30.9 per cent for the whole State. It is also clear from the above table that as much as 65.41 per cent of the total workers were cultivators and agricultural labourers in the district as compared to 77.4 per cent for the whole State. It is significant to note that it is only Baragaon block where this percentage was found to be the lowest (i.e., 27.08%), whereas in other blocks this percentage was higher, so much so that in Bamaur and Bangra blocks these percentages were 88.82 and 87.43 respectively.

2.3.4 Economic Classification of Workers:

Information regarding the block-wise percentage distribution of total workers into primary (i.e., agriculture, animal husbandry, forestry, fisheries & mining), secondary (i.e., registered and unregistered manufacturing, construction, power, gas and water supply) and tertiary sectors is given in the following table:-

TABLE - 2.10
BLOCK-WISE OCCUPATIONAL STRUCTURE

Sl. No.	Name of Block	Total Population.	Total Workers	Primary Sector	Percentage of cultivators & agricultural labourers.	(Number)	
						Secondary Sector	Tertiary Sector
0	1	2	3	4	5	6	7
1.	Moth	96716	28838 (29.82)	24706 (85.67)	85.20	1462 (5.07)	2670 (9.26)
2.	Chirgaon	77349	22123 (28.54)	18551 (84.05)	83.56	1220 (5.52)	2302 (10.43)
3.	Bamaur	82490	24156 (29.28)	21870 (90.54)	88.82	885 (3.66)	1401 (5.80)
4.	Gursafain	88521	25780 (29.12)	22118 (85.80)	84.89	1423 (9.52)	2239 (8.68)
5.	Bangra	80332	24037 (30.12)	19235 (87.99)	87.43	1447 (6.62)	1179 (5.39)
6.	Mauranipur	101897	29115 (28.53)	21967 (70.21)	69.51	4215 (13.47)	5107 (16.32)

CONTD. ... /-

	0	1	2	3	4	5	6	7
7. Baragaon	266419		70752 (26.64)	19647 (27.77)	27.08		10572 (14.94)	40533 (57.29)
8. Babina	76414		23320 (30.47)	16265 (69.75)	68.18		1396 (15.98)	5659 (24.27)
TOTAL		870138	248069 (28.52)	164359 (66.27)	65.41		22620 (9.11)	61090 (24.62)

NOTE :

1. Figures given in parentheses in col. 3 denote percentages to total population.
2. Figures given in parentheses in cols. 4, 6 and 7 denote percentages to total workers.
3. Primary sector includes cultivators, agricultural labourers, forestry and mining and secondary sector consists of household industry, other than household industry and construction while the tertiary sector comprises commerce, transportation and other services.

It is clear from the above table that the percentage of workers engaged in the primary sector to the total workers in the district during 1971 was 66.27, with the maximum (90.54) in Bamaur block and minimum (27.77) in Baragaon block. The table also indicates that all the blocks, except Baragaon have a predominantly agricultural economy.

The percentage of workers engaged in secondary sector to total workers in the district during 1971 was 9.11 as compared to 7.90 for the whole State. Block-wise percentage of secondary workers to total workers in the district varies from 15.98 (maximum) in Babina to 3.66 (minimum) in Bamaur block. On the other hand, the percentage of workers engaged in tertiary sector to total workers in the district during 1971 was 24.62 as against 14.1 for the State. This percentage was found to be the maximum (57.29) in Baragaon and the minimum (5.39) in Bangra.

Thus, the agriculture sector occupies the primary position in the district economy as roughly two-third of the total working force is engaged in it. However, Baragaon block, whose economy appears to be non-agriculture is exception to it.

CHAPTER - III :

DISTRICT JHANSI IN REGIONAL SETTING.

3.1 Area:

Bundelkhand, which is constituted by Jhansi, Banda, Jalaun, Hamirpur and Lalitpur districts, has been identified as one of the backward regions of the State. Agricultural productivity of the region is extremely low because of the low level of cropping intensity resulting from lack of irrigation facilities. The industrial productivity is also at extremely low level because of deficient infrastructure specially roads and power. In the background of these regional characteristics, it would be useful to analyse chief characteristics of district economy. Efforts have, therefore, been made through subsequent paragraphs to present and highlight sector-wise position of the district economy in the context of Bundelkhand region as well as the whole State.

3.2 Population:

The density of population in the district during 1971 was 170 persons per sq. km. of area, whereas the corresponding figures at the regional and State levels were 146 and 300 respectively. Moreover, the percentage of rural population to total population in the district during 1971 was 67.9 as against the corresponding percentages of 85.34 and 85.98 at the regional and the State levels respectively. Besides, the percentage of Scheduled castes and Scheduled tribes population to total population in the district during 1971 was higher (27.6) than those of 25.33 and 21.23 at the regional and State levels respectively. On the other hand, the percentage of workers to the total population in the district, was slightly less i.e. 28.51 than 31.51 for the region and 30.94 for the State. However, the percentage of workers engaged in secondary and tertiary sectors to the total workers was quite high, i.e., 35.6 in the district as compared to 17.97 per cent for the region and 21.97 per cent for the State.

3.3 Land Use Pattern:

Forests, which are used as mainly raw materials for establishing forest based industries, were only 4.01 per cent of the total reporting area of the district in 1974-75, whereas these percentages at the regional and State levels were 7.84 and 17.2 respectively. On the other

hand, percentage of area covered under culturable waste to the total reporting area in the district during 1974-75 was greater, i.e., 15.19 than those of 12.10 in the region and 5.1 in the State. This type of land can be brought under cultivation through application of soil conservation measures. Moreover, percentage of net area sown to the total reporting area in the district during 1974-75 was 61.77 as compared to 60.25 per cent and 57.35 per cent for the region and the State respectively. The land-man ratio, which has been worked out after dividing workers engaged in agriculture by the cultivated area, was only 0.54 in the district during 1974-75, whereas the corresponding ratios for the region and the State were 0.56 and 0.93 respectively. This indicates that the pressure of population on land in the district is lower as compared to the region or the State. This may be due to low density of population. Thus, the foregoing analysis reveals that there is still a wide scope for further employment in agriculture in the district.

Intensity of Cropping, Use of Agricultural Inputs and Yield Per Ha.:

3.4 The intensity of cropping, which shows the combined effect of soil fertility, weather, rainfall, irrigation etc., was only 105.1 per cent in the district during 1976-77, as against the corresponding percentages of 108.6 and 133.3 for the region and the State respectively. On the other hand, the percentage of area covered under high yielding varieties of paddy to the total area under it in Jhansi district during the same year was 22.5, whereas the corresponding percentages for the region and the State were 19.2 and 32.1 respectively. In case of high yielding varieties of wheat, this coverage in Jhansi district was 26.7 per cent which is undoubtedly less than the corresponding percentages of 30.7 in the region and 67.5 in the State. On the basis of the foregoing analysis, it may, therefore, be inferred that there is wide scope for both the intensive use of cultivation and extension of area under high yielding varieties of paddy and wheat provided that irrigation facilities are made available to the farmers.

The consumption of fertiliser per ha. of cropped area in Jhansi during 1976-77 was about 7 kg. as against the corresponding figures of 5.8 kg. in the region and 31.5 kg. in the State. This shows

that consumption of fertilizer in whole of the Bundelkhand region is reportedly very low as compared to the State average. Moreover, the consumption of power per ha. in agriculture in the district during 1974-75 was 6.60 KWH. which is appreciably higher than 3.97 KWH in the region but significantly lower than 52.57 KWH in the State.

As stated earlier, agricultural productivity, in general, is extremely low in the district as well as in the region. This is supported by the fact that the gross value of agricultural product per hectare of net area sown in the district during 1974-75 was Rs.1400 as compared to Rs. 1250 in the region and Rs.2800 in the State. Average yield per hectare of paddy wheat, maize and sugarcane, which is of lower order in almost all the districts of Bundelkhand region, is also indicative of low agricultural productivity.

3.5 Exploitation of Underground Water Resources:

In whole of the Bundelkhand region, underground water resources are available in a considerable amount which can be tapped to a maximum possible extent for creation of additional irrigation potential. As regards utilisation of the existing irrigation facilities, the percentage of net irrigated area to net area sown in the district during 1976-77 was 25.2, which is slightly greater than 22.5 per cent in the region but significantly lower than the State average, i.e., 47.5. Likewise the percentage of gross irrigated area to gross cropped area in the district during the same year was 24.52 which is also slightly greater than 22.0 per cent in the region but considerably lower than the State average, i.e., 42.07. Thus, the irrigation facilities, which are, inter alia, the most crucial input for agricultural development, are quite inadequate to cater to the needs of the area for intensive cultivation.

3.6 Livestock Population and Pisciculture:

3.6 The district is comparatively rich in livestock resources. The number of livestock per ha. of net area sown available in the district during 1972 was 4.1, which is appreciably higher than 2.1 in the region and 2.9 in the State. Similarly, the number of livestock per agricultural worker available in the district during the same year was 4.4, which is also greater than 3.5 in the region and 2.3 in the State.

This shows that animal husbandry programme can be launched more vigorously in the district which, in turn, would lead to additional employment opportunities to the people of the area and help in upgrading the per capita income of the people particularly of those falling in the category of small and marginal farmers.

Pisciculture has also got a vast scope in the district as well as in the region. It is worthwhile to add in this context that the percentage of water area under pisciculture in the region to the total corresponding area of the State during 1975-76 was 23.9, whereas the corresponding percentage for the district worked out to 15.4. Besides the perennial water area, there is also a sufficient water area of seasonal type which can be brought under pisciculture by launching a programme for deepening and development of tanks, ponds, lakes, etc.

3.7 Industrial Development:

As stated earlier, Bundelkhand is extremely backward region in the matter of industrial development. This is supported by the fact that the value of industrial produce per industrial worker in the organised sectors in Jhansi during 1974-75 was only Rs. 17,300 as against the corresponding values of Rs. 18,000 and Rs. 43,400 for the Bundelkhand region and the State respectively. As regards employment in industrial sector, the percentage of workers engaged in secondary sector to total workers in the district during 1971 was 7.4 as compared to 5.5 for Bundelkhand and 7.9 for the whole State. Moreover, the capital employed per industrial unit of large/medium scale in the district during 1976 was Rs. 38.10 lakh only, whereas the corresponding figure at the State level was found to be quite high, i.e., Rs. 273.49 lakh. Similarly, labour employed per industrial unit of large/medium scale in the district during 1976 was only 63, as compared to 546 at the State level. Thus, the foregoing analysis provides basis to say that Bundelkhand is really one of the backward regions of the State in the field of industries. However, there is a wide scope for industrial development because of the availability of mineral deposits like granite, pyrophyllite, quartz, felspar, soap, stone and also other industrial raw materials based on agriculture.

3.8 Economic Infrastructure:

Bundelkhand is the most backward region of the State in the matter of infrastructural facilities particularly roads and power. The length of metalled roads per thousand sq.km. of area available in the State during 1977-78 was 148.5 km., whereas the corresponding figures for the region and the district were found to be 118.8 km. and 133.06 km. respectively. Judging the deficiency of road infrastructure from an other angle, it would be observed that the percentage of inhabited villages situated at less than one km. from pucca road in the State during 1976 was 22.54, which is undoubtedly greater than 17.63 in the region and 19.57 in the district.

The Bundelkhand region is also deficient in the matter of power infrastructure. The percentage of villages electrified to total villages in the State during 1977-78 was 28.11, whereas the corresponding percentages at the district and the regional levels were found to be only 18.8 and 17.59 respectively.

It is, however, heartening to note that the district is much advanced regarding the availability of bank offices. The number of bank offices per lakh of population available in the district during 1978 was as high as 4.02, whereas the corresponding figures at regional and State levels were found to be only 2.01 and 2.54 respectively.

3.9 Social Facilities:

According to 1971 Census, the literacy percentage in the district was as high as 29.0 which is significantly greater than 22.4 per cent in the region and 21.70 per cent in the State. High literacy percentage in the district may be attributed to the availability of relatively greater number of mixed junior basic schools. The percentage of villages situated at less than 1 km. from mixed junior basic schools in the district during 1976 was 45.04 against the corresponding percentages of 44.78 and 29.21 for the Bundelkhand region and the State respectively. Moreover, number of high schools per lakh of population available in the district during 1974 was also higher, (i.e., 5.4) than 4.4 for both the Bundelkhand region and the State.

The district appears to be relatively well served in regard to medical facilities. The number of hospital-beds per lakh of population in the district during 1977 was quite high i.e. 145.24 as compared to 50.36 for the Bundelkhand region and 52.02 for the State. Moreover, number of hospitals/dispensaries (Allopathic) per lakh of population in the district during the same year was 3.21 as against 3.16 for the region and 2.92 for the State. On the basis of foregoing analysis one can safely conclude that the district is relatively much advanced in the matter of social-facilities.

Values of some selected indicators separately for Jhansi, Bundelkhand and Uttar Pradesh are given at the end of this chapter.

TABLE - 3.1

VALUES OF SOME SELECTED INDICATORS FOR JHANSI, BUNDELKHAND AND

UTTAR PRADESH

Sl. No.	Selected Indicators	Units	Values of Selected Indicators for		
			Jhansi	Bundelk-hand	Uttar Pradesh
0	1	2	3	4	5
1.	Density of population per sq.km.of area (Total), 1971.	Number	170	146	300
2.	Density of population per sq.km.of area (Rural), 1971.	"	119	125	261
3.	Percentage of rural population to total population, 1971.	%	67.90	85.34	85.98
4.	Percentage of SC/ST population to total population, 1971.	%	27.60	25.33	21.23
5.	Percentage of total workers to total population, 1971	%	28.51	31.51	30.94
6.	Percentage of workers in secondary and tertiary sectors to total workers, 1971.	%	35.60	17.97	21.97
7.	Forest as percentage to total reporting area, 1974-75	%	4.01	7.84	17.20
8.	Culturable waste as percentage to total reporting area, 1974-75.	%	15.19	12.10	5.10
9.	Net area sown as percentage to total reporting area, 1974-75.	%	61.77	60.25	57.35
10.	Intensity of cropping, 1976-77	%	105.1	108.6	133.3
11.	Percentage of area under HYV of paddy to total area under paddy, 1974-75.	%	22.5	19.2	32.1
12.	Percentage of area under HYV of wheat to total area under wheat, 1974-75.	%	26.7	30.7	67.5
13.	Per ha. consumption of fertilizer, 1976-77.	Kg.	7.1	5.8	31.5
14.	Per ha. consumption of power in agriculture, 1974-75.	Kwh.	6.60	3.97	52.57
15.	Average yield per ha. of paddy, 1974-75.	Qtls.	2.63	4.66	7.80
16.	Average yield per ha. of wheat, 1974-75.	"	9.09	7.80	12.07

0	1	2	3	4	5
17.	Average yield per ha. of maize, 1974-75.	Qtls	1.27	1.27	5.98
18.	Average yield per ha. of sugarcane, 1974-75.	"	262.46	262.46	412.19
19.	Gross value of agricultural produce per net ha., 1974-75	'000Rs.	1.4	1.2	2.8
20.	Percentage of balance of under ground water to total safe yield, 1974-75.	%	45.59	79.25	49.81
21.	Percentage of net irrigated area to net area sown, 1976-77.	%	25.2	22.5	47.5
22.	Percentage of gross irrigated area to gross cropped area, 1976-77.	%	24.5	22.0	42.1
23.	Availability of livestock per ha. of net area sown, 1972.	No.	4.1	2.1	2.9
24.	Availability of livestock per agricultural worker, 1972.	"	4.4	3.5	2.3
25.	Percentage of area under pisciculture to total corresponding area in the State, 1975-76.	%	15.4	23.9	-
26.	Value of industrial produce per industrial worker, 1974-75.	Rs.	17,300	18,000	43,400
27.	Percentage of workers engaged in secondary sector to total workers, 1971.	%	7.4	5.5	7.9
28.	Capital employed per industrial unit of large/medium scale, 1976.	Rs. in lakhs	38.10	58.10	273.49
29.	Labour employed per industrial unit of large/medium scale, 1976.	No.	63	63	546
30.	Length of metalled roads per '000 sq.km. of area, 1977-78.	Km.	133.1	118.8	148.5
31.	Percentage of inhabited villages situated at less than 1 km. from pucca road, 1976.	%	19.57	17.63	22.54
32.	No. of post offices per lakh of population, 1978.	No.	19.43	18.78	15.77
33.	Percentage of villages electrified to total villages, 1977-78.	%	18.8	17.6	28.1

0	1	2	3	4	5
34.	No. of bank offices per lakh of population, 1978.	No.	4.02	2.01	2.54
35.	Literacy percentage, 1971	%	29.0	22.4	21.7
36.	Percentage of villages situated at less than 1 km. from a mixed Junior Basic School, 1976.	%	45.04	44.78	29.21
37.	No. of High Schools per lakh of population, 1974.	No.	5.4	4.4	4.4
38.	No. of Hospital beds per lakh of population, 31-12-1977.	"	145.24	50.88	52.02
39.	No. of Hospitals/Dispensaries (Allopathic) per lakh of population, 31-12-77.	"	3.21	3.16	2.92
40.	Land man Ratio 1974-75		0.54	0.56	0.93

CHAPTER - IV

BLOCK-WISE LEVEL OF DEVELOPMENT, APPRAISAL OF ON-GOING SCHEMES

AND CONSTRAINTS TO DEVELOPMENT.

4.1 Agriculture:

4.1.1. Land Holdings:

The total number of land holdings in the district during 1976-77 was 1,53,977, out of which 41 per cent were below one hectare, accounting for 8.9 per cent of the total area under different types of holdings. Also 37 per cent of the holdings were between 1 to 3 hectares, 11 per cent 'between 3 to 5 hectares' and the remaining 11 per cent holdings were of the size of 5 hectares and above' covering respectively 28.5%, 19.2% and 43.4% of the total area under holdings. Block-wise details of these holdings are given in table 4.1.

It is clear from the table 4.1 that average size of land holdings in the district during 1976-77 was 2.19 ha., with the maximum size (2.50 ha.) in Gursarain block and minimum (1.82 ha.) in Bangra block, whereas the corresponding figure for the State is 1.05 ha. only. Moreover, percentage of holdings below one hectare to total holdings is high in Bangra and Mauranipur blocks, medium in Bamaur and Gursarain blocks and low in the remaining blocks. The corresponding percentage for the district works out to about 41, giving an ^{idea about the} relative size of marginal farmers. Besides, the percentage of holdings 'between 1 to 3 hectares' to total holdings in the district during 1976-77 was 36.8, the highest (49.1%) being in Gursarain followed by 43.8% in Bamaur, and the lowest (22.8%) in Bangra as well as Mauranipur. Thus the problems of small and marginal farmers exist in almost all the blocks of the district.

4.1.2 Land Use Pattern:

Block-wise data regarding the land utilization are given in table 4.2. It reveals that area under cultivation during 1976-77 was 50.63 per cent of the total geographical area in Jhansi district, the corresponding percentage was the highest (77.44) in Moth block and the lowest (20.41) in Babina block. Percentage of double cropped area to the net area sown in the district during 1976-77 was only 5.1, with maximum (34.7) in Babina block and minimum (0.1) in Moth block.

TABLE - 4.1,
SIZE OF LAND HOLDINGS IN JHANSI DISTRICT DURING 1976-77.

Sl. No.	Block/Tehsil	Below 1.0 ha.		1.0 to 3.0 ha.		3.0 to 5.0 ha.		5.0 kha. and above		Total		Average size of holding
		No.	Area	No.	Area	No.	Area	No.	Area	No.	Area	
0	1	2	3	4	5	6	7	8	9	10	11	12
1.	Chirgaon	Separate figures for Chirgaon and Moth block were not available due to consolidation of holdings operations.										
2.	Moth											
	Tehsil Moth	9890	2811	16625	23698	3792	17050	3620	36385	33927	79944	2.36
3.	Gursarain	7118 (29.6)	4427	10610 (49.1)	16215	2653	10113	3689	29371	24070	60126	2.50
4.	Bamaur	7245 (30.5)	3290	10383 (43.8)	15927	2551	9854	3551	28348	23730	57419	2.42
5.	Maunipur	12473 (62.6)	6491	4539 (22.8)	10938	850	3890	2069	18120	19931	39439	1.98
6.	Bangra	13040 (64.7)	7178	4596 (22.8)	11993	578	2204	1948	15343	20162	36718	1.82
7.	Babina	6552 (39.6)	2423	5447 (32.9)	10266	3299	11280	1258	10083	16556	34052	2.06
8.	Baragaon	6677 (42.8)	3290	4539 (29.1)	6908	3282	10437	1103	8475	15601	29110	1.87
	TOTAL	62995 (40.9)	29910 (8.9)	56739 (36.8)	95945 (28.5)	17005 (11.04)	64828 (19.2)	17238 (11.2)	146125 (43.4)	153977 (100.0)	336808 (100.0)	2.19

N.B. Figures given in brackets indicate percentages of the size of holdings to total holdings in the corresponding block/district.

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The percentage of area under forest to the total geographical area in Jhansi district during 1976-77 was 6.4 with maximum (12.4) in Bamaur block and minimum (0.5) in Baragaon and Mauranipur blocks. The blocks in which forest area is relatively more concentrated are Chirgaon, Bamaur, Babina and Gursarain. The percentage of culturable waste and fallow land to the total geographical area in the district during 1976-77 was 21.8 with maximum (54.3) in Babina block and minimum (8.7) in Chirgaon block. Classification of blocks according to the percentage of culturable waste and fallow land to the total geographical area points out that Babina and Baragaon blocks can be placed in 'high' category, Mauranipur, Bangra, Bamaur and Gursarain in 'medium' category and the remaining blocks in 'low' category. The blockwise data pertaining to this aspect suggest that there is a wide scope for horizontal expansion of agriculture in Jhansi district. The area under pasture land in the district is hardly 0.19 per cent of the total geographical area with maximum 0.61% in Babina block while in some other blocks the pasture land is negligible. However, considering the availability of land as well as livestock population of the district it would be desirable to develop pasture land in different blocks for overall development of the animal husbandry sector.

As indicated earlier, land-man ratio, which has been worked out after dividing the total workers engaged in agriculture (cultivators & agricultural labourers) by the net area sown comes to 0.53 for the district during 1976-77 as against 1.23 for the whole State. The blocks where this ratio is found to be higher than that of the district are Baragaon, Babina and Bangra, whereas the blocks where this ratio is lower than the district include Moth, Chirgaon, Gursarain, Bamaur and Mauranipur. This analysis reveals that the present pressure of population on land in Jhansi district is comparatively low. In other words, there is a wide scope for absorption of additional labour force in agriculture. Moreover, on the basis of the existing land-man ratio (0.53) and the present intensity of cropping (105.1 per cent), it can be safely concluded that "extensive farming" is still in vogue in the district. Lack of irrigation facilities is the most crucial among all the factors responsible for the predominance of single cropping practice in the district.

TABLE - 4.2
LAND UTILIZATION IN 1976-77

Sl. No.	Name of Block	Geographi- cal Area	Forest	Cultura- ble Waste	Fallow Land	Barren and uncultu- rable land	Land put to non- agril. uses	Past- ures	area under other trees & groves which is not inc- luded in net area sown	Net Gross area cropp- ed		Irrigated area		Inten- sity of cropp- ing.
										area	area	Net	Gross	
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	Chirgaon	53771	5141	3019	1650	1383	5912	17	242	38513	38610	8767	8874	100.2
2.	Moth	66626	4136	3518	2717	893	1369	9	151	51595	51620	16119	16155	100.0
3.	Gursarain	74382	3487	6915	4000	2817	3903	162	121	52887	54340	6578	6601	102.7
4.	Banaur	82790	10229	5462	7041	5417	4891	178	168	49263	50941	9741	9758	103.4
5.	Mauranipur	55357	264	4758	4200	1749	2741	-	134	41449	43491	8646	8884	104.9
6.	Bangra	54436	2935	5924	4506	2779	4489	118	550	33812	36661	8359	8831	102.4
7.	Baragaon	47242	221	15017	2762	2815	4388	63	148	21733	24018	10007	10414	110.5
8.	Babina	71708	6162	34316	4639	7716	2962	438	687	14633	19712	8447	8820	134.7
TOTAL		506312	32575	78929	31515	25569	30655	985	2199	303885	319393	76664	78337	105.1
Percentage		100.0	6.4	15.6	6.2	5.1	6.1	0.2	0.4	60.0	63.1	-	-	

4.1.3 Productivity and Cropping Pattern:

Agriculture is the main source of livelihood for the population of the district. According to 1971 Census, over 65 per cent of the total workers of the district were engaged as agricultural labourers. The cultivated area per agricultural worker in the district is relatively high, i.e., 2.09 hectares as against 0.84 ha. in the State. The yield per hectare of some important crops is very low, as would be evident from the following table:-

TABLE - 4.3A

YIELD PER HECTARE OF IMPORTANT CROPS DURING 1976-77.

Sl. No.	Crops	(in quintals)	
		District Jhansi	Uttar Pradesh
0	1	2	3
1.	Early paddy	4.47	{ 10.69
2.	Late- paddy	7.01	
3.	Maize	7.64	7.78
4.	Jowar	5.91	8.18
5.	Wheat	11.92	14.62
6.	Gram	6.09	7.29
7.	Sugarcane	427.63	469.41
8.	Moong	2.85	3.30
9.	Urd	3.41	3.71
10.	Arhar	9.91	14.41

The above table indicates that yield per hectare of important crops in Jhansi district during 1976-77 was much lower than the corresponding yield rates of the State. The factors chiefly responsible for low agricultural productivity in Jhansi district are lack of irrigation facilities and the low consumption of fertilizers. Owing to inadequacy of irrigation facilities adoption of high yielding varieties programme could be possible in only few blocks where irrigation facilities are available relatively to a larger extent.

The yield per ha. of important crops of Jhansi district during the period 1972-77 was as follows:-

TABLE - 4.3B
YIELD PER HECTARE OF IMPORTANT CROPS

		(quintals per ha.)				
Sl. No.	Crops	1972-73	1973-74	1974-75	1975-76	1976-77
0	1	2	3	4	5	6
1.	Paddy	5.20	3.62	2.63	7.09	4.99
2.	Maize	10.15	5.75	1.27	2.75	7.64
3.	Jowar	6.47	7.98	6.64	5.44	5.91
4.	Arhar	3.59	1.34	2.70	6.50	9.91
5.	Wheat	10.88	7.78	9.09	11.51	11.92
6.	Barley	8.25	6.12	9.69	9.60	7.29
7.	Gram	6.12	5.36	4.40	5.05	6.09
8.	Masoor	5.43	5.14	5.33	7.22	7.53

The above data show that there were wide fluctuations in productivity of different crops in Jhansi district during the period 1972-77. However, in cases of wheat and Masoor the yield rates of these crops have shown increasing trend since 1973-74 onwards.

Major crops of the district are wheat and gram in Rabi season and Jowar and Arhar in Kharif season. The percentage of area under wheat to gross cropped area in the district during 1976-77 was 31.38, whereas the corresponding percentage for gram was 29.94. In case of paddy this percentage was 1.54 only. As regards commercial crops, the important ones are oilseeds, potato and sugarcane, their percentages to gross cropped area being only 1.95, 0.15 and 0.05 respectively. The total area under cash crops was 6,852 hectares.

The percentage of area covered under cultivation during Kharif to gross cropped area was 33.57, whereas the corresponding percentage for Rabi works out to 66.43. The area covered by different crops during Zaid was almost negligible. Area under cultivation in Kharif in the district during 1976-77 was 33.99 percent of the total net area sown, whereas the corresponding percentage for Rabi was 67.25 and very nominal area was covered during Zaid season. This indicates that the maximum use of net area sown is done mainly in Rabi season only and there is good

scope for bringing additional area under Kharif crops. Block-wise and cropwise area under different crops is given in appendix-I.

The intensity of cropping in the district during 1976-77 was 105.1 per cent as against 108.6 per cent for Bundelkhand and 133.3 per cent for the whole State. The blockwise variations in intensity of cropping ranged from 134.7 per cent in Babina to 100.0 per cent in Moth block. The blocks where intensity of cropping was greater than of the district were Babina and Baragaon. Thus, there is also a considerable scope for vertical growth of agriculture in the district.

4.1.4 High Yielding Varieties:

Agricultural productivity depends much upon the adoption of high yielding varieties. Low level of their adoption results in low agricultural productivity as would be evident from the following table:

TABLE 4.4

BLOCK-WISE AREA UNDER HIGH YIELDING VARIETIES DURING 1976-77

Sl. No.	Block	(in hectares)			
		Total area under paddy	Area under H.Y.V. of paddy	Total area under wheat	Area under H.Y.V. of wheat
0	1	2	3	4	5
1.	Chirgaon	314	66 (21.0)	12505	3707 (29.6)
2.	Moth	953	134 (14.1)	21145	8422 (39.8)
3.	Gursarain	23	1 (4.3)	11900	1010 (8.5)
4.	Banaur	13	1 (7.7)	12973	1650 (12.7)
5.	Mauranipur	484	2 (0.4)	10870	2972 (27.3)
6.	Bangra	574	1 (0.2)	10030	3807 (38.0)
7.	Babina	974	15 (1.5)	6895	4264 (61.8)
8.	Baragaon	1389	31 (2.2)	10228	6398 (62.6)
TOTAL		4724	251 (5.31)	96546	32230 (33.38)

The above table shows that percentage of area under high yielding varieties of paddy to total area under paddy in Jhansi district during 1976-77 was 5.31, whereas the corresponding percentages for Chirgaon, Moth, Baragaon and Babina blocks were 21.0, 14.1, 2.2 and 1.5 respectively. High yielding varieties of paddy could get nominal introduction in Gursarain, Bamaur, Mauranipur and Bangra blocks.

On the other hand, percentage of area under high yielding varieties of wheat to total area under wheat during 1976-77 was 33.4, with maximum (62.6%) in Baragaon block and minimum (8.5%) in Gursarain block. According to classification of blocks in respect of this indicator into high, medium and low categories, Baragaon and Babina may be placed in high category, Chirgaon, Moth, Mauranipur and Bangra in medium and Gursarain-Bamaur in low category.

4.1.5 Consumption of Fertilizers:

Consumption of fertilizers per unit of area is one of the important indicators of agricultural development. The adoption of modern technology and high yielding varieties is closely associated with the use of fertilizers. The low level of fertilizer consumption is also responsible for low level of agricultural productivity. Block-wise consumption of fertilizers per hectare of net area sown in Jhansi district during 1976-77 is given in the following table :-

TABLE - 4.5

CONSUMPTION OF FERTILIZERS PER HECTARE OF NET AREA SOWN DURING 1976-77.

Sl. No.	Block	(Kilograms)		
		Nitrogenous	Phosphatic	Potassic
0	1	2	3	4
1.	Chirgaon	6.80	3.74	0.60
2.	Moth	6.88	2.85	0.78
3.	Gursarain	1.70	1.08	0.30
4.	Bamaur	2.31	1.20	0.24
5.	Mauranipur	3.28	3.23	0.48
6.	Bangra	2.84	1.33	0.59
7.	Babina	3.89	1.50	0.02
8.	Baragaon	10.08	3.17	0.46
	TOTAL	4.37	2.23	0.47

It is clear from the above table that consumption of nitrogenous, phosphatic and potassic fertilizers per hectare of net area sown in Jhansi district during 1976-77 was 4.37 kg., 2.23 kg, and 0.47 kg. respectively, whereas the corresponding figures for the State as a whole were 24.7 kg., 4.4 kg. and 2.4 kg. respectively. This shows that Jhansi district in comparison to the State is extremely backward in respect of fertilizer consumption. Within the district the use of nitrogenous fertilizers is found to be the highest in Baragaon and the lowest in Gursarain block. In case of phosphatic fertilizers, its use is the highest in Chirgaon and the lowest in Gursarain block. Moth block is placed on the top in the use of potassic fertilizers and Babina comes at the bottom.

4.1.6 Production of Foodgrains:

The data regarding the average yield per ha. of different crops is not available at the block level. However, block-wise estimates of agricultural production, which are given in table 4.6, have been attempted after multiplying the area under different crops by the corresponding yield per ha. of these crops available at the district level with a view to obtaining some relative idea about the dimensions of agriculture in different blocks.

Block-wise production of important crops grown in the district are given in the table 4.6. It is seen that the total foodgrain production in the district during 1976-77 was about 2.46 lakh tonnes which included 1.62 lakh tonnes of cereals and 0.84 lakh tonnes of pulses. The contribution of wheat alone to total cereals was 1.15 lakh tonnes. Production of wheat was the maximum in Moth block (0.25 lakh tonnes) followed by Bamaur (0.15 lakh tonnes) and Chirgaon (0.14 lakh tonnes).

4.1.7 Distribution of Improved Implements:

According to the Agricultural Census 1977, the district had 750 tractors, 1667 iron ploughs, 823 blade and disc harrows, 767 wet and puddlers, 2740 diesel/electric pump sets, 217 seed cum fertilizer drills and 418 power threshers. During the recent past, Commercial Banks advanced Rs.172 lakhs for agricultural development in the district

particularly for the purchase of improved agricultural implements and to promote farm mechanisation. In 1976-77, Central Bank of India, and in 1977-78 Bank of Baroda launched loan distribution schemes for farm mechanisation with the help of Agricultural Refinance Corporation. The total loan proposed to be advanced under these two projects was Rs.25.72 lakh, out of which Rs.11.65 lakh were distributed till June 1979. Since the average size of land holding in the district is comparatively large, it would be desirable to encourage the cultivators having large-size of land holdings to adopt a viable farm management policy through mechanisation of various farm operations which may otherwise be expansive and time-consuming.

4.1.8 Distribution of Pesticides:

With the introduction of high yielding varieties programme, need for pesticides has increased considerably. During the Fifth Five Year Plan, Agriculture Department established one Plant Protection Centre in each of the development blocks. The centre provides plant protection facilities to the farming families. Block-wise area covered under plant protection measures and the quantity of pesticides distributed are given in the following table:-

TABLE - 4.7
PLANT PROTECTION MEASURES - 1977-78.

Sl. No.	Name of Block	Area covered by plant protection measures(ha.)	Quantity of Pesticides distributed	
			Kg.	Litres
0	1	2	3	4
1.	Chirgaon	19072	4600	75
2.	Moth	22227	4400	70
3.	Gursarain	12549	4500	35
4.	Bamaur	12785	2100	30
5.	Mauramipur	15389	3500	50
6.	Bangra	16134	2500	40
7.	Babina	21014	4031	60
8.	Baragaon	19128	9000	192
TOTAL		137299	34631	552

TABLE - 4.6
PRODUCTION OF IMPORTANT CROPS (1976-77) .

(M. Tonnes)

Sl. No.	Block	Paddy	Maize	Wheat	Barley	Jowar	Bajra	Other cereals	Total Cereals	Pulses	Total foodgrains
0	1	2	3	4	5	6	7	8	9	10	11
1.	Chirgaon	156.8	0.7	14469.9	26.5	4335.8	1.1	9.6	19060.4	11729.1	30789.5
2.	Moth	475.8	0.7	25397.2	137.4	3560.8	6.4	0.9	29579.2	15221.3	44800.5
3.	Gursarain	11.5	-	12574.4	105.7	8969.0	0.5	6.5	21667.6	16133.8	37801.4
4.	Bamaur	6.5	-	14834.8	357.1	7326.6	17.2	1.2	22543.4	15019.5	37562.9
5.	Mauranipur	241.7	-	12666.4	212.3	6687.7	41.8	5.1	20015.0	11782.2	31797.2
6.	Bengra	286.6	-	12134.2	252.1	5615.1	2.2	2.1	18562.3	8298.6	26860.9
7.	Babina	486.3	2783.2	9692.3	737.9	125.9	0.5	491.5	14317.6	1934.2	16251.8
8.	Baragaon	693.5	203.9	13303.7	135.7	1714.5	18.2	102.6	16172.1	4403.5	20575.6
	TOTAL	2358.7	2988.5	115072.9	1964.7	33395.4	87.9	1049.5	161917.6	84522.2	246439.8

The area covered under plant protection measures was the highest (22,227 ha.) in Moth block, with the coverage of maximum area under high yielding varieties. Babina and Baragaon stood second and third in this regard.

