

Problems and Prospects of Agro-Based Industries in Saran District: A Geographical Analysis

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Abstract:

The agriculture and industry are related to each other. Increased farm productivity promotes industrialization. Economic development of a country is measured from the development of manufacture industries. Industries help to rapid economic growth, employment, foreign exchange, agricultural development, national security, etc. in developing countries like India where large numbers of manpower and varieties of resources are abundant. Agro industries are those units which add value to agriculture products both food and non-food, by processing into products which are marketable or usable or edible, improving storability and providing the link from farm to the market or part thereof. Agro-based industries assume great significance in the context of developing economies like India. The present paper attempts to evaluate the historical scenario of agro based industries in Saran district. It has found various geographical and economical factors that influence to the development of agro based industries in Saran district. Finally, the study find out several problems of agro based industry in Saran district and give a valuable suggestion.

Key Words: Agro based Industries, Agriculture, Economic Development, employment.

Introduction:

The subject of agro-based industries relationship being current has drawn the attention of agronomists, industrialists, and planners and needs to be studied sympathetically by Geographers. Economic development of a country is measured from the development of manufacture industries. Industries help to rapid economic growth, employment, foreign exchange, agricultural development, national security, etc. in developing countries like India where huge numbers of manpower and varieties of resources are abundant. Every economy consists of several distinct sectors that are functionally related to one another. Agro industries are those units which add value to agriculture products both food and non-food, by processing into products which are marketable or usable or edible, improving storability and providing the link from farm to the market or part thereof. Agro-based industries assume great significance in the context of developing economies like India. Even after six decades of planned development agriculture still accounts for about 15 per cent of our national income, 58 per cent of our working population as well as about 70 per cent of our people are residing in the rural areas. It is not only due to of their being labour-intensive and capital-saving in nature but also because of the fact that these industries generate better gainful employment opportunities to the surplus agricultural labourers during the lean agricultural seasons.

Saran district is predominant agricultural. Agro-industries have been given high priority in Saran due to their significant potential for contributing to rural development. The emphasis on village-based agroindustries was initiated by Mahatma Gandhi in the 1920's as a part of India's

independence movement. However, even today the development of agro-industries is a central part of the national development strategy due to their significant role in bringing value-addition to agriculture's output, increasing rural incomes and employment and alleviating poverty in the countryside (Government of India, 2008).

Agro industry also includes Hi-Tech and Bio-technology based agriculture. "Agricultural Product" means produce of agriculture, horticulture, sericulture, floriculture, fisheries and includes minor forest produce and livestock based products. Agro-industry processes, outcomes of plant or animal origin by transformation and preservation through changing physical and chemical characteristics and packaging. It has tremendous contribution to economic development.

1. It transforms raw material into finished products for consumption.
2. It constitutes a significant proportion of the developing countries' production and exports.
3. It develops food system that provides the nutrients which are critical for wellbeing of the expanding population.

The agriculture and industry are related to each other. Increased farm productivity promotes industrialization. There is slow development of agro industries in developing countries due to lack of purchasing power in the hands of the people. There is also lack of modernization in the farm sector. Industries and agriculture remains competitive in short run but in the long run they turn out to be complementary. The highly industrialized countries have strong base of agriculture. Agriculture helps industry by various ways. It supplies raw material to industries. It provides food to people engaged in the industries, increase purchasing power of the community, which helps to purchase industrial goods. Savings by agriculture helps industries for capital formation.

Aims and Objectives of the Study:

The main aims and objectives of the present paper are as follows-

- i. To study the scenario of agro based industries in Saran district.
- ii. To find out the geographical factors for the development of Agro-Based industries in Saran districts.
- iii. To find out the problems and prospects of agro-based industries.

Review of Literature:

Srivastava (2011) observed that movements of agro-industries from mechanical based to chemical based processing but still mechanical-based processing is dominates one. So, on the whole, rural village agro-processing, the whole of India's agroindustry is characterized by low value added. **Bagalkoti (2015)** elaborated that agro-industry concept based on the symbiotic relationship between agriculture and industry, not only helps in the development of both the sectors but also augments between income and employment in rural areas. **Singh**

(2016) explained that the agro-industries provide a bridge between agriculture and industry, rural and urban cultures for each other's benefit and happiness. It also helps the village economy to the exploitation of its vast potential of growth and development. Therefore, industries thus move faster and further to play the role that is desired for it. **Verma and Kesavan (2018)** discussed that agro-based industries develop on the basis of agriculture-industry interrelations. Agriculture and industry are both integral components of the development process due to their mutual relationship as agriculture provides inputs to the industry and the results output of the industry is used in agriculture to expand production.

Data base and Methodology:

The present study is based on secondary sources of data. The secondary data are obtained from various published and unpublished government reports, research journals, articles, magazines, M.phil dissertation, Ph.D. thesis, books, etc.

