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FOOD PROCESSING AND VALUE ADDITION: THE PATHWAY TO AGRICULTURE SUSTAINABILITY

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ABSTRACT

At present import liberalisation has contributed in a big way to the reduction in prices of agricultural products. Having failed in getting remunerative prices to their products many farmers have curtailed their farm operations, which in turn has increased unemployment among the agricultural workers. In such a situation a question arises how to manage agriculture in a sustainable manner. This calls for a critical look at the inventory of our resources and identification of opportunities and areas of strength. The desired growth of India's agriculture and allied sector in general are achievable only with an effective integration and synergy between agriculture and agro-based industries. Food processing adds value, enhances shelf life of the perishable agro food products, encourages crop diversification and ensures remunerative market price of the agricultural produce by making it more marketable.

KEYWORDS

Food processing, primary, secondary and tertiary food processing, convenience foods.

INTRODUCTION

Agricultural development is central to rapid economic development of a country, especially in the case of India where majority of population depend on farm sector for their livelihood. In such an economy the attainment of Inclusive Growth presupposes agricultural sustainability. The practical remedy to attain agricultural sustainability would be to ensure remunerative price of the agricultural produce by making it more marketable by the simple device of processing it, packaging it and prolonging its durability. Food processing adds value, enhances shelf life of the perishable agro food products, encourages crop diversification and ensures remunerative market price of the agricultural produce by making it more marketable. An important stimulant for processed food is the rapid economic growth, which translates in to increased disposable income of the huge urban and rural middle class population. India has varied agro climatic conditions; it has wide ranging and large raw material base suitable for food processing industries. Food processing industry has a bright future due to demographic environment in India. The food habits, ready-to-cook and ready-to-eat and so life styles have given a new dimension to the food processing industry. This industry is in transformation mode. Food processing combined with marketing has the potential of solving the basic problems of agricultural surpluses, wastages, rural joblessness and better remuneration to the farmers. In the next four years, food production is expected to double. These produces, if processed and marketed smartly can make India a leading food supplier of the world. India has the potential to grow in to an important food producing country and to tap the global trade in a big way. The second phase of green revolution in India quite rightly focuses on crop diversification, processing, value addition and export of those items to which India enjoys competitive edge.

RELEVANCE

India has the capability of producing a wide variety of farm produce under its varied agro-climatic conditions, which provides necessary impetus for food processing sector to sustain. India is the world's second largest producer of food, of fruits and vegetables and has the potential to become number one in due course of time with sustained efforts. It is estimated that this sector due to its linkage effects, has the largest employment generating potential per unit of investment. Economic liberalisation and rising consumer prosperity is opening up new opportunities for diversification in food processing sector. Possibly what Information Technology, Business Process Outsourcing have done for urban India, Processed food revolution can do for rural India.

OBJECTIVES

1. To assess the importance of agriculture sector in Indian economy
2. To highlight the effectiveness of food processing sector in accomplishing agricultural sustainability.
3. To examine the competitiveness of the food processing sector in our economy

METHODOLOGY

The study is conducted primarily on the basis of second hand information pertaining to the topic. The sources from which the required information is collected includes the website of the Ministry of food processing industries, Economic survey, Indian journal of agricultural economics etc.... These secondary data provides a theoretical support to the present study.

Agriculture is the mainstay of Indian economy because of its share in employment and livelihood creation, notwithstanding, its reduced contribution to the nation's Gross Domestic Product. It is the most important sector of the Indian economy from the perspective of poverty alleviation and employment generation. The following facts indicate the strategic significance of this sector in our economy.

- Agriculture sector provides cereals and non-cereal eatables to feed the world second largest population.
- In the total National Income of India, agriculture sector contributes around 15 per cent.
- More than 52 per cent of the workforce still dependent on agriculture for their livelihood.
- The contribution of agriculture sector in the total export earnings is around 14.7 per cent.
- Agriculture provides raw material to various types of industries.
- Above all agricultural growth has direct impact on poverty eradication, containing inflation, raising agricultural wages and employment generation.