4.2 Soil Conservation:

The problem of soil conservation is very acute in Jhansi district which has mainly uneven land and rocky strata with deep ravines. The climate is dry and the rainfall is low. These conditions are serious impediments to agricultural development. No detailed survey has been undertaken so far either by the Soil Conservation Organisation or by any other agency to estimate the land under different erosion conditions viz. mild, moderate, moderately severe and very severe. The eroded land includes an area of 86,781 hectares of agricultural land which is not fit for cultivation. Out of this total, 62,319 ha. fall in Baragaon block and the remaining 24,462 ha. in Maurenipur block. Under soil conservation schemes, two units viz. Jhansi and Maurenipur have been operating in the district since 1957-58 and 1965-66 respectively. The total expenditure incurred on soil conservation programme during the Fifth Plan was Rs.14.84 lakh. As a result of this expenditure, an additional area brought under cultivation through soil conservation measures was 7,139 ha. during this period.

4.3 Irrigation:

Irrigation plays a pivotal role in increasing the agricultural production through multicropping and higher productivity of crops. In Jhansi district, the available sources of irrigation constitute both major and minor irrigation works. In the State sector the major irrigation projects consist of Matatila, Dhukkwan, Parichha, Pahari and Lachera dams, whereas minor irrigation projects include mainly Lalitpur, Saprar and Jamini dams. The private minor irrigation works comprise tubewells, pumping sets and masonry wells with and without persian wheels. The following table gives the blockwise number/length of existing irrigation sources available in the district during 1976-77:-

TABLE - 4.2

BLOCK-WISE SOURCES OF IRRIGATION IN JHANSI DISTRICT (1976-77)

(Number)

Sl. No.	Block	Sources of Irrigation					Pumping sets	Ponds
		Length of canals (Km.)	Private Tube-wells	Masonry Wells				
0	1	2	3	Without persian wheels	With persian wheels	6	7	
1.	Chirgaon	208.1	12	1893	1566	793	6	
2.	Moth	120.8	10	1127	1069	252	-	
3.	Gursarain	80.5	3	1042	857	172	-	
4.	Bamaur	148.1	2	747	630	182	-	
5.	Mauranipur	130.7	8	2465	1843	552	2	
6.	Bangra	80.5	-	3124	1187	396	1	
7.	Babina	16.1	-	4444	4183	348	-	
8.	Baragaon	118.2	-	2749	2072	753	1	
TOTAL		903.0	35	17591	13407	3448	10	

It is clear from the above table that the total length of canals available in Jhansi district during 1976-77 was 903.0 Kms. The blocks which have relatively low irrigation potential through canals consist of Gursarain, Bangra and Babina. The number of private tube-wells available in the district during 1976-77 was 35 which are located in Chirgaon, Moth, Mauranipur, Gursarain and Bamaur blocks. The remaining blocks do not have private tube-wells at all. There were only 10 ponds in the district during 1976-77 which are located in Chirgaon, Mauranipur, Bamaur and Baragaon blocks. As regards other private minor irrigation works, they are located in each and every block in a quite dispersed manner.

The total irrigation potential available in the district through different sources of irrigation during 1976-77 was 1,28,228 hectares, out of which 66.35 per cent was by canals and 33.65 per cent by private minor irrigation works. Block-wise irrigation potential created by different sources and its utilisation are given in the table below:-

TABLE - 4.9
IRRIGATION POTENTIAL CREATED BY DIFFERENT SOURCES AND ITS UTILISATION
IN JHANSI DISTRICT DURING 1976-77.

Sl. No.	Block	Irrigation potential created (ha.)			Net Irrigated Area (ha.)		
		Government Canals	Private Sources	Total	Government Canals	Private Sources	Total
0	1	2	3	4	5	6	7
1.	Chirgaon	18534	6158	24692	7001	1766	8767
2.	Moth	17046	3094	20140	15863	256	16119
3.	Gursarain	16181	2510	18691	6180	398	6578
4.	Banaur	11429	1999	13428	9102	639	9741
5.	Maurampur	6151	6263	12414	6714	1932	8646
6.	Bangra	5785	5966	11751	3207	5152	8359
7.	Babina	1211	9793	11004	24	8423	8447
8.	Baragaon	8742	7366	16108	7010	2997	10007
TOTAL		85079	43149	128228	55101	21563	76664

Thus, the percentage utilisation of irrigation potential in Jhansi district during 1976-77 was 59.79 which shows that the area under irrigation can be increased to a considerable extent by augmenting the utilisation of existing potential without any additional investment. Low utilisation of irrigation potential in Jhansi may be due to several factors. Analysis of data pertaining to the area irrigated during Kharif, Rabi and Zaid indicates that the existing irrigation potential is mainly utilised during Rabi season only. The use of irrigation facilities during Kharif is almost insignificant and the crops grown by the farmers are mainly dependent upon rainfall. On the other hand, area covered under Zaid crops is very nominal and hence quite obviously at present scope for utilisation of irrigation potential in this season is extremely limited. This may be one of the causes of low utilisation of irrigation potential in Jhansi. Secondly, owing to shortage of power, pump canals and electric operated tube-wells and pumping sets cannot be put to full time use, therefore a sizeable percentage of irrigation potential created through these sources remains unutilised. Third, the quality of Guls is quite unsatisfactory and most of them are Kachcha. The proper control of water

passing through these Guls is not possible under the present situation. A considerable amount of water, therefore, gets wasted in transit. An inadequate facility of spare parts and repairs for tractors and tubewells is an other factor responsible for this low utilisation. Lastly, the cost of irrigation being comparatively high in the district, low levels of incomes of majority of small and marginal farmers do not permit them to use costly water for irrigation purposes.

Crop-wise total and irrigated area in the district during 1976-77 was as follows:-

TABLE - 4.10

CROP-WISE TOTAL AND IRRIGATED AREA (1976-77)

Sl. No.	Name of crop	Area (Ha.)	
		Total	Irrigated
0	1	2	3
1.	Paddy	4724	856
2.	Wheat	96546	54448
3.	Barley	2964	1496
4.	Total Cereals	174888	56857
5.	Gram	92114	17101
6.	Total Pulses	125933	18272
7.	Net area sown	303885	—
8.	Net irrigated area	—	76664
9.	Gross cropped area	319393	—
10.	Gross Irrigated area	—	78337

It is derived from the above table that as much as 56.4 per cent of the area under wheat was irrigated. It is also evident that the percentage of net irrigated area to net area sown was 25.23, whereas the percentage of gross irrigated area to gross cropped area was 24.53.

4.4 Forests:

The role of forests in socio-economic life is well known. According to land utilisation data of Jhansi district, during 1976-77 forest occupied 32,575 ha. out of the total area of 506312 ha.

TABLE - 4.11

BLOCK-WISE AREA UNDER FORESTS AND THEIR PERCENTAGE TO TOTAL
GEOGRAPHICAL AREA DURING 1976-77.

Sl. No.	Block	Geographical Area (ha.)	Total Forest Area (ha.)	Percentage of Forest area to total geographical area
0	1	2	3	4
1.	Chirgaon	53771	5141	9.6
2.	Moth	66626	4136	6.2
3.	Gursarain	74382	3487	4.7
4.	Bamaur	82790	10229	12.4
5.	Mauranipur	55357	264	0.48
6.	Bangra	54436	2935	5.4
7.	Babina	71708	6162	8.6
8.	Baragaon	47242	221	0.47
	TOTAL	506312	32575	6.4

It would be evident from the above table that the percentage of area under forests to total geographical area in Jhansi district during 1976-77 was 6.4 with maximum (12.4 per cent) in Bamaur block and minimum (0.47 per cent) in Baragaon block.

4.5 Horticulture :

The district has an area of 1250.75 hectares under different fruit trees with a production of 17,845 tonnes, details of which are given in the following table :-

TABLE - 4.12(A)

AREA UNDER ORCHARDS AND PRODUCTION OF FRUITS (1978-79)

Sl.No.	Name of Fruit tree	Area (ha.)	Production (M.T.)
0	1	2	3
1.	Mango	195.00	1950.00
2.	Guava	355.00	7300.00
3.	Citrus Fruits	585.50	5855.00
4.	Papaya	40.25	2000.00
5.	Ber	22.00	220.00
6.	Anala	27.00	270.00
7.	Other fruits	26.00	250.00
	TOTAL	1250.75	17845.00

SOURCE : Superintendent, Govt. Gardens, Jhansi.

The area under different types of vegetables is 1002.50 hectares with a production of 19,730 tonnes, details of which are given in the following table. Cauliflower, potato and tomato are the main vegetables produced in the district.

TABLE - 4.12(B)
AREA UNDER VEGETABLES AND ITS PRODUCTION (1978-79)

Sl. No.	Name of Vegetables	Area (ha.)	Production (M.T.)
0	1	2	3
1.	Bhindi	140.00	980.00
2.	Carrot	20.00	500.00
3.	Turnip	8.00	200.00
4.	Potato	454.00	11350.00
5.	Radish	31.25	620.00
6.	Cauliflower	54.00	1350.00
7.	Cabbage	15.00	375.00
8.	Tomato	63.00	1195.00
9.	Brinjal	40.00	800.00
10.	Peas	80.00	800.00
11.	Palak	27.25	545.00
12.	Lauki	25.00	375.00
13.	Kaddo	12.00	240.00
14.	Karela	13.00	130.00
15.	Taroi	13.00	130.00
16.	Others	7.00	140.00
TOTAL		1002.50	19730.00

SOURCE : Superintendent, Govt. Gardens, Jhansi.

The area under spices in the district is 238 ha. with a production of 2220 M.T., the details of which are given in the following table. Ginger is the main produce of the district.

TABLE - 4.12(C)

AREA UNDER SPICES AND THEIR ESTIMATED PRODUCTION, 1978-79

Sl. No.	Name of spices	Area (ha.)	Production (M.T.)
0	1	2	3
1.	Chillies	20.00	20.00
2.	Dhania	50.00	40.00
3.	Garlic	10.00	80.00
4.	Turmeric	8.00	80.00
5.	Onion	50.00	1000.00
6.	Jinger	100.00	1000.00
	TOTAL	238.00	2220.00

SOURCE : Superintendent, Govt. Gardens, Jhansi.

4.6 Animal Husbandry:

4.6.1 Livestock Population:

The livestock are maintained for the production of milk, meat, manure and motive power. Animal Husbandry occupies an important place in the economy of Bundelkhand particularly in Jhansi district. There are still some communities which have animal husbandry as their main occupation. According to the cattle Census of 1978, the number of livestock per thousand human population was 751. The total livestock population of Jhansi district, which was 6.33 lakh in 1972, is estimated to be 6.53 lakh during the year 1977-78. Out of the total estimated livestock population, the milch cattle were 36.6 per cent and the female goats and sheep constituted 29.86 per cent. Besides, the total poultry birds in the district during 1977-78 were 51,718 with the highest concentration (16.76 per cent) in Babina and the lowest concentration (8.84 per cent) in Chirgaon.

4.6.2 Veterinary Institutions:

In all, there were 14 veterinary hospitals, 7 artificial insemination centres, 12 artificial insemination sub-centres and 16 stockman centres in the district during 1976-77. Blockwise availability of veterinary institutions for the district is given in the following table:-

TABLE - 4.13

VETERINARY INSTITUTIONS IN JHANSI DURING 1976-77

Sl. No.	Blocks	Veterinary Hospitals	Artificial Insemination		Stockman centres
			Centres	Sub-centres	
0	1	2	3	4	5
1.	Chirgaon	1	1	1	3
2.	Moth	2	1	1	2
3.	Gursarain	1	1	-	3
4.	Bamaur	3	-	2	2
5.	Mauranipur	1	1	-	1
6.	Bangra	1	-	2	2
7.	Babina	2	1	2	1
8.	Baragaon	3	2	4	2
TOTAL		14	7	12	16

It is clear from the above table that there are two blocks, viz. Bamaur and Bangra where facilities of artificial insemination centres are not available. The livestock population per veterinary hospital in the district works out to 46,500. Besides, on an average, there are 17,394 milch cattle per veterinary hospital, 12,816 milch cattle per artificial insemination centre/sub-centre and 15,220 milch cattle per Stockman Centre in the district. Thus, the availability of veterinary facilities in the district is far below the norms prescribed under Intensive Cattle Development Project (I.C.D.P.). In the standard pattern of I.C.D.P., one veterinary hospital is provided for every 5000 breedable bovine population and one stockman centre for every 1000 breedable cattle.

4.6.3 Sheep and Goat Development Programme:

In all, there are 9 goat breeding centres, one each located at Gursarain, Babina, Mauranipur, Samthar, Jhansi, Moth, Chirgaon, Tehrauli and Bangra. These centres are provided with one Jamunapari and one Barbari buck for providing facilities of natural service to goats of local breed in the vicinity of these centres. There is also one piggery development centre located at Baragaon. Besides, there are

four sheep and wool extension centres located at Moth, Tehrauli, Gursarain and Mauranipur.

The following table shows the distribution of improved animals poultry birds and the progress of other veterinary activities in the district :-

TABLE - 4.14
PROGRESS OF ANIMAL HUSBANDRY PROGRAMMES
(Number)

Sl. No.	Name of item	Progress in		
		1976-77	1977-78	1978-79
0	1	2	3	4
1.	Distribution of improved animals:			
	(1) Cow bulls	3	5	15
	(2) Buffalo bulls	-	8	6
	(3) Bucks	65	6	13
	(4) Rams	88	44	25
	(5) Pigs	-	4	-
2.	Inoculations against diseases ('000)			
	(1) Rinderpest	18.2	22.1	33.5
	(2) H. S.	62.1	72.5	75.6
3.	Area under fodder(ha.) crops	158.5	180.8	213.8
4.	Artificial inseminations	11151	11494	12045
5.	Castrations	12399	10137	10723
6.	Distribution of one day old chicks	14229	15091	16878

4.6.4 Livestock Products:

According to the findings of Techno-Economic Survey conducted ^{by} the Industries department in 1973, the productivity of cattl in undivided Jhansi district was very low. This holds good for the present district of Jhansi as well. No authentic data on the availability of hides and skins were made available. However, main centres for its collection are located at Mauranipur, Jhansi and Kalera. It is

estimated that half of the quantity of hides and skins are utilized in tanning and the rest half are sent to outside places like Kanpur and ~~Agra~~.

As stated earlier, the average milk yield per cow^{per}/day is estimated to be hardly half litre, whereas the corresponding milk yield per she-buffalo may not exceed one litre. This low limit of milk yield has made rearing of cows and she-buffaloes uneconomical.

As regards bones, there are only two collection centres one each at Jhansi and Maurenipur. Collection of bones through these centres is only one thousand tonnes annually.

The quality of wool produced in the district is inferior and its average production per sheep is low. Annual wool produced is estimated to be about 35 metric tonnes per year, out of which 50% is utilised by the local weavers and the Cooperative Blanket Weaving Society located at Jhansi.

The total annual production of eggs in the district is quite meagre and the eggs produced in the district are consumed locally. In spite of the availability of a poultry research and development farm in the district, poultry development programme has not made any headway during the past.

4.7 Fisheries:

The fisheries development programme has to play an important role in solving the food problem, particularly in the context of Applied Nutrition Programme. District Jhansi has a vast potential for fisheries development as the available water area is 7078.4 hectares, out of which 6955.4 ha. is perennial and only 123.0 ha. is seasonal. The perennial water area is concentrated largely in Chirgaon, Gursarain, Mauranipur and Bangra blocks. During 1977-78, stocking of 24.2 lakh fingerlings was done and number of fingerlings distributed was 84,000. The production of fish in departmental waters amounted to 570 quintals, of which 216 quintals was in Mauranipur block alone. The production stood at 537 quintals in 1978-79.

There are four fisherman cooperative societies in the district, out of which one is functioning and the three are defunct.

4.8 Industries:

Jhansi district is one of the industrially backward districts of the State. In all, there were 390 registered industrial units and 4946 handlooms in Jhansi during 1977-78. Out of these industrial units, 30 were covered under the Factories Act, 1948, 234 were registered with the Directorate of Industries, U.P. and the remaining 76 industrial units were registered with the Khadi and Village Industries Board. The block-wise break-up of these industrial units, handlooms and employment are given in the following table:-

TABLE - 4.15
BLOCK-WISE NUMBER OF INDUSTRIAL UNITS, HANDLOOMS AND EMPLOYMENT
IN JHANSI DURING 1977-78.

Sl. No.	Block	Number of		Employment No.
		Registered Industrial Units	Handloom	
0	1	2	3	4
1.	Chirgaon	15	90	297
2.	Moth	12	112	290
3.	Garsarain	8	505	894
4.	Mauranipur	31	1694	3763
5.	Bamaur	3	392	561
6.	Bangra	27	2092	4312
7.	Babina	17	11	331
8.	Baragaon	267	50	2861
TOTAL		390	4946	13219

It is clear from the above table that industrial units are mostly concentrated in Baragaon, Babina, Bangra and Mauranipur blocks. Industrial units under organised sector are mainly concentrated in Baragaon block. Similarly, out of 4946 handlooms, the percentage of looms

concentrated in Mauranipur, Bangra, Gursarain and Bamaur blocks is as high as 94.6. Out of the total number of 13,219 persons employed in different types of industrial units in the district during 1977-78, the percentage of workers employed in Mauranipur, Bangra and Baragaon were 28.5, 32.6 and 21.6 respectively.

As stated earlier, there were 30 industrial units covered under the Factories Act, 1948 in the district during the year 1977-78. Of these, 24 units were reported to be located in Baragaon, four units in Babina and one each in Chirgaon and Mauranipur. Other blocks do not have such type of industrial units at all. The block-wise details of Industrial Units registered under the Factories Act, 1948 and number of persons employed are given in the following table:-

TABLE - 4.16
BLOCK-WISE INDUSTRIAL UNITS AND EMPLOYMENT IN JHANSI DURING 1977-78

Sl. No.	Block	Number of Industrial Units *	Employment (No.)
0	1	2	3
1.	Chirgaon	1	8
2.	Moth	-	-
3.	Gursarain	-	-
4.	Bamaur	-	-
5.	Mauranipur	1	21
6.	Bangra	-	-
7.	Babina	4	216
8.	Baragaon	24	1130
TOTAL		30	1375

* Industries Registered under Factories Act, 1948.

Out of these 30 registered factories, three large scale industries, one medium and the rest 26 units belong to small scale sector. The Railway Wagon and Carriage Repair Workshop is located at Jhansi town, Bharat Heavy Electricals Ltd. at Babina and U.P. State Spinning Mills in Baragaon block.

Moreover, 284 industrial units are reported to be registered with the Directorate of Industries, U.P., Kanpur. The block-wise details of such industrial units and persons employed are given in the following table:-

TABLE - 4.17
BLOCK-WISE INDUSTRIAL UNITS AND EMPLOYMENT IN JHANSI DURING 1977-78

Sl. No.	Block	Number of Industrial Units *	Employment (NO.)
0	1	2	3
1.	Chirgaon	9	54
2.	Moth	5	26
3.	Gursarain	8	44
4.	Bamaur	-	-
5.	Mauranipur	23	121
6.	Bangra	-	-
7.	Babina	11	85
8.	Baragaon	228	854
	TOTAL	284	1184

* Industries Registered with the Directorate of Industries, U.P.

It would be evident from the above table that these industrial units are concentrated mainly in Baragaon block. Bamaur and Bangra blocks do not have any such unit.

As mentioned earlier, the total number of industrial units registered with the Khadi and Village Industries Board in the district during the 1977-78 was 76. Out of these, 52 units were established in Bangra and Baragaon blocks only. Details of these units are given below:-

TABLE - 4.18

BLOCK-WISE INDUSTRIAL UNITS AND EMPLOYMENT IN THE JHANSI DURING 1977-78

Sl. No.	Block	Number of industrial Units *	Employment (No.)
0	1	2	3
1.	Chirgaon	5	95
2.	Moth	8	84
3.	Gursarain	-	-
4.	Bamaur	2	21
5.	Mauranipur	7	187
6.	Bangra	37	392
7.	Babina	2	10
8.	Baragaon	15	802
	TOTAL	76	1591

* Khadi and Village Industries.

There were 4946 handlooms in Jhansi during the year 1977-78, with maximum (2092) in Bangra block and minimum (11) in Babina block. Bangra and Mauranipur blocks are the main centres of handloom industry in the district. Blockwise, number of handlooms and person employed in this sector are given in the following table:-

TABLE - 4.19

BLOCK-WISE NUMBER OF HANDLOOMS AND EMPLOYMENT IN JHANSI DURING 1977-78

Sl. No.	Block	Number of Handlooms	Employment (No.)
0	1	2	3
1.	Chirgaon	90	130
2.	Moth	112	180
3.	Gursarain	505	760
4.	Bamaur	392	540
5.	Mauranipur	1694	3434
6.	Bangra	2092	3920
7.	Babina	11	20
8.	Baragaon	50	75
	TOTAL	4946	9069

4.8.1 Special Efforts for Industrial Development:

There is only one Industrial Estate located at Jhansi having 18 sheds and 26 plots which have been allotted to entrepreneurs. Main items manufactured by these units consist of pesticides, aluminium utensils, sports goods, cement pipes, etc. In order to ensure an adequate supply of raw materials to these industrial units at reasonable rates and in time, a Sales Depot was opened by the U.P. Small Industries Corporation in January, 1979.

Moth town which has been selected as an Industrial Growth Centre by the State Government in January 1978, is manned by a multi-disciplinary team. So far 22 industrial units have been set up at this centre which are manufacturing items like agricultural implements, edible oils, bakery products, etc.

Recently the U.P. State Industrial Development Corporation has acquired 81.27 hectares of land at Bijoli to develop an Industrial Area. Similarly, the State Govt. has decided to establish a Pottery Development Centre at Kochhabhavar.

4.9 Electricity and Power:

Availability of power/electricity is one of the important infrastructural facilities for the agricultural and industrial development of an area. Jhansi happens to be one of the backward districts of the State in matter of availability of power. In all, there were 236 power sub-stations, 880 km. of H.T. Lines and 470 Km. of L.T. Lines in the district during 1976-77. The percentage of villages electrified to total villages was 18.8 in 1976-77 as against 29.4 per cent for the whole State. Table 4.20 gives the position of Rural Electrification Programme in various blocks of the district. It is clear from the table that percentage of villages electrified to total no. of villages was the highest (34.0) in Chirgaon block, followed by 28.6 per cent in Mauranipur and the lowest (10.9) in Bamaur block. The table also reveals that in the district 183 Harijan Basties had been electrified by the end of 1976-77. Also 856 pumping sets and tubewells were energized, the highest (286) being in Babina block, followed by 185 in Chirgaon. In addition to agricultural connections, 1077 industrial connections were provided till to date, the highest number being in Baragaon block (608), followed by

TABLE - 4.20

RURAL ELECTRIFICATION IN JHANSI DISTRICT DURING 1976-77.

Sl. No.	Block	Total Number of populated villages.	Total Number of Electrified Villages	Villages where electricity for domestic consumption is available (No.)	Percentage of electrified villages to total villages.	Electrified Harijan Basties(No.)	No. of Pumping set/tube-wells energized	No. of existing connections	
								Industrial	Agricultural
0	1	2	3	4	5	6	7	8	9
1.	Chirgaon	103	35	17	34.0	25	185	125	185
2.	Moth	123	15	15	12.2	20	110	95	110
3.	Gursarain	108	12	11	11.1	25	4	60	4
4.	Banaur	101	11	11	10.9	8	11	15	11
5.	Mauranipur	84	24	20	28.6	41	74	102	74
6.	Bangra	84	15	12	17.9	18	94	2	94
7.	Babina	82	17	14	20.7	26	286	70	286
8.	Baragaon	82	15	12	18.3	20	92	608	92
TOTAL		767	144	112	18.8	183	856	1077	856

Chirgaon (125) and the lowest in Bangra. The table also indicates that power facilities are fairly well distributed in Baragaon, Chirgaon, Moth and Mauranipur blocks but are lacking in Gursarain and Bamaur blocks, resulting in poor agricultural and industrial development in these blocks.

Per capita consumption of electricity in the district during 1976-77 worked out to 246 K.W.H. It was also gathered that the applications pending for agricultural and industrial connections in the district at the close of 1979 were 180 and 110 respectively.

4.10 Roads :

Road is another infra-structure which increases movement of the people and goods and encourages their economic activities. Jhansi District is deficient in this respect also. The average road length per 1000 sq.km. of area available in the district at the end of 1976-77 was 135 km., whereas its length per lakh of population was 79 km. Block-wise details in this regard are given in the following table:-

TABLE - 4.21

AVAILABILITY OF PUCCA ROADS IN JHANSI DISTRICT.

Sl. No.	Block	Length of Pucca Roads (Kms.)		Number of villages according to their distances from pucca roads		
		Per '000 sq. km. of area	Per lakh of population.	Within village	Within a radius of 3 Km.	More than 3 Km.
0	1	2	3	4	5	6
1.	Chirgaon	107	75	20	25	58
2.	Moth	132	91	17	36	70
3.	Gursarain	96	80	12	31	65
4.	Bamaur	102	104	11	14	76
5.	Mauranipur	138	76	25	15	44
6.	Bangra	131	87	16	19	49
7.	Babina	142	93	12	12	58
8.	Baragaon	235	61	19	25	38
TOTAL		135	79	132	177	458

The table indicates that the highest road length per 1000 sq. km. of area was available in Baragaon block (235 km.), followed by Babina (142). Thus, except Baragaon and Babina, all other blocks of the district had this facility below the State average of 140 kms. in 1976-77.

Road length in Baragaon is high because it includes road length of Jhansi town as well. The road length per lakh of population in the district during 1976-77 was 79 kms as against 42 for the State. This is mainly because of low density of population in the district.

Out of the total number of 767 inhabited villages in the district, 132 villages are well connected with pucca road, 177 villages are having road within a radius of 3 km. and the number of villages, which are located at a distance of more than 3 km. from pucca roads is 458. The blocks having relatively less number of villages well connected with pucca roads include Bamaur, Gursarain and Chirgaon.

4.11 Other Economic Infrastructure:

4.11.1 Seed, Fertilizer and Pesticides Distribution Centres:

To provide agricultural inputs at convenient points, seed stores and fertilizer distribution centres were opened at the headquarters of each block in the beginning of Third Five Year Plan. Cooperative institutions including large-sized cooperative societies and marketing societies took up the distribution of chemical fertilizers and improved seeds at the places of thin location. At the close of 1978-79, there were eight seed and fertilizer stores of Agriculture Department, 28 of Cooperative Department and eight of U.P. Agro-Industrial Corporation. The total storage capacity is reported to be of 17000 metric tonnes. Besides, private seed and fertilizer distribution centres also exist in each of the development blocks with greater concentration in and around urban areas especially Jhansi town. In all, there are seven State owned Seed Multiplication Farms, producing mainly certified seeds which are distributed to the farmers by agricultural seed stores in the district.

No additional seed and fertilizer distribution centres were established by the Government in the district during the Fourth Five Year Plan. But there is a constant increase in the demand for seeds and fertilisers by the farmers with the result that at peak periods of sowing,

existing stores, in the absence of adequate storage capacity, find it difficult to cope with the pressing local demand.

So far as the distribution of fertilizers is concerned, it has appreciably increased during the Fifth Plan. The total quantity of fertilizers distributed in the district during 1973-74 was 1660 tonnes which increased to 3480 tonnes during the year 1977-78. Looking to the future needs of the district, it is desirable to expand storage capacity at the existing points and also open new depots at the identified central places of the district.

4.11.2 Financial Institutions:

Till 1969, i.e., before nationalisation of 14 large commercial banks, Cooperative Credit Societies and private money lenders were the main sources of finance to the local people. After nationalisation, these banks started advancing loans to priority sectors viz. agriculture, small traders, transportation, self-employed persons and alike. Details of the loan advanced to these priority sectors in the district during the previous five years, are given below:-

TABLE - 4.22

ADVANCES BY COMMERCIAL BANKS TO THE PRIORITY SECTORS IN JHANSI

Sl. No.	Period (Year)	Advance to priority sectors (Rs. in lakh)	Total loan distributed (Rs. in lakh)	% of loan advanced to priority sectors to total loan distributed
0	1	2	3	4
1.	1974	141.83	216.62	65.5
2.	1975	161.17	299.48	53.8
3.	1976	210.88	344.85	61.2
4.	1978 (as on 30, June)	326.30	648.00	50.00
5.	1979 (as on 30, June)	400.50	791.60	51.00

It would be evident from the above table that although the amount of loans advanced to priority sectors has increased from Rs.141.83 lakh in 1974 to Rs.400.50 lakh during 1979, its share in total loans distributed has decreased from 65.5 per cent in 1974 to 51 per cent during the year 1979.

4.11.3 Bank Branches:

There were 13 Commercial bank branches in the district during 1969. Its number has now increased to 46, out of which 44 are of nationalized banks and the remaining two belong to non-nationalized banks. Bankwise branches are given below:-

(i) Punjab National Bank	11
(ii) State Bank of India	14
(iii) Central Bank of India	9
(iv) Indian Overseas Bank	1
(v) Bank of India	1
(vi) Bank of Baroda	1
(vii) Allahabad Bank	2
(viii) United Commercial Bank	1
(ix) Union Bank of India	1
(x) Canara Bank	1
(xi) New Bank of India	3
(xii) Punjab & Sindh Bank	1
TOTAL	46

4.11.4 Position of Banking Facilities:

In 1976, for every one lakh of population there were 2.01 branches in Bundelkhand, 2.54 in the State as compared to more than 4 branches in Jhansi district. Since then, a few more branches have been added. The position regarding the banking facilities available in the district is depicted below:-

TABLE - 4.23
GROWTH OF BANKING FACILITIES IN JHANSI.

Sl. No.	Item/Year	Position as on		
		31-3-69	31-3-74	31-3-78
0	1	2	3	4
1.	No. of bank branches:			
	(a) Urban	13	15	24
	(b) Rural	-	5	13
2.	Population per bank branch (No.)	66934	43507	23517
3.	Deposits (Rs. lakh)	450	1241	2112
4.	Loan distributed (Rs. lakh)	80	238	390

The above table shows that the number of bank branches and the amount of loan distributed increased considerably during the period 1969-78. There was no rural branch in the district at the end of 1968-69 but its number increased to 13 at the end of 1977-78. The credit deposit ratio in the district at the end of December, 77 was only 23.69 as against 43.97 per cent for the State.

4.11.5 Co-operative Credit Institutions:

Even after ten years of nationalisation of commercial banks, co-operative Credit Institutions are the main financing institutions in the rural areas. At present, each Gaon Sabha is covered by co-operative credit society. The details of the existing co-operative credit societies are given below:-

Sl. No.	Item	Position as on 30.6.78
0	1	2
1.	Primary Credit Societies (No.)	62
2.	Membership (No.)	64649
3.	Large sized Credit Societies (No.)	12
4.	Loan distribution (Rs. Lakh):	
	(a) Short term	319.30
	(b) Medium term	36.69

Blockwise position of Cooperative Credit Societies is given in the table below:-

TABLE - 4.24

BLOCKWISE POSITION OF COOPERATIVE CREDIT SOCIETIES AND THEIR
WORKING CAPITAL AS ON 30TH JUNE, 1978.

(Rs. lakhs)					
Sl. No.	Name of block	Membership with credit societies (No.)	Share capital	Deposits	Working capital
0	1	2	3	4	5
1.	Babina	5417	4.80	0.64	22.92
2.	Baragaon	6109	7.19	0.98	13.40
3.	Chirgaon	9507	9.46	3.34	36.60
4.	Moth	9587	10.11	2.48	34.86
5.	Mauranipur	10279	9.22	1.63	35.50
6.	Bangra	7773	6.43	1.09	25.71
7.	Gursarain	8016	6.72	1.52	38.66
8.	Baneur	7961	7.37	1.12	21.77
TOTAL		64649	61.30	13.00	129.42

Out of 62 Cooperative Credit Societies, 21 are running at losses, their total loss in 1977-78 was to the tune of Rs. 2.71 lakh. Profit of 41 other societies was only Rs. 2.93 lakh during the same period. Besides, the percentage of membership with the societies to the total workers engaged in agriculture was 39.83.

The district cooperative bank Jhansi with its 10 branches located in different parts of the district has total annual deposits of Rs. 140.98 lakh. The amount of loan advanced by this bank annually was found to be Rs. 176.97 lakh, out of which short term loan amounted to Rs. 170.52 lakh and the remaining Rs. 6.45 lakh was medium term loan.

The U.P. Land Development Bank has, in all, 4 branches, one each located at the tehsil headquarters. The main function of these branches is to advance a long term loan for activities relating to agricultural development, especially minor irrigation works. The long term loan advanced by these branches during 1977-78 was Rs. 85.64 lakh.

4.11.6 Cooperative Marketing:

At the close of 1977-78, there were six cooperative marketing societies in the district, out of which two existed in Baragaon and one each in Chirgaon, Gursarain, Moth and Bamaur blocks. These societies were established in early seventies. At the time of their establishment, it was envisaged that these societies would help the agriculturists in providing reasonable prices of their produce and the role of middlemen would, thus, be reduced gradually. But the performance of these societies is found to be not very encouraging. In 1977-78, these societies could make transactions of Rs. 36.01 lakh only.

4.11.7 Cooperative Consumer's Stores:

To provide essential commodities at reasonable prices to public, in general, one wholesale consumer's store at Jhansi town and 26 primary consumer stores in the district were opened during the Fourth Five Year Plan. The wholesale Consumer Store is still functioning but primary consumer stores were reported to be either defunct or running in loss. They need to be revitalised.

4.11.8 Regulated Markets:

Till the end of Fourth Five Year Plan, markets located at Jhansi, Chirgaon, Moth, Mauranipur and Gursarain were covered under Regulation of Markets Act. The dates on which the individual markets were taken under the purview of this Act and the categories in which they were placed are given below:-

Sl. No.	Name of Market	Month of Coverage	Category of Market
0	1	2	3
1.	Mauranipur	November, 1968	A
2.	Chirgaon	July 1, 1969	A
3.	Moth	July 1, 1969	B
4.	Gursarain	July 1, 1969	B
5.	Jhansi	December 31, 1970	C

As per rough estimates, nearly 10 to 12 lakh quintals of foodgrains and oilseeds are transacted through these markets, whereas the total estimated production of foodgrains alone is more than 20 lakh quintals, besides 12,590 quintals of oilseeds. Other markets of the district where sizeable quantities of foodgrains are received are Erich, Ranipur, Barwa Sagar, Samthar and Garautha.

4.11.9 Storage and Ware-Housing:

In spite of a sizeable quantity of arrivals of foodgrains and other produce in the markets, storage capacity in the organised sector is very limited. Only the Food Corporation of India has its storage godowns at Mauranipur, Parichha and Jhansi. The combined total storage capacity of these godowns is 29,170 tonnes, out of which 18,343 tonnes capacity is owned by the above Corporation and the rest is in shape of rented buildings. The central Warehousing Corporation has two rented godowns one at Jhansi and the other at Chirgaon, with capacity of 4,878 M.T. and 3,669 M.T. respectively. With a loan assistance from Bank of Baroda, the Food Corporation of India got one godown constructed at the cost of Rs. six lakh in the year 1978. There is still pressing need for creation of substantial storage facilities in the district especially to store perishable produce such as potatoes, fruits and other vegetables.