Significance of the Study:

The main significance of the present study are given below-

- i. Agro-based industries will mobilize a growing part of national resources to develop a technically up-to-date diversified domestic economic structure that characterized by a dynamic agro-based sector having and producing means of production and consumer goods.
- ii. The agricultural sector can contribute to industrial growth in many ways such as providing food grains, surplus labour for non-agricultural activities, and providing raw-material for agro-processing industries as well as built demand for agro-input industries.
- iii. Through such studies we know generate of employment opportunities, output-elasticity and growth of production etc. Such industries are the real backbone of rural development.
- iv. Agro based industries have act great role in the development of rural sector. So, the concentration on the development of these industries is essential from economic and social point of view.

Study Area:

Saran district is one of the thirty-eight districts of Bihar. It is a part of Saran division. Saran district is also known as Chapra district because the headquarters of this district is Chapra. Saran district is bounded by the districts of Siwan, Gopalganj, West Champaran, Muzaffarpur, Patna, Vaishali and Bhojpur of Bihar and Ballia district of Uttar Pradesh. Saran was earlier known as 'SHARAN' which means refuge in English, after the name given to a Stupa (pillar) built by Emperor Ashoka. In other words, the name Saran has been derived from SARANGA-ARANYA or the deer forest since the district was famous for its forests and deer in pre-historic times. Saran district is located in 25° 36' to 26° 13' North latitude and 84° 24' to 85° 15' East longitude.

Concept of Agro Based Industry:

Agro-based industries may be classified into two categories namely food processing industries and non-food processing industries. Food processing industries include the processing of wheat, rice, maize, barley, pulses, meat, fruits, vegetables, etc. and Non-food processing industries mainly satisfy our need for shelter and clothing.

Austin defined, “Agro-industry as an enterprise that processes agricultural raw materials including ground and tree crops as well as livestock”.

UNIDO (United Nations Industrial Development Organisation) defined, “Agro-industry as those industries which use raw materials from agriculture as main material from which manufactured goods are produced on a commercial scale”.

Types of Agro-Based Industries:

Agro-based industries may be classified into four categories:

- i. **Agro-Produce Processing Units:** It includes agricultural produce fall under this category. They do not manufacture any new product; they merely process the raw material so that it can be preserved or transported at lower costs, e.g., rice mills, dal mills, groundnut decorticating mills, etc.
- ii. **Agro-Produce Manufacturing Units:** It includes entirely new products based on agriculture produce as the main raw material. Here, the finished goods are entirely different from the original raw material, e.g., sugar factories, bakeries, solvent extraction units, textile mills, straw board, etc.
- iii. **Agro-Inputs Manufacturing Units:** It produces goods either for the mechanization of agriculture or for increasing the productivity of agriculture come under this category. These units are directly linked with agriculture such as industries manufacturing fertilizers, pesticides and insecticides, all types of agricultural implements, pump sets, etc.
- iv. **Agro-Service Centres:** Agro-service centers are means workshops and service centers which are engaged in repairing and servicing pump sets, diesel engines, tractors, and all types of farm equipment.

Historical Background of Agro-Based Industries in Saran District:

Bihar is very rich in agricultural resources. Generally, agriculture of Bihar depends in the main input resources of its own. Agriculture provides raw materials to industry. The British machine-made products, imported into India, offered a very cheap substitute for Indian cottage and rural industries for Indian cottage and rural industries and handicrafts. It threatened employment opportunities in the countryside. In Saran districts which is both agriculturally and industrially well developed, it is expected that a large number of small scale and agro-based industrial units will come up and flourish.

Agro-Based Industries in Saran District up to Pre-Independence Period:

The history of agro based industry in Bihar dates back to the history of mankind Bihar's handicrafts manufactured in village huts and house all over the country. At that time, working on the locally available raw materials and with the skills and tools handed over to them by their forefathers. In the middle of the nineteenth century, common agro processing industries such ashand are pounding units for rice, water power driven flour mills, bullock driven oil, paper making units etc. In this period, cottage and small scale industries and agro-based industries were not concentrated in any particular area but were scattered all over the Saran Districts.

Agro-Based Industries during the Plan Periods:

Post-independence period in Saran district witnessed rapid growth in agro industry sector especially during 1980. It generally followed the first phase of the Green Revolution that had resulted in augmented agricultural production. In the **First Five Year Plan** in Saran districts a distinction was made between village industries, small industries and crafts. Village industries were defined in terms of activities such as in the main an integral part of the village economy. It based on i) traditional skills and crafts ii) recent origin and has an intimate connection with the corresponding large scale industries. The **Second Plan** also assigned a special place to rural, cottage and small industries. In the **Third Five Year Plan**, the positive forms of assistance, such as improvement of skills, supply of technical advice better co-operation credit facilities etc. The **Forth Five Year Plan** emphasized the necessity to provide suitable and adequate infrastructure for the growth of village industries in Saran district. In the **Fifth Five Year Plan**, the policies had applied in the agro based industries. In the **Sixth Five Year Plan** generate employment, to raise the level of the earning of rural artisans, handloom weavers. The **Seventh Five Year Plan** meant at developing a "high tech" and electronics industrial service base. The **Eighth Five Year Plan** focused foreign investment policy and import policy. The **Ninth Five Year Plan** shows growth of Small Scale Industries in Saran districts has been significant over the last decade and a half.

