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OPPORTUNITIES FOR STRENGTHENING OF AGRIBUSINESS SECTORS IN RURAL INDIA

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ABSTRACT

India is an agrarian economy and agriculture continues to be the mainstay of the Indian economy, whose contribution to the national gross domestic product is about 25% and provides livelihood for nearly 65% of the population, 21% of the total export and raw material to several Industries. Agricultural sector has tremendous potential for expansion of employment opportunities and consequently mitigating the levels of rural poverty. These objectives can be achieved only if concerted efforts are made to realize the untapped potential of this sector. Low productivity in many crops, imbalance in the regional development, post harvest losses and inadequate processing facilities are some of the major weaknesses. There is a greater need for efficient linkages between the producers and the consumers for expanding employment opportunities and increasing the rural income through better marketing of agricultural products. Apart from this, India with a population of 1.21 billion according to 2011 census, and 50 per cent below the 25age, has a favourable demographic profile making it one of the largest consumption hubs. The study attempts to make an overview of the opportunities in agribusiness sectors and to suggest effective strengthening backward linkages and forward linkages. The data analyzed by adopting Compound Annual Growth Rate analysis.

Keywords: Agricultural business, Efficiency, Financial service, India, Infrastructure, opportunities.

1. INTRODUCTION

In agriculture, agribusiness is the business of agricultural production. It includes crop production (farming and contract farming), seed supply, agrichemicals, breeding, farm machinery, distribution, processing, marketing, and retail sales. Within the agriculture industry, "agribusiness" is used simply as a portmanteau of agriculture and business, referring to the range of activities and disciplines encompassed by modern food production. There are academic degrees in and departments of agribusiness, agribusiness trade associations, agribusiness publications, and so forth, worldwide. In this context the term is only descriptive, and is synonymous in the broadest sense with food industry. The United Nation's Food and Agriculture Organization (FAO), for example, operates a section devoted to Agribusiness

Development which seeks to promote food industry growth in developing nations. Agriculture operated by business; specifically, that part of a modern national economy devoted to the production, processing, and distribution of food and fibre products and bi-products. Commercial farming has largely supplanted the family farm in production of cash crops. Some food-processing firms that operate farms have begun to market fresh produce under their brand names. In recent years, conglomerates involved in non-agricultural businesses have entered agribusiness by buying and operating large farms. Agribusiness is characterized by raw materials that are mostly perishable, variable in quality and not regularly available. The sector is subject to stringent regulatory controls on consumer safety, product quality and environmental protection. Traditional production and distribution methods are being replaced by more closely coordinated and better planned linkages between agribusiness firms, farmers, retailers and others in the supply chains.

2. MAIN PROBLEMS IN RURAL AGRIBUSINESS

The developmental problems in rural areas are multi- dimensional. The major areas affecting agricultural production and rural prosperity are lack of resources, crucial shortage of labour, appropriate technologies, inadequate infrastructure, improper roadways for handling and distribution of agricultural commodities, skilled personnel and lack of confidence among farmers. Being poor, most of the farmers are not able to procure critical inputs on time and thereby end up with low yields with lack of quality standards in production aspects. Even after successful cultivation, farmers often face marketing problems arising of surplus production, lack of storage and marketing facilities. Thus the development programme should be promoted as an enterprise and the farmers should manage their farms as a business and not as a family tradition.

3. OBJECTIVES OF THE STUDY

1. To make an overview of the opportunities in agribusiness sectors.

2. To suggest effective strengthening of backward linkages and forward linkages for agribusiness sector.

METHODOLOGY: The study is based on secondary information from various sources which includes Food and Agriculture Organization statistics and Reports, Confederation of Indian Industry, Ministry of Food Processing Industries, and India Brand Equity Foundation. And which are engaged in food production and processing industries. And also necessary information will be gathered from various Books, Journals, Seminar Volumes, Media report and Press Information Bureau etc. The data analyzed by adopting Compound Annual Growth Rate analysis. The tables and graphs are generated from the analysis of secondary were collected from the year 2002-03 to 2011-12.

Agribusiness

In the developed countries, agribusiness is defined as the total output arising from farm production and product processing at both pre- and post farm gate levels. In developing countries like India, the agribusiness sector encompasses four distinct sub-sectors, viz. agricultural inputs; agricultural production; agro-processing; and marketing and trade. All these add value or utility to the goods. Agribusiness is emerging as a specialized branch of

knowledge in the field of management sciences. In this context, agribusiness can be defined as science and practice of activities, with backward and forward linkages, related to production, processing, marketing, trade, and distribution of raw and processed food, feed and fibre, including supply of inputs and services for these activities.

