

## **CHAPTER – 3.**

### **CLASSIFICATION AND GROWTH OF AGRO – INDUSTRIAL UNITS AND RURAL DEVELOPMENT**

#### **( A. ) CLASSIFICATION OF AGRO – INDUSTRIAL UNITS**

In broad sense NCAER (The National Council of Applied Economic Research) has defined Agro-Industries as those which use either agricultural raw material or make things that farmers need for agricultural purposes.

On the basis of the above concepts Agro-Industries are classified into four categories.

**(I) – Agro-produce Processing Units -**

**(II) Agro-produce Manufacturing Units -**

**(III) Agro-Inputs Manufacturing Units –**

**(Iv) Agro-service Centers**

The above classification of agro-industries has been made by treating agriculture as the only primary sectors. Agriculture in a narrow sense refers to mere crop production. But in a wider sense it includes allied activities like, dairy, poultry, animal husbandry, fishery, forestry and horticulture

outputs.

Accordingly, agro-industries in a broad sense include those industries which use products and raw materials of the aforesaid primary sectors directly and indirectly and convert the same into semi-finished and finished products. Besides, agro-industries also include units that manufacture inputs for the purpose of use by agriculture and sectors allied to agriculture. In the present study agro-industries classified in a broad sense are taken into consideration.

### **( I ) AGRO – PRODUCE PROCESSING UNITS**

Agriculture is the mainstay of the Indian population our economy is mainly agriculture based. Since independence for a pretty long period the development planning process has been having an urban industrial based. Decentralized development – strategies and bottom – up approach have been adopted by the government of India recently and the rural areas are being given due weightage. Integrated rural development programmes (I.R.D.P.) is being extended to all the development block. A block has become a planning unit for achieving the goals of removal of spatial disparities, Rural poverty, unemployment, exploitation etc.

Beyond any doubt agriculture is the main occupation of more than 80 % of the people in the district directly or indirectly, various agriculture activities in many forms are carried out. Important agricultural products of the area are wheat, paddy , pulses, Maiz, corn, oil seeds , fruits, potatoes etc, These products may serve raw materials for the industries concerned.

### **RICE MILLS :**

In spite of having a huge quantity of production of paddy there is no rice mill in the district on large or medium scale. Plenty of haulers function to make rice from paddy.

The rural areas of the district are in the need of some more rice mills to convert of paddy into rice district with an average capacity of 400 tons each the entire products of paddy will be used.

After the rice mills are started the by – products such as husk and bran will used further. Some more units will be required to extract bran oil and husk energy. This will give additional employment to the rural people which may argument there income to improve the standard of living.

**FLOUR MILLS**

Almost every nook and corner of the district has got small flour grinders where wheat is ground on a very small scale. Much wheat is ground in hand operated chakkies for domestic use. Two roller flour mills are functioning in Lucknow city which requires some more flour mills in addition to the existing ones.

**PULSE MILLS**

As per the figures of 1982 the total production of pulse is about 27830 tons. After deducting 10 % of the pulses i.e. 2783 tons for seeds and about 11388 tons required by the existing processing units, about 13659 tons remaining pulses require some additional units for processing. These units are required to be started in far flung rural growth centers of the district.

**POTATO CHIPS PLANTS**

Among Vegetables UP leads in the production of potato and green peas. UP has the distinction of leading potato producer in the country and whereas among other districts Lucknow also has a comparatively low productivity of

Potato per the analysis of district-wise production the below trend of potato production.

**(Area in Hectare, Production in MT and Productivity in MT per Hectare)**

District	1995-96			2000-2001			2005-2006		
	Area	Prod.	Pvty.	Area	Prod.	Pvty.	Area	Prod.	Pvty.
Lucknow	6445	125048	19.4	5107	69423	13.6	3515	55312	15.7
Farukhabad	54518	1316937	24.1	29221	766876	26.2	31442	804947	25.6
Firozabad	12502	325552	26.0	18508	435012	23.5	33975	863135	25.4
Agra	8747	260941	29.8	18662	569023	30.4	39800	983936	24.7
Badayun	15788	293830	18.6	16612	304282	18.3	23119	469662	20.3
Hardoi	9497	164830	17.3	11334	155661	13.7	11432	186502	16.3

(Source : Directorate of Horticulture, Govt. of Uttar Pradesh, Lucknow)

The state contributes almost 35 percent of total production in the country in terms of productivity the state is way ahead with 22.3 tonne per hectare as against the national average of 18.8 Uttar Pradesh is also a major supplier to potato processing industry mostly located in western and southern part of the country. The range of potato chip production includes high technology lines having a production capacity from 80 up to 2,000 kg/h of finished

product. And the range of French fry production includes high technology lines having a production capacity from 300 up to 6,000 hg/h of finished product. Many areas in the state including Agra, Farrukhabad, Kanauj, Lucknow, are known for high quality processing variety potatoes. Potatoes are also exported from the state to many countries including Sri Lanka, Saudi Arabia, etc.

### **TOMATO AND CHILIS SAUCE EXTRACTION UNITS-**

The district has got sufficient production of mangoes, guavas, jack, fruits, papayas, onions, tomatoes, chilies etc. fruits and vegetables may be used as raw materials for jams, jellies, pickles, sauce etc. but Fruit preservation and fruit-canning have not been developed in the form of an industry. It is more or less in the shape of occupation. Fruit preservation units may be started on small scale in village. For this purpose some training centers are needed at the service centres to train the rural folk. Some technological improvement may be made in this regard the government may be give subsidy and loan on nominal interest to those who want to set up such plants.

## **(II) AGRO PRODUCE MANUFACTURING UNIT**

### **BAKERY, BREAD & BISCUITS**

The Indian bakery industry is dominated by the small scale sector with an estimated 50,000 small and medium-size producers, besides the 15 units in the organized sector. Apart from the nature of the industry is widely dispersed also due to the reservation policies of the government. The two major bakery products, biscuits and bread, account for 82 % of the all bakery production. The unorganized sector accounts for about two-thirds of the total biscuit production estimated at 1.5 m tones and around 90% of the other bakery products estimated at 0.6 m tones. The last includes pasteries, cakes, buns, rusks and others.

Biscuit is estimated to enjoy around 37% share by volume and 75% by value of the bakery industry. The organized sector caters to the medium and premium segment. Which are relatively less price-sensitive. The organized sector is unable to compete at the lower price range due to the excise advantage enjoyed by the informal sector. The organized segment in biscuits has witnessed a steady growth of about 6%, conforming broadly to the growth rate of GDP. The production crossed the one-million tonne mark in 1995-96 which has now grown by estimated 30%.