4.12 Social Infra-structure:

The role of social services in the development of an area hardly needs any emphasis. Social services prepare appropriate manpower needed for various sectors of the economy. They provide opportunities to manpower for its training and technical advancement. Development programmes aim at well-being of the society with maximum utilization of natural resources and aim at qualitative improvement in human resources through education, medical care, housing, sanitation etc.. For plan purposes, the following sectors may be treated under social services:

- (a) General and technical education.
- (b) Drinking water supply.
- (c) Public health, medical and family welfare.
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- (a) General and technical education.
- (b) Drinking water supply.
- (c) Public health, medical and family welfare.
- (d) Welfare of scheduled caste and other backward classes.
- (e) Public nutrition.

The details of the above mentioned social services are given in the subsequent paragraphs:-

4.13 General Education:

As stated earlier, the literacy percentage in Jhansi during 1961 was only 20, which rose to 29 in 1971 as against 21.7 for the State and 22.4 for Bundelkhand region. Because of a very different social outlook of the rural masses, the literacy percentage among rural areas was obviously less than that of the urban areas.

Educational facilities, as they existed at the close of 1976-77, in the district were as follows :-

TABLE - 4.25

EXISTING EDUCATIONAL FACILITIES IN JHANSI.

Sl. No.	Educational Institutions	Total No. of schools		Enrolments (000)		No. of Teachers	Average No. of student per teacher.
		Boys	Girls	Boys	Girls		
0	1	2	3	4	5	6	7
1.	Primary Schools	634	156	75	40	1579	73
2.	Junior High Schools	93	28	25	9	542	62
3.	Higher Secondary Schools	41	10	32	7	1250	31
4.	Degree Colleges	4	1	N.A.	N.A.	N.A.	N.A.

Teacher-student ratio was found to be 1 : 73 in primary schools, 1 : 62 in Junior high schools and 1:31 in higher secondary schools. The former two ratios should be brought down to an optimal level of 1:45.

Block-wise number of educational institutions available in Jhansi district at the end of 1977-78 was as follows:-

TABLE - 4.26

BLOCK-WISE POSITION OF EXISTING EDUCATIONAL INSTITUTIONS(AS ON 31.3.78) IN JHANSI

(Number)

Sl. No.	Block.	Primary Schools	Junior High Schools	Higher Secondary Schools	Teachers Training Centres	Degree Colleges
0	1	2	3	4	5	6
1.	Chirgaon	100	17	3	-	-
2.	Moth	100	18	5	-	-
3.	Gursarain	111	25	3	-	-
4.	Bamaur	84	16	3	-	-
5.	Mauranipur	107	21	2	-	1
6.	Bangra	81	13	3	-	-
7.	Babina	74	5	2	-	-
8.	Baragaon	124	8	29	3	3
	TOTAL	790	121	50	3	4

Classification of villages according to their distances from primary schools and junior high schools is shown in the following table:-

TABLE - 4.27

CLASSIFICATION OF VILLAGES ACCORDING TO THEIR DISTANCES FROM PRIMARY SCHOOLS AND JUNIOR HIGH SCHOOLS.

Sl. No.	Block	Villages according to their Distances from Primary Schools			Villages according to their Distances from Junior High Schools.		
		Within the village	Within the radius of 3 km.	Above 3 km.	Within the village	Within the radius of 5 km.	Above 5 km.
0	1	2	3	4	5	6	7
1.	Chirgaon	76	7	20	17	21	65
2.	Moth	97	4	22	15	25	83
3.	Gursarain	34	19	35	23	22	63
4.	Bamaur	79	4	18	15	26	60
5.	Mauranipur	71	3	10	21	23	40
6.	Bangra	71	5	8	12	13	39
7.	Babina	54	9	19	5	16	61
8.	Baragaon	63	7	12	8	14	60
	TOTAL	565	58	144	116	160	491

Regarding the dispersal of educational facilities in the district, it is observed that 565 villages had facilities of primary education within the village, 58 villages within the radius of 3 km. and 144 villages had this facility at a distance of more than 3 km. Moreover, nearly 20 per cent of the villages did not have educational facilities of primary standard within a radius of 3 km. This is one of the reasons that the literacy percentage in rural areas is comparatively low. Facilities of junior high schools are available only in 116 villages. About 160 villages have this facility within the radius of 5 kms. and children of 491 villages have to go beyond 5 kms. for this purpose. Facility for higher education is available mostly in towns only.

During the period of Fifth Plan, the enrolment in educational institutions shows a marked increase. The Bundelkhand University was also established in the district during this period to extend higher level educational facilities to the entire Bundelkhand region.

4.13.1 Technical Education:

At present, there is one Government Poly-technic, one Industrial Training Institute and also one training centre of Industries Department in the district. Besides, one Agriculture Training Centre is located at Chirgaon. The Government Poly-technic at Jhansi imparts technical education in civil, mechanical, automobile and electrical engineering of Diploma standard. It has a total capacity of 300 students. To make this institution more useful, diversification of various courses was taken up in the year 1978-79.

The Industrial Training Institute provides certificate course in various trades such as fitter, stenography, welder, electrician, etc. and the total number of such trades is 15. About 660 students were enrolled for training in this institution during 1978-79.

The Industries Department provides training to craftsmen at Mauranipur, Todi Fatehpur and Barwa Sagar. Training in weaving, leather crafts, manufacture of agricultural implements and tailoring to women is also imparted at Todi Fatehpur and Barwa Sagar. Agricultural Training Institute at Chirgaon runs a two years training course in

agriculture and soil conservation and awards diploma in agriculture to successful candidates.

4.14 Medical and Public Health:

As shown in table 4.28, there were 20 Allopathic, 20 Ayurvedic and one Homeopathic hospitals/dispensaries and 8 Rural Primary Health Centres in the district during the year 1978-79. In addition, Jhansi has one Medical College. Also there are 32 Maternity-cum-Child Welfare Centres, which are distributed evenly among the eight development blocks of the district. In each of the development blocks, there is, on an average, one Family Welfare Centre and 5 Sub-centres. Specialised medical and health services such as T.B. Clinic, Leprosy Control Unit, V.D. Clinic, Dental Clinic, Children Clinic and Eye Clinic are all located at Jhansi only, either in the Medical College or in the District Hospital.

TABLE - 4.28

HOSPITALS/DISPENSARIES IN JHANSI DURING THE YEAR 1978-79.

Sl. No.	Block	(Number)							
		Rural Primary Health Centres	Family Planning Centres	Maternity cum-child Welfare Centres	Vaccination Centres	Hospitals/Dispensaries			Homeopathic
						Allopathic	Ayurvedic	Urban	
0	1	2	3	4	5	6	7	8	9
1.	Chirgaon	1	1	4	5	-	-	3	-
2.	Moth	1	1	4	2	1	2	3	-
3.	Gursarain	1	1	4	8	1	-	3	-
4.	Bamaur	1	1	4	3	3	-	-	-
5.	Mauranipur	1	2	4	2	-	1	4	-
6.	Bangra	1	1	4	4	1	-	5	-
7.	Babina	1	1	4	2	1	1	-	-
8.	Baragaon	1	2	4	3	1	8	2	1
	TOTAL	8	10	32	29	8	12	20	1

Classification of villages according to their distances from Allopathic/Ayurvedic hospitals/dispensaries for Jhansi district is given below :-

TABLE - 4.29

CLASSIFICATION OF VILLAGES ACCORDING TO THEIR DISTANCES FROM
ALLOPATHIC/AYURVEDIC HOSPITALS/DISPENSARIES IN DISTRICT JHANSI.

Sl. No.	Block.	Allopathic			Ayurvedic		
		Within the village	Within the radius of 3 km.	Above 3 km.	Within the village	Within the radius of 3 km.	Above 3 km.
0	1	2	3	4	5	6	7
1.	Chirgaon	-	4	99	-	-	103
2.	Moth	1	5	117	-	4	119
3.	Gursarain	-	-	108	2	1	105
4.	Bamaur	2	5	94	-	2	99
5.	Maurampur	-	3	81	-	-	84
6.	Bengra	1	6	77	4	3	77
7.	Babina	-	6	76	-	3	79
8.	Baragaon	1	6	75	1	4	77
	TOTAL	5	35	727	7	17	743

Out of 767 villages, only 5 have facility of allopathic dispensary within the village, 35 villages have this facility within a radius of 3 km. Villages having this facility at a distance of more than 3 km. are 727. The position is almost the same in case of Ayurvedic dispensaries also.

4.15 Drinking Water :

Drinking water facilities are still inadequate in Jhansi district, Out of 767 villages, only 738 villages have this facility within the village. The families of 20 villages have to go upto a distance of 3 km. to get the potable water and those of the remaining one village have to cover more than 3 kms.

Eight out of the total inhabited villages do not have proper drinking water facilities. Blockwise availability of drinking water facility is shown in the following table :-

TABLE - 4.30

BLOCKWISE AVAILABILITY OF DRINKING WATER FACILITY.

Sl. No.	Name of Block	Villages classified according to distance from the water supply			Villages having potable water facility		
		Within the village	Upto a distance of 3 km.	Above 3 km.	Round the year	Except in summer	Not at all
0	1	2	3	4	5	6	7
1.	Chirgaon	99	4	-	97	4	2
2.	Moth	119	4	-	123	-	-
3.	Gursarain	108	-	-	106	2	-
4.	Bamaur	96	5	-	97	4	1
5.	Mauranipur	83	1	-	84	-	-
6.	Bangra	84	-	-	83	1	-
7.	Babina	70	4	-	40	30	4
8.	Baragaon	79	2	1	69	16	1
TOTAL		738	20	1	695	57	8

It is clear from the above table that there are still eight villages in the district which do not have any drinking water facility and in 57 villages, this facility is inadequate during summers. Maximum number of such villages are in Babina (30), followed by Baragaon (16), Chirgaon (4), Bamaur (4), Gursarain (2) and Bangra (1).

During the period of previous five years, the State Government provided a sum of Rs. 14.64 lakh for construction of drinking water wells specially for Harijan population. Till the close of 1978-79, 107 wells were constructed and 50 wells are expected to be completed by the end of 1979-80.

Piped water facility is available in 99 villages, out of which one village is located in Moth, 25 villages in Gursarain, 30 in Mauranipur, two in Bangra, 13 in Babina and 18 in Baragaon blocks. Among urban towns, piped water supply is available at Jhansi, Chirgaon, Mauranipur and Gursarain.

4.16 Condition of Harijan and Backward Classes:

Jhansi is one of those districts of Uttar Pradesh where scheduled caste population is much higher than the State average of 21 per cent. The blocks, where concentration of Harijan population is higher, are Gursarain (33.7%), Bangra (33.65%) and Mauranipur (33.14%). Rest of the blocks have low concentration of Harijan population. Incidentally, these blocks have large number of agricultural labourers and smaller holdings. During the previous years, the State Government provided various incentives and facilities for the upliftment of Harijans and people of backward classes. During 1978-79, the Harijan Vitta Vikas Nigam provided financial assistance to 59 Harijans for establishing cottage industries, 63 Harijan traders to open shops, one medical practitioner to open a new clinic and 94 persons to improve their farming. Scholarships to Harijan students of post-matric classes and those receiving technical education are also provided.

With a view to providing better living conditions to Harijans, Harijan Vitta Vikas Nigam and commercial banks provide funds for construction of houses. In all, 84 houses for Harijans and 18 for other weaker sections were constructed under this scheme during 1978-79. In 1979-80, the State Government provided a sum of Rs. 4.06 lakh as a subsidy under this scheme to be distributed @ Rs. 1000/- per constructed house.

4.17 Appraisal of On-going Schemes:

Initially, it was proposed to evaluate all the schemes of key sectors with a view to finding out their suitability in the areas of their operation and the extent to which they have been successfully implemented. For this purpose, efforts were made to collect the required information from all the development offices of Jhansi district. However, in spite of several reminders and personal contacts, it has not been possible to obtain all the desired information/data from them for assessing the performance of various schemes. The sectors for which some meaningful information could be obtained from the field are plant protection, soil conservation, horticulture, animal husbandry, fisheries and handloom. In view of this limitation, the appraisal of on-going schemes, which has been attempted in the subsequent paragraphs, is confined mainly to these sectors.

4.17.1 Plant Protection:

Plant Protection is an important operation of agricultural production. The main objective of this scheme was to boost up agricultural production by protecting the crops from insects, pests and diseases. Its importance was better realised after the introduction of high yielding varieties in the State. The plant protection work is handled by the Staff posted at the plant protection centres in different blocks of the district. During the Fifth Five Year Plan, the actual expenditure incurred on this scheme and the area covered by the plant protection measures in district Jhansi was as follows:-

TABLE - 4.31

EXPENDITURE AND COVERAGE OF AREA UNDER PLANT PROTECTION MEASURES.

Sl. No.	Year	Expenditure (Rs.in lakh)	Coverage of area under Plant Protection (in lakh ha.)		Cost of treatment per ha. (Paise)
			Target	Achievement	
0	1	2	3	4	5
1.	1974-75	0.10	0.92	1.03	10
2.	1975-76	0.46	0.98	1.34	34
3.	1976-77	0.47	1.08	1.67	34
4.	1977-78	0.55	1.20	1.37	40
5.	1978-79	0.94	1.38	1.80	52
	TOTAL	2.62	5.56	7.21	36

It is clear from the above table that the expenditure which was only Rs. 10,000 in 1974-75 increased to Rs. 94,000 during the year 1978-79, whereas the coverage of area under the scheme, which was 1.03 lakh ha. in 1974-75, increased to 1.80 lakh ha. during 1978-79. Thus, the cost of treatment per ha. ^{only} increased from 10 paise in 1974-75 to 52 paise during 1978-79. A constant rise in the cost of treatment may be explained by the rise in price of plant protection medicines as well as equipments. Moreover, achievements in terms of the coverage of area under plant protection in each year of the reference period was more than the fixed targets which means that the farmers are quite aware of the importance and usefulness of these measures. It is, therefore, suggested that the

scheme should be strengthened further and timely and adequate supply of insecticides, pesticides and fungicides should be ensured.

4.17.2 Soil Conservation :

An expenditure of Rs. 14.82 lakh was incurred on the soil conservation programmes in the district during the Fifth Five Year Plan. As a result of this expenditure, the area brought under cultivation through soil conservation measures in the district during this period was 7,139 ha. Consequently, the total area which required soil conservation treatment, reduced from 1.17 lakh ha. in 1973-74 to 1.10 lakh ha. at the end of 1978-79. The average cost of treatment per ha. comes to Rs. 210 which varies from year to year. The variations in the cost of treatment for different years of the Fifth Plan is given in the following table :-

TABLE - 4.32

EXPENDITURE AND PHYSICAL ACHIEVEMENTS UNDER THE SOIL CONSERVATION PROGRAMME

Sl. No.	Year	Expenditure (in Rs.lakh)	Area covered by Soil Conservation (ha.)	Cost per ha. (in Rs.)
0	1	2	3	4
1.	1974-75	0.22	1258	20
2.	1975-76	0.40	1124	40
3.	1976-77	2.20	1521	140
4.	1977-78	5.00	1562	320
5.	1978-79	7.00	1674	420
	TOTAL	14.82	7139	210

As would be evident from the above table, there is no direct relationship between the expenditure incurred and the area covered under the soil conservation operations and the cost of treatment per ha. has considerably increased from Rs. 20 in 1974-75 to Rs. 420 during 1978-79. It would, therefore, be necessary to explore the reasons of constantly increasing cost of treatment through soil conservation before any programme for strengthening and expansion of the scheme is undertaken.

4.17.3 Horticulture:

Under horticulture, the programme of plantation of new orchards was steadily progressing in the district and the achievement in terms of coverage of area increased from 177.5 ha. in 1974-75 to 260.0 ha. during 1978-79. Similarly, the area under improved method of cultivation increased from 600 ha. to 710 ha. during this period. An additional area of over 150 ha. was brought under potato during 1978-79 through distribution of 2415 quintals of disease free potato seed. Moreover, a scheme for extension of area under vegetables was started in the district in the beginning of the Fifth Plan. The yearwise coverage of area under this scheme alongwith actual expenditure incurred in the district during the Fifth Plan period is given in the following table:-

TABLE - 4.33

COVERAGE OF AREA UNDER VEGETABLES AND EXPENDITURE INCURRED

Sl. No.	Year	Coverage of area under vegetables (ha.)	Expenditure (Rs.)	Per ha. Cost of coverage Rs.
0	1	2	3	4
1.	1974-75	241.5	12,000	49.69
2.	1975-76	327.0	53,000	162.08
3.	1976-77	337.5	65,000	192.59
4.	1977-78	185.0	76,000	410.81
5.	1978-79	184.5	94,000	509.49

The above table shows that the coverage of area under vegetables, which was 241.5 ha. in the district in 1974-75 has decreased to 184.5 ha. during 1978-79, whereas the expenditure incurred on this scheme went up from Rs. 12,000/- in 1974-75 to Rs. 94,000/- during 1978-79. This analysis indicates that there is no direct relationship between the area covered under vegetables and the expenditure incurred on it by the department. Moreover, cost of coverage per ha. of area under vegetables has also increased from Rs. 49.69 in 1974-75 to Rs. 509.49 during 1978-79. Therefore, the scheme needs revitalisation after its thorough screening particularly regarding the coverage of area under vegetables and the costs incurred by the department of horticulture.

4.17.4 Animal Husbandry:

Like other districts of the State, all general programmes under Animal Husbandry such as distribution of pedigree bulls, artificial insemination, inoculation and treatment of cattle, etc., have been under implementation in the district since start of the planning. During the year 1977-78, an expenditure of Rs. 12.31 lakh was incurred on various programmes. Some of the programmes, however, deserve special mention. Seeing the geographical conditions and soil texture of the district, the prospect of goat-rearing is immensely bright. This scheme was started in the beginning of Fourth Five Year Plan and supply of bucks to goat keepers was made free of cost. The main objective of this scheme was to produce maximum possible meat in shorter time span.

4.17.5 Fisheries:

Pisciculture has a wide scope because of the availability of considerable water area in the district. It is, however, disheartening to note that production of fish in the district, which was 633 quintals in 1974-75, decreased to 561 quintals during 1978-79. This may be due to the slackness on the part of the managerial staff which failed to ensure timely stocking and distribution of fingerlings. Hence, there is need to improve upon the efficiency of the managerial staff which, in turn, would undoubtedly lead to augment the production of fish in the district.

4.17.6 Handloom Development Scheme:

This scheme was started in the district during the year 1974. The objective was to provide financial and marketing facilities to weavers by organising industrial cooperative societies so that their socio-economic conditions may improve. Upto 1977-78, sixteen industrial cooperative societies were organised and 470 weavers and 800 handlooms were brought under the cooperative fold. The average annual production of handloom cloth during the first four years of the Fifth Plan was about 90 lakh meters. It was found that the scheme could not come in full swing due to use of traditional equipment by the weavers, non-replacement of old looms by automatic ones and lack of marketing facilities for the

manufactured cloth. Besides, non-availability of any calendaring and finishing plant was another reason for the poor performance of the scheme. This programme can definitely be useful if some proper arrangements for training in modern techniques, skills, calendaring and finishing of cloth and its marketing are made in future.

4.17.7 Drinking Water:

The district suffers from scarcity of potable water. The schemes which are being run in the district to cater to the needs of different municipal/town areas, still need to continue in future. As regards the rural areas, there were 278 scarcity villages out of the total number of 767 villages. Upto 1977-78, drinking water facility was provided to 99 villages (including 88 scarcity villages) and the work in 40 villages was in progress. This programme should also continue and be extended to remaining scarcity areas of the district.

4.18 Constraints And Prospects of Development:

Jhansi is one of the backward districts of the backward Bundelkhand region. The north-eastern portion of the district is by far the most fertile patch, whereas the south western part of the district is mostly rocky because of extension of Vindhyan plateau with red soil belt spread over it. Hence, this part is not very suitable for agricultural development. Large areas have only sandy soil and therefore, remain uncultivated in the absence of adequate irrigation facilities.

Agricultural productivity of the region is extremely low because of low level of cropping intensity and lack of irrigation facilities. The existing institutions for supplies of agricultural inputs to the farmers are inadequate. Thus, lack of irrigation facilities and inadequacy of the supply of agricultural inputs to the farmers are the two main constraints in the way of agricultural development.

There is a wide scope for development of allied sectors like animal husbandry and fisheries. The livestock population of the district is quite high. The majority of the milch cattle are of indigenous breed and average milk yield of cows and buffaloes is extremely low. But the existing veterinary institutions and their dispersal in the area do not guarantee proper health cover to the present livestock population. This

shows that there is need to reorganise and strengthen the whole animal husbandry programme on scientific lines. There is also a great need to upgrade the existing milch cattle by undertaking breeding programmes on scientific lines to improve the milk yield in the district.

The water area which consists of both perennial and seasonal, is quite sufficient in the district. The fish production of the district is low and not in accordance with the water area under pisciculture. It appears that the role of managerial staff and its performance needs to be improved.

The district is extremely backward in the matter of industrial development and the existing potentialities do not suggest any ambitious programme for industrial development. Industrial productivity is low in the district. Industrial activities are also at extremely low level because of deficient infra-structure specially roads and power. Industrial activities are largely concentrated in Baragaon, Bangra and Mauranipur blocks and the remaining blocks have relatively low base of these activities. Unless industrial growth centres are established in these blocks, it is rather very difficult to boost up industrial activities in the area. Besides, the existing training facilities are also inadequate to cater to the needs of the local artisans.

Jhansi is also deficient in the matter of infrastructural facilities especially roads and power. A promotion of minimum infra-structure of roads and power is essentially required for accelerating the pace of agricultural as well as industrial development.

CHAPTER - V

IDENTIFICATION OF PLANNING SUB-REGIONS.

The inter-block variations analysed in the previous chapter indicate that there is a variety of conditions existing within the district. Some of the blocks emerge as a distinct sub-region which differs from other groups of blocks not only in physiography but also in the level of development. In order to ensure that the variety of conditions are well taken into account and measures required for developing potentials in backward pockets within the district are given due weightage, it would be desirable that the district is divided into planning sub-regions, following the basis of physio-geographical conditions and the pattern of socio-economic development. For this purpose, a comparative study of physical conditions and natural resources, availability of infrastructural and social facilities and the nature of economic activities for different blocks will have to be undertaken with a view to identifying the homogeneous groups of blocks.

An effort has been made here to identify groups of blocks which have homogeneous characteristics and the similar level of development. For this purpose, the technique of statistical analysis has been applied. Through the statistical method used here, an attempt has been made to work out a composite index for different blocks of the district to have a comparative idea of their level of development so that different blocks of the district can be grouped together according to their level of development. The indicators used for the purpose of this exercise, are listed below :-

1. Value of agricultural produce per ha. of net area sown.
2. Intensity of cropping.
3. Consumption of fertilizers per ha. of net area sown.
4. Percentage of area under high yielding varieties to gross cropped area.
5. Percentage of net irrigated area to net area sown.
6. Percentage of area with holding of 3 ha. and above to total area.
7. Percentage of area under commercial crops to gross cropped area.
8. Length of metalled roads per '000 sq.km. of area.
9. Percentage of inhabited villages situated at less than 3 km. from pucca road.
10. Percentage of villages electrified to total villages.

11. Literacy percentage.
12. Number of hospitals/dispensaries per lakh of population.
13. Percentage of workers engaged in secondary sector to total workers.

5.3 In this exercise, first of all, indices for different blocks in respect of 13 indicators have been prepared by assuming the average value of the district in respect of each indicator as 100. Subsequently, a composite index for each block has been worked out by calculating the mean value for the block. The blockwise indices for the selected indicators and the composite indices are given in table 5.1 at the end of this chapter. It may, however, be mentioned here that this technique of calculating the composite indices may not be technically very sound as equal weight has been assigned to each indicator. Nevertheless, it gives some comparative idea of the level of development of different blocks. An examination of this table would reveal that all the eight blocks of Jhansi district can be divided into three clear-cut groups according to the values of this composite index for different blocks, showing their level of development. Details of these groups and their level of development are given below:-

Sl. No.	Groups of blocks	Group Value	Level of Development
0	1	2	3
1.	(i) Baragaon (ii) Babina	110 and above	High
2.	(i) Moth (ii) Bangra (iii) Mauranipur (iv) Chirgaon		
3.	(i) Gursarain (ii) Bamaur	Below 90	Low

It may be mentioned that for the purposes of identification of planning sub-regions, it would be necessary to carve out contiguous blocks from the above groups of blocks. For this purpose, the results of the cartographic analysis have been super-imposed over this configuration of

groups of blocks. By combining the results of both these exercises, it was found that Baragaon and Babina blocks are contiguous and have a similar topography. They have also attained high level of economic development. Thus, these two blocks can be placed into a distinct planning sub-region. Similarly, the blocks of Gursarain and Bamaur, which are contiguous and have attained only low level of economic development, form another planning sub-region.

The remaining four blocks can be said to be homogeneous as all of them fall in the medium category according to the level of development. But, they form two distinct sub-regions, viz., 'Moth and Chirgaon', and 'Mauranipur and Bangra' intersected by the area falling under the State of Madhya Pradesh. Thus, their geographical contiguity is broken even though they have homogeneity in respect of the level of development. From this discussion, it is obvious that for the purposes of taking into account the variety of conditions for realistic planning, the district of Jhansi should be divided into four sub-regions which would also help in formulation of block-level plans linked horizontally and vertically. Incidentally, these planning sub-regions are also co-terminous with the boundaries of the four tehsils. This further justifies the proposed configuration of planning sub-regions on the grounds of administrative facility for implementation of block-level plans. The proposed planning sub-regions are given below:-

Sl. No.	Sub-Planning region	Name of the tehsil	Constituent Blocks of planning sub-region.	Level of development.
0	1	2	3	4
1.	I	Jhansi	(i) Baragaon (ii) Babina	High High
2.	II	Moth	(i) Chirgaon (ii) Moth	Medium Medium
3.	III	Mauranipur	(i) Mauranipur (ii) Bangra	Medium Medium
4.	IV	Garautha	(i) Gursarain (ii) Bamaur	Low Low

TABLE - 5.1 : BLOCKWISE INDICES FOR THE SELECTED INDICATORS.

Sl. No.	Block	Value of agril. produce per ha. of net area sown (Rs.)	Intensity of cropping	% of area under H.Y.V. to gross cropped area	Consumption of fertilizers per ha. of net area sown	% of net irrigated area sown to total area	% of area with holding of 3 ha. & above to total gross cropped area	% of area under metalled roads per'000 sq.km. of area	% of inhabited villages situated at less than 3 km. from pucca road.	% of villages electrified to total villages	Literacy percentage	No. of hospitals/ dispensaries per lakh of popn.	% of workers engaged in secondary & tertiary sectors to total workers	Total (from Col.2 to 14)	Composite Index	
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	Chirgaon	1446 (108)	111 (102)	8.67 (105)	5.06 (103)	25.18 (105)	67.6 (106)	0.37 (56)	139.3 (115)	24.27 (116)	31.10 (201)	25.6 (88)	1.3 (54)	15.95 (46)	1305	100.38
2.	Moth	1386 (103)	107 (98)	12.24 (148)	11.16 (227)	29.90 (124)	67.6 (106)	0.20 (30)	105.2 (87)	22.76 (109)	12.20 (79)	23.7 (82)	4.14 (170)	14.33 (41)	1404	108.00
3.	Gursarain	1248 (93)	106 (97)	1.66 (20)	1.73 (35)	12.61 (53)	68.7 (108)	0.28 (42)	118.2 (98)	21.30 (102)	7.40 (48)	24.2 (83)	3.4 (141)	14.20 (41)	961	73.92
4.	Bamaur	1058 (79)	102 (94)	4.62 (55)	2.09 (42)	17.03 (71)	68.4 (107)	0.51 (77)	18.4 (68)	12.87 (61)	5.90 (38)	23.2 (80)	2.4 (100)	9.47 (27)	900	69.23
5.	Maunipur	1219 (91)	106 (97)	3.97 (48)	3.24 (66)	19.28 (80)	52.3 (82)	0.27 (41)	147.4 (122)	17.86 (85)	23.80 (154)	26.1 (90)	6.46 (266)	29.79 (86)	1308	100.61
6.	Bangra	1333 (99)	109 (100)	10.79 (131)	3.72 (75)	23.71 (99)	43.4 (68)	1.03 (156)	116.1 (96)	17.86 (85)	14.30 (93)	19.8 (68)	5.5 (229)	12.01 (34)	1333	102.53
7.	Babina	1481 (110)	141 (129)	19.33 (234)	1.67 (34)	55.72 (233)	67.1 (105)	2.09 (316)	108.8 (90)	16.87 (81)	14.90 (97)	18.4 (63)	2.6 (108)	30.86 (89)	1639	129.92
8.	Baragaon	1627 (121)	116 (106)	15.54 (188)	9.92 (202)	41.25 (173)	68.2 (108)	2.41 (365)	176.8 (146)	32.93 (158)	15.90 (103)	42.0 (145)	1.5 (62)	72.16 (208)	2085	160.33
TOTAL DIST.		1341 (100)	109 (100)	8.26 (100)	4.91 (100)	24.09 (100)	63.4 (100)	0.66 (100)	150.70 (100)	20.83 (100)	15.40 (100)	29.0 (100)	2.4 (100)	34.59 (100)	1300 (100)	100.00 (100)

NOTE : Figures given in parentheses denote percentages to district-level achievements in respect of the selected indicators.

CHAPTER - VI
STRATEGIES FOR DEVELOPMENT

Before framing any programme and fixing targets for any area/region, it is essential to keep in mind that they are consistent with the objectives and policies laid down at the National and State levels. The Priorities of various programmes as assigned at the National and State levels will have to be translated into practice. There may be a large number of factors, which may have to be considered for fixing the priorities for development of an area. In this context, one has to consider invariably the availability of natural resources and its exploitation, level of development already attained and the existing institutional structure on one hand, and the major constraints to development on the other.

So far, the planning has been neither adequately potential oriented nor need-based. Moreover, the programmes carried out in the field have largely been governed by the concepts of targets and achievements. Consequently, development has been lopsided and inter-block variations have increased considerably. Considering these aspects in the present context, it would be necessary to adopt integrated area development approach for formulation of district level plan. This would require an integration between functional and spatial aspects for accelerated and balanced development of the area.

With a view to formulating a need-based plan for Jhansi district, efforts will be made to assess the requirement of household consumption for different commodities for the years 1980-81 and 1984-85 with the help of Engel Elasticity of Demand. The detailed methodology for determining the magnitude and direction of consumer demand alongwith the major findings is given in appendix - 5 . It is envisaged that while formulating programmes/schemes for different sectors for the next five years, the estimates of aggregate annual household consumption for different commodities would be given due weightage, besides maximum possible exploitation of the existing resource potentials of the area.

In the previous chapter, the whole district has been divided into 4 sub-planning units, out of which the extremely backward planning unit comprises Gursarain and Bamaur blocks. For accelerated and balanced regional development, it would therefore, be essential to assign top

priority to this extremely backward sub-planning unit, particularly in the matter of investment in both the productive and non-productive sectors.

6.1 Strategy for Agricultural Development:

Agriculture is the main productive sector, which is the major source of livelihood for the people of the area. Therefore, any development strategy envisaged for the area should assign top priority to agriculture sector.

6.1.1 Foodgrains (Production and Requirement):

During the year 1976-77, the total foodgrains in the district Jhansi was 2,46,430 tonnes. Consequently, the per capita availability of foodgrains per day was estimated to be about 550 gms. which indicates that the district is self-sufficient in the production of foodgrains. This may be because the pressure of working population on land is relatively low and the average size of holdings is relatively large. But agricultural productivity in general is comparatively low. It would, therefore, be essential to fix-up the feasible target for the total/additional production of foodgrains for the district, taking into account the existing resource base, institutional structure and level of development of the area.

As regards requirements of foodgrains for the area, the total population of the district for the year 1977-78 is projected at 9.99 lakh, which would increase to 11.31 lakh at the end of 1984-85. The total quantity of foodgrains, required to meet the demand of the projected population of 11.31 lakh in 1984-85 is calculated at 185.73 thousand tonnes, following the norm of minimum requirement of 450 gms. per capita per day.

On the other hand, the total production of foodgrains in Jhansi during 1973-74 was 212.70 thousand tonnes which increased to 246.43 thousand tonnes at the end of 1976-77. Thus, the annual growth rate of foodgrain production for the district during this period was 1.6 per cent only. However, taking into account the available resource potentials of the area and the proposed programmes of soil conservation, irrigation and high yielding varieties a feasible growth rate of about 4 per cent can be tentatively fixed for the production of foodgrains in Jhansi

during the period of next five years. Hence, its production at the end of 1984-85 is expected to attain the level of 279.41 thousand tonnes, which after allowing a margin of 10 per cent for seeds and storage losses, comes to 251.47 thousand tonnes. Whereas, its requirement for the projected population of 1984-85, as already mentioned, is 185.73 thousand tonnes. Thus, the marketable surplus, which would be available in the district at the end of 1984-85, comes to 65.74 thousand tonnes after deducting the total requirement of foodgrains for the projected population of 1984-85 from its total production. Moreover, the difference between the targeted level of foodgrain production for Jhansi at the end of 1984-85 and its actual level during 1977-78 comes to 53.31 thousand tonnes which, in other words, would be the target for additional production of foodgrains.

6.1.2 Extensive and Intensive Methods of Cultivation:

Now the question is as to how the target of additional foodgrain production fixed for Jhansi district can be achieved during the period of next five years. Theoretically speaking, there are extensive and intensive methods of cultivation which can be adopted for increasing the agricultural production in a particular area. In the former case, it would be relevant to add that almost all the blocks of Jhansi district excepting Oirgaon, Moth and Bamaur have got sizable percentage of culturable waste and fallow land to the total reporting area. Such type of land lying unproductive in different blocks can be better utilised by launching a programme of soil conservation measures more vigorously on priority basis. Initially, the land covered by soil conservation measures can be used for raising fodder or other suitable leguminous crops. However, after two or three years, such lands can be diverted towards the production of foodgrains and commercial crops. The process of developing land through soil conservation measures is supposed to be costlier than that of opting for the method of intensive use of cultivation. However, considering the larger interest of the society, development of such type of land through soil conservation measures would be more beneficial in the sense that these developed lands can be allotted to marginal farmers and landless labourers for cultivation purposes.

6.1.3 Intensity of cropping and irrigation:

As discussed earlier, the intensity of cropping in different blocks of the district is comparatively low and almost single cropping

is predominantly in vogue in Moth, Gursarain, Bamaur and Mauranipur blocks. This provides basis for a wider scope of enhancing agricultural productivity through adoption of intensive use of cultivation which mainly depends upon the availability of irrigation sources. In order, therefore, to increase intensity of cropping, additional irrigation potential should be created in different blocks on priority basis. As stated earlier, there is lack of irrigation facilities in Jhansi and hardly 25 per cent of the net area sown is provided with irrigation facilities. The blocks, which are served with relatively low level of irrigation facilities, consist of Gursarain, Bamaur and Mauranipur where percentage of net irrigated area to net area sown ranges from 12.6 to 19.5 only. Considering the further scope for extension of irrigation facilities, it is, therefore, suggested that these blocks should be given preference while planning for creation of additional irrigation sources in the district.