Agribusiness Inputs

Inputs are the various resources and services producers use to produce agricultural products. Agribusiness firms include computer software developers, financial services companies, insurance providers, accountants and attorneys, as well as the more traditional agricultural input companies such as seed, feed, fertilizer, farm equipment, irrigation, animal pharmaceuticals, live stock handling equipment, and horticultural supplies. The overall availability of fertilizers and seeds in the country is satisfactory. Consumption of fertilizers during 2011-12 was about 144.59 kg per hectare. Certified quality seeds production has increased from 140.51 lakh quintals in 2005-06 to 347.31 lakh quintals in 2013-14. National Seeds Corporation has introduced 44 newer varieties in the production chain to improve the product basket. A central Sector Scheme "Development and Strengthening of Infrastructure Facilities for Production of Distribution of Quality Seeds" is being implemented for improving quality of farm saved seeds through Seed Village Programmes to enhance seed replacement rate, boosting seed production in the private sector, helping public- sector seed companies to contribute to enhancing seed production. Under this scheme, 78,943 Seed Villages have been organized and 116.71 lakh quintals of various seeds produced during 2012-13. 2.10 lakh quintal of seed processing capacity and 8.07 lakh seed storage capacity has been created during 2012-13.

Table 1: Production of seeds in India during 2012

Seeds	Tonnes	Percentage
Sugar cane	147,97,801.80	57.68
Rice, paddy	30,88,207.50	12.03
Wheat	26,34,470.00	10.27
Potatoes	20,15,200.00	7.85
Maize	7,29,872.00	2.84
Groundnuts, with shell	4,15,485.00	1.61
Soybeans	3,66,330.00	1.42
Millet	3,10,662.00	1.21
Sorghum	2,79,000.00	1.08
Chick peas	2,56,648.00	1
Other seeds	7,58,075.40	2.88
Total	**256,51,751.70**	**100.00**

Source: Food and Agriculture Organization 2014

The table 1and figure 1 shows the production of seeds in India during 2012. According to Food and Agriculture Organization, total production of seeds in the year 2012 is 256,51,751.70 tonnes in India. The major seeds production clearly states that Sugarcane with 147,97,801.80 tonnes with first position in seeds, secondly Rice, paddy with 30,88,207.50 tonnes, Wheat 26,34,470.00 tonnes, Potatoes 20,15,200.00 tonnes, Maize 7,29,872.00 tonnes, Groundnut with shell 4,15,485.00 tonnes, Soybeans 3,66,330.00 tonnes, Millet 3,10,662.00 tonnes, Sorghum 2,79,000.00 tonnes, Chickpeas 2,56,648.00 tonnes and other seeds includes

Safflower seed, Pigeon peas, Rapeseed, Sesame seed, Sunflower seed, Pulses nes, Beans, dry Cottonseed, Barley, Lentils, Peas, dry Linseed, Castor oil seed.