Bakery industry in India is the largest of the food industries with an annual turnover of about Rs.32000 Crores. India is the second largest producer of biscuits after USA.

The quantities of bread and biscuits produced are more or less the same. However, value of biscuits is more than bread. The industry largely continues to be in the unorganized sector contributing over 70% of the total production. Bakery products earlier considered as sick manac –diet, have now become an essential food item of the vast majority of population. Though bakery industry in India has been in existence since long, real fillip came only in the later part of 20<sup>th</sup> century. The contributing factors were urbanization, resulting in increased demand for ready to eat products at reasonable costs.

The bakery units are unevenly spread and are mainly concentrated in Maharashtra, West Bengal, Andhra Pradesh, Karnataka and Uttar Pradesh. Industrially advanced States like Maharashtra and West Bengal have very large number of bakery units. The per capita consumption is very high in industrialized States like Maharashtra and West Bengal. The biscuits are becoming quite popular in rural areas as well. Nearly 56-57% of the biscuits are consumed by rural sector. The higher consumption of biscuits in rural area could be attributed to its position as a snack.

## **SUGAR UNITS**

Uttar Pradesh Sugar Industry is one of the largest sugar industries in the Indian economy. The lavish measures in form of new promotional policies for the Uttar Pradesh sugar industry by the state government of Uttar Pradesh was introduced at a time when it was much needed to further boost the growth of the Uttar Pradesh sugar industry. The improvement in the plant capacity and the introduction of new techniques which enables the optimization of the existing plant capacities has the further made the growth definite. With the new promotional policies of the Uttar Pradesh sugar industry. The investors have already starting eyeing the future prospects. There are 20 more sugar processing units are coming up as a part of Uttar Pradesh sugar industry. The existing companies under the Uttar Pradesh sugar industry are planning an investment pertaining to expansion of about Rs.4,000 crore. At present the major companies in the Uttar Pradesh sugar industry are Balrampur, Chini, Bajaj, Hindustan Ltd. Etc a batch of Brownfield and Greenfield expansion projects has already started their activities of crushing cane the increase in the capacity would help the Uttar Pradesh sugar industry to churn out an extra 140,000 tons of crushed cane everyday to the existing 2.5 million tons of sugar produced within a few

years time. The total sugar production under the Uttar Pradesh sugar industry would lead to 7.5 million tons. Making Uttar Pradesh the biggest manufacturer of sugar in India.

The Uttar Pradesh sugar industry has bright future as one of the prospective players in the global sugar market. The demand for a sugar across the world has been growing exponentially. The Uttar Pradesh sugar industry with its capacity can cater to this international demand. The advantages of the Uttar Pradesh sugar industry are that the cost of production is quite low and the climatic conditions and the condition of the soil are favorable to the sugarcane production.

### **STRAW BOARD UNITS**

Strawboard outperforms wood-based board due to possession of the following attributes. Higher strength, superior dimensional stability, lighter weight, better machining characteristics, increased screw and nail holding ability, more moisture resistance, no formaldehyde emissions, improved laminating attributes, and fire resistance in some strawboard. In addition to superior workability, use of straw not only helps farmers deal with agricultural residues disposal problems, but also relieves wood shortage.

Further, farmers can receive additional income by selling straw to strawboard manufacturing factories.

Unlike particleboard made of wood, strawboard is made of compressed straw from cereal crops, such as wheat, barley, rye, oats, rice, and even several grasses. The workability of strawboard products is similar to particleboard as they can be sawn, drilled, routed, nailed, screwed, and glued. The variation of strawboard performance may be affected by geometries of fibers and flakes, by the ratio of a mix of fibers and flakes, by content of the isocyanate binder, and by board density.

The strawboard industry is burgeoning. Due to the similarity of strawboard to particleboard. In their applications as well as durability, strawboard is considered a proper substitute for particleboard, and its market potential is substantial.

Hence, the construction of a strawboard manufacturing plant in rural areas can considerably benefit rural economic development. This analysis indicates that it is feasible to establish strawboard manufacturing plants in rural areas.

**ALCOHAL UNITS**

There is no dearth of wheat and barley from which malt may be extracted in sufficient quantity. The demand of the same is there and in other parts of the state especially in drug industries. This is also required in food processing industries. Some small scale industries for this purpose may be started at rural growth centers.

**NEEM OIL**

Quality of Neem oil depends on type of extraction manufacturing of Neem oil includes the collection of raw materials for the extraction and selection extraction method. Neem oil is extracted from neem leaf and neem seed. Neem seed is widely used in the extraction process instead of neem leaf as the oil content is found to be more in seeds than in the leaf. Firstly, the fruits are collected in a drum, and the kernels are separated to obtain the seeds. Later the seeds are washed, dried and then feed into the oil extraction machine in case of mechanical pressing method. The neem oil is obtained by pressing it mechanically and collected in a drum. Thus filtration is done to remove the various unwanted particles left in the extracted oil in order to obtain neem oil.

**RICE BRAN**

Rice bran is the hard outer layer of grain and consists of combined aleurone and pericarp. Along with germ. It is an integral part of whole grains. And is often produced as a by product of milling in the production of refined grains. When bran is removed from grains, the latter lose a portion of their nutritional value. Bran is present in and may be milled from any cereal grain, including rice, corn (maize), wheat, oats, barley and millet. Bran should not be confused with chaff, which is coarser scaly material surrounding the grain but not forming part of the grain itself.

Bran particularly rich in dietary fiber and essential fatty acids and contains significant quantities of starch, protein, vitamins and dietary minerals.

Rice bran is a by-product of the rice milling process (the conversion of brown rice to white rice), and it contains various antioxidants that impart beneficial effects on human health. A major rice bran fraction contains 12% -13% oil and highly unsaponifiable components (4.3% ).

### **(III) AGRO-INPUTS MANUFACTURING UNIT**

These industrial units produce goods either for mechanization of Agriculture or for Increasing productivity ( e.g., fertilizer, pesticides, insecticides, and agricultural implements)

Agriculture and allied sector contributes 24% of the total GDP and provide employment to around 67% Indian population ( Planning Commission, 2002) Use of chemical fertilizer and pesticides have played a positive role in increasing agricultural productivity and in a making India self-sufficient in food grain production. Yield of food-grain in India increased from 644 k.g. per hectare in 1966-67 to 1636 k.g. per hectare in 2000-2001 ie. The Registered an impressive increase by around two and half times. This was mainly brought about by a more then 12 fold increase in the consumption of chemical fertilizers ( from 1.1 million ton to 13.56 million tons) during the same period ( Pawan Wadhwa 2001.) this a part, inorganic chemical use in agriculture has also contributed towards increasing productivity of cash crops.