Rapid economic development will require rapid agricultural development either to precede or to go in hand with it. Indian planners learnt a bitter lesson during the second and third five year plan periods and in recent years, during 2002-03 for example, when failure of the agricultural sector spelt disaster to entire planning process. Thus any change in the agricultural sector positive or negative has a multiplier effect on the entire economy. The agricultural sector acts as a bulwark in maintaining food security and in the process, national security as well. Recognising the crucial role played by the agricultural sector in enabling the widest dispersal of economic benefits, the tenth plan emphasized that agricultural development is central to rapid economic development of the country.

FACTS ABOUT THE PERFORMANCE OF INDIA'S AGRICULTURE

The decade of 1990's witnessed two very significant developments that have profound impact on India's agricultural trade. The first phase of development relates to liberalization of economic policy and second relates to formation of WTO in 1995. Liberalization has provided an opportunity to take advantage of rising international prices which have well above the domestic prices. However, after the operationalisation of WTO in the year 1995, international price of agricultural commodities have dropped to a very low level and Indian agricultural goods prices in domestic market turned higher than international prices. This rendered Indian market attractive for import of several agricultural commodities. The World Trade Organisation is aimed at free and fair trade. But compared to

pre-WTO period developed countries have increased tariffs and started providing huge domestic subsidies to their farmers under "Green Box" and "Blue Box" clauses of the WTO. For these reasons, the competitiveness of developing countries like India has declining considerably in world agricultural trade.

In such a situation, a question arises how to manage agriculture in a sustainable manner. This calls for a critical look at all inventory of our resources and identification of opportunities and the areas of strength. In this context the evergreen revolution or sustainable advances in production, productivity, profitability and enhanced job opportunities can be attained only through a quantum jump in productivity per unit of land, water, energy, without causing any harm to the environment. Agriculture is intended to become not merely an efficient eco-friendly production system capable of meeting basic demands of the rapidly growing population, but it has to become a major powerful instrument for a comprehensive socio economic transformation of the country including improvement in the quality of life of every individual. This is an exciting opportunity and a challenging responsibility.

PROCESSING AND VALUE ADDITION: OPTION FOR AGRICULTURAL SUSTAINABILITY: A HISTORICAL PERSPECTIVE

India's strong agricultural base and accelerating economic growth holds a significant potential for the food processing industry. Food processing industry is of enormous significance for India's development because of the vital linkages and synergy that it promotes between agriculture and industry. A developed food processing sector will help to overcome the biggest challenges in front of India- i) low farmer income and high subsidies, ii) high wastages along the value chain and iii) co-existence of jobless growth and poverty. India is 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 growth potential of this sector is enormous and if it is expected that the food production will double in the next decade and the consumption of the value added food products will grow at a rapid pace. This growth of food processing industry will bring immense benefit to the economy, inducing agricultural output, meeting challenges of productivity per acre, generating employment and raising the standard of very large numbers of people cut across the country, especially in rural and semi urban areas. The food processing industry is made up of primary², secondary³ and tertiary⁴ food processors.

Economic liberalisation and rising consumer prosperity is opening up new opportunities for diversification in food processing sector. The food processing sector has started producing many new items like ready to eat foods, beverages, processed and frozen fruit and vegetable products. Indian consumers are being fast induced to more and more high quality food products produced by induction of latest technologies in various food processing sectors. Government of India has recognized food processing as one of the primary sectors to boost the economic growth in India. Government intends to triple the present size of food production by 2015 with an investment of Rs. 97, 700 crores.

The food processing industry¹ is a strategic industry and has an irrevocable place in the whole edifice of the economic structure of a country (Edward C. Hampe Jr. and Merle Wittenber, pp 3-157, 1986). Employment generation and satisfaction of the basic needs of the entire population are the primary importance of FPI⁵ in developing countries. The newly emerging countries must develop FPI on a first priority because the cornucopia of food raw materials in these nascent economies are either non utilised or mal utilised leading to the import of food. Food shortages and deficient diet are clean obstacles in the path to maturity (UNIDO 1969).