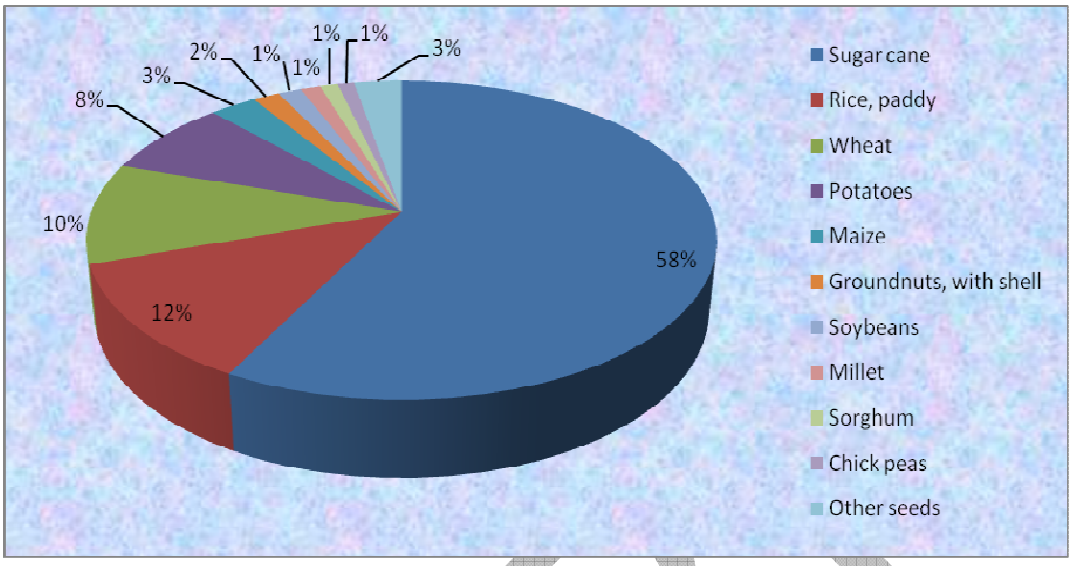

Fig : Production of seeds in India during 2012
(Figures in percentage)

Table 2: Production of fertilizer in India during 2002-03 to 2011-12

(in lakh metric tonnes)

Year/ Fertilizer	2002 -03	2003 -04	2004 -05	2005 -06	2006 -07	2007 -08	2008 -09	2009-10	2010-11	2011-12	CAGR
Urea	187.3	192	202.6	201	203.1	198.6	199.2	211.12	218.81	219.84	1.53
DAP	52.36	47.34	51.84	46.28	48.52	42.12	29.93	42.46	35.37	39.63	-4.15
Complex Fertilizers	48.59	45.11	53.63	67.64	74.64	58.5	68.48	80.38	87.27	77.7	6.67

Source: Indian fertilizer scenario 2012

The table 2 and figure 2 indicates that production of fertilizers in India during 2002-03 to 2011-12. In 2002-03 urea with 187.3 lakh metric tonnes, DAP 52.36 Lakh metric tonnes and complex fertilizers with 48.59 Lakh metric tonnes, urea is further increased to 219.84 lakh metric tonnes in the year 2011-12. DAP is decreased to 48.52 lakh metric tonnes in 2006-07 and less production of DAP with 39.63 lakh metric tonnes in 2011-12. Chemical fertilizers is increased in production with 74.64 lakh metric tonnes in 2006-07 and slightly increased to 77.7 lakh metric tonnes in 2011-12. The Compound Annual Growth Rate of production of fertilizer during 2002-03 to 2011-12 has presented in same table 1.2 in percentage. Urea with 1.53 per cent, DAP -4.15 per cent it's in negative trend that shows decreased production over the period of time, complex fertilizers holds highest growth rate with 6.67 per cent, complex fertilizer shows the increasing in production of fertilizers in Indian scenario.

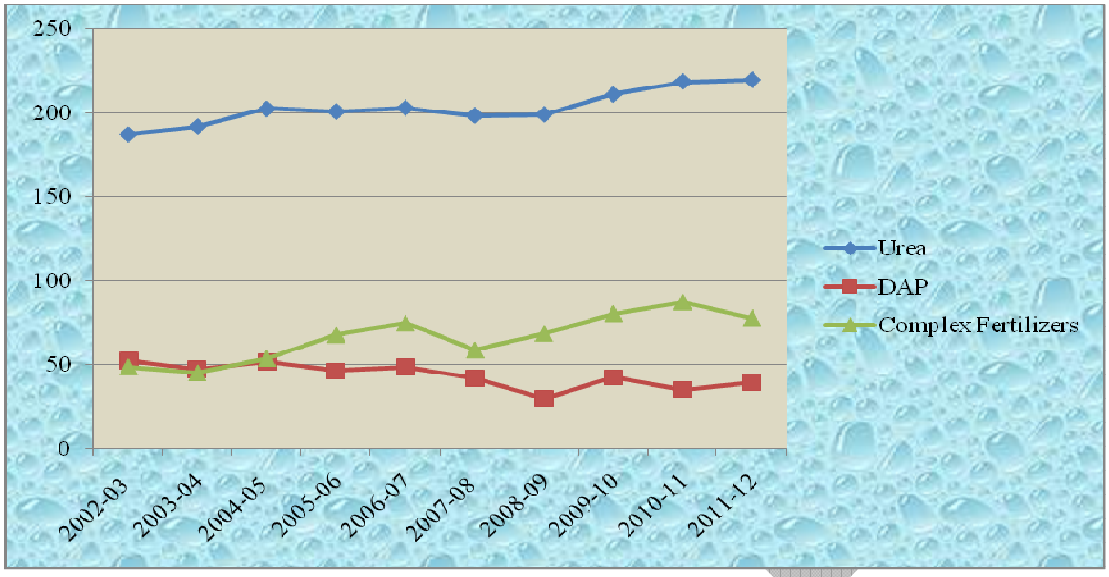

Fig 2: Production of fertilizer in India during 2002-03 to 2011-12
(in lakh metric tonnes)