After this prolonged dependence on inorganic and mineral components for agriculture growth there has been an increasing demand for rethinking agricultural growth strategy. Agriculture sustainability ( Pretty j. 1998), Soil

degradation (soil productivity and soil structure), bio-diversity (CSE, 1998), impact on human health and on environment as a whole are the some of the concerns that are being raised for reviewing part of the agricultural growth potentials based on the corrent strategy. Search for alternates with a focus on long-term sustainability of agriculture has been enhanced in the last decade. In developed countries the initiatives towards greening agriculture have been prompted both by market attractiveness as well as state support activities Usage of bio-fertilizer & bio-pesticides, organic farming ( Bernhard Berger, 2001), Biodynamic farming ( Planning Commission, 2001) low input agriculture, permaculture ( Allan Atkisson 1991), sustainable agriculture ( Pretty J.1998), Integrated farming practices that are being espoused by proponents both in developed and developing countries. All these practices have evolved as alternatives to chemical use in agriculture keeping in view the increasing demand for green agriculture products across the world (Gilk Paul, 2003), This growing demand for green agriculture products is both a constraint as well as window of opportunity not only for the agriculturists but also for producers, suppliers and traders of agriculture input ( fertilizer, pesticide etc.) and outputs.

As a result of increasing domestic and international demand for greening agriculture across the countries both economic and non-economic actors

such as institutions/organizations, industrial and trading firms, farming communities, civil society and their representatives played significant role in determining the extent of greening the agricultural production activities.

#### **(IV) AGRO –SERVICE CENTER**

WORKSHOPS AND SERVICE CENTERS ENGAGES IN REPAIRING AND SERVICING OF PUMP SET, DEASEL ENGINES TUBEWELLS, TRACTORS AND ALL TYPES FARM IMPLEMENT

Agro- service center are the those industries which are engaged in repairing and servicing of pump sets, diesel engines, tractors and all types of farm equipments.

About 37.92 % of area are canal irrigated where as 8.01 % and 1.6 % are irrigated by well and other sources respectively, more than fifty percent of the area i.e. 52.44 % are irrigated by tube-wells, this it is very clear that tube-wells are the most important and reliable sources of irrigation. The irrigation by tube-wells plays a very important role in the growing various crops in various parts of the district. These areas where there is proper facility of irrigation produce two crops in a year.

Private pumping sets using electric and mechanical power are gaining popularity amongst individual formers where canal irrigation is not available under ground water table is not very low and formers want more assured irrigation for intensive forming. Irrigation through lakes, tanks and pounds was very popular in must of the villages of the district in the past the maximum area irrigated being 31565 hectare today hey have been relegated to insignificant irrigation only 4281 hac . of cropped land ( 2000 - 2001 )

**( B.) GROWTH OF AGRO – INDUSTRIAL UNIT :-**

(I) THE STUDY COVERS THE DEVELOPMENT OF AGRO-INDUSTRIAL UNITS SINCE THE LAST 5 YEARS FROM ( 1999 – 2004 )

The ninth year plan for agro-industries is to be formulated in the background of government's serious concern to provide fillip to agricultural sector. The programmes for agricultural development would include such items as augmenting production of agricultural commodities, optimum utilization of agricultural raw material, higher value addition, better form income, higher employment generation,

And enhancement of export . The ninth five year plan of Lucknow which covers the period from 1999-2004, also gives more emphasis on the development of agro-industries and aims at fulfilling the above goals. Since agriculture is the principal economic activity and bulk of the state's population earn their livelihood from it, The development of agro-industries has received utmost attention during the plan period. It is observed that in Lucknow district all the Agro industries belonging to four categories selected for the study have played their role well in promoting development in the district.

These are industries which are likely to play a major role in the development of state economy in general and rural economy in particular . These industries have a high promise of value addition and creation of large –scale employment opportunities in the district the scope of developing these industries can be seen from the discussion given below.

#### **RICE MILLS :**

In the district the total production of paddy during the year 2001 was 44630 tons. In spite of having such a huge quantity of production of paddy there is no rice mill in the district on large or medium scale. Plenty of haulers function to make rice from paddy. The total number haulers

working in the district is seventy and they require 75 tons of paddy per season will be 13500 tons approximately . about 8926 tons of paddy are required for manual processing and 17721 tons will be needed for further processing . Rest 4462 tons of paddy will be needed for sowing the same in the next year.

The rural areas of the district are in the need of some more rice mills to use 17721 tons of paddy. If 44 rice mills are started in the district with an average capacity of 400 tons each the entire products of paddy will be used. Fig -3.1

## **FLOUR MILLS**

Almost every nook and corner of the district has got small flour grinders where wheat is ground on a very small scale. If we take the production of wheat in 2001 we see that about 129400 tons of wheat was produced. Roughly 300 floor grinding unit are functioning in the rural areas. They grind about 3285 tons of wheat per month on average. Much wheat is ground in hand operated chakkies for domestic use. Two roller flour mills are functioning in Lucknow city which require about 60 tons of wheat ( roughly 78240 tons ) is left un ground which requires some more flour mills

in addition to the existing ones. The following figures give a very clear picture.

	<b>Tons</b>
1- Annual production of wheat	129400
2- Requirement of grinders per year	39420
3- Requirement of traditional grinders i.e. chkkies per year	25880
4- 10 % of wheat reserved for seed in the next year	12940
5- Remaining wheat for which grinders are needed	78240

The figures given above show that some flour mills are needed in the rural areas for grinding purposes. (Fig-3.1)

### **PULSE MILLS**

As per the figures of 1982 the total production of pulse is about 27830 tons. After deducting 10 % of the pulses i.e. 2783 tons for seeds and about 11388 tons required by the existing processing units, about 13659 tons remaining pulses require some additional units for processing. These units are required to be started in far flung rural growth centers of the district.

## **TOMATO**

For maximum germination of the tomato seed ( 90 -95 percent ) it is very important that the seeds be germinated in propagation trays using artificial soil in nurseries where the humidity, Temperature and light can be regulated or preferably in hardening green houses.