Owing to typical topographical conditions of the district, State/private tubewells have not been very successful in the area. However, there are certain pockets in Chirgaon, Moth and Mauranipur blocks where farmers with their own initiative have installed private tubewells. Since these tubewells have been functioning successfully for the last few years it would be desirable to explore the possibilities of further installation of both the State/private tubewells in these areas. Secondly, pumping sets are commonly in vogue and they are evenly distributed in different blocks. Therefore, the emphasis should also be laid on the installation of maximum possible number of pumping sets in each and every block for providing assured means of irrigation.

6.1.4 Consumption of fertilizer:

Next in priority comes the consumption of fertilizers which is also found to be extremely low in different blocks of the district. The blocks, where consumption of fertilizers is found to be at low level, include Gursarain and Bamaur. These blocks have already been assigned the highest priority for providing additional irrigation facilities. With a view to enhancing the yield per ha. of different crops it would, therefore, be essential to encourage farmers of these blocks for adoption of higher dosages of fertilizers by ensuring its supply to them at subsidised rates. This may, however, require establishment of new seed and fertilizer stores at suitable places in different blocks of the district.

6. 1.5 High Yielding Varieties:

As stated earlier, the adoption of high yielding varieties of paddy and wheat in the district is not very encouraging. The blocks, which are placed in low category with regard to the coverage of area under it, include Bamaur, Gursarain and Mauranipur. Moreover, the raising of high yielding varieties of paddy in Gursarain, Bamaur, Mauranipur, Bangra and Babina blocks has not been undertaken so far. Besides, the area covered under high yielding varieties of wheat in the district during 1976-77 was only 33.38 per cent whereas the corresponding percentage for the State worked out to 79.93. Keeping in view the existing and proposed irrigation facilities of these blocks, it would, therefore, be desirable to take up this programme on priority basis. This, in turn, would help in raising the yield per ha. of both the crops. However, this would require mass publicity of the programme through layout of field demonstrations on the one hand and the timely supply of agricultural inputs to the farmers at subsidised rates on the other.

The area covered in different blocks under cash and commercial crops like sugarcane, potato and oilseeds is almost negligible. Since the district has become self sufficient in production of foodgrains, it would be worthwhile to bring about suitable modifications in cropping pattern of the area and switch over from less remunerative to more remunerative crops. Hence, it is suggested that farmers, in general, should be encouraged for raising commercial crops through provision of better incentives in the form of supply of various inputs on subsidised rates.

The target groups or the weaker sections of the society as defined in the present context is constituted mainly by the families of scheduled castes, small & marginal farmers, agricultural labourers and landless artisans. The population of target groups is quite significant in each and every block. However, this is proportionately high in sub-planning units III and IV. Since the bulk of the magnitude of unemployment/under-employment, which exist in each and every block of the district, is constituted mainly by the weaker sections of the society, launching of job oriented programmes in the area would, therefore, be essential to provide permanent solution to this vexed problem. For this purpose, it is suggested that the programmes of allied sectors like animal husbandry, dairying, forestry, fisheries and co-operatives should be developed in

such a fashion that target groups become recipient of direct benefits of employment likely to be generated.

6.2 Animal Husbandry :

As stated earlier, the total livestock population of the district is 6.53 lakh in 1977-78, out of which the population of milch cattle constitutes 36.6 per cent. The majority of milch cattle are of indigenous breed and average milk yield of cows/buffaloes is extremely low. Moreover, the raising of fodder crops of improved seeds has not percolated in the area at all. On the other hand, existing veterinary institutions and their dispersal in the area do not guarantee proper health cover to the present livestock population. Thus, there is an unavoidable need to reorganise and strengthen the whole animal husbandry programme on scientific lines. The priorities suggested for this purpose are listed below:-

- (i) Purchase of milch cattle of improved breeds and their distribution among the members of target group at subsidised rates.
- (ii) Establishment of additional veterinary institutions, i.e., veterinary hospitals cum-A.I. Centres and stockman cum-A.I. Sub-Centres, following the prescribed norms of Intensive Cattle Development Project (I.C.D.P.).
- (iii) Emphasis on breeding programmes through artificial insemination as well as natural service.
- (iv) Castration of scrubbed bulls and inoculation.
- (v) Mass publicity of fodder development programme,
- (vi) Supply of improved fodder seeds, fertilizers and cattle feeds to the farmers at subsidised rates.
- (vii) Expansion of Goat and Sheep Development Programmes. Thus, the average milk yield per cow per day is expected to increase to one litre and that of she-buffalo to one and half litres.

6.3 Fisheries:

As stated earlier, almost all the water area in the district is of perennial type and only 128 ha. is seasonal. Besides, the percentage of water area under pisciculture is as high as 97.2. On the other hand, the distribution of fingerlings in the district during 1977-78 was 84,000 per ha. of water area and production of fish was 57 kg. only.

This is mainly due to lack of proper management. With a view to ensuring better exploitation of water resources it would, therefore, be essential to improve upon the efficiency of managerial staff which is chiefly responsible for timely stocking and distribution of fingerlings. Secondly, the staff available for carrying out fisheries development programme in the district is inadequate to provide proper technical supervision for the purposes of effective implementation. It is, therefore, suggested that some-additional staff should also be provided taking into account the availability of relatively large water areas of perennial nature in the district.

Most of the seasonal water area, which is already under pisciculture, is concentrated in Gursarain and Bamaur blocks of sub-planning unit-IV. It is suggested that this water area of seasonal nature should be converted into perennial water area through launching a scheme for deepening of tanks/ponds. Moreover, effective measure should also be undertaken regarding the formation of fishermen Cooperative Societies, stocking of fingerlings and production of fish.

6.4 Industries :

The district is extremely backward in the matter of industrial development and the existing potentialities do not suggest any ambitious programme for industrial development. The industrial units registered under Factories Act, 1948 are concentrated largely in Baragaon. Moreover, Bamaur and Bangra blocks do not have such industrial units at all. As regards Khadi and Village industries, out of the total number of 76 industrial units, 52 are located in Baragaon and Bangra blocks. While Mauranipur and Bangra blocks are the two pioneering centres of the district for handloom industry, the handlooms are being operated throughout the district in a quite dispersed manner. The priorities based on the existing industrial structure and resource potential of the district are listed below:-

- (i) In view of the relatively larger concentration of industrial activities in Baragaon, Bangra and Mauranipur blocks it is suggested that industrial growth centres should be established one each in these blocks.
- (ii) With a view to providing favourable climate for industrial development it would also be necessary to establish centres for industrial training in these blocks. The main functions of these centres would be to impart training in industrial field to the local persons desirous for joining

the industrial venture. In other words, these centres would help in meeting out the demand for skilled and semi-skilled workers of the area.

- (iii) It would also be desirable to establish industrial units based on forest resources and mineral deposits at suitable places in different blocks. Moreover, there is also a wide scope for setting up industrial units based on agricultural produce and livestock resources.
- (iv) It would also be desirable to set up industrial units based on local demand at suitable places in different blocks.
- (v) Although handlooms are being operated in each and every block, their larger concentration is found in Mauranipur and Bangra only. It is, therefore, suggested that handloom industry should be given priority for its expansion in other blocks of the district also.

6.5 Roads and Power:

Jhansi is one of the backward districts of the State in the matter of infra-structural facilities particularly roads and power. The blocks which are having roads below the district average consist of Babina, Bangra, Bamaur, Gursarain and Moth. Therefore, these blocks should receive top priority in any programme of road development for the district. On the other hand, Gursarain and Bamaur blocks are relatively more backward in the matter of rural electrification. It would, therefore, be essential to assign the highest priority to these blocks while planning for rural electrification.

6.6 Priorities for Sectoral Development:

Besides, efforts have also been made to determine blockwise priorities for the development of Jhansi district. In this context, an attempt has been made to give sectorwise activities indicating the degree of importance to be attached to each activity in each block within the planning sub-region. Through this attempt, it has been possible to identify high and low priority areas in respect of each planning activity. Sectorwise priorities for development of different blocks are given at the end of this chapter.

TABLE - 6.1 : SECTORWISE PRIORITIES FOR DEVELOPMENT OF DIFFERENT BLOCKS.

Sl. No.	Sector/Programme	Sub-Planning Units/Blocks								
		I		II		III		IV		
		Baragaon	Babina	Moth	Chirgaon	Mauranipur	Bangra	Bamaur	Gursarain	
0	1	2	3	4	5	6	7	8	9	
<u>I. Agriculture :</u>										
	1. Extension of area under cultivation through soil conservation measures.	H.P.	H.P.	L.P.	L.P.	L.P.	L.P.	L.P.	L.P.	L.P.
	2. Increase in intensity of cropping/gross cropped area.	L.P.	L.P.	H.P.	L.P.	H.P.	H.P.	H.P.	H.P.	H.P.
	3. Extension of area under high yielding varieties of wheat.	L.P.	H.P.	L.P.	L.P.	H.P.	H.P.	L.P.	L.P.	L.P.
	4. Extension of area under high yielding varieties of paddy.	L.P.	L.P.	H.P.	H.P.	H.P.	L.P.	H.P.	H.P.	H.P.
	5. Increase in consumption of fertilizers and pesticides.	L.P.	H.P.	L.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
	6. Extension of area under cash and commercial crops, i.e., cotton, potato and oilseeds.	H.P.	H.P.	L.P.	H.P.	L.P.	L.P.	L.P.	L.P.	L.P.
	7. Extension and improvement of area under dry farming.	L.P.	L.P.	L.P.	L.P.	H.P.	L.P.	H.P.	H.P.	H.P.
	8. Increase in agricultural productivity.	L.P.	L.P.	L.P.	L.P.	H.P.	H.P.	H.P.	H.P.	H.P.
<u>II-Animal Husbandry :</u>										
	1. Distribution of milch cattle of improved breeds among the members of target group at subsidized rates.	L.P.	L.P.	L.P.	L.P.	L.P.	H.P.	H.P.	H.P.	H.P.
	2. Breeding through Artificial Insemination.	L.P.	L.P.	L.P.	L.P.	L.P.	H.P.	H.P.	L.P.	L.P.

0	1	2	3	4	5	6	7	8	9
3.	Emphasis on castration and inoculation.	H.P.	L.P.	L.P.	L.P.	L.P.	H.P.	H.P.	L.P.
4.	Establishment of veterinary hospitals/A.I. Centres.	L.P.	L.P.	L.P.	L.P.	H.P.	L.P.	L.P.	H.P.
5.	Establishment of Stockman Centres/A.I. Sub-Centres.	L.P.	H.P.	L.P.	L.P.	H.P.	H.P.	L.P.	H.P.
6.	Emphasis on raising fodder crops of improved varieties.	H.P.	H.P.	L.P.	H.P.	H.P.	L.P.	L.P.	L.P.
7.	Supply of improved fodder seeds and cattle feeds at subsidized rates.	H.P.	H.P.	L.P.	H.P.	H.P.	H.P.	L.P.	L.P.
III- <u>Fisheries</u> :									
1.	Deepening of ponds/tanks	L.P.	L.P.	L.P.	L.P.	L.P.	L.P.	H.P.	H.P.
2.	Stocking of fingerlings	L.P.	L.P.	L.P.	H.P.	L.P.	L.P.	H.P.	L.P.
3.	Distribution of fingerlings.	L.P.	L.P.	L.P.	H.P.	H.P.	H.P.	H.P.	H.P.
4.	Formation of fishermen cooperative societies.	L.P.	L.P.	L.P.	L.P.	L.P.	L.P.	H.P.	H.P.
IV - Forest :									
1.	Plantation of trees of industrial and economic importance.	L.P.	L.P.	L.P.	H.P.	L.P.	L.P.	H.P.	L.P.
2.	Plantation of fast growing species	L.P.	L.P.	L.P.	H.P.	L.P.	L.P.	L.P.	L.P.
V - <u>Cooperatives</u> :									
1.	Revival of the existing primary agricultural credit societies.	H.P.	H.P.	L.P.	L.P.	H.P.	L.P.	L.P.	L.P.
VI- <u>Irrigation</u> :									
1.	Installation of State/private tubewells.	L.P.	L.P.	L.P.	L.P.	H.P.	L.P.	H.P.	H.P.

0	1	2	3	4	5	6	7	8	9
	2. Installation of Pumping Sets.	L.P.	L.P.	H.P.	L.P.	L.P.	L.P.	H.P.	H.P.
<u>VIII-Industries :</u>									
	1. Establishment of Industrial Growth Centres.	H.P.	L.P.	L.P.	L.P.	H.P.	H.P.	L.P.	L.P.
	2. Establishment of Industrial Training Centres.	H.P.	L.P.	L.P.	L.P.	H.P.	H.P.	L.P.	L.P.
	3. Establishment of processing unit for improvement in finishing of Handloom terycot.	L.P.	L.P.	L.P.	L.P.	H.P.	H.P.	L.P.	L.P.
	4. Establishment of small scale industrial units:-								
	A - Resource Base -								
	(i) Agro	L.P.	L.P.	H.P.	H.P.	L.P.	L.P.	H.P.	H.P.
	(ii) Forests	L.P.	L.P.	L.P.	H.P.	L.P.	L.P.	H.P.	L.P.
	(iii) Livestock	L.P.	H.P.	L.P.	L.P.	L.P.	L.P.	H.P.	H.P.
	B - Demand Oriented: (Crockery, Chaff-Cutter, Iron Utensils, Leather goods, etc.)	L.P.	L.P.	L.P.	L.P.	H.P.	L.P.	H.P.	H.P.
<u>VIII- Roads :</u>									
	* 1. Construction of link roads.	L.P.	H.P.	H.P.	L.P.	L.P.	H.P.	H.P.	H.P.
<u>IX - Power :</u>									
	1. Electrification of villages	L.P.	L.P.	L.P.	L.P.	L.P.	H.P.	H.P.	H.P.
	2. Electrification of Harijan Basties	L.P.	L.P.	L.P.	L.P.	H.P.	H.P.	H.P.	H.P.
<u>X - Drinking Water Supply :</u>									
	1. Emphasis on piped water supply	H.P.	H.P.	L.P.	L.P.	L.P.	L.P.	L.P.	L.P.
	2. Construction of masonry wells.	H.P.	H.P.	L.P.	L.P.	L.P.	L.P.	H.P.	L.P.

NOTE : H.P. means 'High Priority' and L.P. means 'Low Priority'.

CHAPTER - VII.

IDENTIFICATION OF CENTRAL PLACES AND THEIR HIERARCHY IN JHANSI DISTRICT

7.1 Existing Settlement Pattern:

Before identifying the central places in any region, it is essential to have a comprehensive study of the existing pattern of settlements. Settlement pattern proposed for any region has to consider the present level of development in different aspects. The present system would indicate the adequacy of the infrastructural facilities and the availability of social services in the area, the gaps that exist, the functional re-organisation necessary to bridge these gaps as well as to promote accelerated development of the area.

There are 855 villages, out of which 767 villages are inhabited in district Jhansi. The distribution of villages by the size of population are given in the following table :-

TABLE - 7.1

DISTRIBUTION OF RURAL POPULATION BY SIZE AND NUMBER OF SETTLEMENTS

Sl. No.	Population Range	Number of Settlements	Percentage to total settlements	Percentage to total population
0	1	2	3	4
1.	Upto 200	94	11	1.08
2.	201 -- 499	247	29	11.03
3.	500 -- 999	241	28	39.63
4.	1000 -- 2999	173	21	41.31
5.	3000 -- 5000	9	1	4.30
6.	Above 5000	3	-	2.65
	Populated	767	90	100.00
	Depopulated	88	10	-

The above table depicts that small sized settlements outnumber the bigger sized settlements as the settlements below a population of 1000 persons constitute 68 per cent of the total settlements. Besides, more than 51.74 per cent of the rural population is living in settlements having a population of less than one thousand.

7.2 Methodology :

In the first instance, space preference data for the villages having a population of '1000 persons or more', were collected. For this purpose, a questionnaire, which was prepared to study the movement pattern of the people, was canvassed (filled) by the village functionaries of Jhansi district. The questions were related to the purpose for which persons moved outside their villages, the distance travelled and mode of conveyance used. In all, 183 settlements of the district were selected for finding out the movement pattern of the people. There were only 37 functions, both policy and non-policy which were considered for collection of the space preference data. These functions are mentioned below :-

Lower Order Functions :

1. Primary School
2. Post Office
3. Private Medical Practitioner
4. Electricity
5. Multipurpose Cooperative Society
6. Roads
7. Controlled Cloth Shop
8. Nyaya Panchayat Head Quarters
9. Junior High School
10. Bi-weekly Market
11. Seed Distribution Centre
12. Stockman Centre
13. Bus Stop
14. A.I. Sub-Centre
15. M.C.W. Centre
16. Dispensary
17. Police Outpost
18. Chemist & Druggist Shop

Middle Order Functions:

1. Agricultural Implements Repairing Shop
2. Veterinary Hospital
3. Higher Secondary School
4. Commercial Bank
5. Family Welfare Centre

6. Primary Health Centre
7. Railway Station
8. Hospital
9. Fertilizer & Pesticides Distribution Centre
10. Block Head Quarters
11. Cooperative Bank
12. Police Station
13. Post Office with Telephone

Higher Order Functions:

1. Telegraph Office
2. Cold Storage
3. Regulated Market
4. Tehsil Head Quarters
5. Cinema Hall
6. Degree College

Through this exercise, efforts have been made to study the locations of above functions in the district and also to find out their zone of influence after enlisting the villages which are benefited by these functions.

7.2.1 Scalogram Method:

Guttman's Scalogram Technique was used in this exercise as one of the methods. For calculating centrality scores of a settlement, the settlements were classified on the basis of presence or absence of functions/ services, economic activities, etc. In this method, all the selected 183 settlements were listed in order of their population on vertical side and all the functions were plotted in horizontal row. The number of each function was indicated in corresponding columns and then total for each 'types' and 'numbers of functions' were listed against each settlement.

At the bottom of the table, the number of places having each type of function was indicated in the appropriate column and the total number of units of each function was also given in each column. In the extreme right-hand side of the table all settlements were ranked in order of the total number of units of various functions given in the preceding column. Then, the places were ranked with their number of functions i.e.

the place with the highest number of functions was given the first rank. Similarly, at the bottom of the table institutions were ranked in a descending order. The function which had the largest number of units got the first rank. After ranking the settlements and functions a final table was prepared showing the hierarchy of settlements as well as that of functions in the district. The scalogram chart (appended at the end) shows the final result of this exercise.

The above exercise shows that there are 56 rural central places in the district and 'Moth' is on the top among them. The Scalogram chart indicates presence or absence of every facility in each settlement. One can easily find out the functional gaps i.e., the facilities which are missing from this chart. It is also possible that the lower order settlements may possess a particular function, then in such cases that function should also exist in the higher order settlements. In case, such functions are not available in them, corrective measures are to be suggested to remove these functional gaps. It is also possible that some higher order functions may be located at some lower order central places, while they are not available at higher order central places in the area. For example, facilities like Inter College and Primary Health Centre are higher order functions but these may be located at lower order central places. Such type of functional locations in the district shows a lopsided dispersal of functions/facilities. Under these circumstances, it has not been possible to identify locational gaps on the basis of scalogram analysis. Hence, this method has not been preferred to identify both the functional hierarchy and settlement hierarchy in the district.

7.3 Functional Hierarchy on the Basis of Frequency of Occurrence:

The importance of a central place depends upon the number of functions performed by it. A settlement, which is offering number of functions of a particular level, will be more important than a settlement offering relatively less number of functions of the same level. Moreover, the degree of importance of a function is supposed to vary inversely with the frequency of its occurrence. The quality of the functions is normally affected by the number of different types of functions offered and the level at which they are offered. Therefore, considering the relative importance of each function, weights have been assigned to each function after dividing total number of settlements in the district by the

total number of existing functions. On the basis of "Weightage System", centrality scores have been calculated for 183 settlements of the district. The list of functions and their weights are given in the following table:-

TABLE - 7.2 :
LIST OF FUNCTIONS AND THEIR WEIGHTS.

Sl. No.	Functions	Weights
0	1	2
1.	Primary School	1
2.	Post Office	5
3.	Junior High School	6
4.	Multipurpose Cooperative Society	8
5.	Bus Stop	16
6.	A.I. Sub-Centre	64
7.	Commercial Bank	38
8.	High School	24
9.	Maternity Cum-Child Welfare Centre	20
10.	Telegraph Office	76
11.	Stockman Centre	29
12.	Hospital/dispensary	18
13.	Police Station	36
14.	Police Outpost	18
15.	Intermediate College	38
16.	A.I. Centre	109
17.	Seed Distribution Centre	40
18.	Fertilizer & Pesticides Depot	48
19.	Railway Station	54
20.	Veterinary Hospital	54
21.	Primary Health Centre	95
22.	Cooperative Bank	76
23.	Cinema Hall	76
24.	Family Planning Centre	45
25.	Degree College	190
26.	Cold Storage	767

With the help of the above table, the hierarchy of various functions was calculated on the basis of the weights assigned to each function. It was also possible to find out breaks in the weights assigned to various functions and three levels of functional hierarchy were identified.

7.4 Settlement Hierarchy:

Once the level of functional hierarchy is decided, then the hierarchy of settlements can be decided. Centrality scores of each settlement can be calculated on the basis of the weights assigned to a particular function. The following table gives the list of settlements which can be selected as central places alongwith their centrality scores:-

TABLE - 7.3
DESCENDING ORDER OF SETTLEMENTS ACCORDING TO CENTRALITY SCORE

Sl. No.	Settlement	Block	Population	Centrality Score
0	1	2	3	4
1.	Jhansi M.B.	B G	202,551	5,980
2.	Mauranipur M.B.	M	25,651	1,550
3.	Moth	M O	7,308	768
4.	Babina Cantt.	B B	13,275	680
5.	Chirgeon T.A.	C	9,012	654
6.	Barwa Sagar	B G	10,028	637
7.	Cursarain T.A.	G	9,351	572
8.	Garautha Khas	B	2,675	526
9.	Santhar N.A.	Mo	11,708	515
10.	Erich T.A.	B	4,634	437
11.	Baragaon	BG	3,846	412
12.	Raksa	BB	3,846	408
13.	Braur	B	2,735	391
14.	Bangra Ihawa	Bn	1,025	380
15.	Poonch	Mo	5,571	337
16.	Ranipur	Bn	7,769	320
17.	Amargarh	C	3,135	297
18.	Sakrar	Bn	3,123	294
19.	Samari	C	1,702	280

0	2	3	4	
20.	Khailar	BB	1,623	272
21.	Katerra	Bn	5,759	271
22.	Roopa Dhamna	Mo	1,308	205
23.	Uldan	Bn	2,732	200
24.	Tehrauli Khas	G	1,627	190
25.	Shahjahanpur	Mo	1,614	187
26.	Markuwan	G	1,152	177
27.	Tehrauli Kilan	G	2,212	155
28.	Tori-Fatehpur	G	4,555	140
29.	Konchha Bhanwar	BG	2,491	137
30.	Rewan	M	2,120	137
31.	Dhawakar	M	2,964	129
32.	Churara	M	2,439	129
33.	Eskil Buzurg	B	1,814	124
34.	Banhori	M	1,380	124
35.	Sakin	M	3,380	120
36.	Bangra Bangri	C	1,124	115
37.	Bamanua	C	1,748	114
38.	Gariha	BB	2,763	110
39.	Pulia	Mo	1,030	106
40.	Ehozele	BG	1,096	102
41.	Ababai	BG	1,488	101
42.	Baidora	BB	1,249	93
43.	Aksewa	M	1,818	92
44.	Lohagarh	Mo	3,348	92
45.	Bhattapura	M	1,098	85
46.	Bizauli	BB	2,033	83
47.	Talaur	Mo	1,789	78
48.	Khazuraha Buzurg	BB	1,458	66
49.	Magarpur	Bn	2,589	63
50.	Ghuraiyan	G	1,736	61
51.	Bhudpura	BB	1,228	60
52.	Garhmau	BG	1,148	60
53.	Simardha	G	1,934	54
54.	Kargawan	G	2,495	53
55.	Lawan	Mo	1,149	51

0	1	2	3	4
56.	Ghat Lahchura	M	1,264	50
57.	Kakarwara	M	2,295	48
58.	Sisori	M	4,681	44
59.	Baghera	C	1,420	42
60.	Bizaura	G	1,293	41
61.	Kakarwai	B	2,240	40
62.	Rampura	G	1,151	35
63.	Gurha	G	1,260	34
64.	Jaura	Mo	1,171	32
65.	Nand Khas	C	1,014	32
66.	Pipra	C	1,657	30
67.	Jaryai	C	1,117	30
68.	Bharosha	Mo	1,560	29
69.	Punwali Kalan	BB	1,443	29
70.	Ujyan	C	1,798	29
71.	Bhadarwara Khurd	M	2,326	28
72.	Benka Pahari	G	1,763	28
73.	Barta	BG	1,626	27
74.	Sesa	Mo	1,284	25
75.	Barla	C	1,719	24
76.	Pahari Buzurg	C	1,298	23
77.	Asta	B	1,502	20
78.	Sarsenda	B	2,270	20
79.	Palra	BG	1,480	20
80.	Kumharia	C	1,355	20

NOTE: The abbreviations used above for indicating names of blocks are Mo - Moth, C - Chirgaon, B - Bamaur, BB - Babina, G - Gursarain, Bn - Bangra Dhawa, BG - Baragaon, M - Mauranipur.

The urban areas (Municipal Boards) which were not included in the initial list of Central Places, were also marked on the map while making final selection of central places. Thus, a tentative list of central places was prepared and put before the district, block and village level functionaries with a view to finalising the central places of the district. On the basis of this exercise, 56 central places were finally

identified which were expected to be capable of serving the entire district of Jhansi both area wise and population wise. The final list of central places alongwith their centrality scores is given in the following table:-

TABLE - 7.4

FINAL CENTRAL PLACES AND THEIR CENTRALITY SCORES

<u>Sl. No.</u>	<u>Central Places</u>	<u>Block</u>	<u>Centrality Scores</u>
<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>
1.	Jhansi (MB)	Baragaon	5,980
2.	Mauranipur (MB)	Mauranipur	1,550
3.	Moth	Moth	768
4.	Babina (Cantt.)	Babina	680
5.	Chirgaon (TA)	Chirgaon	654
6.	Barwa Sagar	Baragaon	637
7.	Gursarain (TA)	Gursarain	572
8.	Garautha Khas	Bamaur	526
9.	Samthar (TA)	Moth	515
10.	Erich (TA)	Bamaur	437
11.	Baragaon	Baragaon	412
12.	Raksa	Babina	408
13.	Bamaur	Bamaur	391
14.	Bangra Dhawa	Bangra Dhawa	380
15.	Poonchh	Moth	337
16.	Ranipur	Bangra Dhawa	320
17.	Amargarh	Chirgaon	297
18.	Sakrar	Bangra Dhawa	294
19.	Samari	Chirgaon	280
20.	Khaliar	Babina	273
21.	Uldan	Bangra Dhawa	271
22.	Roopa Dhanna	Mauranipur	170
23.	Katorra	Bangra Dhawa	168
24.	Shahjahanpur	Moth	165
25.	Markuwan	Gursarain	164
26.	Tehrauli Kilan	Gursarain	155

0	1	2	3
27.	Tori-Fatehpur	Gursarain	140
28.	Konchha-Bhanwar	Baragaon	137
29.	Rewan	Mauranipur	137
30.	Dhawakar	Mauranipur	129
31.	Churara	Mauranipur	129
32.	Eskil Buzurg	Bamaur	124
33.	Bamhori	Mauranipur	124
34.	Sakin	Moth	120
35.	Pandwaha	Gursarain	118
36.	Bangra Bangri	Chirgaon	115
37.	Gariha	Babina	110
38.	Fullia	Moth	108
39.	Bhozela	Baragaon	102
40.	Ambabai	Baragaon	101
41.	Baidora	Babina	93
42.	Ak sewa	Mauranipur	92
43.	Bi zauli	Babina	83
44.	Talaur	Moth	78
45.	Kha-zuraha Buzurg	Babina	66
46.	Magarpur	Bangra Dhawa	63
47.	Churaiyan	Gursarain	61
48.	Bhudhapura	Babina	60
49.	Garhmau	Baragaon	60
50.	Simardha	Gursarain	54
51.	Baghera	Chirgaon	42
52.	Bi jaura	Gursarain	41
53.	Kakarwei	Bamaur	40
54.	Bhadarwara Khurd	Mauranipur	26
55.	Nota	Bangra Dhawa	21
56.	Sarsenda	Bamaur	21

The above central places have been plotted on the district map to examine whether the geographical distribution of these central places is even or not. As a matter of fact there is hardly any region/area where the socio-economic activities and facilities are evenly distributed. Therefore, it is felt necessary to apply the criteria of population and distance also in the selection of central places of different orders. After completion of this exercise, it is observed that some of the areas are still left unserved by the identified central places. In such cases, selection of some central places has been done on the basis of field observations.

On the basis of past experience, it can be said that a central village can serve a population of 5 or 6 thousand and an area of 5 to 7 sq. km. A service centre would be able to serve a population of about 15 to 20 thousand within a radius of 8 to 10 km. and a growth centre may be expected to serve a population of about 40 to 50 thousand within a radius of 15 to 20 km.

From the above table, breaks of centrality scores are visible. These breaks help to mark a distinct hierarchy in the order of settlements. The higher order central places have a break of centrality score at 515, the second break at the level of 263 and the lowest order central places have a break of centrality scores at 40. By doing so, it has been possible to identify nine central places of highest order to be designated as growth centres, 12 central places of the middle order to be designated as service centres and 35 central places of the lowest order to be designated as central villages. The details of these central places in a hierarchical order are given below:-

BLOCKWISE GROWTH CENTRES, SERVICE CENTRES AND CENTRAL VILLAGES
IN JHANSI DISTRICT

Sl. No.	Tehsil/Block	Growth Centres	Service Centres	Central Villages
0	1	2	3	4
<u>A - Moth :</u>				
1.	Moth	1. Moth 2. Semthar (TA) *	1. Poonch 2. Amargarah 3. Samari	1. Sakin 2. Pullia 3. Shahjahanpur 4. Talaur 5. Baghora 6. Bangra-Bangri
2.	Chirgaon	3. Chirgaon (TA) *		
<u>B - Garautha :</u>				
3.	Bamaur	4. Garautha Khas	4. Erich (TA) 5. Bamaur	7. Eskil-Buzurg 8. Kakarwai 9. Sarsenda 10. Tehrauli Kilan 11. Chursaiyan 12. Tori-Fatehpur 13. Pandweha 14. Markuwan 15. Simardha 16. Bijaura
4.	Gursarain	5. Gursarain (TA) *	-	
<u>C. Mauranipur :</u>				
5.	Mauranipur	6. Mauranipur *	-	17. Riwan 18. Aksewa 19. Bamhori 20. Dhawakar 21. Bhadarwara 22. Roopa Dhamna 23. Churara
6.	Bangra Dhawa	-	6. Bangra-Dhawa	24. Uldan
			7. Ranipur 8. Kattera 9. Sakrar	25. Nota 26. Magarpur
<u>D. Jhansi :</u>				
7.	Babina	7. Babina Cantt. *	10. Khailar 11. Raksa	27. Budhpura 28. Khajuraha Buzurg 29. Baidora 30. Bijauli 31. Gariha 32. Ambabei 33. Bhojela 34. Konebha Bhatwar 35. Gardhmau
8.	Baragaon	8. Jhansi * (City) 9. Barwa Sagar	12. Baragaon	

NOTE : * Shows the Urban Growth Centres.

The following tables shows the existing and proposed functions/ facilities for each of the identified central places in the district :- 108

TABLE - 7.5

EXISTING AND PROPOSED FUNCTIONS/FACILITIES OF CENTRAL PLACES

Sl. No.	Central Places	Block	Existing Functions	Proposed Functions
0	1	2	3	4
<u>A - Growth Centres:</u>				
1.	Jhansi (M.B.)	Barageon	Junior Basic School, Senior Basic School, Intermediate College, Polytechnics, Teachers Training School, Arts College, Degree College, University, Other Schools, District Hospital, Other Hospital, Dispensary, T.B. Clinic, Cinema Hall, Family Planning Centres, Drama Hall, Public Library, Post Office, Telegram Office, Post with Telephone, Railway Station, Bus Station, Police Station, Fire Station, Police Outpost, Veterinary Hospital, Cold Storage, A.I. Centres, Agricultural Credit Society, Agricultural Implement Workshop, Non-Agricultural Credit Society, Banks, Seed Distribution Centre, Fertilizer and Pesticides Depot, Private Medical Practitioner, Retail Kirana Shop, Control Cloth Shop, Restaurant, Clubs, Regulated Market, Chemist & Druggist.	Frozen Semen Centre.
2.	Mauranipur (M.B.)	Mauranipur	Junior Basic School, Senior Basic School, Higher Secondary School, Other School, Hospital/Dispensary, Primary Health Centre, Post Office, Telegraph Office, Police Station, Cinema Hall, Public Library, Railway Station, Bus Station, Police Outpost, Agriculture Credit Society, Seed Distribution Centre, Fertilizer and Pesticides Depot, Veterinary Hospital, A.I. Centre, Banks, Multipurpose Cooperative Society, Regulated Market, Retail Kirana Shop, Control Cloth Shop, Private Medical Practitioner, Agricultural Implement Shop, Chemist and Druggist.	Girl's Higher Secondary School, Inter College, Agriculture Service Centre -cum-Implements Workshop, Goat Development Centre.

0	1	2	3	4
3.	Moth	Moth	Primary Schools, Junior High School, High School, Intermediate College, Family Planning Centre, Maternity and Child Welfare Centre, Primary Health Centre, Post Office, Post Office with Telephone, Telegraph Office, Cooperative Society, Cooperative Bank, Commercial Bank, Land Development Bank, Railway Station, Bus Stop, Police Station, Seed Distribution Centre, Fertilizer & Pesticides Depot, Veterinary Hospital, A.I. Centre, Chemist & Druggist, Agricultural Implement Shop, Regulated Market, Controlled Cloth Shop, Fair Price Shop, Private Medical Practitioner, Agro Service Centre.	Government Girls High School, Ware Housing,
4.	Grautha-Khas	Bansur	Primary School, Junior High School, Intermediate College, Family Planning Centre, Maternity & Child Welfare Centre, Dispensary, Post Office, Post Office with Telephone, Telegraph Office, Multipurpose Cooperative Society, Land Development Bank, Commercial Bank, Bus Stop, Police Station, Seed Distribution Centre, Fertilizer & Pesticides Depot, Veterinary Hospital, Chemist & Druggist, Regulated Market, Private Medical Practitioner, A.I. Sub-Centre.	Agricultural Implements and Repairs Shop, Primary Health Centre.
5.	Babina	Babina	Junior Basic School, Senior Basic School, Higher Secondary School, Hospital, Primary Health Centre, Dispensary, Post Office, Telegraph Office, Multipurpose Cooperative Society, Railway Station, Bus Stop, Police Station, Bank, Retail Kirana Shop, Control Cloth Shop, Private Medical Practitioner, Chemist and Druggist, Restaurant, Clubs, Regulated Market, Cinema Hall, Seed Distribution Centre, Agriculture Implement Shop, Veterinary Hospital, A.I. Centre.	Fertilizer and Pesticides Depot, Mini-Agriculture Service Centre.
6.	Chirgaon (T.A.)	Chirgaon	Primary School, Junior High School, High School, Intermediate College, Family Planning Centre, F.H.C., Post Office, Telegraph Office, Multipurpose Cooperative Society, Cooperative Bank, Railway Station, Bus Stop, Police Station, Seed Distribution Centre, Fertilizer and Pesticides Depot, Veterinary Hospital, A.I. Centre, Chemist and Druggist, Agricultural Implement Shop, V.L.W. Training Centre, Furniture Making Unit, Oil Speller, Regulated Market, Controlled Cloth Shop, Fair Price Shop, Processing Plant of Dal, Private Medical Practitioner.	Ground Water Research Unit, Mini-Agriculture Service Centre, Goat Development, Centre.