India can become the food supplier to the world. It has cultivable land, all the seasons for production of all varieties of fruits and vegetables and an agribusiness system that works although it needs to be vastly improved. The single most important problem facing the Indian agricultural industry is the inefficient supply chain. By building an efficient and effective supply chain it is possible to secure the population with value added, with simultaneously ensuring remunerative prices to the farmers, strategic growth plans for achieving both national and international competitiveness of the food industry are essential. Agro-processing is now regarded as the sunrise sector of the Indian economy in view of its large potential for growth and likely socio-economic impact specifically on employment and income generation. Properly developed agro processing sector can make India a major player at-the global level for marketing and supply of processed food and a wide range of the plant and animal products. (N. Viswanadham @ gmail.com)

Important point in the food processing is that a substantial portion being rural based, it has a very high employment potential with significantly lower investment (Acharya 1997, pp. 162-175). Agro-industry generates new demand on the farm sector for more and different agricultural outputs, which are more suitable for processing. (Christopher G. Barin, 1989).

Indian food industry is estimated to be around US \$67 billion, making it the fifth biggest. The food industry is expected to grow to US \$280 billion by 2015 and generate an additional employment for approximately 8.2 million people. It has been observed that employment potential of the food processing sector is much higher than other sectors. There is also fourfold generation of indirect employment in auxiliary and other downstream activities on account of investment in the food sector.

INDIA'S STRENGTH IN FOOD PROCESSING

India is one of the key food producers of the world and has access to several natural resources. Diverse agro climatic conditions and wide ranging raw material base adds to the huge advantage of a large untapped domestic customer base. Food processing industry in India is supported by a great agro-climatic diversity suitable for round the year cultivation of crops. Urbanisation, rise in disposable incomes and changing life styles and aspirations are leading to significant changes in food habits of Indians. Increasing nuclear families and increasing women employees are leading to rise in consumption of processed ready – to – eat canned and frozen foods. The number of upper and middle class Indians consuming packaged food is expected to rise to 200 million in 2012. Changing demographics and rising disposable incomes are the most important demand booster for the processed food in India. Indian government recognized the potential of food processing sector to the economy and has come up with several initiatives to boost the quantity and quality of output in the sector. The government has increased the spending from INR 72.77 crore in 2002-03 to INR 159.78 crore in 2006-07 to increase the value of the output, share of global processed market and provide a fillip to the farmer's income.

DIFFERENT TYPES OF PROCESSED FOOD

For a perception of the growing market and existing opportunities a micro analysis of different type of processed food is essential.

i) **Processed fruits and vegetables**

India is the home of wide variety of fruits and vegetables. It has become the second largest producer of fruits as well as vegetables in the world. Prominent processed fruits and vegetable items in India are fruit pulps and juices, dried fruits and vegetables, ready to serve beverages, fruit juice concentrates, canned/frozen fruits, jams, squashes, pickles, chutneys, mushroom products etc.

ii) **Biscuits**

Biscuits in India are being manufactured in the organized and unorganized sector. The size of biscuits market in India is Rs. 5,000 crores, of which Rs. 3,000 crores is accounted for by the organized sector. Glucose and milk biscuits account for 25 per cent each and Marie biscuits 20 per cent of the biscuit market. Biscuits are amongst the lowest cost processed foods in the country when compared to Indian sweet meals and salted snacks. The biscuit industry offers an excellent potential for development.

iii) **Bread**

It is a common commodity consumed in many households for breakfast and also at a tea time. The bread industry with estimated production of 27 lakh tones in 2004-05 is represented by both the organized and unorganized sectors with 55 per cent and 45 per cent contribution to production. The overall market size for bread in India is a little over 36 lakh loaves a day, and only one third of this is from the organized sector.

iv) **Convenience food⁵**

They are of 4 types – a) ready – to – eat, b) ready – to – cook, c) ready – to – heat and d) ready – to – constitute and consume. The term is used for very heterogeneous groups of foods which vary in shape, size, method of preparation, processing and even with regard to their function in the diet.

v) **Fried Products**

They form large group of convenience foods marketed in India. A large number of food products are made from flours of wheat, rice, black gram etc.

vi) Popped and puffed cereals

A variety of popped and puffed cereals like popcorn, puffed sorghum, puffed ragi and puffed barley are marketed and consumed as snacks by all segments of the people.

vii) Expanded Cereals

It is another traditional convenience food widely consumed in India. The product is produced in the cottage sector and marketed widely.