For germinating and growing tomato seedlings for planting in one acre green house, a seedling nursery green house of approx. 40-45, m. is required.

## **MALT EXTRACTION**

There is no dearth of wheat and barley from which malt may be extracted in sufficient quantity. The demand of the same is there and in other parts of the state especially in drug industries. This is also required in food processing industries. Some small scale industries for this purpose may be started at rural growth centres.

## **COLD STORAGE PLANTS**

There is very bright scope of starting cold storage plants in the rural areas to store potato which is very important crop of the district in the absence of space in cold –storage plant a large quantity of potato rots every

year. About 70000 tons of potato lie un-stored due to non availability of space in various cold storage plants. According to the figure of 1982 the total production of potato was 112090 tons out of which only 26000 tons were stored in 13 cold –storage plant scattered in the district.

### **FRUIT PRESERVATION AND FRUIT CANING ETC.**

Fruit preservation and fruit-canning have not been developed in the form of an industry. It is more or less in the shape of occupation. The district has got sufficient production of mangoes, Guavas, jack, fruits, papayas, onions, tomatoes etc. fruits and vegetables may be used as raw materials for jams, jellies, pickles, sauce etc. fruit preservation units may be started on small scale in village. For this purpose some training centres are needed at the service centres to train the rural folk. Some technological improvement may be made in this regard the government may be give subsidy and loan on nominal interest to those who want to set up such plants.

### **ANIMAL BASED INDUSTRIES**

Animal products such as skins, hides, meat, bones, wool, milk etc. are very important raw materials for many small scale and village industries. According to the census of 1991 the total number of animals was 524731

(Table 3.1) and milk production was estimated to be 283566 tons. Keeping in view the production of such a huge quantity there is a good scope of starting plants for milk powder, milk food, butter, condensed milk, etc. on small scale. At the moment there is only one plant on large scale functioning in the city which is far from being satisfactory.

Hides and skins is a very important raw material for tanning. In the district there are only 12 centres where the tanning is done on a very small scale. Most of the work is done on manual basis. There is great need to encourage this industry. At least one training centre is required to train the rural people for this purpose.

Some small scale industries to make toys, combs, handles, sticks, buttons and decorative pieces from bones and horns may be encouraged which do not exist at the moment. Bones may be used in fertilizers. Gobar gas plants may be made more and more popular in the rural areas. Cattle dung is a very important asset which is to be used maximum. Besides this poultries, piggeries, goateries, fisheries etc. are to be developed in a scientific way.

**TABLE No- 3.1**LIVE -STOCK RESOURCES OF THE STUDY AREA

<b>NAME OF ANIMALS</b>	<b>POPULATION</b>
COW AND BUFFALOES	150000
MILCH ANIMALS	42425
DAIRY ANIMALS	61302
NOT CALVED EVEN ONCE	11304
YOUNG STOCK	75403
SHEEP	32509
GOATS	135327
PIGS	7931
OTHER	8530
<b>TOTAL</b>	<b>524731</b>

**DAIRY UNITS**

There is vast scope for the development of dairy in Lucknow district among all the regions the eastern part provides the maximum scope for the development of dairy. In the absence of permanent pastures the district the cattle live on scanty grazing and barren land, cultivable waste

and current fallow which are not distributed evenly in all the blocks do to poor breed of cows and buffaloes the milk yield is very low moreover nourishment of the cattle is very poor on account of inadequate supply of fodder. The fodder position can be improved with the introduction of short duration fodder crops in between the principal grains, and cash crops. Some barren and waste land may be brought under fodder cultivation.

It is dairy necessity to take suitable steps to introduce better variety of cow and buffaloes which has already been taken under antyodaya programmes subsidy under this programme is given to the poor. Marginal formers and landless labourers.

There is very little demand of milk at the local level. Milk and milk products are sold in nearby towns or markets. Some collection and chilling centers may be started in the even the for flung areas. Those collection and chilling centers may function under the guide once of state animal husbandry department or the Indian dairy corporation.

## **SHEEP REARING**

As per table no. 3.1 the population of the sheep in the district is about 32509 which may be considered to be a good number. These sheep are kept mainly for wool. Mutton is not very popular in the district. The annual production of wool per sheep is about 1.5 kg. this production is a very low in comparison with the production in Australia which is 6 to 8 Kgs. Per sheep per year. The quality of this production is also very poor. It is due to the poor quality of sheep.

Since sheep are highly vulnerable to diseases, the farmers face a great trouble when at the time entire flock of sheep die. Insurance cover is required to be provided to such farmers, with a very low premium to encourage farmers to keep sheep. Some farmers in each block should be selected and incentives to be given to them in the shape of subsidy and loans to introduce some new breed of sheep, new technique and methods of wool processing. Some small scale industries are to be set up in each block which can buy wool from the farmers and prepare woolen goods to be sold back to them at considerable rates.

## **PIGGERIES**

It is not a very popular industry at the moment. Pigs are owned by the people of a particular caste. By and by piggery is becoming important and popular due to acute shortage of meat products in the market. Intensive propaganda is required to propagate the importance of piggery and to make pig rearing popular without any caste bias. The government should take up the following steps.

- A) Some bacon factories may be encouraged for processing meat and marketing of swine products.
- B) The production of corn is to be encouraged to provide better feeding so that pigs may not thrive on human dungs.
- C) The farmers should be encouraged to have middle white Yorkshire breed which is suitable in Indian condition. At least one boar is required for every 10 local sows.

In addition to meat pigs will provide hides and skin, hairs and bones which may serve as raw materials to many local small scale industries for making leather-goods brushes etc.

**GOATERY**

Goats are very important animals for poor people. They do not require much expenditure on maintenance. Very little money is spent on feeding. Normally leaves of peepal and other trees and bushes are obtained free of cost. They can thrive on very small grasses. Meat, milk, skin, hair, bones and horns are obtained from them. The rural people get an additional income on very little investment. Housewives maintain them with very little care and labor. However it is proposed to start goateries in the form of industries with some modern and scientific touch. Landless laborers and small farmers may be given some incentives in the form of subsidies and loans to purchase goats of better breed. At the first stage about 200 farmers are to be identified in each block under the incentive scheme. Such farmers are to be educated and trained to keep goats of better breeds.

