

Problems and prospects of food processing industry in Bihar with special reference to Makhana Industry

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In this day and age, it has become imperative to process and preserve the food being produced in one particular area in order to make it available to people in other areas. This has given rise to a very important industry of food processing. The following paper focuses not only on the importance of food processing industry in India but also tries to explain the aspects of food processing industry like; problems, prospects, employment opportunities and contribution of the "Makhana Industry" in national income. In India only 2% of the processing is carried out as compared to other nations. This itself bears a testimony to the fact that problem of food processing are immense and unresolved. The problems cited are cold storage, transportation, middle men & high cost packaging etc. Bihar accounts for over 85% of the Makhana production of the country which resulted into thrust area for taking up the task and identifying the constraints in the exports of Makhana from the state. As per a rough estimate 50,000 tones of Makhana worth Rs.550 crores in market are produced annually. Bihar produces 3.5 million tones of fruits & 8.5 million tones of vegetables. But hardly 1% is being processed in the state. Bihar with its beautiful natural resources of fertile soil, abundant water, varied climate & rich culture & historical heritage is one of the most fascinating states of India. Bihar is endowed with rich biodiversity. It is infact 3rd largest producer of vegetables & 4th largest producer of fruits in the country. It is the largest producer of litchi, Makhana, guava & lady's finger in India. There are certain Government future plans for the food processing industry to develop two integrated food zones & food parks & set-up 100 rural agri-business centers. As the vision 2015 scheme states 'tripling the size of food processing industry from "\$70 billion to about \$210 billion'. The food processing generates high rate of employment. The population engaged in food processed has increased thereafter which will lead to the play of multiplier effect. Thus, the Government should give certain incentives to foster the growth of food processing industry which in turn will prevent out migration of labourers & hence will increase employment opportunities within the state itself.

Keywords: Processing, Vision, Makhana, Climate, National Income.

Introduction : India is the world's second largest producer of food next to China, and has the potential of being the biggest with the food and agricultural sector. The total food production in India is likely to double in the next ten years and there is an opportunity for large investments in food and food processing technologies, skills and equipment, especially in areas of Canning, Dairy and Food Processing, Specialty Processing, Packaging, Frozen Food/Refrigeration and Thermo Processing. Fruits & Vegetables, Fisheries, Milk & Milk Products, Meat & Poultry, Packaged/Convenience Foods, Alcoholic Beverages & Soft Drinks and Grains are important sub-sectors of the food processing

industry. A healthy food and healthy food supplement is another rapidly rising segment of this industry which is gaining vast popularity amongst the health conscious.

India is one of the world's major food producers but accounts for less than 1.5 per cent of international food trade. He relies a vast scope for both investors and exporters. Food exports in 1998 stood at US \$5.8 billion whereas the world total was US \$438 billion. The Indian food industries sales turnover is Rs 140,000 crore (1 crore = 10 million) annually at the start of year 2000. The industry has the highest number of plants approved by the US Food and Drug Administration (FDA) outside the USA.

India's food processing sector covers fruit and vegetables; meat and poultry; milk and milk products, alcoholic beverages, fisheries, plantation, grain processing and other consumer product groups like confectionery, chocolates and cocoa products, Soya-based products, mineral water, high protein foods etc. We cover an exhaustive database of an array of suppliers, manufacturers, exporters and importers widely dealing in sectors like the -Food Industry, Dairy processing, Indian beverage industry etc. We also cover sectors like dairy plants, canning, bottling plants, packaging industries, process machinery etc.

Objectives:

The study was made at “**Shakti Sudha Industry**”, a food processing industry located in Patliputra Industrial Area, Patna, from August to October 2009 for preparing this project report.

The objectives areas follows :

- To lay down the importance of food processing in India.
- To bring out the possibilities of food processing industry in Bihar.
- To prepare a report on export promotion of Makhana from Bihar.
- To identify harvest and post harvest for Makhana including mechanization of harvesting, post harvest and processing.
- To identify constraints in profitability of Makhana growers, exports of Makhana and its processed products.

Methodology:

The study is empirical research based on survey method. First hand information has been collected from the owner and employees of Makhana industry. The study has been carried over the area of Patna district. Primary data has been collected through interview and observation methods. Secondary data has been collected from magazines, reports and through internet.

In the present project a case study of a food processing unit in Patna, named as Shakti Sudha has

been done. We have interviewed one entrepreneur named Satyajit Kumar Singh and the workers employed in his organisation. The response got and the information gathered have been put systematically and analysed objectively. Inferences have been drawn logically and scientifically.