Table 3: Export quantity and export value of farm machinery from India during 2000 to 2009

Farm Machinery	Export quantity (No's)	Export value (1000 US $)
2000	8,729.00	56,160.00
2001	14,674.00	73,230.00
2002	22,118.00	1,24,675.00
2003	32,673.00	1,88,365.00
2004	31,264.00	2,30,958.00
2005	52,891.00	4,73,835.00
2006	55,302.00	5,13,953.00
2007	75,109.00	7,49,744.00
2008	1,64,721.00	8,88,470.00
2009	1,50,292.00	2,80,695.00
CAGR	**36.02**	**31.08**

Source: Food and Agriculture Organization 2014

The table 3 and figure 3 suggest a relatively rapid growth of farm machinery in country's export quantity and export value in between 2000 -2009, however, this table clearly indicates that in the year 2000 the no of export quantity is 8,729.00 and value of export 56,160.00 US $ and is increased to 2,30,958.00 US$ with 31,264.00 export in numbers in 2004. Export quantity is 1,64,721.00 and value of export in US $ 8,88,470.00 in the year 2008. In 2009 it is in decreased to 1,50,292 in numbers and value is 2,80,695.00 US $. It shows an increasing trend in the export value of the farm machinery from 2000 to 2008. It indicates that year 2000 to 2008 was successful year in terms of export because farm machinery an increased in value and quantity of their export, but slightly decreased in quantity of farm machinery in 2009. The compound annual growth rate in export quantity and export value of farm machinery from India in the year 2000 to 2009, export quantity accounts 36.02 per cent and export value holds 31.08 per cent, simultaneously quantity and value are increased or positive trend over the period.

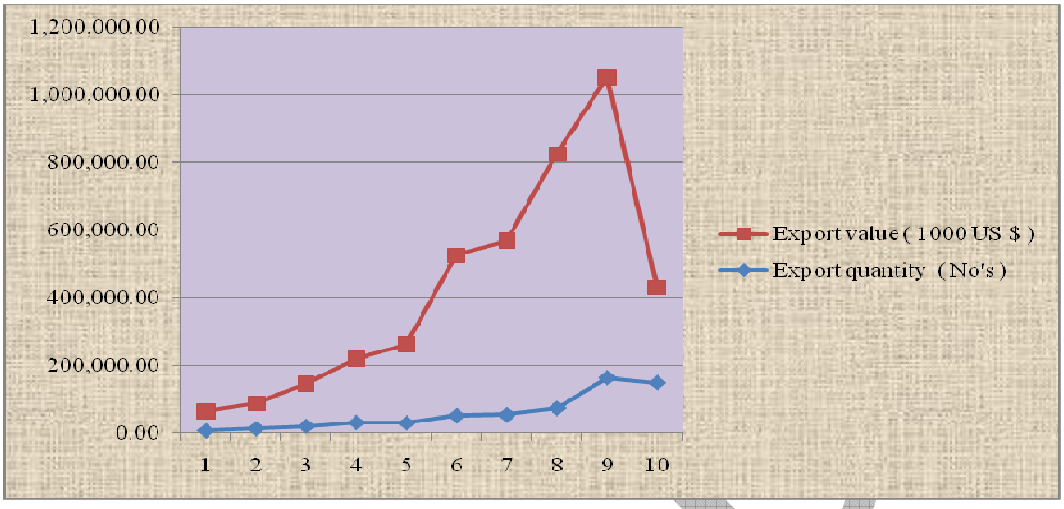

Fig 3: Export quantity and export value of farm machinery from India during 2000 to 2009

Agribusiness Outputs

Agribusiness includes the output side of agricultural production such as the post-harvest processing of vegetables, fruits, fiber, poultry and meats. Definition of agribusiness output enterprises goes further to include the distributors, marketers, packagers, and retailers of agricultural food and fiber. It also includes firms involved in post-harvest logistics of shipping and handling agricultural production such as railroads, truckers, ocean carriers and airlines.