Major Agro Based Industries in Saran Districts:

Agro-based industries include industries related to textile, sugar, paper and vegetable oils. These industries use agricultural products as their raw materials. The textile industry is the largest industry in the organized sector. It includes (i) cotton textile, (ii) woolen textile, (iii) silk textile (iv) synthetic fiber and (v) jute textile industries.

i. Cotton Textile Industry:

Generally, Cotton accounts for a large portion of the total fabric produced. The first successful cotton textile mill was established by Parsi entrepreneurs in Mumbai. The following factors preferred the development of cotton textile industry in Saran district:

- a) The port had facilities for import of capital goods, chemicals etc. and export of finished goods.

- b) Saran is progressively well connected with the cotton fields of Uttar Pradesh and West Bengal through rail and road connectivity.
- c) The humid coastal climate helped in textile making.
- d) The development of chemical industry around Saran district provided the necessary inputs.
- e) The availability of capital and financial resources helped the industry grow.
- f) Cheap labor was available for the industry.

The Saran district has a complex three-tier structure in the cotton textile industry:

- a. Hand Pump and Hand Woven Khadi Sector
- b. Intermediate, labor intensive areas of handloom and powerloom,
- c. The mill sector, which is large scale, capital intensive and sophisticated.

The cotton textile industry is the single largest organized industry in Saran. It employs a large number of workers and supports many ancillary industries.

ii. Woollen Textile Industry:

The first woollen textile mill was established in Kanpur in 1876, as Kanpur was the main depot of the British Indian Army. But the industry did not pick up in India due to the short winter and long summer. Also, the garments produced were of poor quality. After independence, some woollen textile industry flourished in Saran district. The woollen textile industry in Saran is partly a cottage industry and partly a factory industry.

There are three sub-sectors of organized sector:

- a. Woollen (better yarn for clothes and hosiery)
- b. Worsted (medium quality goods - blankets, tweezers, suiting, etc.)
- c. Cheap (for blanket)

iii. Silk Industry:

Sericulture is a labor intensive industry. It employs about 1 lakh people, most of whom are small and marginal farmers, or work in small and domestic industry, working mainly in hand-cutting and hand-weaving classes.

iv. Jute Textile Industry:

The first modern jute mill was established in 1855 at Rishra near Kolkata. It was made a powerloom in 1859 and included both spinning and weaving. In Saran district, the jute textile industry plays a small role for economic development. India is the first largest producer of raw jute and jute goods and ranks second. Place as an exporter after Bangladesh. There are about 06 jute mills in Saran. The jute textile industry directly supports 10 thousand workers and another 1

thousand small and marginal farmers are engaged in the cultivation of jute and mesta. Many more people are indirectly connected.

v. Sugar Industry:

Sugar production has been known in India since ancient times, but the modern sugar industry in the country developed in the first decade of the twentieth century. Indian sugar industry is the second largest agro-based industry in India.

The basic raw material is sugarcane, which has certain characteristics:

- a. It is the raw material losing weight;
- b. It cannot be stored for a long time, because in that case, it loses sucrose material;
- c. It cannot be carried over long distances, as it leads to higher production costs and dries up the sugarcane crop.
- d. Fertile alluvial soil, rich in lime and potash;
- e. Level topography - suitable for irrigation;
- f. Abundant water for washing and processing;
- g. The sugar industry is relatively independent of coal and electricity, as bagas is sufficient to drive steam;
- h. Densely populated markets in the surrounding areas, coupled with excellent transport links.
- i. Availability of cheap labor
- j. The cultivation is done in compact blocks, which ensures the availability of fresh sugarcane to the factories.

vi. Bakery Industry:

The bakery is an establishment that produces and sells oven-baked flour-based food such as bread, cookies, cakes, pastries and pies. Some retail bakeries are also cafes, which serve coffee and tea to customers who wish to consume baked goods on the premises.