Structure of food processing industry:

The food processing sector is highly fragmented industry, it widely comprises of the following sub-segments; fruits & vegetables, milk & milk products, beer & alcoholic beverages, meat & poultry, marine products, grain processing, packaged and convenience food and packaged drinks. A huge number of entrepreneurs, in this industry, small in terms of their production and operations, are largely concentrated in the unorganized segment. This segment accounts for more than 70% of the output in terms of volume and 50% in terms of value. Though the organized sector seems comparatively small, it is growing at a much faster pace.

Problems of food processing industry :

Food processing sector is indispensable for overall development of an economy as it provides a vital linkage and synergy between the agriculture and industry. It helps to diversify and commercialize farming, enhance income of farmers, create markets for exports of agro-foods as well as generate greater employment opportunities. The food processing industries is very important as growth of rural areas greatly depend on agriculture which employs about 80% of the population and shows no retrenchment.

Bihar is a land of immense opportunities for food processing owing to its agricultural potential. In spite of all the significance and opportunities for the food processing industry in Bihar, it faces some of the major problems which are the hurdles in the way of agricultural and industrial development. Some of the problems are discussed below:-

- **Cold storage:** Due to the absence of cold storage 40% of the fresh products go to waste every year.
- **Transportation:** No easy access to main road results in longer time required to transport the product.

- **Middle-men:** There is no direct contact between farm and market, therefore, middle-man adds to the cost, thereby reducing the income of the farmers.
- **No linkage between producers & consumers:** Hence, it prevents the producers from being able to compete with the FMCG companies.
- **High cost of packaging:** This results in high selling price.
- **High margin required by distributors & retailers:** The margin of 45% to 55% is required from the small producers, therefore, the burden is pushed to the consumers who are the ultimate sufferers.
- **Shortage of skilled-manpower:** From ground root level to the top managerial level, there is a shortage of skilled- manpower.

Prospects of food processing industry:

Bihar, with its beautiful natural resources of fertile soil, abundant water, varied climate and rich culture and historical heritage is one of the most fascinating states of India. Agriculture is the vital source of wealth in Bihar. 76% of its population is engaged in agricultural pursuits. Bihar's productive contribution in food grain, fruit, vegetables, spices and flowers can increase manifold with improved methods and system management. The state is endowed with rich biodiversity. Agriculture provides ample supply of raw materials for the establishment of Agro based industries. Bihar is the 3rd largest producer of vegetables and 4th largest producer of fruits in the country. It is the largest producer of Litchi, Makhana, Guava, lady's finger in India.

Farmer's willingness to accept modern cultivation technologies and contract farming practices provide encouraging trends for investment in Agricultural sector. Agricultural growth in the state is supported by institutional infrastructure of **Rajendra Agricultural University** and its network of **Krishi Vigyan Kendra**, ICAR Eastern Zone complex at **Patna National Research Centers** for Litchi, Makhana and Pan. **Small Farmer's Agri-business consortium (SFAC)** and **Agricultural Technology Management Agency**

(ATMA) are other institutions supporting agricultural growth in the state. Public sector agricultural extension system is creating enough ground for public-private partnership for rapid agricultural growth in the state. The state government is implementing ambitious Agricultural Development Programs for enhancement in agricultural production and productivity. National horticulture mission, which has been recently launched and will continue till 2011-12, has partnered with private sector in its implementation.

Research findings:

According to **Agriculture Report**, Bihar is the largest producer of green vegetable and second largest in fruit production. We are producing the largest amount of honey in India. It is the largest producer of litchi, makhana, guava, lady's finger in India. We choose "**makhana**" as our **case study** because 85% of the makhana production of the country is done in Bihar. And its cultivation evolves largest labour force which increases the employment opportunities within the state itself.

Gorgon nut or fox nut, an aquatic crop commonly known as makhana (**Euryale Ferox Salibs**) of the family **Nymphaeaceae** is a highly nutritious, fully organic, non-cereal food which is extensively grown in the stagnant water of wetlands, tanks, ponds, lakes and ditches. Bihar states an accounts for over 90% of the makhana production of the country. **Madhubani, Darbhanga, Sitamarhi, Saharsa, Katihar, Purnea, Samastipur, Supaul, Kishanganj & Araria** districts are major producer of makhana.

Profile of the organisation: "Shakti Sudha Industry":

'Shakti Sudha' is a food processing industry in technical collaboration with National Research Centre of Makhana, Government of India and with testing and process technology from Central Food Technological Research Institute of Mysore is totally engaged with Makhana processing. 'Shakti Sudha' has received wide acclamation and success in fields of marketing and testing procedure standing at par with standards of

International products, it aims to provide nutritious and quality food at affordable price suiting Indian market.