0	1	2	3	4
7.	Santhar (T.A.)	Moth	Primary School, Junior High School, Intermediate College, Agriculture Credit Society, M.C.W. Centre, Dispensary, Family Planning Centre, Post Office, Telegraph Office, Police Station, Bus Stop, Seed Distribution Centre, Fertilizers and Pesticides Depot, Veterinary Hospitals, A.I. Centre, Bank, Multipurpose Cooperative Society, Regulated Market, Retail Kirana Shop, Controlled Cloth Shop, Agricultural Implement Shop, Chemist and Druggist.	Primary Health Centre.
8.	Gursarain	Gursarain	Junior Basic School, Senior Basic School, Intermediate College, Other School, Primary Health Centre, Dispensary, Family Planning Centre, Reading Room, Post Office, Telegraph Office, Multipurpose Cooperative Society, Bus Station, Police Station, Banks, Seed Distribution Centre, Fertilizer & Pesticides Depot, Agricultural Implement Shop, Veterinary Hospital, A.I. Centre, Regulated Market, Private Medical Practitioner, Controlled Cloth Shop, Retail Kirana Shop, Chemist and Druggist.	Agriculture Service Centre.
9.	Barwa Sagar.	Barageon	Primary School, Junior High School, High School, Intermediate College, Family Planning Sub-Centre, Maternity and Child Welfare Centre, Dispensary, Post Office, Post Office with Telephone, Telegraph Office, Multipurpose Cooperative Society, Commercial Bank, Railway Station, Bus Stop, Police Station, Seed Distribution Centre, Fertilizer & Pesticides Depot, Veterinary Hospital, A.I. Sub-Centre, Chemist & Druggist, Agricultural Implement Shop, Regulated Markets, Controlled Cloth Shop, Fair Price Shop, Private Medical Practitioner.	Cooperative Bank, Land Development Bank, Cold-Storage.
<u>B. Service Centres:</u>				
1.	Poonchh	Moth	Primary School, High School, Family Planning Centre, Maternity & Child Welfare Centre, Post Office, Multipurpose Cooperative Society, Private Bank, Commercial Bank, Bus Stop, Police Outpost, Seed Distribution Centre, Fertilizer Distribution Centre, Stockman Centre, A.I. Sub-Centre, Bi-weekly Market, Private Medical Practitioner, Private Tractor Workshop.	Dispensary.

0	1	2	3	4
2.	Baragaon	Baragaon	Primary School, Junior High School, High School, Intermediate College, Dispensary, Post Office, Service Cooperative Society, Commercial Bank, Bus Stop, Police Station, Seed Distribution Centre, Fertilizer & Pesticides Depot, Veterinary Hospital, A.I. Sub-Centre, Bi-weekly Market, Controlled Cloth Shop, Fair Price Shop, Private Medical Practitioner, Ayurvedic Hospital, Maternity-Cum-Child Welfare Centre and Family Welfare Sub-Centre.	Post Office with Telephone, Cooperative Bank.
3.	Raksa	Babina	Primary School, Junior High School, Family Planning Centre, Maternity & Child Welfare Centre, Dispensary, Post Office, Service Cooperative Society, Bus Stop, Police Station, Seed Distribution Centre, Fertilizer Distribution Centre, Controlled Cloth Shop, Fair Price Shop, Private Medical Practitioner, A.I. Sub-Centre.	High School, Public Call Office(Telephones), Commercial Bank.
4.	Bamaur	Bamaur	Primary School, Intermediate College, Family Planning Centre, Maternity and Child Welfare Centre, Primary Health Centre, Post Office, Multipurpose Cooperative Society, Veterinary Hospital, Bi-weekly Market, Commercial Bank, Cooperative Bank.	Fertilizer & Pesticides Depot, Pucca Road.
5.	Bangra	Bangra	Primary School, Junior High School, Family Planning Centre, Primary Health Centre, Post Office, Commercial Bank, Bus Stop, Seed Distribution Centre, Fertilizer & Pesticides Depot, A.I. Sub-Centre, Veterinary Hospital, Chemist & Druggist, Private Medical Practitioner.	High School, Post Office with Telephone, Cooperative Society, Cooperative Bank, Maternity-Cum-Child Welfare Centre.
6.	Erich(T.A.)	Bamaur	Primary School, Junior High School, High School, Family Planning Centre, Maternity & Child Welfare Centre, Post Office, Post Office with Telephone, Telephone Office, Commercial Bank, Bus Stop, Police Station, Seed Distribution Centre, Fertilizer & Pesticides Depot, Stockman Centre, Regulated Market, Private Medical Practitioner, A.I. Sub-Centre, Veterinary Hospital.	Intermediate College, Cooperative Society.

0	1	2	3	4
7.	Renipur	Bangra	Primary School, Junior High School, High School, Agriculture Credit Society, Post Office, Police Station, Bus Stop, Dispensary, Multipurpose Cooperative Society, Seed Distribution Centre, Regulated Market, Retail Kirana Shop, Control Cloth Shop, Private Medical Practitioner, Fertilizer & Pesticides Depot.	Intermediate College, Stockman Centre, A.I. Centre, Maternity-Cum-Child Welfare Centre.
8.	Ammargah	Chirgaon	Primary School, Junior High School, High School, Family Planning Centre, Post Office, Service Cooperative Society, Bus Stop, Seed Distribution Centre, Fertilizer & Pesticides Depot, Controlled Cloth Shop, Bi-weekly Market, Maternity-Cum-Child Welfare Centre.	Dispensary, A.I. Centre.
9.	Sekrar	Bangra	Primary School, Junior High School, High School, Family Planning Centre, Maternity and Child Welfare Centre, Dispensary, Post Office, Multipurpose Cooperative Society, Bus Stop, Seed Distribution Centre, Stockman Centre, A.I. Sub-Centre, Private Medical Practitioner, Bi-weekly Market, Controlled Cloth Shop.	Commercial Bank, Fertilizer and Pesticides Depot.
10.	Samari	Chirgaon	Primary School, Junior High School, Family Planning Centre, Maternity & Child Welfare Centre, Dispensary, Post Office, Multipurpose Cooperative Society, Bus Stop, Seed Distribution Centre, Fertilizer & Pesticides Depot, Bi-weekly Market.	High School, Stockman Centre, A.I. Sub-Centre, Primary Health Centre.
11.	Khailar	Babina	Primary School, Junior High School, Family Planning Centre, Maternity & Child Welfare Centre, Post Office, Service Cooperative Society, Commercial Bank, Bus Stop, Police Outpost, Veterinary Hospital, Bi-weekly Market, Fair Price Shop, Private Medical Practitioner, A.I. Sub-Centre.	High School, Dispensary, Cooperative Bank, Fertilizer & Pesticides Depot, Cooperative Consumer Store, Primary Health Centre.
12.	Keterra	Bangra	Primary School, Junior High School, High School, Family Planning Centre, Post Office, Police Station, Stockman Centre, Chemist & Druggist, Bi-weekly Market, Private Medical Practitioner, Maternity-Cum-Child Welfare Centre.	Intermediate College, Post Office with Telephone, Cooperative Bank, Seed Distribution Centre, A.I. Sub-Centre, Cooperative Society.

0	1	2	3	4
<u>C. Central Villages:</u>				
1.	Sakin	Moth	Primary School, Junior High School, Maternity & Child Welfare Centre, Post Office, Service Cooperative Society, Seed Distribution Centre, Stockman Centre, Chemist & Druggist, Fair Price Shop, Private Medical Practitioner, Family Planning Sub-Centre.	High School, Fertilizer & Pesticides Depot, Dispensary, A.I. Sub-Centre, Power Line.
2.	Pullia	Moth	Primary School, Family Planning Centre, Post Office, Maternity-Cum-Child Welfare Centre.	Power Line.
3.	Shahjahanpur.	Moth	Primary School, Junior High School, Maternity & Child Welfare Centre, Family Planning Centre, Dispensary, Post Office, Seed Distribution Centre, Fertilizer & Pesticides Depot, Service Cooperative Society, Stockman Centre.	Girls Junior High School, Metalled Road, A.I. Sub-Centre, Power Line.
4.	Talaur	Moth	Primary School, Junior High School, Maternity & Child Welfare Centre, Dispensary, Post Office, Service Cooperative Society, Bus Stop.	Seed Distribution Centre, Power Line, Family Planning Sub-Centre.
5.	Baghera	Chirgaon	Primary School, Junior High School, Dispensary, Bus Stop, Private Medical Practitioner.	Maternity-Cum-Child Welfare Centre, Seed Distribution Centre, Cooperative Society, Stockman Centre, A.I. Sub-Centre, Power Line.
6.	Bangra-Bangri	Chirgaon	Primary School, Maternity & Child Welfare Centre, Post Office, Bus Stop, Seed Distribution Centre, Stockman Centre, Private Medical Practitioner.	Junior High School, Cooperative Society, Power Line.
7.	Eskil Buzurg	Bamaur	Primary School, Junior High School, Post Office, Multipurpose Cooperative Society, Bus Stop, Seed Distribution Centre, Fertilizer & Pesticides Depot, Controlled Cloth Shop, Family Planning Sub-Centre.	High School, Dispensary, Maternity-Cum-Child Welfare Centre.
8.	Kakarwai	Bamaur	Primary School, Junior High School, Post Office, Police Chalki, Multipurpose Cooperative Society, Maternity-Cum-Child Welfare Centre.	Seed Distribution Centre, Dispensary, Power Line, Family Planning Sub-Centre.

0	1	2	3	4
9.	Sarsenda	Bamaur	Primary School, Junior High School, Post Office, Multipurpose Cooperative Society, Maternity-Cum-Child Welfare Centre.	Seed Distribution Centre, Power Line, Family Planning Sub-Centre.
10.	Tahrauli-killa	Gursarain	Primary School, Junior High School, High School, Post Office, Post Office with Telephone, Bus Stop, Police Station, Chemist & Druggist, Fair Price Shop, Private Medical Practitioner, Maternity-Cum-Child Welfare Centre, Dispensary.	Cooperative Society.
11.	Tori-Fatchpur	Gursarain	Primary School, Junior High School, High School, Maternity & Child Welfare Centre, Family Planning Centre, Post Office, Multipurpose Cooperative Society, Bus Stop, Police Station, Bi-weekly Market, Fair Price Shop, Private Medical Practitioner, Dispensary, Stockman Centre.	Intermediate College, Primary Health Centre, Fertilizer & Pesticides Depot, A.I. Sub-Centre .
12.	Ghursiya	Gursarain	Primary School, Junior High School, Maternity & Child Welfare Centre, Post Office, Multipurpose Cooperative Society, Bus Stop, Bi-weekly Market, Private Medical Practitioner.	Seed Distribution Centre, Power Line.
13.	Pandwaha	Gursarain	Primary School, Junior High School, Maternity & Child Welfare Centre, Dispensary, Post Office, Multipurpose Cooperative Society, Bus Stop, Seed Distribution Centre.	High School Fertilizer and Pesticides Depot.
14.	Markuwan	Gursarain	Primary School, Junior High School, Maternity & Child Welfare Centre, Post Office, Multipurpose Cooperative Society, Bus Stop, Seed Distribution Centre, Fertilizer & Pesticides Depot, Stockman Centre, Bi-weekly Market, Controlled Cloth Shop, Fair Price Shop, Family Planning Sub-Centre.	High School, Dispensary, Power Line.
15.	Simardha	Gursarain	Primary School, Junior High School, Maternity & Child Welfare Centre, Dispensary, Post Office.	High School, Seed Distribution Centre, Family Planning Sub-Centre.
16.	Bijaura	Gursarain	Primary School, Junior High School, Post Office, Stockman Centre, Private Medical Practitioner.	Power Line, Maternity-Cum-Child Welfare Centre.

0	1	23	3	4
17.	Rewan	Mauranipur	Primary School, Junior High School, Maternity & Child Welfare Centre, Family Planning Centre, Post Office, Bus Stop, Private Medical Practitioner, Multipurpose Cooperative Society.	Seed Distribution Centre, Primary Health Centre.
18.	Aksewa	Mauranipur	Primary School, Junior High School, Maternity & Child Welfare Centre, Dispensary, Post Office, Stockman Centre, Multipurpose Cooperative Society.	Seed Distribution Centre.
19.	Bamhori	Mauranipur	Primary School, Junior High School, Family Planning Centre, Maternity and Child Welfare Centre, Bus Stop, Bi-weekly Market.	Post Office, Seed Distribution Centre, Stockman Centre, A.I. Sub-Centre, Dispensary, Cooperative Society.
20.	Dhawakar	Mauranipur	Primary School, Junior High School, Post Office, Bus Stop, Private Medical Practitioner, Family Planning Centre, Maternity & Child Welfare Centre.	Cooperative Society, Seed Distribution Centre, A.I. Sub-Centre.
21.	Bhadarwara Khurd	Mauranipur	Primary School, Junior High School, Post Office, Bus Stop, Maternity-Cum-Child Welfare Centre.	Family Planning Sub-Centre.
22.	Roopa Dhamna	Mauranipur	Primary School, Junior High School, Family Planning Centre, Maternity and Child Welfare Centre, Post Office, Stockman Centre, A.I. Sub-Centre, Private Medical Practitioner.	Fertilizer & Pesticides Depot, High School.
23.	Churara	Mauranipur	Primary School, Junior High School, Family Planning Centre, Maternity & Child Welfare Centre, Post Office, Bus Stop, Bi-weekly Market, Controlled Cloth Shop, Private Medical Practitioner.	Dispensary, High School, A.I. Sub-Centre, Stockman Centre, Fertilizer and Pesticides Depot, Cooperative Society, Power Line.
24.	Uldan	Bangra	Primary School, Junior High School, High School, Family Planning Centre, Maternity and Child Welfare Centre, Post Office, Multipurpose Cooperative Society, Police Station, Bi-weekly Market, Dispensary, Bus Stop.	Fertilizer & Pesticides Depot, Stockman Centre-cum-A.I. Sub-Centre.
25.	Nota	Bangra	Primary School, Junior High School, Post Office, Multipurpose Cooperative Society, Bi-weekly Market, Dispensary.	High School, Fertilizer and Pesticides Depot, Family Planning Sub-Centre, Maternity-Cum-Child W.C.

0	1	2	3	4
26. Magarpur	Bangra	Primary School, Junior, High School, Maternity & Child Welfare Centre, Dispensary, Post Office, Multipurpose Cooperative Society, Weekly Market; Private Medical Practitioner, Family Planning Sub-Centre.	High School, Fertilizer & Pesticides Depot, A.I. Sub-Centre, Power Line.	
27. Budhpura	Babina	Primary School, Post Office, Railway Station.	Junior High School, Dispensary, Maternity-Cum-Child Welfare Centre, Cooperative Society, Power Line.	
28. Khajuraha Buzurg	Babina	Primary School, Junior High School, Post Office, Railway Station, Maternity-Cum-Child Welfare Centre.	Dispensary, Cooperative Society, Seed Distribution Centre, Power Line.	
29. Baidora	Babina	Primary School, Junior High School, Maternity & Child Welfare Centre, Post Office, Service Cooperative Society, Police Outpost, Stockman Centre, Fair Price Shop.	Seed Distribution Centre, Dispensary, A.I. Sub-Centre, Family Planning Sub-Centre.	
30. Bijauli	Babina	Primary School, Junior High School, Post Office, Railway Station, Bus Stop, Fair Price Shop, Private Medical Practitioner.	Dispensary, Maternity-cum-Child Welfare Sub-Centre, Cooperative Society.	
31. Garhia	Babina	Primary School, Family Planning Centre, Post Office, Private Medical Practitioner.	Junior High School, Maternity-Cum-Child Welfare Sub-Centre, Cooperative Society.	
32. Ambabai	Baragaon	Primary School, Junior High School, Post Office, Multipurpose Cooperative Society, Bus Stop, Police Chauki, Stockman Centre, Fair Price Shop, Private Medical Practitioner, Homeopathic Dispensary, Family Planning Sub-Centre.	High School, Dispensary, Fertilizer & Pesticides Depot, Power Line, Maternity-Cum-Child Welfare Centre.	

0	1	2	3	4
33. Bhojela	Baragaon	Primary School, Multipurpose Cooperative Society, Stockman Centre.	Junior High School, Maternity-Cum-Child Welfare Centre, Sub-Post Office, Seed Distribution Centre, Dispensary.	
34. Knochha-Bhanwar.	Baragaon	Primary School, Junior High School, Post Office, Multipurpose Cooperative Society, Bus Stop, Fair Price Shop, Private Medical Practitioner, Primary Health Centre, Dispensary, Family Planning Centre, Maternity Cum-Child Welfare Centre.	Seed Distribution Centre, Stockman Centre, A.I. Sub-Centre.	
35. Gardhmau	Baragaon	Primary School, Post Office, Railway Station.	Junior High School, Maternity-Cum-Child Welfare Centre, Cooperative Society, Seed Distribution Centre, Metalled Road, Power Line.	

CHAPTER - VIII

PROPOSED PROGRAMMES

Prior to recommendations of proposed programmes, it would be worthwhile to mention at the outset that proposals for development programmes have been given for the period of next five years, i.e., 1980--85. The present plan suggests ways and means of developing resource potentials of the district and optimal method of sub-regional inter-linkages and disposal of benefits of development in a decentralised manner. Moreover, the present plan also envisages functional integration of various development sectors, such as agriculture, irrigation, cooperatives, industries, etc. on the plea that change in one sector brings about a change in other sectors and there is concomitant change throughout the whole nexus. Lastly, the central places in terms of growth centres, service centres and central villages, which have already been identified in chapter - VII of this report, are considered as suitable locations for creation of socio-economic infrastructure and decentralised developmental activities. Considering these aspects into the present context, efforts have been made here to propose programmes for different sectors of the economy:-

8.1 Agriculture :

As stated earlier, agriculture is the main stay of population and about 85 per cent population of the district earns its livelihood through this occupation only. But agricultural productivity in terms of yield per hectare of important crops in the district is extremely low, mainly due to lack of irrigation facilities, low level of fertilizer consumption, lack of proper arrangements for credit facilities and inferior crop management. Consequently, it has not been possible to translate into action the modern agricultural technologies, specially in adopting a new cropping pattern and proper crop rotations. On the other hand, because the district is sparsely populated and average size of land holding is comparatively high, the total production of foodgrains is sufficient to meet its requirements for the existing population of the district. But, while suggesting any programme for agricultural development of Jhansi district, an emphasis would be laid on the production of both the foodgrain and cash/commercial crops.

8.1.1 Land Use Pattern:

At present, there is a sizable percentage of culturable waste and fallow land to the total reporting area in Gursarain, Bangra, Mauranipur, Babina and Baragaon blocks of the district. Such lands which are lying as unproductive can be utilised by launching a programme of soil conservation. It is expected that an additional area of 5,000 hectares would be brought under cultivation through application of soil conservation measures during the period of next five years. In view of this, the land use pattern which is recommended for enforcement in different blocks of the district during the next plan is given in table 8.1.

As a result of the proposed land use pattern it would be possible to increase the net area sown from 3.04 lakh ha. to 3.09 lakh ha. Simultaneously, the land which is, at present, lying idle as culturable waste and fallow would reduce to 0.75 lakh ha. and 0.30 lakh ha. respectively.

8.1.2 Crop Rotations:

At present, single cropping is commonly in vogue in almost all the blocks of Jhansi district excepting Baragaon and Babina where intensity of cropping is 110.5 per cent and 134.7 per cent respectively. The leading major crop of Kharif season is Jowar and after its harvest, no other crop is grown in such fields. On the contrary, in case of Baragaon and Babina blocks, after harvest of paddy crop, wheat or gram is sown in the Rabi season. With the increase in irrigation potential, it is expected that area under paddy, wheat and oil-seeds would increase significantly and the intensity of cropping, which is, at present, 105 per cent, would attain the level of 114 per cent. For this purpose, it would be necessary to bring about a significant improvement in the area sown more than once. With this objective in view, the following crop rotations are recommended for adoption in different blocks during the next five years :-

- (i) Early paddy followed by wheat with mustard;
- (ii) Maize followed by wheat with mustard;
- (iii) Jowar followed by gram with rapeseed or mustard;
- (iv) Toria followed by Sugarcane;

TABLE - 8.1

PROPOSED LAND USE PATTERN FOR THE PERIOD OF 1980--85.

(Area in ha.)

Sl. No.	Items	Chirgaon	Moth	Gursarain	Bamaur	Mauranipur	Bengra	Baragaon	Babina	District
0	1.	2	3	4	5	6	7	8	9	10
1.	Reporting area	53771	66626	74382	82790	55357	54436	47242	71708	506312
2.	Forest	5141	4136	3487	10229	264	2935	221	6162	32557
3.	Culturable Waste	2869	3343	6571	5190	4521	5629	14269	32608	75000
4.	Fallow	1592	2622	3858	6792	4051	4346	2664	4475	30400
5.	Barren and unculturable land	1352	873	2754	5296	1710	2718	2752	7544	25000
6.	Land under non-agricultural uses	5979	1384	3946	4946	2772	4540	4438	2995	31000
7.	Pastures	17	9	164	181	-	120	64	445	1000
8.	Area under orchard, misc. tree crops	264	165	132	181	146	600	162	750	2400
9.	Net area sown	39148	52445	53760	50075	42133	34370	22092	14877	308900
10.	Area sown more than once.	4607	3884	5714	5134	7316	6105	3600	7246	43606
11.	Gross cropped area	43755	56329	59474	55209	49449	40475	25692	22123	352506
12.	Cropping intensity	111.77	107.41	110.63	110.25	117.36	117.76	116.30	148.71	114.12

- (v) Ginger followed by wheat with mustard;
- (vi) Maize followed by gram with rapeseed;
- (vii) Maize, followed by potato and M.P. Chari;
- (viii) Maize followed by Berseem and M.P. Chari;
- (ix) Ground nut followed by wheat; and
- (x) Moong followed by soyabean and wheat.

In unirrigated areas where water content of soil during the months of September to November is low and irrigation facilities can not be provided, attempts will be made to cultivate fodder crops in Kharif followed by wheat in Rabi. Areas where no crop is grown during Kharif, cultivators will be persuaded to grow fodder crops during Kharif to be followed by Barley in Rabi. Moreover, potato is grown in selected pockets of Babina, Mauranipur and Baragaon blocks and no other crops are raised on such lands. It would be desirable if crop rotations like 'Maize followed by potato' or 'ginger followed by wheat' are practised by the farmers in these areas.

8.1.3 Area Under Different Crops:

In the initial stages, efforts will be made to bring the maximum possible area under foodgrain crops. However, the long-term strategy would be to increase the area under cash and commercial crops in order to make the farming more remunerative. Hence, the targets for coverage of area under foodgrain and cash/commercial crops proposed for the Jhansi district during the period of next five years would be as follows:-

TABLE - 8.2
TARGETS FOR COVERAGE OF AREA UNDER FOODGRAIN AND CASH CROPS

Sl. No.	Crops	(Area in ha.)	
		Base year(1976-77)	1984-85
0	1	2	3
<u>A - Kharif:</u>			
1.	Paddy	4724 (1.54)	9002 (2.55)
2.	Maize	3912 (1.27)	6300 (1.79)
3.	Jowar	64967 (21.12)	69967 (19.85)
4.	Bajra	164 (0.05)	184 (0.05)

0	1	2	3
5. Urd		1879 (0.61)	2079 (0.59)
6. Moong		1850 (0.60)	2100 (0.60)
7. Sugarcane		167 (0.05)	217 (0.06)
8. Arhar		19609 (6.37)	20609 (5.85)
9. Oilseeds		4119 (1.34)	4819 (1.37)
10. Others		1915 (0.62)	1815 (0.51)
TOTAL : A		103306 (33.57)	117092 (33.22)
B - Rabi :			
11. Wheat		96546 (31.38)	110437 (31.33)
12. Barley		2694 (0.88)	2994 (0.85)
13. Gram		92114 (29.94)	100964 (28.64)
14. Pea		821 (0.27)	1321 (0.38)
15. Masoor		9626 (3.13)	10026 (2.84)
16. Oilseeds		1885 (0.61)	6485 (1.84)
17. Potato		466 (0.15)	2816 (0.80)
18. Others		209 (0.07)	295 (0.08)
TOTAL : B		204361 (66.43)	235338 (66.76)
C - Zaid :			
19. Zaid Crops		6 (0.00)	76 (0.02)
TOTAL : C		6 (0.00)	76 (0.02)
Gross Cropped Area (A + B + C)		307673 (100.00)	352506 (100.00)

NOTE : Figures given in the parentheses denote percentages to gross cropped area.

It is clear from the above table that the gross cropped area, which is 3.08 lakh ha. in the base year, will increase to 3.53 lakh ha. at the end of 1984-85. Moreover, against the proposed gross cropped area, the percentage of area covered under different crops during Kharif, Rabi and Zaid would become 33.22, 66.76 and 0.02 respectively. Blockwise details of the area under different crops proposed for the district during the period of next five years are given in appendix - 1 .

8.1.4 High Yielding Varieties :

Adoption of high yielding varieties has not percolated to any appreciable extent in different blocks of Jhansi district owing mainly to lack of irrigation facilities and communication and motivation gaps. However, considering the provisions of proposed irrigation facilities and supplies of additional agricultural inputs, it is expected that area under high yielding varieties of paddy and wheat would undoubtedly increase atleast in the blocks where conditions are favourable and assured means of irrigation are likely to become available. In view of this, the blockwise targets for coverage of area under high yielding varieties of Paddy, Maize, Jowar and wheat are proposed as follows:-

TABLE - 8.3
BLOCKWISE TARGETS FOR COVERAGE OF ADDITIONAL AREA UNDER HIGH
YIELDING VARIETIES

Sl. No.	Block	High Yielding Varieties of				Total
		Paddy	Maize	Jowar	Wheat	
0	1	2	3	4	5	6
1.	Chirgaon	250	30	1300	2000	3580
2.	Moth	500	30	1200	3000	4730
3.	Gursarain	20	30	2000	5000	7050
4.	Bamaur	15	40	1900	3000	4955
5.	Mauranipur	1300	200	1500	9000	12000
6.	Bangra	665	100	1500	3000	5265
7.	Baragaon	700	70	500	2000	3270
8.	Babina	550	500	100	3000	4150
DISTRICT :		4000	1000	10000	30000	45000

Thus, the area under high yielding varieties, which was 32,481 ha. in 1976-77, is expected to achieve the level of 77,481 ha. at the end of 1984-85.

8.1.5 Requirement of Seeds and Fertilizers for the Proposed Area of High Yielding Varieties:

According to the package of practices, the seed rates prescribed for high yielding varieties of paddy, maize, jowar and wheat per ha. are 18 kg., 15 kg., 6 kg., and 100 kg. respectively. On the other hand, the requirements of fertilizers per ha. for high yielding varieties of paddy, maize and wheat are 80 kg. N₂, 40 kg. P₂O₅ and 40 kg. K₂O. Whereas, for jowar the corresponding rates are 60 kg. N₂, 30 kg. P₂O₅ and 20 kg. K₂O. The total requirement of seeds and fertilizers for the proposed area under high yielding varieties along with their financial outlays are given in following table :-

TABLE - 8.4

REQUIREMENT OF SEEDS FOR COVERAGE OF AREA UNDER HIGH YIELDING VARIETIES AND ITS COST.

Sl. No.	Crop	Requirement of Seed (in MT)	Estimated cost (in Rs. lakh)	Subsidy Component (in Rs. Lakh)
0	1	2	3	4
1.	Paddy	72.00	2.88	0.96
2.	Maize	15.00	0.75	0.25
3.	Jowar	60.00	3.00	1.00
4.	Wheat	3000.00	75.00	25.00
	TOTAL	3147.00	81.63	27.21

TABLE 1 8.5

REQUIREMENT OF FERTILIZERS FOR COVERAGE OF ADDITIONAL AREA UNDER HIGH YIELDING VARIETIES AND THEIR ESTIMATED COSTS.

Sl. No.	High Yielding Variety	Quantity of fertilizers (in MT)				Cost of Fertilizers (in Rs. Lakh)	
		Nitrogenous	Phosph-atic	Pota-ssic	Total	Total	Subsidy Component
0	1	2	3	4	5	6	7
1.	Paddy	320.0	160.0	160.0	640.0	18.24	6.08
2.	Maize	80.0	40.0	40.0	160.0	4.56	1.52
3.	Jowar	600.0	300.0	200.0	1100.0	32.70	10.90
4.	Wheat	2400.0	1200.0	1200.0	4800.0	136.80	45.60
	TOTAL	3400.0	1700.0	1600.0	6700.0	192.30	64.10

About 80 per cent of the farmers of the district come under the category of small and marginal farmers and their overall economy is at subsistence level. It would be difficult for them to afford such costly farm inputs. In order, therefore, to carry out this programme successfully, it would be essential to provide some special incentives to these farmers for adoption of H.Y.V. programme. For this purpose, it is proposed to provide subsidy on the cost of H.Y.V. seeds and fertilizers to these farmers on the pattern of Small Farmers Development Agency. Thus, out of the total outlay of Rs. 273.93 lakh required for the purchase of seeds and fertilizers, an amount of Rs. 91.31 lakh would be provided to the farmers in the shape of subsidy from the State sector and the remaining Rs. 182.62 lakh would be arranged through the institutional finance.

8.1.6 Plant Protection Programme:

With the adoption of high yielding varieties in different blocks of the district, plant protection measures would require to be considerably strengthened because these varieties are susceptible to several plant diseases and pests. Hence, for the proposed area to be brought under the H.Y.V. programme, the requirements of fungicides/pesticides/insecticides have been worked out according to the prescribed norms of Agriculture Department. The targets for coverage of area under plant protection measures, requirements of insecticides/pesticides and their estimated costs are given in the following table :-

TABLE - 8.6
COVERAGE OF AREA UNDER PLANT PROTECTION PROGRAMME

Sl. No.	Item	Area (in '000 ha.)	Requirement of chemicals (in M.T.)	Estimated cost (in Rs.lakh)	Subsidy Component (in Rs.lakh)
0	1	2	3	4	5
1.	Soil treatment	5.25	157.500	4.73	1.58
2.	Seed treatment	45.00	1.575	3.62	1.21
3.	Weed control	1.05	1.050	0.37	0.12
4.	<u>Pests and Diseases:</u>				
	(a) <u>Pests control</u>				
	(i) 75% area by EC (litres)	3.75	3.750	0.75	0.25
	(ii) 25% area by B.H.C.	1.25	31.250	0.31	0.10
	(b) Diseases	5.00	10.000	1.20	0.40
	TOTAL	-	-	10.98	3.66

NOTE : B.H.C.(10%) dust @ 30 kg. per ha. or Aldrin (5%) dust @ 30 kg. per ha. for soil treatment, organomercurial(1%) dust @ one kg. per 320 kg. Seed for seed treatment, 2, 4-D @ one kg. per ha. for weed control, under pests control 50% of the area, out of which 75% area by EC @ one litre per ha. and 25% area by B.H.C.(10% dust) and remaining 50% of the area under disease control by fungicides @ 2 kg. per ha. would be required.

The total outlay required for carrying out the above proposed plant protection operations in the district for the next Five Years is estimated to be Rs. 10.98 lakh out of which 33.33 per cent will be given to farmers in the shape of subsidy and remaining 66.67 per cent will be arranged through the institutional finance.

8.1.7 Distribution of Agricultural Implements:

At present, farmers of the district, in general, are not using improved agricultural implements and the use of such implements is confined to progressive farmers only. In order, therefore, to popularise the distribution of improved implements in the district, it would be necessary to provide these implements to the small and marginal farmers

on the subsidised rates. The implements, which are proposed to be distributed among the farmers in different parts of the district, include the Soil-Inverting Steel ploughs, Cultivators, Olpad threshers, Singh Winnowing Fans, Power Threshers, Tractors, etc. The physical targets proposed for this purpose, are given in the following table:-

TABLE - 8.7
TARGET FOR DISTRIBUTION OF AGRICULTURAL IMPLEMENTS

Sl. No.	Agricultural Implements	Number	Outlay (in Rs. lakh)
0	1	2	3
1.	Soil Turning Ploughs (Bullock driven)	7450	3.35
2.	Cultivators(3 tined)	2500	2.25
3.	Olpad threshers (20 disc)	1850	11.10
4.	Winnowing fans	1850	5.55
5.	Power threshers	1850	42.55
6.	Tractors	350	217.00
	TOTAL	15850	281.80

An outlay required to purchase the above mentioned agricultural implements is estimated to be Rs. 281.80 lakh, out of which Rs. 259.55 lakh will be needed for purchase of Tractors and Power threshers. The remaining Rs. 22.25 lakh will be needed for the purchase of improved agricultural implements, mentioned against Sl.Nos. 1 to 4 in the above table. Since these agricultural implements will be used by the small and marginal farmers also, it is proposed to provide one third subsidy on the cost of these implements and the rest of the outlay will be arranged through the institutional finance. In case of Tractors and Power threshers, 75% of the total outlay will be arranged through the institutional finance and the remaining 25% will be borne by the farmers participating in the programme.

8.1.8 Agricultural Demonstrations in the Field:

Layout of field demonstrations is Sino-qua-non for mass publicity of high yielding varieties in different blocks of the district. These

demonstrations are also necessary for enhancing the knowledge of farmers about the package of improved practices. In view of this, it is proposed to layout 200 field demonstrations of paddy, 50 of maize, 200 of Jowar and 500 of Wheat in the district during the period of next five years. The block-wise break-up of these demonstrations is given in the table below:-

TABLE - 8.8
BLOCKWISE NUMBER OF FIELD DEMONSTRATIONS TO BE LAID OUT

Sl. No.	Block	Field demonstrations of			
		Paddy	Maize	Jowar	Wheat
0	1	2	3	4	5
1.	Chirgaon	16	3	25	40
2.	Moth	24	3	25	60
3.	Gursarain	10	3	40	70
4.	Banaur	10	5	35	60
5.	Mauranipur	60	8	30	100
6.	Bangra	20	10	30	60
7.	Baragaon	30	6	10	50
8.	Babina	30	12	5	60
	TOTAL	200	50	200	500

Requirements of agricultural inputs for carrying out the proposed programme of field demonstrations in different blocks of the district are shown in the table - 8.9.

The size of each demonstration plot will be 0.4 hectares. Visualizing the economic position of small and marginal farmers of the area, it is apprehended that farmers in general, will not easily agree to layout these demonstrations unless they are provided with some special incentives. It is, therefore, felt necessary to provide one third subsidy on the total cost of seeds, fertilizers and pesticides to be used by the farmers in laying out these demonstration.

TABLE - 8.9

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REQUIREMENTS OF AGRICULTURAL INPUTS FOR FIELD DEMONSTRATIONS

Sl. No.	Crop	No. of demonstration	Quantity to be used per demonstration (in kg.)					Cost per demonstration (in Rs.)				Total cost of demonstration (in Rs.lakh)	Subsidy Component (in Rs.lakh)
			Seed	N	P	K	Pesticides	Seed	Ferti-lizers	Pesti-cides	Total		
0	1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Paddy	200	8	48	24	24	26.125	24	274	71	369	0.74	0.25
2.	Maize	50	6	48	24	24	26.125	15	274	71	360	0.18	0.06
3.	Jowar	200	2.5	35	16	16	26.125	5	192	71	268	0.54	0.18
4.	Wheat	500	40	48	24	24	26.125	100	274	71	445	2.26	0.75
TOTAL											3.72	1.24	

NOTE : The per demonstration requirement of pesticides comprises 125 gm. of organomercurial dust for seed treatment, 14 kg. of Aldrin (5% dust) for soil treatment and 12 kg. of B.H.C. (10% dust) for destruction of harmful insects.