viii) Beaten Rice

It is also a very popular traditional product which is consumed either as snack after toasting, frying and spicing or after soaking in water and seasoning with spices and vegetables as an item of breakfast.

ix) Extruded foods

These include a variety of products like vermicelli, noodles, direct expanded ready to eat snacks like corn puffs, texturised soyanuts etc.

x) Fermented Products

Idli and samosa are the two most popular fermented products either as snacks or in breakfast and are prepared from fermented rice and black gram. Attempts to prepare and market instant idli and dosa mixes have been successful and the products are gaining wide acceptance in households.

xi) Traditional Sweets

There are many traditional sweets prepared from grains which are consumed as snacks. These include candies, which are prepared from puffed or expanded rice, bengal gram, roasted peanuts, roasted cashew and jaggery.

xii) Instant mixes

Basically there are two types of instant mixes. First type of products are prepared by blending various ingredients in required proportion along with chemical leavening agents in planetary mixer. The other groups of instant mixes are based on pre cooked dehydrated products and these include kichidi, curried dhal, curried rice, curried peas and upma mixes.

Coming to food processing sector, the vast Indian diaspora around the world, of the order 20 million, can translate in to big business for the food processing industry. The demand potential of Indian food abroad is \$ 15 billion. The estimated revenue is 5 billion generated by Indian food restaurants and retailers in UK alone. The popularity of Indian ethnic food is rising not only among Indian expatriates but also among mainstream population in Europe and United States. Processed horticultural products are exported to developed nations like Europe, USA, Japan and the U.K. In spite of this global potential it is a sad fact that only 2 per cent of the agro food products are processed in India.

At present, the Indian food processing industry is primarily export oriented. Value of trade in agri and processed food between India and the Gulf region which has grown from € 6.05 billion in 2001 to € 38.9 billion at the end of 2006. Food exports to the Gulf Co-operation Council region is estimated at € 2.1 billion a year. India's export of agricultural and food products are of the order of Rs. 332 billion, which constitute about 4 per cent of the global trade. Exports of agri-food products has grown at 15 per cent annually in the last decade. The agro and food export in 2004-05 account for 10 per cent of the total export from India. For the food industry of developing countries, trends in population growth, rural urban migration, income levels and their distribution-particularly the size of the middle class-are seem to be the crucial differentiating variables.

Even though India has strong agricultural production base, its wastage of agricultural produce is massive and the food processing sector is still at a nascent stage in terms of development. In India, processing level is very low, i.e., around 2 per cent for fruits and vegetables, 26 per cent for marine, 6 per cent for poultry and 20 per cent for buffalo meat as against 60-70 percent in the developed countries. India's export of processed food in global trade is only 1.5 per cent. Value addition is around 20 percent. The highest share of processed food is in the dairy sector, where 37 per cent of the total produce is processed. So if the food processing sector taps the market at right time with right strategies it is sure that they can come up with profitable business.

CONCLUSION

Agricultural development is central to all strategies for planned socio economic development. In our economy, agriculture has to play multifaceted roles. Thus any change in the agricultural sector has multiplier effects on the entire economy. The widest dispersal of economic benefits can also be attained through agricultural development. So the agricultural sustainability should be essential for the attainment of the concept of Inclusive Growth. The best option for agricultural sustainability is to ensure remunerative price of the agricultural produce by making it more marketable by the simple device of processing it, packaging it and prolonging its durability. The food processing sector will help to solve the biggest challenges of low farmer income and high subsidies, high wastages along the value chain and co-existence of jobless growth and poverty. The food processing industry is made up of primary, secondary and tertiary food processors. It is a strategic industry and has an irrevocable place in the whole edifice of the economic structure of a country, food processing adds value, enhances shelf life of the perishable agro food products, encourages crop diversification and ensures remunerative market prices of the farm produce by making it more marketable. Increasing urbanization, consciousness on health and nutrition and changing life styles are changing consumption habits of India. The number of working women and nuclear families are increasing, creating a demand for processed ready-to-eat foods. Growth of organized retail which makes the processed food readily available is also driving growth of food processing. The food processing industry has a bright future due to India's varied agro climatic conditions and demographic environment.

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