Satyajit toured Bihar to study this highly unorganized business and realized that it would be impossible to make headway without the participation of 'Panchayats'- even for identifying farmers and handholding them. His “**Khet Se Bazaar Tak**” (farm to market) project later made a tripartite agreement with the Panchayats, the farmers and his company in which the role of all three were defined, from documentation, training in agronomic practices and purchase guarantees. ID cards were issued to all the enrolled; members over 4,200 in the last count.

As he was dealing directly with farmers, Satyajit Singh offered around Rs.100 a kg when the trend was Rs.50 to Rs.60 a kg. He has had to hike prices to Rs. 140 a kg over the last few weeks. “The floods in Bihar have hit yields and the shortage is expected”, says Singh. Prices however were the last of his problems. He had to disengage farmers from vested interest in the system and this, he realized, he could do only if access to institutional credit was ensured. Farmers have to bank on money lenders and astronomical interest rates, even for paying pond lease rents of around Rs. 4,000 an acre. The villagers who heat and pop the seeds are still in a barter system of sorts. Around 120kg of seeds go to the farmer and 10kg are retained as labour fee.

Government measures:

The key task is to ensure a convergence among credit availability, effective credit delivery system in keeping with adequate credit absorptive capacity of the farmers. Mere availability of credit does not ensure its productive use and increased production/value addition. This is more important in the case of small/marginal farmers who are quite left out because of the clout of the influential farmers. It is in the context that a scheme viz. Capital Investment Subsidy Scheme for development of horticulture, approved by the planning commission, Government of India has been launched with the aim of giving a further boost to developing horticulture crops in four districts of Bihar, viz, Muzaffarpur, Darbhanga, Samastipur & Madhubani.

The scheme envisages covering potentially the most important horticulture crop of the state, viz, litchi, mango, makhana & spices.

Some of the government measures that were taken to provide assistance are given below:

- Institutional credit is given under S.G.S.Y. scheme.
- Capital investment, subsidies approved by planning commission has been launched with the aim of giving a boost to horticulture crops.
- To cover potentially most important horticulture of the state i.e. litchi, mango, spices & makhana.

Government's future plans:

- To develop two integrated food zones & food parks & set-up 100 rural agri-business centers.
- **Vision 2015:** Tripling the size of food processing industry from **\$70 billion to about \$210 billion.**

Conclusion:

The food processing industry is one of the key industries of Bihar. Food processing as such is a large sector that covers various economic works, like - agriculture, horticulture, floriculture, animal husbandry and fisheries. Bihar has plenty of natural resources that provide it a competitive advantage in the food processing industries. Due to its unlike climatic conditions it has a wide range of and large amount of raw material base appropriate for food processing industries. Bihar is not a land of less opportunity, but we can say that it is a land consisting of people with less will power. Bihar has much fertile land and there are lots of opportunities for food processing, we come to the following conclusions:-

- **Employment generation:** Food processing industry is a labour intensive industry, so, the rate of employment generation is higher.
- **Standard of Living:** After the involvement of 'Shakti Sudha Industry', there was threefold increase in the income of the cultivators.

- **Multiplier effect:** Population engaged in the food process has increased threefold which will lead to the play of '**multiplier effect**'. As such an investment of Re.1 will increase according to the value of the "**multiplier**" which is beneficial to the economy as a whole.
- These objectives can be achieved only if the problems regarding food processing are taken up seriously and remedies formed accordingly. Such as, development of cold storage, development of transportation facilities, easy access to the agricultural credit to the farmers, crops insurance & development of an agricultural marketing '**place**' or '**mandi**'.

References:

1. Arvind, M.N. (2007). *Potential Areas for Investment in Agro-based Industries, Deep and Deep, New Delhi.*
2. Basu, S.N. (2005). *Rural Development through Food Processing Centres, Read worthy Publication, New Delhi.*
3. Gautam, M.S. (2006). *Some Aspects of Fruits and Vegetable Processing Industry in India, Asia Publishing House, New Delhi.*
4. Kamla, G.V. (2008). *Impact of Agricultural Policies in Food Processing Industries : Academic Foundation, New Delhi.*
5. Mani, S. (2005). *Agro-based Industries, Agriculture and Agro-Industries Journal, Vol.8, Nos. 2-8.*
6. Ogha, A.P. (2002). *Agro Industries and Planning for Economic Growth, Allied Publishers Pvt. Ltd.*
7. Patil, L.K. (2004). *Role of Food Processing Industries in Decentralised Economy, Ashish Publishing House.*
8. Rao, K.P. (2007). *Rural Industrialisation Through Co-operative Agro-Industrial Development, Scientific Book Agency, Calcutta.*
9. *Hindustan Times, Patna, March 27, 2010, special supplement on Ushering The Second Green Revolution, Report on Food Processing Industries.*
10. www.makhanawet.com.
11. <http://industries.bih.nic.in/Acts/food.com>.