The cost per demonstration of wheat, paddy, maize and jowar is calculated at Rs. 445, Rs.369, Rs.360 and Rs.268 respectively. Thus, the total outlay required for laying out the proposed number of demonstrations comes to Rs. 3.72 lakh, out of which Rs. 1.24 lakh will be given to the farmers as subsidy from the State sector and the rest Rs. 2.48 lakh would be met through the contributions from the side of concerning farmers.

8.1.9 Establishment of Agricultural Seed and Fertilizer Stores:

The existing number of agricultural seed stores in different blocks of the district is quite inadequate to ensure the timely supply of agricultural inputs to the farmers particularly those belonging to the interior pockets of different blocks. With a view to increasing intensity of cropping, augmenting yield per ha. of different crops and extending the area under high yielding varieties, it would be necessary to establish, in all, 16 new agricultural seed and fertilizer stores in the district during the period of next five years. Blockwise locations of the proposed agricultural seed stores is given in the following table :-

TABLE - 8.10

BLOCKWISE LOCATIONS OF THE PROPOSED AGRICULTURAL SEED STORES

Sl. No.	Block	Locations for proposed Agricultural Seed Stores.
0	1	2
1.	Chirgaon	1. Baghera
2.	Moth	1. Talaur
3.	Gursarain	1. Ghurdiya, 2. Simardha.
4.	Banaur	1. Kakarwai, 2. Sarsenda.
5.	Mauranipur	1. Rewan, 2. Aksewa, 3. Bamhori, 4. Dhawakar,
6.	Bangra	1. Katterra.
7.	Baragaon	1. Bhozela, 2. Konchha-Bhanwar, 3. Gardhmau.
8.	Babina	1. Khajuraha buzurg, 2. Baidora.

The total outlay required for establishing the above mentioned seed and fertilizer stores is estimated to be Rs. 8.00 lakh at the rate of Rs. 0.50 lakh per store.

8.1.10 Establishment of Agriculture Service Centres:

As stated earlier, average size of land holdings in Jhansi district is comparatively large and big farmers have already started using tractors, threshers, etc. But these farmers have to face lot of difficulties in getting their agricultural implements repaired in time because of the non-availability of agricultural repairs workshops in the neighbourhood of their villages. Secondly, small and marginal farmers, who can not afford to buy agricultural implements involving large amount of investment, fail to get benefits of mechanisation. In view of these considerations, it is proposed to establish four Agriculture Service Centres one each at Chirgaon, Gursarain, Babina and Mauranipur blocks during the period of next five years. The main functions of these service centres would be as follows:-

1. Mini Agriculture Service Centre - Chirgaon:

Hiring of agricultural implements and their repairs, selling of spare parts and repairs of pumping sets.

2. Agriculture Service Centre - Gursarain:

Hiring of agricultural implements including tractors, repairs of pumping sets, tractors and plant protection equipments, selling of spare parts, etc.

3. Mini Agriculture Service Centre - Babina:

Hiring of agricultural implements, repairs of agricultural implements and pumping sets and selling of spare parts.

4. Agriculture Service Centre-cum-Implements Workshop - Mauranipur:

Hiring of tractors and other agricultural implements, manufacturing and selling of agricultural implements, repairs of agricultural implements, pumping sets, tractors and plant protection equipments, sales of spare parts, etc.

The details of agricultural implements which are proposed to be made available at these centres are given in the following table :-

TABLE - 8.11
PROVISION FOR AGRICULTURAL IMPLEMENTS AT AGRICULTURE SERVICE

Sl. No.	Equipments	<u>CENTRES.</u>			
		(Number)			
		Agriculture Service Centre at			
		Chirgaon	Gursarain	Babina	Mauranipur
0	1	2	3	4	5
<u>A - Equipments Operated by Bullocks:</u>					
(i)	Seed-cum-fertilizer drill	5	5	5	5
(ii)	Alpad Thresher	5	5	5	5
(iii)	Tiphora	5	5	5	5
(iv)	Levelling implements	3	3	3	3
(v)	Welding machines	1	1	1	1
<u>B - Tractors :</u>			1		1
<u>C - Equipments Operated by Tractors:</u>					
(i)	Nine tyre tilled		1		1
(ii)	10 disc Harrow		1		1
(iii)	Trolley (3 Tonne)		1		1
(iv)	Power Thresher(20 H.P.)		1		1
(v)	Levelling plank 7 ft.		1		1
(vi)	Seed-cum-fertilizer drill		1		1
<u>D - Machines for Manufacturing of Agricultural Implements:</u>					
(i)	Lathe machine				1
(ii)	Grinder				1
(iii)	Drill machine				1
(iv)	Electric motor				1

In addition, Hammers, Anvils and some other small tools will also be provided at each centre.

The total outlay required for establishing the above mentioned centres is estimated to be Rs. 26.31 lakh, centre wise details of which are given below:-

TABLE - 8.12
CENTREWISE REQUIREMENTS OF FINANCIAL OUTLAYS

(in lakh Rs.)						
Sl. No.	Items	Chirgaon	Gursarain	Babina	Mauranipur	Total
0	1	2	3	4	5	6
1.	Land and Building	0.84	1.42	0.82	1.32	4.40
2.	Cost of Implements	0.42	4.78	0.45	4.55	10.20
3.	Contingency	0.10	0.25	0.10	0.25	0.70
4.	Salaries and Wages	0.70	1.58	0.69	1.58	4.55
5.	Insurance and other taxes (3% capital cost)	0.03	0.17	0.03	0.17	0.40
6.	Other expenses Water and Electricity.	0.06	0.24	0.06	0.24	0.60
7.	Repairing and maintenance	0.11	0.40	0.12	0.41	1.04
8.	Depreciation cost @ 10% of Capital Cost	0.14	0.57	0.14	0.57	1.42
9.	Cost of Diesel	-	0.72	-	0.72	1.44
10.	Cost of Lubricants	-	0.18	-	0.18	0.36
11.	Raw material	-	0.60	-	0.60	1.20
	TOTAL	2.40	10.91	2.41	10.59	26.31

8.1.11 Soil Conservation:

Soil erosion is one of the important causes for the low productivity in agriculture of the district, which is suffering from progressive deterioration of soil due to it. It would, therefore, be difficult to maintain even the present yield per ha. if soil conservation measures are not taken up expeditiously. As a matter of fact the district is situated in the plateau region of the State and the flow of rivers is towards north-east. During the rainy season, the rivers flow in a zig-zag manner which result in heavy soil erosion of the surrounding areas. According to soil conservation wing of the

Agriculture Department, about 50 per cent of the agricultural land in the district is already affected by this problem. Considering the seriousness of the situation, it is proposed to carry out a survey work in 7500 ha. of land and bring about 5000 ha. of land under cultivation through the soil conservation measures to be adopted in the district during the next five years. Formerly, two soil conservation units one each at Jhansi and Mauranipur were functioning in the district. At present only Jhansi units is functioning and the unit located at Mauranipur has been closed due to administrative reasons. In order, therefore, to take-up soil conservation programme on extensive basis it would be necessary to revive the closed unit as soon as possible.

An outlay required for carrying out the proposed soil conservation programme in the district during next plan is estimated to be Rs.50.00 lakh @ Rs. 1,000 per ha.

8.1.12 Irrigation:

In any strategy of agricultural development, irrigation requires to be assigned the highest priority. This is mainly because irrigation being one of the most important agricultural inputs encourages cultivation of high yielding varieties and helps in increasing the intensity of cropping as well as productivity of different crops. Creation of additional irrigation potential in a particular area depends mainly upon the availability of ground water resources. Therefore, in the present context efforts have been made to explore the possibilities of creation of additional irrigation works by assessing the availability of ground water resources in the district, the details of which are given in the following table:-

TABLE - 8.13
BLOCKWISE AVAILABILITY OF GROUND WATER RESOURCES AS ON 31-3-79
IN THE DISTRICT

Sl. No.	Block	Total annual recharge	Total draft	(Hectare meter)
				Balance available for further utilisation
0	1	2	3	4
1.	Chirgaon	5889.57	3126.03	2793.54
2.	Moth	3113.49	1355.84	6757.65
3.	Gursarain	7532.75	1141.89	6390.86
4.	Bamaur	5010.18	970.87	4108.31
5.	Mauranipur	4598.72	3217.98	1380.74
6.	Bangra	6546.34	3433.27	3118.07
7.	Babina	9753.08	4804.03	5140.00
8.	Baragaon	6457.21	4213.97	2243.24
DISTRICT		54010.29	22073.88	31936.41

It is derived from the above table that out of the total annual recharge of about 54 thousand hectare metres available in the district, 40.87 per cent are already being drafted and the remaining 59.13 per cent are still available for creation of additional irrigation potential.

As stated earlier, the total irrigation potential available in the district through different sources of irrigation during 1976-77 was 128228 ha., out of which 85079 ha. (i.e., 66.35 per cent) was through canals and 43149 ha. (i.e., 33.65 per cent) by minor irrigation works. In regard to utilisation of irrigation potential in the district during the year 1976-77, it could be achieved upto 59.79 per cent only since the remaining 40.21 per cent of its potential could not be utilised in view of an acute shortage of power for running the private tube-wells and pumping sets.

The programmes proposed for creation of additional irrigation potential in the district during the period of next five years include both the major/medium and minor irrigation works. Regarding the former, it is proposed to create an additional irrigation potential of 28223 ha. through completion of new irrigation projects involving construction of new channels, remodelling and extension of the existing ones etc. Project-wise details of physical targets and financial outlays required for completion of the proposed irrigation projects are given in the following table :-

TABLE - 8.14

PROPOSALS FOR MAJOR/MEDIUM IRRIGATION PROJECTS

Sl. No.	Name of Project	Length of new canals to be constructed (Km.)	Total C.C.A. (ha.)	Irrigation Potential (ha.)			Estimated cost (in Rs. lakh)
				Existing System	Addition- al System	Total	
0	1	2	3	4	5	6	7
1. <u>Rajghat Project :</u>							
(a)	Betwa canal project.	90.08	61419	18653	13285	31938	90.00
(b)	Gursarain canal project	76.80	45806	13697	11038	24735	42.00
(c)	Barageon pump canal project	8.00	5891	-	2925	2925	91.07
2. Dongri Dam project		-	-	-	975	975	117.30
TOTAL		174.88	113116	32350	28223	60573	340.37

Under the minor irrigation programme, it is proposed to create an additional irrigation potential of 42,550 ha. through the construction of masonry wells, private tube-wells, bundhis and other minor irrigation works in the district during the plan period. There is also some possibility of an additional increase in the irrigation potential with the construction of new tube-wells, provided some heavy Rig machines are made available. Besides, if six blasting units are sanctioned by the State Government, an increase of 25 per cent in the additional irrigation potential can be expected by sinking new masonry wells. Blockwise targets proposed for different minor irrigation works during the plan period are given in the following table :-

TABLE - 8.15

PHYSICAL TARGETS PROPOSED FOR MINOR IRRIGATION WORKS

Sl. No.	Block	(Number)							
		New Masonry wells	Persian wheels	Ground level pumping sets	Pump-Tube- ing wells sets with borings	Borings	Bandhis (ha.)	Irrigation potential likely to be created by different sources (ha.)	
0	1	2	3	4	5	6	7	8	9
1.	Chirgaon	400	100	150	125	30	150	2500	4100.00
2.	Moth	900	100	150	250	30	250	2000	4775.00
3.	Gursarain	600	400	800	125	10	150	2000	5150.00
4.	Bamaur	400	100	150	125	10	150	3500	5000.00
5.	Mauranipur	200	600	1200	100	20	125	2500	6062.50
6.	Bangra	400	300	500	25	-	25	5000	6687.50
7.	Babina	400	300	400	25	-	25	5000	6487.50
8.	Baragaon	300	100	150	25	-	25	3500	4287.50
TOTAL		3600 (3600)	2000 (1000)	3500 (7000)	800 (4000)	100 (500)	900 (450)	26000 (26000)	42550.00

NOTE : Figures given in parentheses indicate the total Irrigation Potential in ha. likely to be created by different sources at the district level.

Thus, it would be possible to create additional irrigation potential of 42,550 ha. through the above proposed minor irrigation works in the district by the end of 1984-85. This would help to meet the requirements of assured irrigation for the area proposed under high yielding varieties, enhance intensity of cropping and augment productivity of different crops. Moreover, the total additional irrigation potential likely to be created in the district through the proposed major/medium and minor irrigation works would be 70,773 ha.

The financial outlay required for creation of additional irrigation potential through proposed minor irrigation works in different blocks of the district are given in the following table :-

TABLE - 8.16
FINANCIAL OUTLAYS REQUIRED FOR CREATION OF ADDITIONAL MINOR
IRRIGATION WORKS.

(Rs. in lakh)

Sl. No.	Item	Sources of Finance				Total
		State	Sector	Institutional Finance	People's Participation	
0	1	2	3	4	5	
1.	Masonry Wells	32.40		87.18	9.72	129.60
2.	Persian Wheels	8.22		19.74	9.94	37.90
3.	Surface level Pumping sets	39.37		112.22	5.61	157.20
4.	Pumping sets with Borings	10.00		28.50	1.50	40.00
5.	Tube-wells	3.75		11.25	-	15.00
6.	Borings	4.50		1.35	-	5.85
7.	Bandhis	48.75		48.75	97.50	195.00
	TOTAL	146.99		309.29	124.27	580.55

8.1.13 Agricultural Productivity and Production:

While formulating strategy for agricultural development, an emphasis has been laid on both the extensive and intensive methods of cultivation and the programmes proposed in previous sections of this chapter are designed accordingly. It is expected that the use of latter

would help a lot in enhancing the yield per ha. of both the foodgrain and non-foodgrain crops. For this purpose, a productivity profile which has been, drawn up for the district for the period 1980--85, should be treated as the basis of norms for achieving the targeted growth rate of 4.3 per cent.

The production of foodgrains which was 246.43 thousand tonnes in 1976-77 is expected to achieve the level of 279.41 thousand tonnes at the end of 1984-85. Cropwise details for productivity and production of foodgrain and commercial crops are given in the following table :-

TABLE - 8.17
PHYSICAL TARGETS FOR AGRICULTURAL PRODUCTIVITY AND PRODUCTION

Sl. No.	Crop	Yield per ha. (in quintals)		Estimated level of production (in '000 tonnes)	
		1976-77	Proposed for 1980--85	1976-77	Proposed for 1980--85
0	1	2	3	4	5
1.	Paddy	4.99	6.0	2.36	5.40
2.	Maize	7.64	7.5	2.99	4.72
3.	Jowar	5.91	6.0	38.40	41.98
4.	Bajra	5.36	5.4	0.09	0.10
5.	Coarse grain	3.50	4.0	1.05	0.73
6.	Wheat	11.92	12.0	115.07	132.52
7.	Barley	7.29	10.0	1.96	2.99
TOTAL CEREALS:		-	-	161.92	188.44
8.	Urd	3.41	4.5	0.64	0.94
9.	Moong	2.85	3.0	0.54	0.63
10.	Arhar	9.91	10.0	19.43	20.61
11.	Gram	6.00	6.0	56.03	60.58
12.	Pea	7.59	9.0	0.62	1.19
13.	Masoor	7.53	7.0	7.25	7.02
TOTAL PULSES :		-	-	84.51	90.97
TOTAL FOODGRAIN:		-	-	246.43	279.41
<u>Cash Crops :</u>					
1.	Potato	130.47	130.0	6.08	36.61
2.	Sugarcane	427.63	400.0	7.14	8.90
3.	Oilseeds	4.5	5.0	1.26	2.97
4.	Tobacco	11.67	14.0	0.01	0.11
5.	Fibre crops (Sanai, etc.)	4.28	5.0	0.05	0.15

In order to achieve the above targets, it is proposed to extend additional irrigation facilities to 60643 ha. of an area, by creating an additional irrigation potential through the major/medium and minor irrigation works. It is also proposed to bring about 5000 ha. of additional area under cultivation through soil conservation measures. Besides, an additional area of 45,000 ha. is proposed to be covered under high yielding varieties and the area under double/multiple cropping is expected to increase by 28100 ha. The extent to which the physical targets of soil conservation, assured irrigation and double/multiple cropping will help in achieving the overall target of additional production of foodgrains, is shown in the following table :-

TABLE - 8.18
ANTICIPATED ACHIEVEMENTS OF ADDITIONAL PRODUCTION OF FOODGRAINS
THROUGH VARIOUS MEASURES.

Sl. No.	Particulars	Additional physical targets (in ha.)	Production norm per ha. (in tonnes)	Achievement of additional production of foodgrains (in '000 tonnes)
0	1	2	3	4
1.	Soil conservation	5000	0.12355	0.618
2.	Assured irrigation (Effective)	36167	0.49421	17.874
3.	Double/Multiple cropping	28100	0.49421	13.887
TOTAL		-	-	32.379

NOTE : (i) Production norms which have been used here are as prescribed by the Directorate of Agriculture, U.P.

(ii) 85 per cent of the additional irrigation potential likely to be created through the minor irrigation works has been taken as effective irrigation.

Thus, it would be possible to achieve 32379 tonnes of additional foodgrain production against the total additional target of 32,980 tonnes for the district during the next plan. The efforts to achieve a balance of 601 tonnes of foodgrain will be made through other measures like adoption of improved agricultural practices.

8.1.14 Horticulture :

The district has an area of 1260 ha. under orchards, 608 ha. under vegetables, 454 ha. under potato and 424 ha. under spices. The production of different kinds of fruits, vegetables and spices in the district during 1977-78 was 17,845 tonnes, 9,835 tonnes and 1,540 tonnes respectively. At present, there are two Government gardens producing nurseries of fruit plants, viz., Narainbagh at Jhansi and Company Bagh at Barwa Sagar. The district is not producing surplus vegetables, except ginger and table peas, the production of which in 1977-78 was respectively 1000 tonnes and 800 tonnes. The block-wise area to be covered under various programmes of horticulture in the district for the period of next five years is given below:-

TABLE - 8.19

BLOCKWISE TARGETS FOR COVERAGE OF ADDITIONAL AREA UNDER VARIOUS PROGRAMMES OF HORTICULTURE.

(In ha.)

Sl. No.	Block	Coverage of Area Under			
		Orchards	Vegetables	Potato	Spices
0	1	2	3	4	5
1.	Babina	55	85	20	5.5
2.	Baragaon	65	110	30	10.0
3.	Chirgaon	65	90	30	10.0
4.	Moth	50	85	20	5.5
5.	Bamaur	50	85	18	5.5
6.	Gursarain	50	85	20	8.0
7.	Mauranipur	60	85	22	8.0
8.	Bangra	60	85	20	5.5
TOTAL		455	710	180	58.0

The total outlay required for carrying out the above mentioned programmes of Horticulture Department in the district is estimated to be Rs. 160.556 lakh, which will be met through people's participation only.

8.2 Forests :

Forests which occupy an important place in the socio-economic life of the people cover an area of 32,575 hectares constituting 6.4 per cent

of the total geographical area of the district. The total forest area under the control of Forest Department is 32,540 hectares, out of which reserved forest is 23,630 hectares and unclassified forest is 8,910 hectares. There is no protected forest area in the district. During 1978-79, an area of 270 hectares was brought under afforestation. There are four forest ranges in the district and the forest area falling in each range is as follows:-

<u>Forest Range</u>	<u>Area in hectare</u>
1. Gursarain	14,410
2. Jhansi	6,030
3. Mauranipur	7,230
4. Moth	4,870
TOTAL	32,540

Species of plantation:

The total area under various species of plantation is 6,857 hectares; details of which are given below:-

<u>Species</u>	<u>Area in hectare</u>
1. Propis Jute Flower.	2,136
2. Babool	1,435
3. Sheeshum	1,435
4. Khair	935
5. Sirus	335
6. Bamboo	430
7. Neem	100
8. Eucalyptus	51
TOTAL	6,857

Nurseries and the Species Available:

Range-wise area of nurseries and species available in the district is given below:-

<u>Forest Range</u>	<u>Area under Nurseries & species(ha.)</u>	
1. Gursarain	0.5	
2. Jhansi	1.0	Sheeshum, Bamboo, Kachnar,
3. Mauranipur	3.0	Gold Mohar, Sirus, Amaltas,
4. Moth	3.0	Mahua, Teak, Arjun, Neem, etc.
TOTAL	7.5	

Actual Out-turn of Removals:

The actual out-turn of removals annually is given below:-

1. Timber (cubic metre)	..	50	
2. Fuel (Tonnes)	..	8181.20	
3. Bamboo (No.)	..	14,000	
4. <u>Other Minor Forest Produce:-</u>			
(i) Jhathar	..	182	cart-loads.
(ii) Grass	..	4,150	Quintals.
(iii) Tokari (No.)	..	5,812	
(iv) Tendu leaves	..	53,175	SBS
(v) Gums	..	1,171	Qtls.
(vi) Katha	..	15	Qtls.
(vii) Honey	..	49	Qtls.

During the previous plans, emphasis was laid mainly on the plantation of species of economic importance and fast-growing species to meet the increasing demand of raw-materials for wood-based industries. During the period of next five years, top priority would be given to social forestry programmes without neglecting the programme of economic importance.

The specific objectives of the Forest Development Programme in Jhansi district during 1980--85 plan period would be as mentioned below:-

- (i) to increase the area under plantation of fast-growing species;
- (ii) to expand plantations along roadsides, canal banks, railway lines, to meet the requirement for timber and fuelwood;
- (iii) to rehabilitate the degraded forests;
- (iv) to link up forest resources with forest-based industries; and
- (v) to take up special programmes for fuelwood and fodder supply.

Main Programmes:

The schemes and programmes which are proposed for the district during the period of next five years, alongwith their physical targets and financial requirement are given below:-

TABLE - 8.20

PHYSICAL TARGETS AND FINANCIAL OUTLAYS FOR FORESTRY PROGRAMMES.

Sl. No.	Items	Physical Targets	Financial Outlay (In lakh Rs.)
0	1	2	3
1.	Plantation of fast-growing species(ha.)	1253.73	12.54
2.	Roadside plantations (Road Km.)	750.00	13.75
3.	Railway-line plantations (Km.)	330.00	15.75
4.	Building constructions (No.)	15	6.50
5.	Communication Schemes: Renovation of Forest Roads(Km.)	105.00	1.95
6.	Social Forestry (ha.)	1000.00	20.00
7.	Establishment of Deer Parks (Nos.)	5	12.50
8.	Rehabilitation of degraded forest(ha.)	4000.00	10.00
9.	Fencing	-	30.00
TOTAL		-	122.99

The total outlay required for carrying out above mentioned schemes in the district during the period of next five years is estimated at Rs. 122.99 lakh, which would be provided from the State Sector.

8.3 Animal Husbandry:

The primary objective of the animal husbandry development programme is to augment production of animal-based products, like milk, meat, eggs and wool, for meeting the growing demand of population. This can be achieved either by increasing the number of animals or by raising productivity per animal or both. Since the large number of cattle are already available in the district, it is, therefore, proposed to lay emphasis on increasing the productivity per animal. The basic functions of the Animal Husbandry Department should, therefore, be intensified with a view to providing adequate facilities for scientific breeding, ensuring proper health cover and carrying out feeds and fodder development programmes on extensive basis.

Although the livestock population in the district has increased during the previous decade, majority of them are of local breeds and there has not been any qualitative improvement in the stock. For overall

development of animal husbandry sector, it would, therefore, be necessary to carry out this programme on scientific lines. While formulating strategy for development of this sector, an emphasis has been laid on purchase of milch cattle of improved breed and their distribution among the members of the target-group at subsidised rates. Veterinary institutions are proposed to be established almost on the lines of I.C.D.P. in order to intensify facilities of breeding, castrations, inoculations and extend maximum possible area under improved fodder crops and ensure timely supply of balanced cattle feeds to the villagers.

The programmes which are proposed for implementation in the district during the period of next five years, are mentioned below:-

8.3.1 Purchase and Distribution of Milch Cattle:

As stated earlier, almost all the milch cattle of the district are of indigenous breed and their average milk yield is extremely low. Although breeding facilities through artificial insemination programme are being proposed to be intensified simultaneously, the benefits of these facilities in terms of additional milk yield by way of improvement of cattle breeds through artificial inseminations are likely to accrue after four or five years. It would, therefore, be desirable in the initial stages to supply milch cattle of improved breed to small/marginal farmers and landless labourers in different blocks of the district during the period of next five years. Blockwise physical targets for purchase and distribution of cows (tharparkar) and she-buffaloes (Murrah) of improved breeds are given in the following table :-

TABLE - 8.21

PURCHASE OF COWS AND SHE-BUFFALOES AND THEIR DISTRIBUTION AMONG THE SMALL/MARGINAL FARMERS.

Sl. No.	Block	(Number)	
		Purchase and distribution of improved breed of	
		Cows	She-Buffaloes
0	1	2	3
1.	Chirgaon	400	500
2.	Moth	500	500
3.	Gursarain	500	700
4.	Bamaur	500	700
5.	Mauranipur	400	500
6.	Bangra	500	700
7.	Babina	300	400
8.	Baragaon	300	400
	TOTAL	3400	4400

The price per cow is taken to be Rs. 2,000 and that of she-buffalo Rs. 3,000. Thus, the total outlay required for purchase of the proposed number of 3,400 cows and 4400 she-buffaloes is estimated at Rs.200 lakh, out of which one-third will be provided to small/marginal farmers & landless labourers in the shape of subsidy from the State sector and the remaining two-third would be provided in the shape of loan through the institutional finance.

8.3.2 Establishment of Veterinary Institutions:

Looking to the size of livestock population of the district, the number of existing veterinary institutions situated in different blocks is not sufficient to provide proper health cover to animals. Moreover, interior pockets of various blocks are completely deprived of veterinary facilities. Considering the norms of I.C.D.P., a large number of veterinary institutions is needed to be established in different parts of the district. However, considering the financial constraints, it is purposed to establish two A.I. centres and 14 Stockman centres-cum-Artificial Insemination Sub-centres in the district during the period of next five years. Blockwise details of the proposed veterinary institutions are given in the following table :-

TABLE - 8.22

BLOCKWISE LOCATIONS OF THE PROPOSED VETERINARY INSTITUTIONS.

Sl. No.	Block	Locations of	
		A.I. Centres	Stockman centres/A.I. Sub-centres
0	1	2	3
1.	Chirgaon	Amargarh	1. Samari, 2. Baghera
2.	Moth	-	1. Sakin, 2. Sehjshampur
3.	Gursarain	-	1. Tori Fatehpur
4.	Mauranipur	-	1. Bamhori, 2. Dhawakar, 3. Churara.
5.	Bangra	Ranipur	1. Kattera, 2. Magarpur, 3. Udan, 4. Ranipur.
6.	Babina	-	1. Baidora
7.	Baragaon	-	1. Kochha Bhanwar.
	TOTAL	2	14

The total outlay required for establishing the above proposed veterinary institutions is estimated to be Rs. 10 lakh which would be met from the State sector.

8.3.3 Supply of Frozen Semen for Insemination:

Since the climate of the district is characterised by long dry summer, a problem of semen preservation is generally faced by the animal husbandry staff posted in the field. Consequently, a sizable quantity of semen is wasted and rendered ineffective during its transit to artificial insemination sub-centres. In order, therefore, to overcome this difficulty, it is proposed to carry-out a Frozen Semen Scheme in the Baragan block during the period of next five years. The details of outlays required to implement this scheme are given below:-

	<u>Outlay in Rs. Lakh</u>
(i) Machine for inserting semen in tubes	1.50
(ii) Machine for automatic printing in tubes	0.60
(iii) Nitrogen gas and tubes	1.00
(iv) Jars for keeping semen	0.50
(v) Machines for preparing liquid Nitrogen	5.00
(vi) Freezing Equipment	1.00
(vii) Other expenses.	0.50
TOTAL	<u>10.10</u>

8.3.4 Fodder Development:

It is difficult to bring about any improvement in cattle health unless some proper arrangements for nutritive foods & fodders are made. At present, the area covered under fodder crops is about 214 ha. Because of low animal productivity, farmers do not find it commercially sound to invest money on fodder cultivation. In order to overcome this problem, it would be essential to provide special incentives to the farmers for extending the fodder development programme more successfully in the district.

In view of the above, it is proposed initially to cover an area of 20 ha. under fodder crops in each and every block of the district during the period of next five years. The fodder crops to be raised in

each block will include 10 ha. of Barseem, 5 ha. of oats and 5 ha. of M.P. Chari. The quantity of seeds required for these fodder crops per ha. will be 25 Kg., 40 Kg. and 40 Kg. respectively. The price per quintal of Barseem will be Rs. 700/-, oats Rs. 250/- and M.P. Chari Rs. 350/-. With a view to providing special incentives to the farmers for adoption of fodder development programmes, it is proposed to provide 50 per cent subsidy on the cost of these fodder seeds. The remaining 50 per cent of the total cost will be borne by the cultivators themselves. Thus, the total amount of subsidy required for this purpose comes to Rs. 0.12 lakh which will be met from the State sector.

3.3.5 Goat Development:

Climatic conditions of the district are best suited for goat development. There are plenty of shrubs covering an area of about 32575 ha., providing an ample opportunity for grazing facilities. Since rearing of goats involves comparatively less investment, small/marginal farmers and landless labours can easily be persuaded for making choice of this occupation.

At present, there are about 1.3 lakh goats mostly of local breeds available in the district. On the other hand, there are nine goat breeding centres with 18 bucks functioning in the district. In addition, 97 pedigree bucks have also been distributed on subsidised rates to the villagers in the recent past. On an average, one buck covers about 200 goats a year. Thus, existing breeding facilities are sufficient for coverage of only 23,000 goats^{per}/year. This indicates that there is still need of intensifying goat breeding facilities in the areas where goat population is largely concentrated.

In view of the above, it is proposed to establish five goat development centres, one each at Ram Nagar and Nand Khas of Chirgaon block and Saptwara, Ghawakar and Kakarwara of Mauranipur block during the period of next five years. Each centre will be provided with 100 goats and 10 Jamunapari bucks. These centres will distribute improved goats among the goat rearers in the villages of their vicinity, besides providing bucks to the villages for natural service. During the period of next five years, each centre will cover 226 beneficiaries and five improved goats will be distributed to each of them. Physical targets proposed under this scheme are given as below:-

TABLE - 8.23

PHYSICAL TARGETS PROPOSED FOR THE GOAT DEVELOPMENT CENTRES.

Sl. No.	Items	Locations of Goat Development Centres				
		Chirgaon		Mauranipur		
		Ram Nagar	Nand Khas	Septwara	Dhawakar	Kakarwara
0	1	2	3	4	5	6
1.	Maintenance of bucks	10	10	10	10	10
2.	Maintenance of Goats	100	100	100	100	100
3.	Number of beneficiaries	226	226	226	226	226
4.	Distribution of improved goats @ 5 goats per beneficiary	1130	1130	1130	1130	1130

The total outlay required for establishing the proposed Goat Development Centres is estimated to be Rs. 12.16 lakh, out of which non-recurring and recurring expenditure would be Rs. 5.28 lakh and Rs. 6.88 lakh respectively. Besides, an amount of money required for distribution of improved goats to the villagers is estimated at Rs. 6.79 lakh, out of which Rs. 4.75 lakh will be arranged through institutional finance and the remaining Rs. 2.04 lakh will be contributed by the beneficiaries themselves.

As a result of the implementation of above programmes of animal husbandry sector, the estimated level of milk production, which was about 68 lakh litres per day in 1977-78, would increase to about 1.20 lakh litres per day during 1984-85.

8.4.6 Poultry Development:

On an average, there are about 6500 poultry birds available in each and every block of the district. For lack of proper communications and marketing facilities the villages are presently producing eggs for domestic consumption only. Considering these constraints in the present context, probably it would be out of question to initiate poultry development programme on sound commercial lines.

It is therefore, proposed to establish 100 small household poultry units in each block with a strength of 20 laying birds in each unit during the next five years period. Since the number of birds per

unit will be quite low, it would not be a feasible proposition to construct deep litter houses for establishing such units. Moreover, for a 50 bird deep litter house, the present cost comes to about Rs.1500/- which works out to Rs. 50/- per sq. ft. of the standing area. Allowing a minimum of two sq. ft. space to a bird in such a house, it comes to Rs.100/- per bird. Under these circumstances, it is suggested to bring in vogue the "Demi Ranch System" in the district by providing a night shelter of 30 sq. ft. plinth area for 20 birds (viz. 1.5 sq. ft. of standing space for each bird) costing about Rs. 250 each and allowing a partial feeding at the rate of 50 gms. feed per bird per day.

In the deep litter system, the average production of a layer is kept at 200 eggs a year but in the demi-ranch system, this would be advisable to keep it at 170 eggs a year as some eggs are supposed to be laid outside the night shelter. The feeding costs would be lower in the latter system when calculated at the rate of 50 gms. per bird per day as against 113 - 120 gms. in the former system. The cost of a two-month old bird is calculated @ Rs.2.50 per bird from the Government Poultry Farms (Rs. 10. each from the commercial hatcheries) and feed @ Rs. 150/- per qtl. Scheme-wise details are given below:-

	Outlay (in Rs. lakh)
(i) Purchase of 16000 poultry birds @ Rs. 2.50 per bird.	0.40
(ii) 800 Night shelters @ Rs.2 50 per shelter.	2.00
(iii) Poultry feeds 960 quintals @ 50 gm. per bird per day for first four months.	1.44
TOTAL	3.84

Thus, the total outlay required for this scheme comes to Rs.3.84 lakh, out of which Rs.1.72 lakh will be given as subsidy from the State sector and the remaining Rs. 2.12 lakh will be contributed by the participants themselves.

8.4.1 Fisheries :

With a view to ameliorating the economic life of the people living below the poverty line, it would be desirable to carry out fisheries development programmes in the district on scientific lines. It is, therefore, proposed to have an optimum utilisation of the existing perennial and seasonal water areas in the district during the next five years. For this purpose, it would be necessary to intensify measures regarding the formation of fishermen cooperative societies, stocking of fingerlings, training of fishermen and marketing of fish produced.

8.4.1 Appointment of Fisheries Inspectors:

For an effective implementation of fisheries development programme, it would be essential to appoint one Fisheries Inspector in each of the development blocks except Baragaon. The fisheries Inspector would be chiefly responsible for imparting training to the fishermen, timely supply of fingerlings and ensuring proper marketing facilities for the fish produced. An outlay of Rs. 3 lakh will be needed for this purpose.

8.4.2 Fish Seed Production Farm:

At present, there is one Government fish production farm at Gursarain. It produces about one lakh fish seed annually. Considering the future requirements of the fish seed for the district, it is proposed to establish another fish farm of five hectares area at Barwa Sagar. A new high yielding varieties of fish, which has recently been introduced, can lay eggs in stagnant water also. Therefore, the production of this new variety of fish is proposed at this fish farm. The staff required for establishing this farm will include one Senior Fisheries Inspector, five Asstt. Fisheries Inspectors, two Fish Development Workers, eight Mallehas and one Chaukidar. An outlay required for this purpose is estimated at Rs. 10.74 lakh.

8.4.3 Fish Farming in Ponds:

As stated earlier, there are 123 ha. water area of seasonal nature in the shape of ponds/tanks. Most of the existing ponds/tanks get over flooded during the rainy season and become dry during summer. The pisciculture programme can not be properly organised in these small water

areas unless a programme for deepening of tanks/ponds is under-taken for converting them into a perennial water area. It is therefore proposed to carry out this programme in 50 ha. of such water areas in different blocks of the district during the period of next five years. In this context, it is suggested that the fishermen cooperative societies, which are proposed to be revived during the plan period, should be made responsible for the work of deepening and improvements of ponds/tanks, stocking of fingerlings and collection of fish.