**FISHERIES**

Fisheries are not popular at all in the district. There are small ponds and tanks here and there and fishing is done by the people of a particular caste "MALLAH" mainly. This occupation does not have any industrial importance. In addition to providing employment the fisheries may encourage some other associated industries such as boat making, net

making, fish processing etc. in some of the industries female labour also may get employment.

### **TRADITIONAL VILLAGE ARTISANS**

From personal enquiry it reveals that village artisans get employment between 75 and 175 days in a year and remain employed for the rest of the period. Excepting cobblers, masons, barbers, tailors, washer men most of the artisans face this malady of partial employment. Moreover village artisans do not find their occupation lucrative. They are either leaving their occupation or migrating to towns and cities. In search of some employment there. Carpenters, blacksmiths, goldsmiths, potters etc. have been put in very pitiable condition.

Actually their income has been very meager and they are not in position to maintain their livelihood with this earning. Some innovations and change of technology are needed only then they can be able to compete with their counterparts In towns and cities. They want to improve their knowledge and technology but financial hurdles exist in their way. The government is expected to come forward to help them to improve their lot.

## **DEMAND BASED INDUSTRIES**

Local needs and demands play a vital role in planning the demand based industries in rural areas. Since there is a very little scope of more employment in farm activities, non-farm activities are to be stimulated. For this purpose growth centres are to be taken into consideration which may act as hubs of industrial activities. There are certain potentials which are available in rural areas in plenty. The industries based on them are to be planned. Contrary to this there may be demand of certain industries raw materials for these may not be available locally. For such demand based industries raw materials are to be brought from outside. Keeping in view the consumer's demand, facilities to set up such industries are to be considered very seriously. There are certain areas where activities like bamboo work, animal husbandry, pest control, fisheries, poultry farming, bee keeping etc. may be introduced.

At every growth centre ( the list of growth centres has been given in chapter iii ) and suitable growth points some trades should be started. Eight trades are suggested for each growth center such as blacksmithy, carpentry, furniture making, tailoring, knitting, embroidery, leather goods manufacturing, tractor and farm equipment repairing, welding, baking and electrical goods repairing. The local demand and population potentials are to

be taken in to consideration while identifying such centers. The analysis of local demands must be made on the basis of the consumption pattern of the people of the area. An exhaustive list of the demand based industries is given below & FIG-3.3

1. Soap and detergents.
2. Khadi and Handloom
3. Utensils
4. Blankets
5. Bricks and tiles
6. Card BOARD
7. Leather goods
8. Buckets
9. Tobacco and associated products
10. Flour
11. Oil
12. Polished rice
13. Khandsari and gur
14. Persian wheel
15. Pesticides
16. Pumping set

17. Agricultural implements
18. Processed seeds
19. Fertilizers
20. Poultry seed
21. Fruit plants
22. Cattle feed
23. Bullock carts

### **POTENTIALITY FOR DEMAND BASED INDUSTRIES**

Before starting the planning for the industrial development, one must examine the infra-structure and market for the sale of products. It is but imperative to study economic and social standard plus the habits of the people for whom the goods are produced. That is the consumption must go side by side.<sup>3</sup>

Normally it is seen that the biggest part of income of the rural people are spent on food items. The next comes clothing etc. the rural people hardly spend even a small fraction of their income on leisure goods. No doubt the part of the earnings which is left after fulfilling the necessities goes to comfort items and not beyond that. However if the standard of living of the people improves a stage may come when they think to make their lives more

and more comfortable and in that case the demand of comforts and even leisure goods will go high. At the moment it is seen that due to low income the standard of living is very low and hence they are not in position to go for even nutritious food. A very great percentage of the rural people is below the poverty line and suffer from malnutrition. The people have very poor health. One of the contributory factors is high growth rate of population. Family planning programmes do not have much effect on the people because of illiteracy. With the adult education and intensives propaganda the rural educated mass is becoming conscious and awareness is taking place though the speed is very slow.

The food habits of the rural people are limited. Usually they take some cereals and pulses. some changes are required in the habits through education so that they think to add fruits and vegetables ; eggs etc. to make their diet balanced .

Keeping in view the suggestions given above some organized efforts are to be made to use modern technique of production and management in fruit and vegetable processing, dairy and bakery products. The demand of these products may come from nearby towns as well. The labor being cheap cost of production per unit must be lower than their counterparts in the city and towns .integrated complexes for producing,

and marketing fruits and vegetables may be conceived in certain suitable areas like Malihabad and Mohanlalganj. The need of horticultural complexes may be keep in mind. To improve the health of the people some health promoting cheap fruits of nutritious value must be made available at reasonable rates. In this direction special care is to be taken that management and technology of requisite standard are adopted so that the people for whom such complexes are started are well benefited.

A tentative list of the suggested industries to be started at each growth centre is given below:-

1. Poultry Products.
2. Bakery Products.
3. Meat and meat products.
4. Fats and Oils
5. Beverages and Fermented Food.
6. Fruits and other Associated Products.
7. Dairy Products.
8. Sugar and Confectionaries.
9. Cereal Products.
10. Spices and condiments.

## **NATURE AND MORPHOLOGY OF SUGGESTED INDUSTRIES**

There is no denying the fact that while conceiving to start an industry its nature and morphology are to be taken into account. Nature and morphology play a pivotal role which can not be ignored at any cost. Cost of production is the most important aspect which draws the attention of producers and consumers both. Cost of production determines the market price which is very much linked with demand.

By nature we mean the size of the industrial unit. The associated factors like amount of capital investment, natural resources and raw materials and their proximity, nature and size of market and the demand of the products. Quality and quantity of labor are also the determiners of the size of unit.

In the background of the controlling factors narrated above, size of the unit can be decided by the enterprenure whether it will be a large, medium or small scale.

Morphology means the pattern of industrial units. in the rural areas of Lucknow district, complexes consisting of many agro-industries are desirable. They will be more effective then isolated industrial units. There may be so many common facilities which can contribute to the reduction of cost of production. Many products will be very easily available to the local people.

A complex can be developed with the help of the principal products easily available near by or on the basis of by products of the existing industrial units. So many problems can be automatically overcome. Transportation cost will be reduced to the minimum. Variety of resource materials available at the complexes will be contributory factors in the reduction of the cost of production.