Agribusiness Sectors

In all the agribusiness enterprises the firm's success relates in no small way to their familiarity and understanding of agricultural production and what affects the eventual harvest, handling and distribution of agricultural production and bio-resources. Agricultural sector has tremendous potential for expansion of employment opportunities and consequently mitigating the levels of rural poverty. These objectives can be achieved only if concerted efforts are made to realize the untapped potential of this sector. Low productivity in many crops, imbalance in the regional development, post harvest losses and inadequate processing facilities are some of the major weaknesses. There is a greater need for efficient linkages between the producers and the consumers for expanding employment opportunities and increasing the rural income through better marketing of agricultural products.

4. AGRIBUSINESS OPPORTUNITIES

a. Production: The total food production of India is estimated to double in the next ten years. Hence there is an opportunity for large investments in food and food processing technologies, skills and equipment. The major interventions in this context are, for example, Canning, Dairy and Food Processing, Specialty Processing, Packaging, Frozen Food/Refrigeration and Thermo Processing. Fruits and Vegetables, Fisheries, Milk and Milk Products, Meat and Poultry, Packaged /Convenience Foods, Alcoholic Beverages and Soft Drinks and Grains. Health food and health food supplements are other rapidly rising segments of this industry. The Food Processing Industry sector in India has been accorded high priority by the

Government of India, with a number of fiscal relief and incentives, to encourage commercialisation and value addition. India needs modern facilities in germplasm and seed multiplication facilities, agricultural inputs (seeds, plant nutrients and plant protection chemicals), irrigation, controlled production facilities, farm mechanization etc to improve its agri produce infrastructure.

b. Processing: Food processing industry is of enormous significance for India's development because of the vital linkages and synergies it promotes between the two pillars of our economy, industry and agriculture. Fast growth in the food processing sector and simultaneous improvement in the development of value chain are also of great importance to achieve favorable terms of trade for Indian agriculture both in the domestic and the international markets. The sector however has to go a long way. Even important is the crucial contribution that an efficient food processing industry could make in the nation's food security for instance the post-harvest losses of selected Fruits and Vegetables are about 25% to 30% in our country. With a huge agriculture sector, abundant livestock, and cost competitiveness, India is fast emerging as a sourcing hub for processed food. The Indian food processing industry accounts for 32 per cent of the country's total food market. Investment in farm level post-harvest facilities – cool chambers, grading and sorting facilities, pack houses for the back-end support; integrated industrial processing units for processing and value addition. (Source: Confederation of Indian industry)

c. Temperature controlled infrastructure: Even though India is the second largest producer of food in the world, the facilities required for food storage and infrastructure for refrigerated transportation are grossly inadequate. Tremendous potential for investment exists in the areas of procurement and delivery systems, pre-cooling facilities, refrigerated vehicles, cold stores/ controlled ambience stores, warehouses and traceability issues, among others.

d. Distribution: There is a need to establish an integrated supply chain like warehousing, cold chain and transport from farm gate to the food plate for strong backward and forward integration. Supply chains are to be created in such a way that they can be utilized round the year for multiple commodities to increase the efficiency of utilization.

e. Building forward linkages: Leading product brands and retailers are integrating their agri supply chain with processing plant or retailing business. With a well established agriculture practice, India presents vast opportunities in the domain of contract farming. Already contract farming is successfully practiced for the production of the crops such as potato, tomato, maize and gherkins, among others.

f. Export Opportunities: Indian agribusiness industries provide opportunities not only to cater to the growing Indian middle-class but also for export market. India with its strong agricultural production base, easy availability of raw materials and the growing food processing industry is strategically poised to capitalize on the global food processing market. Agriculture's share in India's exports increased to 13.08% in 2012-13 from 12.81% in the year 2011-12. India's share of global agri-food product export is 2.1% as per International Trade Statistics 2012. India's agricultural exports increased from Rs.120, 000 crore in 2010-11 to Rs.187,000 crore in 2011-12. The share of agri-export in total exports increased from 10.47% in 2010-11 to 12.81% in 2011-12. During 2012-13, agri-export has been about

Rs.231,992 crore, a record level which is 13.08% of India's total exports. The share of food processing export in total export from India is around 12 %. (Source: APEDA-2014)