An amount of Rs. 3.57 lakh will be needed for deepening and improvement of ponds/tanks and 0.30 lakh for purchase of boats, nets, etc. Besides, an amount of Rs. 1.75 lakh will be provided to the societies for stocking of fingerlings and other necessary expenditure. Thus, the total outlay required for carrying out this scheme in the district during the period of next five years comes to Rs.5.62 lakh, out of which one-third is proposed to be provided in the shape of subsidy from the State sector and the remaining two-third will be arranged from the cooperative sector.

8.4.4 Fishermen Cooperative Societies:

As stated earlier, there are four fishermen cooperative societies in the district, out of which three are defunct and only one is functioning. For proper exploitation of small water areas, it would be imperative to revive all the defunct societies during the plan period. These societies will be made responsible for the work relating to the deepening and improvements of ponds/tanks, stocking of fingerlings, etc.

Annual production of fish in the district is at present extremely low mainly due to lack of proper management regarding the better exploitation of water areas of perennial nature. It is, therefore, proposed to improve upon the efficiency of existing and proposed managerial staff which would be chiefly responsible for timely stocking and distribution of fingerlings. By doing so, it would be possible to raise the fish production to the tune of 2400 quintals by the end of 1984-85 through both the large and small water areas.

8.5 Cooperatives :

Cooperatives have to play a major role in meeting out the requirements of improved seeds, fertilizers and pesticides for agricultural development, besides, providing facilities of marketing for agricultural produce. They have also a responsibility to ensure a reasonable return to agriculturists by eliminating the exploitative tendency of middlemen in procurement of their agricultural produce. Moreover, they can also function as an alternative agency to ensure supply of consumer goods to the villagers at reasonable prices. The programmes proposed under this sector for the district during the period of next five years are described as under :

8.5.1 Additional Membership:

Out of 1,03,833 agricultural families, only 64,649 are members of cooperative credit societies, thus covering about 62.26 per cent of agriculture families in the district. The problems of small/marginal farmers and landless labourers regarding the availability of credit facilities cannot be tackled unless they are brought under the cooperative fold. The Cooperative Department should, therefore, take necessary steps for increasing its membership from amongst these farmers. Moreover, only 33.59 per cent of the total land allottees (26982) are, at present, members of these societies. Therefore, efforts should also be made to bring the rest of them under the cooperative umbrella.

8.5.2 Programme for Cooperative Credit:

Of the present three tier system of cooperative credit, two tiers, viz., the District Cooperative Bank at the district level and the Primary Cooperative Credit Societies at the Gram Sabha level, exist in the district. The existing Gaon Sabhas have already been covered either by the large Sized Cooperative Credit Societies or by the Service Cooperative Societies or by the Farmers Service Cooperative Societies. Performance of these Societies in the field of loaning is given below:

Distribution of Short Term Loans (In Rs. Lakh)

<u>Year</u>	<u>Kharif</u>	<u>Rabi</u>	<u>Total</u>
1976-77	41.88	50.76	92.64
1977-78	83.97	95.63	179.60
1978-79	103.74	202.96	306.71

Since the Commercial Banks have also entered the field and opened their branches in the interior areas as well, it is expected that these institutions would help in catering to the needs of the farmers by extending credit facilities for agricultural development. Therefore, a modest target of Rs. 455 lakh of short-term loaning is proposed to be achieved by the end of 1984-85.

8.5.3 Establishment of Fertilizer and Pesticides Depots :

Besides the agricultural seed stores, it is also proposed to establish 13 new Fertilizer and Pesticides Depots in the district during the period of next five years. By establishing these depots it would be possible to make fertilizers and pesticides readily available to the farmers in the vicinity of the identified central places. Blockwise locations of the proposed Fertilizers and Pesticides Depots are given below :-

TABLE - 8.24

BLOCKWISE LOCATIONS OF FERTILIZERS AND PESTICIDES DEPOTS.

Sl. No.	Block	Locations for Proposed Centres	
		1	2
1.	Moth		1. Sakin
2.	Gursarain		1. Torifatehpur, 2. Pandwaha
3.	Bamaur		1. Bamaur
4.	Mauranipur		1. Roopa Dhamna, 2. Churara
5.	Bangra		1. Sakrar, 2. Uldan, 3. Nota, 4. Magarpur.
6.	Baragaon		1. Ambabai
7.	Babina		1. Babina Cantt., 2. Khailar.

It is worthwhile to mention here that the above mentioned depots will be established under the cooperative sector. An outlay required for establishing the proposed depots is estimated to be Rs. 6.76 lakh @ Rs. 0.52 lakh per Fertilizer and Pesticides Depot.

8.5.4 Farmers Service Cooperative (F.S.S.):

At the close of 1978-79, there were seven Farmers' Service Cooperatives which were organised after converting the existing Viable Service Cooperative Societies. As per guide lines of the State Government

all the Viable Societies having a business of Rs. 8.0 lakh each (or more), are converted into the Farmer's Service Cooperatives. In future all these Societies, which are likely to expand their business, would also be converted into the Farmers' Service Cooperative Societies. Their number is expected to go up to 26 by the close of 1984-85. A sum of Rs.3.44 lakh in 1980-81 and Rs.21.31 lakh in the next five years is therefore, proposed to be provided as marginal subsidy to these societies.

The staffing pattern of a Farmers' Service Cooperative Society consists of Managing Director, an Extension Officer and two Technical Officers. The salary of the Managing Director will be born by the Cadre authority which, in turn, will be reimbursed by the State Government for a period of Five Years. Expenditure and the salaries of extension and technical officers will be provided directly to the F.S.S. for a period not exceeding five years. It is expected, that these Societies would widen their area of operation and become self reliant in a short period, by undertaking varied function viz. supply of credit and inputs, marketing of agricultural produce, distribution of consumers goods and making available other essential services to the members.

8.5.5 Rural Godowns:

With a view to reorganising the Cooperative net work in the district, a scheme for construction of godowns at the headquarters of each Nyaya Panchayat has been proposed, so that these Societies can function as growth centres in the rural landscape. Under the World Bank Scheme, eight rural godowns and 10 other such godowns each with a capacity of 100 tonnes were constructed till the close of 1978-79. It is proposed to construct 20 more godowns with a total cost of Rs. 12 lakh.

8.5.6 Cold Storage :

There is only one cold storage located at Jhansi town. It is proposed to construct one more cooperative cold storage at Barwa Sagar in Baragaon block which would extend storage facilities to the farmers particularly for their perishable goods like potato, green vegetables, fruits, etc. An amount of Rs. 5 lakh would be required for this purpose.

TABLE - 8.25

PHYSICAL TARGETS AND FINANCIAL REQUIREMENT UNDER COOPERATIVE SECTOR

Sl. No.	Item	Physical Targets to be achieved by the end of 1984-85	Financial Outlays (in Rs. lakh)
0	1	2	3
1.	Membership of Cooperative Societies (No.)	34650	-
2.	Increase in share capital of credit societies (in Rs. lakh)	34.6	-
3.	<u>Loan distribution (in Rs. lakhs)</u>		
	(a) Short term loan	4.55	-
	(b) Medium Term Loan		
	(i) Interest free	10.00	-
	(ii) Nomal	78.00	-
4.	Construction of rural godowns (No.)	20	12.00
5.	Marginal subsidy to Farmers Service Cooperative Societies (in Rs. lakh)	26	21.31
6.	Establishment of one cooperative Cold Storage	1	5.00
7.	Establishment of Fertilizers and pesticides depots.	13	6.76
	TOTAL	-	45.07

8.6 Industrial Development:

It is recognised that promotion of industries is one of the major instruments for accelerating development of backward areas. This is true in case of Jhansi district also which is extremely backward in the matter of both agricultural and industrial development. For promotion of industries in the district, it has already been stated to lay stress on maximum possible exploitation of natural as well as human and other resources locally available. Secondly, setting up of new industrial units depends upon numerous factors like ready availability of power, supply of water and transport facilities. Therefore, these factors are also taken into account while formulating programmes for industrial development. Thirdly, the large scale industrial units,

which are mostly based on capital intensive technology, generate relatively less employment opportunities. Therefore, the industrial units, which have been proposed here to be established in different parts of the district, concern mainly with small scale, cottage and village industries and handloom sectors. Since these industrial units require relatively less investment and are based on labour intensive technology, it would help in developing a new entrepreneurial capacity on the one hand and creating maximum possible employment opportunities on the other. Lastly, the central places, which have been identified as growth centres, service centres and central villages, would invariably be given due weightage while determining specific locations for setting up the proposed industrial units. In fact, the identification of central places under a general settlement hierarchy, acts as a blue-print for organising space for diversification of activities at different hierarchical levels in the district and it would be in fitness of things, if the new industrial units are established at these potential growth/service centres in the district. Following these considerations, efforts have been made to propose sectorwise industrial units through subsequent paragraphs.

8.6.2 Small Scale Industries:

At present, the number of registered industrial units functioning in the district is 314, out of which four industries are of large/medium scale and the remaining 310 are small scale industries. The total investment in these industries is found to be about Rs.521.40 lakh. In new programme of industrial development it is proposed to set up 311 industrial units in different parts of Jhansi district during the period of next five years. These industrial units are resource-based as well as demand oriented in character. Details regarding the number and type of industrial units proposed and the requirement of investment are given in the following table :-

TABLE - 8.26
DISTRIBUTION OF INDUSTRIAL UNITS BY MAJOR GROUPS

Sl. No.	Major Groups of proposed industries	Number of Industrial Units proposed	Requirement of Investment (Rs. in lakh)
0	1	2	3
1.	Agro based	47	51.89
2.	Forest based	44	81.25
3.	Animal based	6	49.88
4.	Textile based	38	44.11
5.	Chemical based	15	140.83
6.	Engg. and Allied based	38	115.42
7.	Building Material/ Ceramics based	53	31.46
8.	Miscellaneous	70	122.65
	TOTAL	311	637.49

Thus, the total investment required for setting up the above proposed industrial units comes to Rs. 637.49 lakh, out of which Rs. 80.64 lakh will be needed for purchase of machines and equipments, Rs. 429.29 lakh for raw material and Rs. 127.56 lakh for other working capital. Out of the total proposed outlay, a sum of Rs. 20 lakh will be provided to the entrepreneurs in the form of subsidy from state sector, Rs. 463.12 lakh through institutional finance and the remaining Rs. 154.37 lakh will be contributed by the participants themselves. As a result of this investment value of additional industrial produce would be Rs. 3.5 crores at the end of 1984-85.

Further details of recommended industries by major groups is given below :-

TABLE - 8.27

CLASSIFICATION OF RECOMMENDED INDUSTRIES BY MAJOR GROUPS

Sl. No.	Major group	Recommended Industries
0	1	2
1.	<u>Agro Based</u>	1. Dal Mill, 2. Bakery small, 3. Bakery big, 4. Spice Grinding, 5. Cold Storage, 6. Potato Wafer, 7. Ata Chakki, & Oil Seed Crushing, 8. Ginger Dehydration, 9 Power Oil Ghani.
2.	<u>Forest Based</u>	1. Wooden Packing cases, 2. Saw Mill, 3. Wooden Furniture, 4. Handloom-Making, 5. Ayurvedic Medicine.
3.	<u>Animal Based</u>	1. Bone Mill, 2. Leather Tanning.
4.	<u>Textile Based</u>	1. Readymade Garments, 2. Woolen-Carpets, 3. Hosiery Garments.
5.	<u>Chemical-Based</u>	1. PVC Film for packing, 2. Micro-cellular Rubber Sheets, 3. Prints Varnishes, 4. Fountain Pen Ink, 5.-F.P. Tublar Film, 6. Pharmaceutical Drugs, 7. Detergent Powder, 8. Black Phenyl.
6.	<u>Engg. & Allied</u>	1. Auto & Tractor Repairing Workshop, 2. General Engg. Workshop, 3. Rolling Shutters, 4. Steel Furniture, 5. C.I. Foundry, 6. Agricultural Implements, 7. Pressure Stove.
7.	<u>Building & Ceramic Based</u>	1. Cement Jali, 2. Ceramic Potter, 3. Stone Carving, 4. Soft Stone Toys.
8.	<u>Miscellaneous</u>	1. Handmade Paper, 2. Printing Press, 3. Ball Point Pen, 4. Umbrella- Assembling, 5. Synthetic Coal, 6. Paper Bags Flat & Stable Type, 7. Battery Reconditioning & Charging, 8. Electroplating, 9. Radio & Transistor servicing, 10. Cemented Chappal, 11. Travel Goods, 12. Lens Grinding, 13. Reeling Sewing Thread, 14. Nylon Buttons, 15. Cottage Match Boxes.

8.6.2 Khadi and Village Industries:

At present, about 1750 industrial units under unorganised sector are functioning in the district, providing employment to about 3000 persons and manufacturing goods worth Rs. 125 lakh annually. In all, 1525 industrial units are proposed to be set up under this sector in the district during the period of next five years.

The additional employment likely to be generated through these units comes to 3050 persons with additional annual production of Rs. 271 lakh. Blockwise break-up of the proposed industrial units is given in the following table :-

TABLE - 8.28

BLOCKWISE UNITS PROPOSED UNDER KHADI AND VILLAGE INDUSTRIES

Sl. No.	Khadi & Village Industries	Blocks							Total	
		Chir-gaon	Moth	Gursa-rain	Bamaur	Maura-nipur	Bangra	Babi-na gaon		
0	1	2	3	4	5	6	7	8	9	10
1.	Soap Industry	2	2	2	1	2	2	2	3	16
2.	P.C.F. Industry	60	42	62	20	60	35	26	50	355
3.	Village Oil Industry	15	10	5	4	15	5	6	15	75
4.	Leather Industry	25	40	20	25	26	13	20	40	209
5.	Pottery Industry	25	50	50	50	25	29	50	25	304
6.	Palm Gur Industry	-	-	51	-	200	75	-	75	401
7.	Banskala Industry	1	1	2	1	2	1	-	1	9
8.	Carpentry & Smithy	5	10	7	5	5	5	5	10	52
9.	Lime Industry	-	-	4	3	2	-	-	1	10
10.	Fibre Industry	-	-	13	13	29	10	-	-	65
11.	Match Box Industry	1	1	2	1	2	2	2	2	13
12.	Gur & Khandsary	-	2	-	-	-	1	-	5	8
13.	Khadi Industry	-	1	-	-	-	-	-	2	3
14.	Herbs Collection Industry	-	-	-	-	1	-	-	1	2
15.	Aluminium Industry	-	-	-	-	-	-	-	1	1
16.	Handmade Paper Industry	-	-	-	-	-	-	-	1	1
17.	Fruit Preservation	-	-	-	-	-	-	-	1	1
TOTAL		134	159	218	123	369	178	111	233	1525

The total outlay required for setting up the above Khadi and Village industrial units in the district during the period of next five years is estimated at Rs. 22.87 lakh, out of which Rs. 7.62 lakh will be provided from the State sector and Rs. 10.67 lakh would be arranged through institutional finance. The remaining Rs. 4.58 lakh will be contributed by

the entrepreneurs/participants themselves. U.F. Khadi and Village Industries Board, Kanpur will assist the entrepreneurs by ensuring the timely supplies of raw materials to them and providing proper marketing facilities to their produce.

8.6.3 Handlooms:

At present, the number of handlooms operating in the district is 5380, out of which 3480 are under cooperative sector. The total persons employed under this sector are about 8000 and the value of total handloom cloth manufactured is about Rs. 4.5 crores, During the period of next five years, it is proposed to instal 5818 additional handlooms in the district. Blockwise break up of the proposed handlooms is given in the following table :-

TABLE 8.29
BLOCKWISE BREAK UP OF PROPOSED HANDLOOMS

Sl. No.	Block	Number of Proposed		Total
		Powerlooms	Handlooms	
0	1	2	3	4
1.	Chirgaon	-	185	185
2.	Moth	-	485	485
3.	Gursarain	-	500	500
4.	Bamaur	-	110	110
5.	Mauranipur	10	2050	2060
6.	Bangra	-	2100	2100
7.	Babina	-	-	-
8.	Baragaon	8	370	378
Total		18	5800	5818

As a result of implementation of the above programme, it would be possible to provide employment opportunities to 11,636 persons and the value of additional handloom cloth manufactured would be approximately Rs. three crores.

The total outlay required for establishing the proposed handloom units is estimated to be Rs. 45.89 lakh, out of which Rs. 1.90 lakh will be provided from the State sector and Rs. 43.26 lakh would be arranged through institutional finance. The remaining Rs. 0.73 lakh will be contributed by the weavers themselves. U.P. Handloom Corporation, Kanpur will assist weavers by arranging timely supplies of raw materials to them and providing marketing facilities to their produce.

The shortage of raw materials (i.e., yarn and colours) and lack of marketing facilities are the two main problems currently faced by the weavers. In order, therefore, to provide proper solution to these problems, it would be imperative to establish four cooperative marketing societies one each at Mauranipur, Bangra, Gursarain and Bamaur blocks. Main functions of these societies would be to provide raw materials to the weavers and arrange proper marketing facilities for their produce. An outlay of Rs. 1.5 lakh is proposed to be provided to these societies in the shape of managerial subsidy from the State Sector.

8.7 Roads:

An efficient system of road infrastructure connecting all the important places of the district is necessary for balanced economic development. While judging the availability of road infrastructure in Jhansi district from this angle, it is observed that all the Tehsils, important towns and blocks are connected with metalled roads. But the length of pucca roads per thousand sq. km. of area available in the district during 1976-77 was 135 kms. as against the State average of 148.5 kms. Moreover, the blocks which are having road length below the district average consist of Bangra, Bamaur, Gursarain, Babina and Moth. Therefore, these blocks have been given higher priority while formulating programme of road development for the district. Secondly, the central places of Gardhman, Khajuraha-bujurg and Shahjahanpur which are, at present, deprived of Pucca road facility, will also be provided with road infrastructure on priority basis.

It is proposed to connect 153 villages with pucca roads in different blocks of the district during the period of next five years. This would involve construction of 261 kms. of pucca roads during the plan period. These proposals are in accordance with the norms prescribed under the

National Programme of Revised Minimum Needs. Blockwise physical targets for construction of pucca roads are given in the following table:-

TABLE -8.30
BLOCKWISE TARGETS FOR CONSTRUCTION OF PUCCA ROADS

Sl. No.	Block	Number of Villages to be connected with pucca roads	Length of pucca roads to be non-constructed (in km.)
0	1	2	3
1.	Chirgaon	16	30
2.	Moth	20	32
3.	Gursarain	20	42
4.	Bamaur	25	35
5.	Mauranipur	22	40
6.	Bangra	20	32
7.	Babina	18	30
8.	Baragaon	12	20
TOTAL		153	261

In addition, Zila Parishad, Jhansi has proposed to construct 2.9 kms. of pucca roads in Bangra block and 7.2 kms. of pucca roads in Chirgaon and Moth blocks of the district during the period of next five years. After completion of these roads, it would be possible to connect five more villages with pucca road.

Thus, the number of villages connected with pucca roads in the district will increase from 132 in 1978-79 to 290 by the end of 1984-85. Similarly, the total length of pucca roads available in the district will increase from 1029.10 kms in 1978-79 to 1300.11 kms at the end of 1984-85.

The total outlay required for construction of the proposed pucca roads by public works department will be Rs.391.50 lakh @ Rs.1.50 lakh per km.

8.8 Power :

District Jhansi is getting power from Matatila which is connected to KESA and Nanigrid. In addition, a thermal power house at Paricha which was finally approved by the Central authority and Planning Commission in 1978, is also expected to be commissioned during 1980--85.

At present, Bangra, Mauranipur, Bamaur and Gursarain blocks are inadequately served with power lines. Since these blocks are extremely backward in the matter of agricultural and industrial development,

priority will be given to them in regard to the construction of high and low tension lines in these areas. For this purpose, district authorities have already finalised a project which has been submitted to the Rural Electrification Corporation for its approval and finance. Under this project, it is proposed to construct 701 km. of H.T. lines and 218 km. of L.T. lines in different blocks of the district during the period of next five years. Blockwise details of physical targets for the construction of H.T./L.T. lines are given in the following table :-

TABLE - 8.31
PROPOSED TARGETS FOR CONSTRUCTION OF H.T./L.T.LINES

Sl. No.	Block	Construction of	
		H.T.Lines(in Km.)	L.T. Lines(in Km.)
0	1	2	3
1.	Chirgaon	61	32
2.	Moth	57	31
3.	Gursarain	233	54
4.	Banaur	161	27
5.	Mauranipur	55	20
6.	Bangra	69	20
7.	Babina	30	16
8.	Baragaon	35	18
TOTAL		701	218

Thus, the length of H.T.Lines and L.T. Lines, which are, at present, respectively 837 kms. and 438.6 kms. in the district will correspondingly increase to 1538 kms. and 656.6 kms.

At present, the percentage of villages electrified to the total number of inhabited villages in the district is 18.8 only. Under Rural Electrification Programme, it is proposed to electrify 522 villages/ Harijan Bastis in different blocks of the district during the period of next five years. Blockwise details for this purpose are given below :-

TABLE - 8.32

TARGETS FOR ELECTRIFICATION OF VILLAGES/HARIJAN BASTIS

Sl. No.	Block	Total No. of villages	No. of villages electrified	Villages/Harijan Bastis to be electrified	Total villages likely to be electrified by the end of 1984-85
0	1	2	3	4	5
1.	Chirgaon	103	35	79	114
2.	Moth	123	15	78	93
3.	Gursarain	108	12	80	92
4.	Bamaur	101	11	80	91
5.	Mauranipur	84	24	60	84
6.	Bangra	84	15	60	75
7.	Babina	82	17	40	57
8.	Baragaon	82	15	45	60
TOTAL		767	144	522	666

It is worthwhile to mention here that while carrying out rural electrification programme in the district, priority will be given to the following central villages which are, at present, not provided with this facility :-

Sl.No.	Block	Central Villages
1.	Moth	Sakin, Pullia, Shahjahanpur, Talaur.
2.	Chirgaon	Baghera, Bangra Bangri.
3.	Bamaur	Kakarwai, Sarsenda.
4.	Gursarain	Ghuraiya, Murkawan, Bajaura.
5.	Mauranipur	Churara,
6.	Bangra	Magarpur.
7.	Babina	Budhpura, Khajuraha Bujurg.
8.	Baragaon	Ambabai, Garhmau.

The total outlay required for carrying out above mentioned Rural Electrification in the district during the next plan comes to Rs.200.83 lakhs out of which Rs.133.65 lakhs are likely to be sanctioned by the Rural Electrification Corporation and the remaining Rs.67.18 lakhs are proposed to be provided from the State sector.

8.9 EDUCATION :

8.9.1 General Education:

Balanced socio-economic development requires adequate provision for the expansion of educational facilities also. It is an established fact that for qualitative improvement in education, educational institutions must be provided with adequate facilities of infrastructure including buildings. Conditions prevailing in case of large number of primary schools are stated to be quite unsatisfactory in this regard. Moreover, educational institutions of various categories available in the district are much below the norms prescribed under the Revised Minimum Needs Programme.

8.9.2 Primary Education:

According to Third Educational Survey conducted in 1974 as many as 124 primary schools and 64 junior high schools were needed to be established in the district. During the Fifth Five Year Plan, only 20 Primary and 10 junior high schools were opened in the district. Thus, there is still a need of establishing 104 primary and 54 junior high schools. While opening these new primary schools, priority will be given to those villages where no primary schools exist or where the population of scheduled castes is higher than the district average of 27.6 per cent.

8.9.3 Senior Basic Schools:

Regarding the opening of Senior Basic Schools, priority should be given to the following central places which do not have this facility at present.

<u>Central Places</u>	<u>Blocks where Central Places are located</u>
(i) Shahjahanpur	Moth
(ii) Bangra Bangri	Chirgaon
(iii) Budhpura	Babina
(iv) Garhia	Babina
(v) Bhozela	Baragaon
(vi) Gardhmau	Baragaon

8.9.4 Higher Secondary Education:

Out of the total number of 56 central places identified in whole of the district, 16 central places, which do not have facilities of high school, are proposed to be provided with this facility during the next five years. Besides, there are 5 central places which are proposed to be provided with the facilities of Intermediate colleges. A list of these central places alongwith the proposed educational facilities are given below:-

Sl. No.	Central Places	Blocks where Central Places are Located
0	1	2

A. High Schools Proposed at :

1. Ambabai	Baragaon
2. Raksa	Babina
3. Khailar	Babina
4. Samari	Chirgaon
5. Moth	Moth
6. Sekin	Moth
7. Mauranipur	Mauranipur
8. Roopadhanna	Mauranipur
9. Churara	Mauranipur
10. Bangra	Bangra.
11. Nota	Bangra
12. Magarpur	Bangra
13. Eskil Buzurg	Bamaur
14. Pandwaha	Gursarain
15. Markuwan	Gursarain
16. Simardha	Gursarain

B. Intermediate Colleges

Proposed at :

1. Mauranipur	Mauranipur
2. Ranipur	Bangra
3. Katera	Bangra
4. Erich (T.A.)	Bamaur
5. Tori Fatehpur	Gursarain.

8.9.5 Technical Education:

Till the end of the Third Five Year Plan, there was great emphasis on rapid expansion of technical education to meet the requirement of trained manpower for developmental activities in the field of irrigation power, industries and mechanised agriculture. The problem of shortage of manpower in this field was largely overcome by the close of Third Plan and a sizable number was rendered surplus during the Fourth Plan period.

Considering the requirement of skilled and semi-skilled workers for industrial development during the period of next five years, it is proposed to train 500 un-employed persons annually. For this purpose, it would be essential to improve and upgrade training facilities at the existing industrial centres of Mauranipur, Gursarain and Baruwa Sagar. A sum of Rs. two lakh will be needed for this purpose during the plan period.

The total outlay required for establishing above mentioned educational institutions in the district during the period of next five years is estimated at Rs. 110 lakhs.

8.10 Medical & Health Services:

Because of peculiar climatic conditions and poor economic base of rural masses, Jhansi district has been able to receive special treatment regarding the medical and health services. Thus, the level of medical and health facilities available in the district is more than that of State average. But the dispersal of these facilities between urban and rural areas is lopsided and larger concentration is in the latter. The number of hospitals and beds per lakh of population in the district is respectively 3.21 and 145.24 against the corresponding numbers of 2.92 and 52.02 at the State level. But out of the total number of 1017 beds available in the district 945 are found in urban areas and only 72 beds exist in rural areas. Similarly, almost all the specialised medical facilities are centralised at Jhansi. Therefore, while suggesting any programme for the development of medical and health sector in the district, it would be essential to make suitable choice of locations for setting up of health institutions. This would help in extending medical and health facilities also to those interior areas which are,

at present, unserved with them. Considering the above aspect in the present context, it is proposed to establish 6 primary health centres, 13 medical dispensaries, 11 maternity-cum-child welfare centres and 7 family planning sub-centres. The central places where these institutions are proposed to be established during the period of next five years, are listed below:-

Sl. No.	Block	Locations of Proposed Facilities			
		Primary health centres	Family Planning Sub-Centres	Maternity-Cum-Child Welfare Centres	Dispensary
0	1	2	3	4	5
1.	Baragaon	-	-	1. Bhozela 2. Gardhmau 3. Ambabai	1. Bhozela
2.	Moth	1. Semthar	1. Talaur	-	2. Poonch 3. Sekin
3.	Bangra	-	-	4. Bangra	-
4.	Bamaur	2. Garautha Khas	2. Nota 3. Kakarwai 4. Sarsenda	5. Nota 6. Eskil Buzurg	4. Eskil Buzurg 5. Kakarwai
5.	Babina	3. Khailar	5. Baidora	7. Budhpura 8. Bijauli	6. Khailar (Au.) 7. Budhpura 8. Khajuraha Buzurg (Au.) 9. Bijauli (Au.)
6.	Chirgaon	4. Samari	-	9. Garahia 10. Baghera	10. Ammargari
7.	Gursarain	5. Tori-Fatehpur	6. Simardha	11. Bijaura	11. Markuwan
8.	Mauranipur	6. Rewan	7. Bhadarwara khurd	-	12. Bamhori 13. Churara

Moreover, two out of the existing eight Primary Health Centres of the district are at present, functioning in rented buildings with inadequate accommodations. It is, therefore, proposed to construct the building of these two P.H.Cs. during the plan period. Besides, it is also proposed to strengthen the existing services of various Primary Health

Centres by providing adequate facilities of equipments, staff and the medicines.

An outlay required for carrying out the above mentioned programme in the district during the period of next five years is estimated to be about Rs. 75 lakh.

8.10.1 Family Welfare Programme:

High priority has been attached to Family Welfare Programme. By the close of 1984-85, it is proposed to cover 7 persons per thousand under voluntary sterilization, 1.8 persons under I.U.C.D. and 7 persons per thousand under regular contraceptive users programme. A sum of Rs. 10 lakh will be needed to carry out this programme in the district during the next five years.

8.11 Drinking Water Supply:

The number of villages which have been identified by U.P. Jal Nigam for providing drinking water facilities in the district is 278, out of which 88 villages were provided with this facility upto the end of March, 1979. Thus, the number of villages which do not have proper facilities of potable water supply, comes to 190. However, owing to the constraints of financial resources, it would not be possible to provide this facility to all these villages. It is, therefore, proposed to cover 50 villages by piped water supply during the period of next five years. Moreover, it is also proposed to construct 210 drinking water wells in 115 villages. Construction of these wells will be taken up by the department of Rural Engineering Service. Since Harijans living in the villages do not have proper water supply, preference in selection of sites will be given to those Bastis where Harijan population is largely concentrated. The total outlay required for the purposes of drinking water supply is estimated at Rs. 165 lakh which will be met from the State Sector.

8.12 Production and Requirement of Commodities For Household Consumption:

An effective implementation of the proposed programmes of different sectors is expected to bring about a significant improvement in overall economy of Jhansi district at the end of 1984-85. Moreover, the targets fixed for production of different commodities

are likely to be achieved. On the other hand, the estimates of requirement of different commodities based on the present pattern of demand for household consumption of Jhansi and the increased income have also been worked out, following the principal of Engel Elasticity of Demand. It, therefore, becomes relevant in the present context to examine as to what extent the production of different commodities would match with their requirement for household consumption at the end of 1984-85. The estimates of annual production and household consumption of certain selected commodities for Jhansi for the year 1984-85 are given in the following table :

TABLE - 8.33
TARGETED PRODUCTION AND ESTIMATES OF AGGREGATE ANNUAL CONSUMPTION
OF SELECTED COMMODITIES FOR JHANSI DURING 1984-85.

Sl. No.	Name of Commodity	Targeted production 1984-85	Aggregate annual consumption 1984-85	('000Tonnes)
				Surplus/deficit in production against requirement (%)
0	1	2	3	4
1.	Wheat	132.52	121.14	+ 9.39
2.	Rice	5.40	16.85	-67.95
3.	Gochana	63.57	51.81	+22.70
4.	Jowar	41.98	65.42	- 35.83
5.	Arhar	20.61	5.09	+304.91
6.	Mustard Oil	1.19	1.37	- 13.14
7.	Sugar & Khandsari	0.89	1.25	- 28.80
8.	Milk ('000 litres)	44,010	21,860	+ 101.33

It is clear from the above table that the production of wheat, Gochana and Arhar by the end of 1984-85 would increase to the extent that the requirement of these commodities for the projected population of Jhansi district would be fully met and a sizable quantity of marketable surplus of these commodities would be available for disposal. Arhar is one of these commodities which is likely to fetch a marketable surplus to the tune of 15.52 thousand tonnes.

Since the area is not specialised in the production of Sugarcane mainly because of rocky and hilly characteristics of soil and limited scope of irrigation facilities, it would not be possible to meet the total requirement of sugar and Khandasari with the targeted production of sugarcane in the district during 1984-85 and the shortfall in production against the total requirement would be around 29 per cent. Moreover, taking into account the existing production potentials, the target for production of mustard oil in Jhansi at the end of 1984-85 is fixed at 1.19 thousand tonnes, showing a shortfall of about 13 per cent against its estimated requirement of 1.37 thousand tonnes.

Lastly, on the basis of the present pattern of demand it is estimated that the annual requirement of milk for the projected population of Jhansi district in 1984-85 would be 21,860 thousand litres. Since it is proposed to reorganise and strengthen the whole animal husbandry programme on scientific lines it is expected that the annual production of milk would achieve the level of 44.010 thousand litres. Thus, even if 50 percent of this total milk produce is diverted towards manufacturing of milk products, i.e., Ghee, butter, etc, the remaining 50 per cent would be more than sufficient to maintain the existing pattern of demand for the projected population.

CHAPTER - IX

MANPOWER UTILISATION.

In this chapter, efforts have been made to work out estimates of total population, labour force, workers employed and backlog of unemployment for Jhansi district during the years 1972-73, 1979-80 and 1984-85 besides additional employment opportunities likely to be generated as a result of the implementation of various programmes incorporated in the present district plan. The methodology for deriving these estimates is given below:-

- (i) The annual growth rate of population in the district during the decade 1961--71 was 2 per cent. The estimates of population for 1972-73, 1979-80 and 1984-85 have been worked out, following the growth rates of 2.0 per cent, 1.81 per cent and 1.4 per cent for the periods 1971--79, 1979--84 and 1984 onwards respectively.¹
- (ii) Theoretically speaking, the whole population cannot be treated as gainfully employed because children, students and old persons particularly those above the age of 59 years are not supposed to be the earning members and therefore cannot be considered active in economic sense. In fact, all that population which falls in the age-group of '15 years to 59 years' generally constitutes the labour force, out of which certain members are already employed and are, therefore, designated as workers. Moreover, some of them are unemployed persons who are always in search of jobs or in the pursuit of getting some gainful employment. The workers and those who are in search of jobs should, therefore, constitute the labour force in true sense. But in view of non-availability of data, the total number of persons falling in the category of '15 years to 59 years' are generally counted in the labour force. However, in the² present case the participation ratio of Jhansi, i.e., 43.71 has been applied to find out the total labour force for the district during the years 1972-73, 1979-80 and 1984-85.
- (iii) The estimates of workers employed in Jhansi district for the year 1979-80 have been worked out in accordance with the ratio between the workers employed and the labour force in the district during 1972-73.

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1. Projected population of Uttar Pradesh - February, 1973, Economics and Statistics Division of State Planning Institute, Lucknow.
 2. 27th Round of National Sample Survey, 1972-73, Government of India. This participation ratio has been worked out by considering the total population aged 5 years or above only.

- (iv) As a result of the implementation of the proposed Integrated Area Development Plan, it would be possible to create additional employment opportunities within the district in different sectors of its economy. These estimates for various sectors have been worked out on the basis of certain selected norms. Thus, the total number of workers in the district at the end of 1984-85 would be equal to the total number of workers employed in 1979-80 and those who will get employment as a result of the implementation of the present plan.
- (v) The backlog of unemployment in Jhansi district during the years 1972-73, 1979-80 and 1984-85 has been arrived at by subtracting the number of workers employed from the total labour force.
- (vi) Employment norms given in National Commission on Agriculture¹ have been suitably modified keeping in view the topography and other physical conditions of district for using them to quantify sector-wise additional employment likely to be generated as a result of implementation of this indicative plan. Besides, the norms for certain programmes/schemes, which were not available in National Commission on Agriculture have also been developed by holding discussions with the concerned departments for using them in the present context.