In the direction of setting up industrial complexes researches are going on the various parts of the country. Mini rice mills, mini pulse mills, mini maize mills etc. can be set up as designed by C.F.T.R.I. Mysore. A paddy husk combuster-cum preheater for drying moist paddy in rice mills has been designed very successfully by C.F.R.I. Dhanbad. With the help of this machine the paddy husk will be saved from burning which may be used as another by product. The R.R.L Hyderabad has manufactured a very good quality of activated carbon which may be useful in decolorization of sugar solution and vegetable oils. With the help of paddy husk, R.R.L. Jorhat has been successful in processing household detergents. (Table no.3.2 )

The industrial complexes suggested above will facilitate inter-dependent industries side by side. A main complex will encourage the establishment of small complexes. Ancillary industries will flourish with very little efforts. The same factory may crush sugar cane in one season and

maize in the other. Thus the factory will function throughout the year. In place of giving seasonal employment it will give full time employment to the people. Such industrial complexes may definitely help in promoting the economy of the rural people.

TABLE NO. 3.2

USE OF AGRICULTURAL WASTES

KINDS OF WASTE	AGENCY WHICH IS RESPONSIBLE FOR TECHNOLOGY	PRODUCT AND ITS USE
1. Baggasse	NERI Nagpur	1 Cellulose Manure
		3 Single cell protein
	NRT Jorhat	4 Paper and paper Board
2. Rice Bran	CDRI Lucknow	1 Phytin & Lecithin
		3 Tocopherol
	4 Phosphatides	
	CFTRI Mysore	5 Bran Oil
3. Wheat Bran	CFTRI Mysore	1 Pectinoletic Enzymes
		2 Enzyme Bates
		3. Amyloglucosidase

4. Oil Cakes	CFTRI Mysore	1 Multipurpose Foods 2 High Protein Foods 3 Protein Hydrolysate 4 Poultry Feed
5. Seed Husk	CLRI Madras	1 Gum 2 Tenin
6. Kernel	Atira Ahmedabad	1 Textile Sizing Starch
7. Mollasses	CFTRI Mysore	1 Alcohol 2 Yeast 3 Oxalic Acid
8. Stalk, Twigs And Leaves	RPL Jammu	1 Alcohol 2 Pulp 3 Biogas 4 Hydrol
9. Spent Wash	CSAMCRI Bhavnagar	1 Potassium Fertilizers
10. Press mud	CBRI Roorkee	1 Building Lime 2 Wax
11. Rice Husk	R.R.L. Hyderabad C.F.R.I. Dhanbad and	1 Activated carbon 2 Fuel

CMERI Durgapur	Paddy husk
	Cumbuster -
	Cum-preheater for drying paddy
CETI Varanasi	3 Edible oil
IPIRI Sitapur	4 Particle Board
CBRI Roorkee	5 Cementitious Binder
RRL Jorhat	6 Detergent Powder
CRII Ballabgarh	7 Husk Cement

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Source- Small Industry Extension Training Institute Hyderabad.

## PROPOSED INDUSTRIES AND THEIR LOCATIONS

While looking at the location of industries in the various rural areas some geographical factors are to be kept in mind. A region having certain basic requirements will definitely attract the attention of the capital investing agencies. All the areas can not have the same level in every respect. Some areas may have more raw materials and natural resources, better transport facilities, more and cheaper labour etc. Local inertia also

plays an important role in this direction. Thus the prospect of starting industries at the places where better prospects are available is better.

At the same time it can not be denied that our concentration of industries at certain places has an adverse effect and many kinds of social and economy evils may crop up. The concentration leads to all kinds of pollutions, health hazards and moral insecurities.<sup>4</sup>

Now the regional planners are aware of the evils indicated above and therefore thinking very seriously about the decentralization of industrial activities. Rural areas of the district, have no doubt rich potentialities of agricultural products which are more or less perishable in nature. The industries can not be started at great distance from such perishable raw materials. In other words it is always preferable to advocate the policy of starting industries in proximity to the raw materials is reduced to minimum.

Keeping in view the facts detailed above and the location of growth centres, growth points and growth cells the following suggestions are made where the industries may be started. (Fig-3.3)

#### **1. FRUIT PRESERVATION**

Preference goes in favour of Mal, Malihabad, Madwana Surgauli, Kharaan, Kasmandi Khurd.

## **2. DAIRY PRODUCTS**

Locations which can be suggested for this area Mohammadnagar, Banthara, Kakori, Rahimnagar, Bijnor, Gauri, Kharika, Mall, Mahipat, Thawar, Farrukhabad.

### **1. SAW MILLS**

Locations such as Chinhat, Gosainganj, Sadarpur, Mal, Sarojininagar, Mau, Kakori, Itaunja are suggested.

### **2. FATS AND OILS**

Location such as Kakori, Malihabad, Gosainganj, Bakshi-Ka-Talab, Gauri, Itaunja, Mandwana, Mahona, Banthara, Sarojininagar, Sadarpur Karora, Nabi- panah are suggested.

### **3. CROP PROCESSING**

Such processing work is possible around the agro-growth centres where power supply, transport facilities, storage facilities, servicing and repair of machine etc. Are available. Locations such as Mal, Malihabad,

Saspan, Bakshi-Ka-Talab, Mohona, Itaunja, Rudhai, Khushalganj, Kashmandi, Kalan, Kalipachim, Nagaram, Sameshi and Piparsand.

## **6. RICE MILLING**

Suggested locations are : Gosainganj, Nagaram, Kakori, Banthara, Bahrauli, Itaunja, Mal, Mau, Chandrawal, Kakori, Behta, Nabipanah, Mandiaon, Kakora, Rajkapur, Sissendi.

## **7. PULSE MILLING**

Suggested locations are : Nagaran, Itaunja, Banthara, Kakori, Khushalganj, Saspan, Rudhai, Gouri, Mandiaon, Kathwara, Bani, Bijnor, Mahona, Adampur, Nigohan, Purseni, Miraknagar, Bikkas, Behroo, Mitauli, Jamolia, Ain, Seori.

## **8. WHEAT MILLING**

Suggested locations are : Malihabad, Chinhat, Kakori, Mohanlalganj, Banthara, Rudhai, Itaunja, Mal, Karora, Sadarpur.

## **9. HORTICULTURE**

Muazzamnagar, Mal, Jindaur, Malihabad, Nabipanah, Gonda, Saspan, Khalispur, Diwarnagar, Kasmandi Kalan, Mandawana, Remipara are suggested.