5. STRENGTHENING FARM-AGRIBUSINESS LINKAGES

a. Agribusiness linkages: is vital for agribusiness development. Successful linkages lead to adding value in agricultural sectors, they can help to create employment and increase income levels. Agribusiness companies are in need of reliable domestic raw material supplies to improve their international competitiveness. The linkage initiative concentrates on how to develop and reinforce equitable and efficient linkages between all players along the food value chain. To create an awareness of the importance of farm-agribusiness linkages and to develop guidelines for policymakers and planners on how to formulate strategic programmes and overall strategies that would assist in building and maintaining successful farm-agribusiness linkage programmes.

b. Linking farmers to markets: Marketing systems are undergoing rapid transformation. Traditional marketing channels with sales are being replaced by coordinated links between farmers, processors, retailers and others, particularly for the export sector and for supplies to local processors and supermarkets. As incomes increase, food consumption patterns are changing, with a greater emphasis on meat, dairy products and fruits and vegetables. Consumers are becoming more demanding in terms of quality and safety and demographic and income trends are leading to increased demand for convenience foods, together with assurances of product safety. New "value chains" are emerging to meet these demands.

c. Agricultural marketing: Improvement of marketing linkages for both farm produce and inputs necessitates a strong private sector backed up by appropriate policy and legislative frameworks and effective government support services. Such services can include provision of market infrastructure, supply of market information, and agricultural extension services able to advise farmers on marketing. New marketing links between agribusinesses, large retailers and farmers require to be developed, e.g. through contract farming or group marketing, with those working in marketing and agribusiness being assisted to join together in associations to promote their common goals. Constraints in the domestic supply chains of many countries have prevented them from exploiting market opportunities. Training in marketing at all levels is also needed; from farmer groups to post-graduate students at universities. Regulated markets in India as on 2011, 7246 total regulated markets in that 2433 principal regulated markets and 4813 sub market yards, Andrapradesh stands first with 905 total regulated market Maharashtra holds second with 880 regulated markets, west Bengal 684 regulated markets, Uttar Pradesh 605, Madhya Pradesh 517, Karnataka 504, Rajasthan 431, Gujarat 414, Orissa 314, Tamilnadu, Haryana, Assam, Jharkhand and Chhattisgarh with 292, 284, 226, 201 and 185 respectively. (Source: Central statistical organization 2011)

d. Marketing extension: As farmers become more market oriented, so extension workers need to be in a position to advise them not only on how to grow crops but also on how to market them. Knowledge of produce handling, storage and packaging is also essential. To assist governments to develop extension skills in marketing. Horticultural farmers frequently consider marketing as being their major problem. However, while they are able to identify such problems as poor prices, lack of transport and high post-harvest losses, they are often

poorly equipped to identify potential solutions. Successful marketing requires learning new skills, new techniques and new ways of obtaining information. Horticultural Marketing seeks to help them to develop their knowledge of these areas, in order to be better able to advise farmers about market-oriented horticulture. The emphasis is on assisting farmers to form mutually beneficial relationships with private-sector traders and agro processors.

e. Marketing costs: There are widely held misunderstandings over marketing costs. Farmers often do not understand the true costs associated with marketing their produce. Trader's margins are often looked upon as being excessive by policy makers and officials as they lack a full appreciation of all the costs involved. To advise farmers on marketing and prices and is intended to reduce some of the misunderstanding about the nature of costs.

f. Input marketing: Value chains begin with production and efficient production is not possible if necessary farm inputs are not available in time or if inputs are not affordable. Improved efficiency in farm input marketing reduces unit costs and increases availability.