Geographical Factors for the Development of Agro Based Industries in Saran District:

Agro-based industries depend on agriculture for their raw materials and other basic inputs. This interdependence should be tailored to the needs of our country and state. Growth of agricultural production impacts in stabilization and rapid growth in production and employment in agricultural industries.

i. Climatic Conditions:

Climate plays an important role in choosing the location of agro-based industries. For example, harsh climates (too humid, too hot or too cold) are not very suitable for industries. Thus, when choosing a location for agro-based industry, one must take into account the climate of the place.

ii. Soil Characteristics:

Soil is the most important physical factor for the development of agro-based industry in Saran district. Fertile soil is the basic requirement for the successful development of agro-based industry. In Saran district, plain alluvial fertile soil plays an important role in the development of agro-based industries such as sugar mill, cotton textile and bakery industry.

iii. Availability of Water:

Water supply is another important factor that determines the location of agro-based industry. Since water from rivers and springs can also be used in the production of hydroelectric power.

iv. Availability of Raw Materials:

In determining the location of agro-based industry, the importance of raw material sources is important. Information on sources of raw materials will reduce the cost of production of the industry. For most major industries, raw material costs are the bulk of total costs. Therefore, most of the agro-based industries are located in the vicinity of sources of raw material supply.

v. Availability of Labour:

Adequate supply of cheap and skilled labor is necessary for agro-based industry. The industry's attractiveness to labor centers depends on the ratio of labor costs to the total cost of production, called the Weber 'labor cost of the index'. The availability of skilled workers in the interior parts of Saran district is one of the factors responsible for the initial concentration of cotton textile and sugar industry in the district.

vi. Transportation:

Transport by water or land is important for collecting raw materials and marketing furnished goods. Therefore, the transport system also plays a major role for the development of agro-based industry.

vii. Proximity to Markets:

Access to markets is an important factor that the entrepreneur must take into consideration. Pear or heavy goods producing industries that cannot be transported long distances are usually close to the markets. Industries located near markets may be able to reduce the cost of transportation in delivering the finished product such as in the case of bread and bakery, etc. Market penetration is more important in the case of industries producing consumer goods rather than productive goods.

viii. Capital:

Capital is most important for the economic factors of agro-based industry. Without capital, it may not be possible to run a successful agro-based industry. Banking financial support plays a major role in Saran district for the growth and development of agro-based industry.

Problems of Cotton Textiles Industry:

- i. There is a shortage of raw materials, especially of long staple cotton.
- ii. Uncertainty of raw materials
- iii. due to low productivity of machine and labor, the industry is in constant danger of illness and consequent shutdown
- iv. increasing competition from the power-loom sector
- v. lack of modernization
- vi. management problems
- vii. Most spindles and looms are of the older type. India has the lowest percentage of automatic looms in the world for total loom.
- viii. There is a risk of loss of foreign markets due to continuous increase in cost of production, e. Power and machinery insufficiency is another problem in the industry.

Problems of Woollen Textiles Industry:

- i. The mills are small in size and productivity is low
- ii. Nearly half the capacity remains idle for sufficient raw-wool. Also, wool is of poor quality.
- iii. Obsolete technology is still in use.
- iv. There is stiff competition from terrywool and synthetic yarn-wool mix items.

Problems of Jute Textiles Industry:

- i. Industry is facing stiff competition with modern packing materials
- ii. Newly established factories and better machines in Uttar Pradesh are facing stiff competition.
- iii. There is a shortage of raw materials.
- iv. Obsolete machinery, power shortages and industrial disease affect production.

Problems of Sugar Industry:

- i. Good quality sugarcane has a specialty - Saran sugarcane has low sucrose content and gives poor yields.
- ii. The high cost of production is due to (i) uneven nature of production; (ii) low crushing season; (iii) heavy excise duty; (iv) Manipulation of stock and hoarding, etc.
- iii. Small, non-economic units with obsolete technology are still functioning.

Conclusion and Suggestions:

Agro-industry also plays a crucial role in the industrialization process of the Developing countries. Although its importance reduces as industrialization advances, yet with rise in income and with increased urbanization, the demand for more complex and diverse types of processed

food increases. Saran district is known as one of the agro based region of Bihar. The agro-based industry includes industries related to textiles, sugar, paper and vegetable oil. Both Geographical factor and agricultural factor play vital role. The geographical factors like topography, climate, soil, natural human resources, and cultural activities are essential as these factors play a very important role in influencing, establishing and developing both agriculture and agro-based industries in Saran district.

The strategy for the development of agro-based industries should include the following suggestions:

- i. The development and expansion of agro-based industries should form an inseparable part of the overall program of economic and industrial development of the country.
- ii. The respective groups of agro-based industries should be set up in a coordinated manner so that the use of by-products is possible simultaneously.
- iii. The new institutional framework should enable large numbers of small farmers to participate and benefit from agro-processing. This underscores the need to develop a cooperative network with the aim of creating synergies between the interests of producers, processors and consumers and avoiding excessive dependence on private corporations and multinationals.
- iv. Advanced management and marketing methods should be introduced in agro-based industries that meet export demand.
- v. In relation to agro-based industries both backward and forward-looking relationships should be ensured so that maximum development impulses are generated.

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