#### **10. BRICKS, TILES AND EARTHEN POTS**

Suggested locations are Gosaionganj, Sameshi, Nagram, Juggaur, Bakkas, Ghazipur, Mitauli, Amethi, Onila Mohammadnagar, Jahta, Khalispur, Chandrawal, Aim, Behta, Raipur, Raja, Mal, Thawar, Kshetiya, Behroo.

#### **11. COLD STORAGE**

Suggested location are Nagaram, Rajapur, Mau, Paharpur, Bhadrak, Itaunja, Kakori, Mahona, Juggaur, Indora Ghazipur, Mandiaon.

#### **12. CANE AND BAMBOO WORK**

Of course, the cane and bamboo products have been replaced by the plastic products which are comparatively cheaper. Consequently the demand of cane and bamboo has gone down. But apart from everything cane and bamboo products have their own importance. Suggested locations are Gosainganj, Karora, Mau, Bahrauli, Sarojininagar, Mohona, Harauni, Rasulpur, Thawar, Rudhai, Utrawan, Nagaran, Mal.

### **13. KHADI AND HANDLOOM**

Suggested location are Chinhat, Malihabad, Kakori, Bhadruk, Khaliapur, Mahmudnagar, Kamkaha, Jindayur, Ujariaon, Thawar, Nabipanah, Gopra, Mau, Bahrauli, Utrawan, Amethi, Miranknagar, Sallampur.

### **14. METAL BASED INDUSTRIES**

Suggested places are Chinhat, Banthara, Mal, Bhadruk, Rudhai, Mal, Malihabad, Itaunja, Rajapur, Kakori, Indora, Nagaran, Mahibullapur, Mau.

### **15. LEATHER GOODS AND LEATHER TANNING**

Suggested location are Nagaram, Jindaur, Chinhat, Mohona, Mahmudnagar, Mandiaon, Mal, Kakori, Sespan, Kharika, Sarisawan, Amethi, Bijnor, Bani, Banthara, Gauri, Bhadruk, Rahimnagar, Mandawara, Mati.

### **16. WOODEN FURNITURE AND AGRICULTURAL APPLIANCES**

For wooden Furniture and agricultural appliances suggested location are Sarojininagar, Ismailganj, Nagaram, Sissendi, Jindaur, Mal, Nijohan,

itaunja, Banthara, Mau, Gosainganj, Kakori, Khushalganj, Amethi, Bijnor, Mahona, Bhadrak, Adanpur, Bakkas, Mitauli, Chandrawal, Nabipanah.

#### **17. SHEET METAL AND METAL FURNITURE**

Suggested location are Sarojininagar, Mahona, Itaunja, Nagaran, Bakkas, Harauni, Mal, Mau, Gauri, Sissendi, Malihabad, Kallipachim, Banthara, Gosainganj, Amethi, Chinhat, Ghazipur, Ujariaon, Kakori, Mahibullapur, Bakshi-Ka-Talab, Saspan.

#### **18. AUTO AND OTHER EQUIPMENT REPAIR WORKS**

These industries are definitely very important in rural areas. Repairs of machines and farm implements and equipment are required every now and then, suggested location are Kakori, Chinhat, Nagaram, Itaunja, Bhadrak, Gosainganj, Mahibullapur, Mahona, Amethi, Juggaur, Bakkas, Banthara, Saspan, Bani. Sissendi, Mau, Kharika.

#### **( II ) ABOUT 30 % AGRO-INDUSTRIAL UNIT WILL BE SELECTED OUT OF TOTAL REGISTERED AGRO-INDUSTRIES FOR THE STUDY**

The Lucknow district development of agro- based industries has not been pursued consciously in the early plan periods. The

approach at that time was to expand the marketing base of agricultural products with an objective to fetch rewarding price in the second five year plan the emphasis was on providing adequate food to the increasing population and raw materials needed for a growing industrial economy. Second plan in the third plan specific steps were taken to make the economy self-sufficient in food grains. The sixth plan explicitly recognized motivation of the farmer to produce as an important determinant to increase productivity in the agricultural sector. This is more so in case of perishable commodities like onions, potatoes, sugarcane, where the farmers have been wholly exposed to exploitative trading forces, without the consumer benefiting in any way ( sixth plan ) the plan aimed at to provide storage and processing facilities to perishable agro-products through the co-operative sector. In the areas, where the co-operative system is weak, the idea was to establish specific corporation meant for processing of agriculture and horticultural products. Concurrently, The employment policy of the sixth plan was to enlarge infrastructure for the purpose of promoting self-employment in agriculture, allied activities to agriculture and in other non farm activities. This is in recognition of the limited role of the public sectors in providing employment to the growing labour force. The khadi and village industries

which were mostly agro-based were favoured with increased allocation to generate rapid employment avenues.

The eight plan for the first time, highlighted the importance of the agro-industries by incorporating a separate section on this, more particularly, the emphasis has been on food processing industries to optimize the value – added to the products in the agricultural sector. It is stated that the country has natural advantage in the production of fruits vegetables, milk, etc. whereas the scope of processing and preserving these items has been very much limited, The post – harvest losses were estimated to be around 15 to 30 % for different agro-products. The plan document specifically discussed in detail five categories of food processing industries such as primary food processing unit, spice and horticultural product, dairy and live stock products fish and fish products and consumer good industries . It is noted that the capacity of fruit and vegetable processing unit in the country is only 1 percent of the total annual production of these items. Thus , It was targeted to create additional 2.5 lakh jobs in the food processing sector along the eighth plan period. It was also aimed to raise the volume of export from Rs- 2813 crores to rs-6000 crores.

Another noble idea of the eighth plan period was to establish agro-business consortium at the district levels. The programmes aims to popularize agriculture as a commercial enterprise among the educated unemployed youth. The origin of the idea is associated with ray Goldberg (1958) who proposed three inter dependent sector, namely; supply of inputs such as seeds, feed, fertilisers, pesticides , weedicides, machinery, fuel etc.

### **( C ) CONTRIBUTION OF AGRO-INDUSTRIAL UNITS IN THE RURAL DEVELOPMENT OF STUDY AREA**

The district of Lucknow is conspicuous by the absence of minerals hence agro-industries predominate more are les the rural people lack courage and entrepreneurship which are the basic requirements for setting up industries. If the scale of production is taken into consideration, The industries of the district may be put under three heads.

1. Small scale industries .
- 2 . Cottage or village industries
3. Large and medium scale industries.

Though there are 64 units of large and medium scale industries only 11 units have been located in rural areas. About 458 units of small scale industries have been set up in rural areas out of 2652 in the district as a whole. More over the industrial units are not evenly distributed in all the blocks. Most of the industrial units are located in Bakshi ka Talab, Chinhat, Mohanlalganj, and Sarojnagar . Mal has only a few industrial units.