Thus, the estimates of total population, labour force, workers employed and the backlog of unemployment for Jhansi district during the years 1972-73, 1979-80 and 1984-85 are given in the following table:-

TABLE - 9.1

ESTIMATES OF POPULATION, LABOUR FORCE AND EMPLOYMENT

Sl. No.	Items	('000 Persons)		
		1972-73	1979-80	1984-85
0	1	2	3	4
1.	Total Population	887	1038	1131
2.	Population in the Age Group of 5 years and Above.	750	878	957
3.	Total Labour Force	327.83	383.77	418.30
4.	Workers Employed	318.94	373.38	416.05
5.	Persons Unemployed	8.89	10.39	2.25

It would be evident from the above table that the total population of Jhansi district, which was 8.87 lakh in 1972-73, would increase to the levels of 10.38 lakh and 11.31 lakh at the end of 1979-80 and 1984-85 respectively. On the other hand, the total labour

1. National Commission on Agriculture, 1976, Part-III, Rural Development and Special Area Programmes, Government of India, Ministry of Agriculture and Irrigation, New Delhi.

force, which was 3.28 lakh persons in Jhansi during 1972-73, is expected to increase to 3.84 lakh and 4.18 lakh by the end of 1979-80 and 1984-85. Moreover, the number of workers employed, which was 3.19 lakh in 1972-73, would attain the levels of 3.73 lakh and 4.16 lakh at the end of 1979-80 and 1984-85 respectively. Correspondingly, the backlog of unemployment, which was 0.09 lakh persons in Jhansi during 1972-73, would increase to 0.10 lakh in 1979-80 and significantly reduce to 0.02 lakh persons at the end of 1984-85.

In order to reduce the problem of unemployment in the district, efforts have been made through the present plan to select programmes/schemes of the productive sectors in such a fashion that a maximum possible number of employment opportunities would be created as a result of the implementation of the present integrated area development plan. The sectorwise estimates of additional employment likely to be generated in the district during the period of next five years are given in the following table :-

TABLE - 9.2

SECTORWISE ESTIMATES OF ADDITIONAL EMPLOYMENT TO BE GENERATED IN
THE DISTRICT DURING THE PERIOD 1980--85.

Sl. No.	Sector	Number of persons likely to be employed at the end of 1984-85
0	1	2
1.	Agriculture	7438
2.	Soil Conservation	1400
3.	Irrigation	17125
4.	Forests	350
5.	Animal Husbandry	1932
6.	Fisheries	69
7.	Cooperatives	303
8.	Industries	7965
9.	Roads	4372
10.	Power	333
11.	Education	1204
12.	Medical & Health	182
<u>TOTAL</u>		<u>42673</u>

It is clear from the above table that as a result of the implementation of the present integrated area development plan, it would be possible to create additional employment opportunities to 0.43 lakh persons in Jhansi district during the period of next five years and the backlog of unemployment would significantly reduce to 0.02 lakh at the end of 1984-85.

Schemewise estimates of employment for various sectors of the economy in the district for the period of next five years alongwith the selected norms are given in appendix-3.

CHAPTER - X.

FINANCIAL IMPLICATIONS.

The present integrated area development plan aims at providing socio-economic infrastructural facilities at appropriate locations in a decentralised manner for overall and balanced growth of the economy on the one hand and ensuring proper arrangements for supplies of inputs required for accelerating the pace of agricultural and industrial development on the other. While making choice of sectoral programmes for implementation, efforts have been made to select mainly those programmes/schemes which are employment oriented and expected to percolate larger benefits to the members of the target group. Besides, for effective implementation of the proposed programmes, efforts have also been made to mobilise maximum possible support from the people by way of offering special incentives in the form of grant and subsidy.

The sector-wise financial outlays required for implementation of the proposed programmes are given in the following table :-

TABLE - 10.1

SECTORWISE REQUIREMENT OF FINANCIAL OUTLAYS FOR IMPLEMENTATION OF PROPOSED PROGRAMMES.

(in Rs. lakh)

Sl. No.	Sector	Requirement of financial outlays for the period of 1980--85			
		State Sector	Institutional finance	People's participation	Total
0	1	2	3	4	5
1.	Agriculture	137.80 (7.72)	399.57 (26.68)	67.37 (12.99)	604.74 (15.90)
2.	Soil Conservation	50.00 (2.80)	Nil	Nil	50.00 (1.32)
3.	Irrigation	487.36 (27.30)	309.29 (20.65)	124.27 (23.96)	920.92 (24.21)
4.	Horticulture	Nil	Nil	120.50 (23.23)	120.50 (3.17)
5.	Forest	122.99 (6.89)	Nil	Nil	122.99 (3.22)
6.	Animal husbandry	100.75 (5.64)	138.10 (9.22)	4.28 (0.83)	243.13 (6.38)
7.	Fisheries	15.61 (0.87)	Nil	3.75 (0.72)	19.36 (0.51)

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0	1	2	3	4	5
8. Cooperatives		21.31 (1.19)	Nil	23.76 (4.58)	45.07 (1.18)
9. Industries		31.02 (1.74)	517.05 (34.52)	159.68 (30.78)	707.75 (18.62)
10. Roads		391.50 (21.93)	Nil	15.15 (2.91)	406.65 (10.75)
11. Power		67.18 (3.76)	133.65 (8.93)	Nil	200.83 (5.28)
12. Education		110.00 (6.16)	Nil	Nil	110.00 (2.88)
13. Medical & health		85.00 (4.76)	Nil	Nil	85.00 (2.24)
14. Drinking water supply.		165.00 (9.24)	Nil	Nil	165.00 (4.34)
TOTAL		1785.52 (100.00)	1497.66 (100.00)	518.76 (100.00)	3801.94 (100.00)

It would be evident from the above table that the total outlay required for carrying out all the proposed programmes in Jhansi district during the period of next five years is estimated to be Rs. 3801.94 lakh, out of which Rs. 1785.52 lakh (i.e., 46.96 per cent) will be met from the State sector, Rs. 1497.66 lakh (i.e., 39.39 per cent) will be arranged through the institutional finance and the remaining Rs. 518.76 lakh (i.e., 13.65 per cent) will be contributed by the people participating in various programmes proposed for implementation.

Scheme-wise requirement of financial outlays for different sector is given in appendix-4.

Appendix - 1.

BLOCKWISE AREA UNDER DIFFERENT CROPS IN JHANSI DURING 1976-77

Sl. No.	Crops	Area under different crops in								Total
		Chirgaon	Moth	Gursa-rain	Bamaur	Maura-nipur	Bangra	Babi-na	Barag-aon	
0	1	2	3	4	5	6	7	6	7	8
A - KHARIF :										
1.	Paddy	314	953	23	13	484	574	974	1389	4724
2.	Maize	1	1	-	-	-	-	3643	267	3912
3.	Jowar	7438	6025	15176	12397	11316	9501	213	2901	64967
4.	Bajra	2	12	1	32	78	4	1	34	164
5.	Urd	30	35	-	-	167	291	1128	228	1879
6.	Moong	2	10	11	13	13	112	1449	240	1850
7.	Sigarcane	5	8	6	1	26	86	20	15	167
8.	Arhar	2466	1983	4350	3992	3490	2664	17	647	19609
9.	Oilseeds	208	92	191	375	545	649	1397	662	4119
10.	Others	39	2	14	3	274	467	934	182	1915
TOTAL - A		10505	9121	19772	16826	16393	14348	9776	6565	103306
B - RABI :										
1.	Wheat	12505	21145	11900	12973	10870	10030	6895	10228	96546
2.	Barley	36	226	166	581	286	313	903	183	2694
3.	Gram	12296	14667	19546	18057	13338	8610	1315	4285	92114
4.	Pea	127	96	2	5	11	50	25	505	821
5.	Masoor	2241	5559	58	87	159	386	309	827	9626
6.	Oilseeds	149	358	322	628	238	177	5	8	1885
7.	Potato	20	8	7	3	20	248	22	138	466
8.	Others	43	41	2	1	37	49	12	24	209
TOTAL - B		27417	42100	32003	32335	24959	19863	9486	16198	204361
C.- ZAID :										
Zaid Crops		-	1	-	-	-	3	1	1	6
TOTAL - C		-	1	-	-	-	3	1	1	6
TOTAL -(A + B + C)		37922	51222	51775	49161	41352	34214	19263	22764	307673

SOURCE : Statistical Bulletin 1978, Office of the Economics and Statistics Division, Jhansi.

appendix - 2.AREA PROPOSED UNDER DIFFERENT CROPS FOR 1980--85.

Sl. No.	Crops	Chirgaon	Moth	Gursarain	Bamaur	Mauranipur	Bengra	Baragaon	Babina	Di strict
0	1	2	3	4	5	6	7	8	9	10
A - KHARIF :										
1.	Paddy	598	1816	44	25	1922	1094	1647	1856	9002
2.	Maize	150	150	250	350	300	300	1700	3100	6300
3.	Jowar	8011	6489	16345	13352	12187	10230	3124	229	69967
4.	Bajra	5	16	4	35	80	5	5	34	184
5.	Urd	45	55	15	15	200	305	286	1158	2079
6.	Moong	230	240	240	240	243	152	275	480	2100
7.	Sugarcane	8	15	10	5	36	101	22	20	217
8.	Arhar	2566	2087	4553	4160	3688	2760	680	115	20609
9.	Oilseeds	300	250	460	600	659	900	950	700	4819
10.	Others	100	115	100	100	250	250	450	450	1815
TOTAL - A		12013	11233	22021	18882	19565	16097	9139	8142	117092
B - RABI :										
1.	Wheat	14505	22035	14000	1400	13000	12000	11000	9897	110437
2.	Barley	208	230	270	300	330	440	411	805	2994
3.	Gram	13396	15767	21646	20257	14938	9960	2915	2085	100964
4.	Pea	177	144	52	55	150	65	553	125	1321
5.	Masoor	2291	5609	108	137	209	436	877	359	10026
6.	Oilseeds	800	958	1025	1230	888	780	400	404	6485
7.	Potato	320	308	307	303	320	648	348	262	2816
8.	Others	35	35	35	35	40	40	40	35	295
TOTAL - B		31732	45086	37443	36317	29875	24369	16544	13972	235338

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Sl. No.	Crops	Chirgaon	Moth	Jursarain	Bamaur	Mauranipur	Bangra	Baragaon	Babina	District
0	1	2	3	4	5	6	7	8	9	10
C - <u>ZAID</u> :										
	1. Vegetables & Tobacco	10	10	10	10	9	9	9	9	76
	TOTAL - C	10	10	10	10	9	9	9	9	76
	TOTAL (A + B + C)	43755	56329	59474	55209	49449	40475	25692	22123	352506
	Intensity of Cropping	111.77	107.41	110.63	110.25	117.36	117.76	116.30	148.71	114.12

Appendix - 3.

SCHEMewise ESTIMATES OF EMPLOYMENT FOR DIFFERENT SECTORS
IN JHANSI DURING THE PERIOD OF NEXT FIVE YEARS.

Sl. No.	Sector=/Scheme.	Unit	Physical Targets	Selected Norms	Number of persons likely to be employed
0	1	2	3	4	5
<u>1. Agriculture :</u>					
(i)	Additional area to be brought under double/multiple cropping.	Ha.	28098	One person per 5 ha.	5620
(ii)	Coverage of additional area under high yielding varieties.	Ha.	45000	One person per 26 ha.	1730
(iii)	Establishment of seed and fertilizer stores.	Number	16	Four persons per store	64
(iv)	Establishment of Agriculture Service Centres.	Number	4	Six persons per centre	24
TOTAL					7438
<u>2. Soil Conservation:</u>					
(i)	Area to be treated by soil conservation measures	Ha.	5000	1400 persons per '000 ha.	1400
TOTAL					1400
<u>3. Irrigation :</u>					
(i)	Additional irrigation potential likely to be created by minor, medium and major irrigation works.	Ha.	70773	(i) Construction of irrigation works @ 1.2 man years per ha. (ii) One man year per 100 ha. for operation and maintenance.	16985 142
TOTAL					17127

	0	1	2	3	4	5
4. Forests:						
(i)	Plantation of fast growing species.	Ha.	1254	250 mandays per ha.		209
(ii)	Roadside plantation.	Ha.	750	-do-		63
(iii)	Railway line plantation.	Ha.	330	-do-		28
(iv)	Establishment of Deer park.	Number	5	10 persons per park		50
TOTAL						350

5. Animal Husbandry :

(i)	Distribution of Improved.					
(a)	Cows	Number	3400	One person per 5 cows		680
(b)	She-buffaloes	-do-	4400	One person per 5 She-buffaloes		880
(c)	Goats	-do-	5650	One person per 40 Goats		141
(ii)	Establishment of A.I. Centres.	Number	2	8 persons per A.I. Centre		16
(iii)	Establishment of Stockman cum-A.I. Sub-Centres.	Number	14	4 persons per Stockman cum-A.I. sub-Centre		15
(iv)	Frozen Semen Centre.	Number	1	15 persons per Centre		15
(v)	Establishment of goat development centres.	Number	5	5 persons per centre		25
(vi)	Establishment of small household poultry units with 20 laying birds in each unit.	Number	800	One person per 100 poultry birds		160
TOTAL						1932

6. Fisheries:

(i)	Appointment of Fisheries Inspectors in 7 blocks.	Number	7	One person in each block		7
(ii)	Establishment of fish seed production farm.	Number	1	17 persons per farm		17
(iii)	Formation of fishermen cooperative societies.	Number	4	5 persons per society		20
(iv)	Deepening and improvements of ponds/tanks.	Ha.	50	One person per 2 ha.		25
TOTAL						69

	0	1	2	3	4	5
7. Cooperatives :						
(i)	Establishment of fertilizers and pesticides depots.	Number	13	4 persons per depots		52
(ii)	Construction of rural godowns.	Number	20	3 persons per godown		60
(iii)	Establishment of rural godowns.	Number	20	4 persons per godown		80
(iv)	Conversion of viable societies in to F. S. S.	Number	26	4 persons per society		104
(v)	Establishment of cooperative cold storage.	Number	1	7 persons per cold-storage.		7
TOTAL						303

8. Industries :

(i)	Establishment of small scale industrial units.	Number	311	2 persons per unit		622
(ii)	Establishment of Khadi & Village industries.	Number	1525	1 person per unit		1525
(iii)	Establishment of handloom units.	Number	5818	1 person per unit		5818
TOTAL						7965

9. Roads:

(i)	Construction and maintenance of pucca roads by :					
(a)	P. W. D.	Kms	261	80 man years per Km. for construction and one man year per Km. for maintenance.		4209
(b)	Zila Parishad.	Kms	10.1	-do-		163
TOTAL						4372

10. Power/Electricity :

(i)	Construction of H.T./L.T. lines and Electrification of villages/Harijan Basties.	Kms.	919	One person per 2.76 Kms of H.T./L.T. lines		333
TOTAL						333

0	1	2	3	4	5
<u>11. Education:</u>					
(i)	Establishment of Primary Schools.	Number	104	4 persons per school	416
(ii)	Establishment of Junior High Schools.	Number	54	8 persons per school	432
(iii)	High Schools.	Number	16	16 persons per school	256
(iv)	Intermediate colleges.	Number	5	20 persons per college	100
<u>TOTAL</u>					<u>1204</u>
<u>12. Medical & Health :</u>					
Establishment of -					
(i)	Dispensaries.	Number	13	4 persons per dispensary	52
(ii)	Maternity-cum-child welfare centres.	Number	11	3 persons per centre	33
(iii)	Family Planning sub-centres.	Number	7	One person per sub-centres	7
(iv)	Primary Health Centres.	Number	6	15 persons per P.H.C.	90
<u>TOTAL</u>					<u>182</u>
<u>GRAND TOTAL</u>					<u>42673</u>

Appendix - 4.

SCHEMewise REQUIREMENT OF FINANCIAL OUTLAYS FOR THE IMPLEMENTATION
OF PROPOSED PROGRAMMES OF DIFFERENT SECTORS

(In Rs. Lakh)

Sl. No.	Sector-/Schemes	Unit	Physical targets for 1980--85 plan	Requirement of Financial Outlays for the period of 1980--85			Total
				State Sector	Institutional Finance	People's participation	
0	1	2	3	4	5	6	7
I - AGRICULTURE :							
1. Distribution of improved seeds							
		M.T.					
	(i) Paddy	"	72	0.96	54.42	-	2.88
	(ii) Maize	"	15	0.25		-	0.75
	(iii) Jowar	"	60	1.00		-	3.00
	(iv) Wheat	"	3000	25.00		-	75.00
	TOTAL		3147	27.21	54.42	-	81.63
2. Distribution of Chemical fertilizers							
	(i) Nitrogenous	M.T.	3400	64.10	128.20	-	192.30
	(ii) Phosphatic	"	1700				
	(iii) Potassic	"	1600				
	TOTAL		6700	64.10	128.20	-	192.30
3. Requirement of pesticides/insecticides for							
	(i) Soil treatment	M.T.	157.500	1.58	3.15	-	4.73
	(ii) Seed treatment	"	1,575	1.21	2.41	-	3.62
	(iii) Weedicides	"	1:050	0.12	0.25	-	0.37
	(iv) Pests and Diseases	"					
	(a) Pests control 50% area:						
	75% area	1000 Litres	3.750	0.25	0.50	-	0.75
	25% area by B.H.C.	M.T.	31.250	0.10	0.21	-	0.31
	(b) Diseases 50% area	M.T.	10.000	0.40	0.80	-	1.20
	TOTAL			3.66	7.32	-	10.98
4. Layout of demonstrations.							
	(i) Paddy	No.	200	0.25	-	0.43	0.74
	(ii) Maize	"	50	0.06	-	0.12	0.18
	(iii) Jowar	"	200	0.18	-	0.36	0.54
	(iv) Wheat	"	500	0.75	-	1.51	2.26
	TOTAL		950	1.24	-	2.48	3.72

0	1	2	3	4	5	6	7
5. Distribution of improved agricultural implements:							
(i)	Soil turning ploughs (Bullocks Driven)	No.	7450	1.11	2.24	-	3.35
(ii)	Cultivators(3 tined)	"	2500	0.74	1.51	-	2.25
(iii)	Olpad threshers (20 Discs)	"	1850	3.69	7.41	-	11.10
(iv)	Winnowing fans	"	1850	1.74	3.81	-	5.55
(v)	Power threshers	"	1850	-	31.91	10.64	42.55
(vi)	Tractor		350	-	162.75	54.25	217.00
<u>TOTAL</u>			<u>15850</u>	<u>7.28</u>	<u>209.63</u>	<u>64.89</u>	<u>281.80</u>
6. Establishment of seed and fertilizer stores							
		No.	16	8.00	-	-	8.00
7. Establishment of Agriculture service centres.							
		"	4	26.31	-	-	26.31
<u>TOTAL AGRICULTURE</u>				<u>137.80</u>	<u>399.57</u>	<u>67.37</u>	<u>604.74</u>

II. SOIL CONSERVATION:

1. Area to be covered by Soil Conservation measures.							
		Ha.	5000	50.00	-	-	50.00

III. IRRIGATION:

1. Irrigation potential likely to be created by:							
(i)	Major/Medium irrigation works	Ha.	28223	340.37	-	-	340.37
(ii)	Minor irrigation works.	Ha.	42550	146.99	309.29	124.27	580.55
<u>TOTAL IRRIGATION</u>			<u>70773</u>	<u>487.36</u>	<u>309.29</u>	<u>124.27</u>	<u>920.92</u>

IV. HORTICULTURE :

1. Additional area to be brought under horticulture							
		Ha.	1403	-	-	160.55	160.55

V. FORESTS :

1. Plantation of fast growing species							
		Ha.	1253.73	12.54	-	-	12.54
2. Roadside plantations							
		Km.	750.00	13.75	-	-	13.75
3. Railwayline plantations							
		Km.	330.00	15.75	-	-	15.75
4. Building Constructions							
		Km.	15.00	6.50	-	-	6.50
5. Communication schemes:							
Extension of forest roads							
		Km.	105.00	1.95	-	-	1.95
6. Social Forestry							
		Ha.	1000.00	20.00	-	-	20.00
7. Establishment of Deer parks.							
		No.	5.00	12.50	-	-	12.50

0	1	2	3	4	5	6	7
8. Rehabilitation of degraded forests		Ha.	4000.00	10.00	-	-	10.00
9. Fencing			-	30.00	-	-	30.00
<u>TOTAL FORESTS</u>				<u>122.99</u>	<u>-</u>	<u>-</u>	<u>122.99</u>

VI. ANIMAL HUSBANDRY:

1. Distribution of improved:							
(i) Cows	No.	3400	22.66	45.34	-	-	68.00
(ii) She-buffaloes	"	4400	43.99	88.01	-	-	132.00
(iii) Goats	"	5650	-	4.75	2.04	-	6.79
2. Establishment of A.I. centres	"	2	10.00	-	-	-	10.00
3. Establishment of Stockman cum-A.I. sub-centres.	"	14	-	-	-	-	-
4. Establishment of frozen semen centre	"	1	10.10	-	-	-	10.10
5. Coverage of area under fodder crops	Ha.	160	0.12	-	-	0.12	0.24
6. Establishment of goat development centres	No.	5	12.16	-	-	-	12.16
7. Establishment of small household poultry units with 20 laying birds in each unit	No.	800	-	-	-	-	-
8. Purchase of birds @ Rs.2.50 per bird.	"	16000	1.72	-	-	2.12	3.84
9. Distribution of night shelters @ Rs.250 per shelter.	"	800	-	-	-	-	-
10. Poultry feeds @ 50gms/bird Qtl.	Qtl.	960	-	-	-	-	-
<u>TOTAL ANIMAL HUSBANDRY</u>				<u>100.75</u>	<u>138.10</u>	<u>4.26</u>	<u>243.13</u>

VII. FISHERIES :

1. Appointment of fisheries inspectors.	No.	7	3.00	-	-	-	3.00
2. Establishment of fish seed production farms	No.	1	10.74	-	-	-	10.74
3. Deepening and improvement of ponds/tanks	Ha.	50	-	-	-	-	-
4. Purchase of Boats, Nets etc.	No.	-	1.87	-	-	3.75	5.62
5. Assistance to Fisheries Cooperative Societies	No.	-	-	-	-	-	-
6. Distribution and Stocking of fingerlings	Lakh	30	-	-	-	-	-
<u>TOTAL FISHERIES</u>				<u>15.61</u>	<u>-</u>	<u>3.75</u>	<u>19.36</u>

	0	1	2	3	4	5	6	7
VIII. COOPERATIVES :								
1. Construction of Rural Godowns.	No.	20	-	-	-	12.00	12.00	
2. Conversion of viable societies into F.S.S.	"	26	21.31	-	-	-	21.31	
3. Establishment of Cooperative Cold Storage.	"	1	-	-	-	5.00	5.00	
4. Establishment of seed and fertilizer depots	"	13	-	-	-	6.76	6.76	
TOTAL COOPERATIVES			21.31	-	-	23.76	45.07	
IX. INDUSTRY :								
1. Establishment of small scale industrial units	No.	311	20.00	463.12	154.37	637.49		
2. Establishment of khadi & village industries	"	1525	7.62	10.67	4.58	22.87		
3. Establishment of Handloom units.	"	5818	1.90	43.26	0.73	45.89		
4. Establishment of weavers cooperative and marketing societies.	No.	4	1.50	-	-	1.50		
TOTAL INDUSTRY			31.02	517.05	159.68	707.75		
X. ROADS :								
1. Construction of Pucca roads by P.W.D.	Km.	261.0	391.50	-	-	391.50		
2. Construction of Pucca roads by Zila Parishad	"	10.1	-	-	15.15	15.15		
TOTAL ROADS		271.1	391.50	-	15.15	406.65		
XI. POWER :								
1. Construction of H.T. lines.	Km.	701						
2. Construction of L.T. lines.	"	218	67.18	133.65	-	200.83		
3. Electrification of villages/Harijan Basties	No.	522		(REC)				
TOTAL POWER			67.18	133.65	-	200.83		
XII. EDUCATION :								
1. Establishment of:								
(i) Primary Schools	No.	104						
(ii) Junior High Schools	"	54	110.00	-	-	110.00		
(iii) High Schools	"	16						
(iv) Intermediate Colleges	"	5						
TOTAL EDUCATION			110.00	-	-	110.00		

	0	1	2	3	4	5	6	7
<u>XIII. MEDICAL & HEALTH :</u>								
1. Establishment of dispensaries.			No.	13)				
2. Establishment of M.C.W.C.			"	11)	45.00	-	-	45.00
3. Establishment of Family Planning sub-centres.			"	7)				
4. Establishment of Primary Health Centres.			"	6	30.00	-	-	30.00
5. Family Welfare Programmes			"	-	10.00	-	-	10.00
<u>TOTAL MEDICAL & HEALTH</u>					<u>85.00</u>	<u>-</u>	<u>-</u>	<u>85.00</u>
<u>XIV. DRINKING WATER SUPPLY :</u>								
Provision of drinking water facility in scarcity villages			No.	50	165.00	-	-	165.00
<u>GRAND TOTAL</u>					<u>1785.52</u>	<u>1497.66</u>	<u>518.76</u>	<u>3801.94</u>

APPENDIX - 5.METHODOLOGY FOR DETERMINING THE MAGNITUDE AND DIRECTION
OF CONSUMER DEMAND FOR JHANSI DURING THE YEARS
1980 AND 1984.

In a planned system of development, an exercise relating to the determination of the magnitude and direction of future demand for different commodities assumes added importance. This would help in assigning priorities for development on one hand and assist in determining the level and pattern of investment on the other. In an effort to prepare a comprehensive plan for Jhansi district, it has accordingly been considered necessary to work out consumption profile for Jhansi, based on change in income levels at two points of time, i.e., 1980-81 and 1984-85.

The demand for various goods and services at any point of time depends on total income and also on the consumption pattern, which is normally measured with the help of Engel elasticity of demand.

As income distribution is not uniform within the district, it varies between rural and urban areas as also among different category of households within rural/urban itself. In rural areas, a better classification will be according to land holding classes, because major income comes from agriculture. Whereas, for urban areas, usual expenditure classes may be suitable for this purpose.

The magnitude of household consumption depends upon the nature and quantum of demand for different commodities. Since income is one of the principal determinants of demand, comprehensive knowledge of both the level of income and demand elasticities of income are essential. Here, income elasticity for a given item is defined as the proportionate change in its consumption due to a given proportionate change in income.

The magnitude and direction of future demand for different commodities, inter-alia depends mostly upon the consumer behaviour, population and income. In case of persons belonging to identical income (or expenditure groups), their consumption habits markedly differ due to

geographical and a number of other factors, which are usually difficult to specify. The usual practice, however, is to relate the level of consumption of particular commodity with income by employing different Engel functions, which are known to yield different values of elasticities. Nature of the commodity in question for which demand forecast has to be made, becomes a guiding factor in identifying an appropriate Engel function. For example, in the case of food items, we must postulate a saturation level of per capita consumption. Whether such a cut-off point would reach within the forecast period requires careful consideration.

The change in per capita consumption of a particular commodity is a function of income elasticity of demand for that commodity and the rate of growth of per capita income. Given the base year estimates in respect of per capita consumption (Y_0) and the demand elasticity (e) of a particular commodity, the per capita demand in a future year (Y_t) may be estimated as :

$$Y_t = Y_0 \left(1 + e \frac{I_t - I_0}{I_0} \right) \dots \dots \dots (1)$$

where I_0 and I_t denote the per capita income in base year (0) and the future year (t).

In the above equation (1), the elasticity 'e' may be taken as constant or variable. The constant elasticity of income assumes that it remains unchanged during the period of prediction. In fact, the income elasticity is subject to variation with change in income. Thus, the demand projection with variable elasticity assumption may define a situation altogether different than one depicted by constant elasticity. The variable elasticity for period t, e_t may be defined as $e_0 \cdot k_t$ where, e_0 is base year elasticity and k_t is multiplier.

It is also evident from the equation (1) that apart from income elasticity and consumption levels of the base year, the other important parameter ⁱⁿ determining the demand is per capita income for the base year as also for the targeted year for different classes of rural and urban households separately. However, if classwise per capita income is not available, the estimates for overall rural and urban population may be worked out separately by using pooled elasticities separately for rural

and urban areas. Further, if incomes for rural and urban areas are also not known, the pooled elasticities for the district as a whole may be used to get the district level estimates of demand for different commodities.

The data requirement may be summarised as below:-

- (i) Category-wise total consumption expenditure on different commodities as also separately for rural and urban areas.
- (ii) Household income for different categories of household in rural and urban areas for the base year as well as for the targeted year.
- (iii) Population for the base year and targeted year and its distribution by categories.

Estimation of base year Consumption and Elasticity:

The consumption data are normally available through N. S. S. The latest data have been collected in 32nd round of N. S. S. for the year 1977-78, however, the results of this survey are still not available. The detailed data were collected in the year 1969-70 in which rural households were classified according to size of their land holdings. These categories were :-

A. Agriculturists:

- (i) Below 1.00 acre
- (ii) 1.00 to 2.25 acre
- (iii) 2.25 to 6.25 acre
- (iv) 6.25 to 15.00 acre
- (v) 15.00 to 30.00 acre
- (vi) 30.00 and above

B. Non-agriculturists:

Urban households were classified on the basis of monthly household expenditure. The expenditure classes were :

- (i) Upto Rs. 100
- (ii) Rs. 100 to 200
- (iii) Rs. 200 to 400
- (iv) s. 400 to 600
- (v) Rs. 600 and above

The consumption in quantity terms for the important commodities in the two extreme categories (highest and lowest) both in rural and urban areas is given in Table - I.

It may be seen from the table that wheat occupies the most important place among the eight commodities considered in terms of per capita per day consumption. This is equally true for rural and urban population and both categories within these two sections of population. The table shows that per capita per day wheat consumption for rural category A and B works out to Kg. 0.1545 and Kg. 0.3227 respectively. The corresponding figures for urban A and B categories are Kg. 0.2269 and Kg. 0.3077 respectively. The consumption of wheat in urban A is higher as compared to that in rural areas. However, the consumption of wheat is lesser in urban B than that of rural B.

The rice consumed by rural A category is higher than any other category. The consumption of Arhar is the highest in rural category B. Consumption of gur works out to be the lowest in urban category B and the highest in rural category B. The consumption of mustard oil is much higher in urban area as compared to rural area in respective categories. However, within the urban area consumption of mustard oil is fairly higher in category A than that of urban category B.

TABLE - I.

PER CAPITA PER DAY CONSUMPTION OF DIFFERENT COMMODITIES FOR CATEGORY A & B OF RURAL AND URBAN HOUSEHOLDS IN JHANSI DISTRICT DURING 1969-70

Sl. No.	Commodity	(Kg.)			
		Per capita consumption (Kg.)			
		Rural		Urban	
	A	B	A	B	
0	1	2	3	4	5
1.	Wheat	0.1545	0.3227	0.2269	0.3077
2.	Rice	0.0337	0.0232	0.0230	0.0281
3.	Arhar	0.0127	0.0223	0.0165	0.0207
4.	Gur	0.0102	0.0198	0.0147	0.0082
5.	Mustard oil	0.0021	0.0036	0.0114	0.0071
6.	Milk	0.0206	0.0971	0.0412	0.0992
7.	Sugar & Khandsari	N.A.	0.0088	0.0144	0.0203
8.	Vanaspati ghee	0.0000	0.0024	0.0033	0.0077

NOTE: Category - A Rural : households with landholding size below 1.0 acre.
Urban : households with monthly expenditure upto Rs. 100
 Category - B Rural : households with landholding size 30 acres or more.
Urban : households with monthly expenditure of Rs. 601 or more.

In respect of the milk consumption, there exists wide gap between the lowest and highest consumer categories in both rural and urban area. Sugar and Khandasari and Vanaspati ghee recorded negligible consumption in the lowest consumer category in rural area. The consumption of these commodities is higher in urban area as compared to rural part.

Demand Projection for 1980-81 and 1984-85:

It has been observed that the annual growth of income in Jhansi during the period 1968-69 to 1975-76 was 3 per cent. It has been assumed that the economy of district Jhansi will have the same rate of growth during the period 1969-70 to 1980-81. The corresponding growth rate for the period 1980-81 to 1984-85 has been estimated to 4 per cent per annum on the basis of the target of production as envisaged in the plan. Taking into consideration, the growth rate of population, the growth rate of the per capita income works out to 1.2 per cent and 2.2 per cent respectively in the above two periods.

The aggregate amount of important commodities has been estimated with the help of following formula:

$$Y_t = Y_o \left\{ 1 + c \left(\frac{I_t - I_o}{I_o} \right) \right\}$$

The demand projections for 1980-81 and 1984-85 are given in table -2.

TABLE - 2
ESTIMATES OF AGGREGATE ANNUAL HOUSEHOLD CONSUMPTION FOR JHANSI FOR
THE YEARS 1980-81 AND 1984-85.

Sl. No.	Name of Commodity	Estimates of aggregate consumption for		Percentage increase in 1984-85 over 1980-81
		1980-81	1984-85	
0	1	2	3	4
1.	Wheat and wheat products	100.60	121.14	20.42
2.	Rice & rice products	12.66	16.85	33.10
3.	Gram and gram products	4.13	5.18	25.22
4.	Jowar and jowar products	58.75	65.42	11.35
5.	Gochana and gochana products.	44.78	46.63	4.13
6.	Arhar	4.33	5.09	17.55
7.	Mustard Oil	1.16	1.37	18.10
8.	Vegetables and its products	45.62	55.27	21.15
9.	Milk	18.78	21.86	16.40
10.	Cloth (silk, woollen, art. silk except readymade garments, wool etc.) ('000 meters)	4868	5768	18.49
11.	Vanaspati ghee	0.60	0.76	26.67
12.	Sugar and Khandasari	1.06	1.25	17.93

The above table reveals that the rise in demand in 1984-85 over 1980-81 in absolute term will be the highest for wheat, obviously because it occupies the most important place among the commodities of household consumption considered in the present context. However, while considering the increase in demand in terms of percentages during this period, the rice registers the highest increase (33 per cent), followed by vanaspathi ghee (26.67 per cent), gram (25.42 per cent), vegetables (21.15 per cent), and wheat (20.42 per cent). Besides, these percentages in relation to Gochana and gochana products and jowar and jowar products are found to be comparatively of lower order i.e., 4.13 and 11.35 respectively. This is an indicative of the fact that with the rise in income, consumption habits of the people would change and consequently the demand for superior commodities would increase and that of inferior commodities would decline. The demand for rest of the commodities is estimated to increase in the range of 16 and 18 per cent during this period.

DISTRICT JHANSI

GENERAL FEATURES



- STATE BOUNDARY
- DISTRICT BOUNDARY
- TALUK BOUNDARY
- MUNICIPAL BOUNDARY
- KHASMANO W.O.
- IMPORTANT ROAD
MUCHHA ROAD
- RAILWAY LINE
- RIVER & CANAL
- DEGREE COLLEGE
- INTERMEDIATE COLLEGE
- HIGH SCHOOL
- POST OFFICE
- FORMER HEALTH CENTRE
- HEALTH PLANNING CENTRE
- DISPENSARY (MEDICAL)
- WATER HOSPITAL
- VETERINARY HOSPITAL

DISTRICT JHANSI

GROWTH CENTRES



- WATER BOUNDARY
- DISTRICT BOUNDARY
- TALUK BOUNDARY
- TRASHLAND BOUNDARY
- VILLAGE BOUNDARY
- GRANITE ROAD
- RAILWAY LINE
- RIVER & BRIDGE
- GROWTH CENTRE
- SERVICE CENTRE
- OTHER V. CENTRE



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