Another important point to not is the concentration of agro-based industrial units Floor Milling units predominate over manufacturing of edible oil and other industries. Must of the industrial units have no mechanical or electrical power. Only oil –crushing and floor mills are run with the help of electricity. In some units animals drive the machines .

#### **( D. ) MEASUREMENT OF RURAL DEVELOPMENT**

Rural development works are not new to India. May programmes have been adopted executed in so many way and at various levels. Such works have been gong on for the last three and a half decades but have been only partly successful. They could not be very effective due to

the macro-level planning approach where all the decisions were taken at the top level. There was the least involvement of the rural people in the planning. The entire decision-making function was done by the government.

Hence the rural folk did not show much interest in the execution of the programmes. Further these programmes had no integration between sectors and space. The planning of industry, agriculture and other services were isolated from another therefore they did not move towards the district goal.

Attempts had been made by the government of India under year plans to reduce the disparities in rural areas. Of course most of the plans were restricted to the agricultural development only. Moreover these plans were of the sporadic nature and did very little to reduce the disparities which is very much conspicuous even today.

The development plans, the community development programmes introduced in the fifties integrated health, education, drinking water, road building, agriculture production, cottage industries, etc. This programme was saturated with defects hence it did not succeed. In 1958 the panchayati raj programme was introduced with the purpose to cover about 98% of rural population. Approximately 230,000 Gram Panchayats, 5004 Panchayat Samities and 3000 Zila Parishads were started. These

programmes did not come up to the expectation of the rural people. It was followed green revolution programmes, foremost pilot research project, integrated area planning, command area development, minimum needs programmes, draught prone area programmes , tribal area development, hill area development, small farmer's development agency.

Antyodaya food for work, 20 point programmes employment generating scheme, special programmes for SC/ST, rural industries programmes, Jawahar Rojgar Yojna etc. the must of these programmes merged together in the six five year plan.

A new programme has come in to existence in the form of integrated rural development. This is functioning for the balanced development of a region.

Integrated rural development programmes is the only approach which is functioning for the removal of the regional disparities and imbalances.

It ha adopted the grass root approach in which the local participation is the dire necessity through democratic process. It keeps in to consideration the balanced use of infra. Structure and resources of a region.

The most important feature of this approach is the coordination of macro and micro planning.

### **( I ) BASED ON SOCIO – ECONOMIC AND CULTURAL VARIABLES**

Socio economic activities in relatively backward area with the objective to reduce disparities.<sup>3</sup> within this frame work ( table no – 3.2 )

**Table No – 3.2**

<u>INFRASTRUCTURE</u>	<u>AGRI – SUPPORT SERVICES</u>
Land	Consolidation of holding checking fragmentation of land –land leveling.
Water	Equitable distribution of water for irrigation - minor irrigation schemes –shallow tube wells- construction, Repair and maintenance of irrigation system.
Seed	Facillities of better seed supply through co-operatives and seed distribution center.
Farm Mechanisation	Improvement of traditional tools, tractors, power-Tillers threshers etc.
Fertilizers and Manures	Distribution of fertilizers through co-operatives on reliable and fixed prices, fair price shops etc.
Credit	Provision of credit facilities by government agencies, co-operative bank societies gramin bank.

Storage	Storage facilities in the farmer's houses and centers for preservation of seed and to avoid loss of grains.
Marketing	Formation of purchasing organizations, co-operatives and agro service centers,
Livestock	Better breeds of cattles veterinary facilities.
Transport	Road -connection to market and other services centers improvement of rural vehicles.
Technology	Access of new technology to small farmers.
Extension services	Decentralization of agricultural administration and conduct of training programmes

( Table no- 3.2 ) other infrastructural co-ordinates are to be fitted so that sectoral development could be integrated with the spatial orientation. The sectoral considerations with special reference to agriculture, economic values and social facilities will be discussed.

**( II ) BASED ON SOME RELEVANT WEIGHT AGE OR STATISTICAL DEVICES :**

The medium population there should and weight value of each service mentioned in Table no. ( 3.3 )

**Table No- 3.3****SERVICES AND FUNCTIONS :**

SERVICES	FUCTION
1. Administration	1. Block Head Qr 2. Police Chowki 3. Nyaya Palika 4. Police stations.
2. Transport	Railway , Bus stand.
3. Communication	1. Post office 2. Tele graph. 3. Electricity 4. Telephone
exchange.	
4. Trade and commerce	(1.) Seed distribution centre. (2.) Pest services and fertilizers. ( 3.) Commercial Bank ( 4.) Nationalized bank
5. Medical	1. Family planning centre 2. Dispensary

3. MCW centre .
4. Private medical centre,
5. Govt. dispensary
6. Primary health centre.
7. Govt. veterinary hospital
8. Govt. hospital.

#### 6. Education

1. Junior Basic School
2. Senior Basic School
3. Higher Secondary school
4. High school

( Table no- 3.4 ) Shows the various functions medium population there should , and weight value of each of them. Every thing has been calculated every objectively. Errors. Are expected to be at the minimum as every precaution has been taken at every stage,4

**Table no -3.4**

**WEIGHT VALUE OF FUNCTIONS**

S.no	Functions	Medium Population	Weight value
1.	Railway station	5930	1.60

2.	Telephone exchange	5900	1.59
3.	Co-oprative Bank	5750	1.55
4.	Block Head Qr	5550	1.50
5.	Police station	5250	1.41
6.	Vterinary hospital	5100	1.37
7.	Primary health centre	5950	1.33
8.	Government hospital	4630	1.24
9.	Nationalized Bank	4600	1.23
10.	Tele graph	4280	1.15
11.	Seed distributing centre	4050	1.09
12.	Govt. Dispensary	3600	0.97
13.	Police Chowki	3400	0.91
14.	M.C.W Centre	3300	0.89
15.	Family planning centre	3200	0.86
16.	Fertilizer and pest service	3150	0.85
17.	Higher secondary school	3070	0.82
18.	Bus stand	2900	0.78
19.	Senior basic school	2700	0.73
20.	Post Office	2550	0.68
21.	Nyaya panchayat	2050	0.55
22.	Medical practioner	1650	0.44
23.	Electricity	1020	0.27
24.	Junior basic school	500	0.13

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