g. Agricultural finance and investment: Expansion of rural financial services can create a win scenario that will promote growth while also helping reduce poverty. Given the high proportion of poor populations that live in rural areas, the growing income inequality between urban and rural markets, and concerns for food security and population vulnerability in rural communities, many development agencies are returning their attention to rural financial deepening as part of a strategy to stimulate rural private sector development. Investment in agriculture, including agro-industry, rural infrastructure, agricultural science, technology and support services such as financial institutions and extension programs, has been critically important to past growth performance. It is likely to be even more important for achieving future global development according to the needs, risks and returns. A challenge in deciding future investments is to understand the future needs such as changing consumer needs and urbanization and what that means in terms of investment in food processing and logistics. Several countries are once again trying to upgrade the level of agricultural mechanization through bulk purchases and distribution of power tillers and/or tractors. India's banking sector is currently valued at Rs 81 trillion (US$ 1.31 trillion). It has the potential to become the fifth largest banking industry in the world by 2020 and the third largest by 2025, according to an industry report. The face of Indian banking has changed over the years. Banks are now reaching out to the masses with technology to facilitate greater ease of communication, and transactions are carried out through the Internet and mobile devices. The revenue of Indian banks increased four-fold from US$ 11.8 billion to US$ 46.9 billion in the period 2001–2010. In that phase, the profit after tax rose about nine-fold from US$ 1.4 billion to US$ 12 billion. Banking Index with the Sensex (Bankex) that tracks the performance of primary banking sector stocks grew at a compounded annual growth rate (CAGR) of nearly 20 per cent over the period 2003–2012. In India banking, 21 Nationalised banks / Public Sector Banks, SBI and Associates banks are 8 in numbers, Regional Rural banks are 80's, 19 Privates banks, 32 Foreign banks operating in India, 29 Foreign banks with business in India. Cooperative banks there are 31 state cooperative banks and 53 scheduled urban cooperative banks. 284 Commercial banks with 70,373 branches in 2005, 151 Commercial banks with 102,377 branches in the year 2013. (Source: Indian banking sector, key statistics 2014)

h. Processing technology: The diverse technical capacities and levels of skill, infrastructure and production countries, broad range of technological options for adding value to agricultural raw materials. In each situation technologies that are appropriate to the circumstances of the end user are proposed, taking into consideration such issues as scalability, cost effectiveness, energy requirements and environmental impacts. Food processing sector is an important segment of the economy, constituting a share of around 9–10 per cent of gross domestic product (GDP) in agriculture and manufacturing sector. Currently growing at more than 10 per cent per annum, it is expected to touch US$ 194 billion by 2015 from a value of US$ 121 billion in 2012, according to Mr. Swapan Dutta, Deputy Director General, Indian Council of Agricultural Research (ICAR). Packaged food industry is the fifth largest sector in India. The industry is currently pegged at US$ 39.7 billion in India and is expected to reach US$ 65.41 billion by 2020, owing to the rise in middle class income, changing urban lifestyle and modern retail trade. Residents in urban areas are the largest consumers of processed food, consuming 78 per cent of all packaged food in 2011.

i. Packaging: is an important technological issue which plays a key role in preserving the quality of processed products, extending shelf life and facilitating distribution, while also enhancing presentation and marketability. We carry out appraisals of packaging options, support field projects and provide advice on the selection of appropriate, environmentally friendly packaging options for value added agri-food products. Packaged food industry is the fifth largest sector in India. The industry is currently pegged at US$ 39.7 billion in India and is expected to reach US$ 65.41 billion by 2020, owing to the rise in middle class income, changing urban lifestyle and modern retail trade. Residents in urban areas are the largest consumers of processed food, consuming 78 per cent of all packaged food in 2011.

j. Innovation: Agri-food processors have to recognise the rapidly changing context in which they are operating where profitability and competitiveness depend on their ability to develop innovative products and adopt appropriate technological processes to produce products in line with market requirements. Through innovation, cheaper and more efficient technologies are developed, while new or modified products are introduced to adjust to changes in consumer preferences, improve shelf life, reduce postharvest losses and enhance product quality and safety. FAO carries out appraisals of new technologies and provides assistance in their transfer and adaptation. Networks are being created for exchanging and sharing information and expertise on innovation, while support is provided to member states to strengthen their policies and institutions to support the adoption of innovate practices.

h. Agro-industries sub-sector development: Despite their importance to the economy of many developing countries, the agro-food industry sub-sectors face a series of challenges that constrain their performance. These include poor infrastructure, low productivity, poor product quality and difficulty in acquiring inputs, lack of regulations and standards and rudimentary technology. A value chain/systems approach is utilized in evaluating all factors affecting competitiveness of the sub-sectors, such as cost-efficiency, productivity, quality and safety. Agro-industries for development, which highlights the current status and future course for agro-industries and highlights the contributions this sector can make to international

development. Indian agricultural and processed food exports during April–December 2013 stood at US$ 16,578.91 million as compared to US$ 15,206.22 million during the same period last year, according to data released by the Agricultural and Processed Food Products Export Development Authority (APEDA). The share of food processing export in total exports from India is around 12 per cent. Food processing industries in India attracted foreign direct investments (FDI) worth US$ 5,360.89 million during the period April 2000–January 2014, according to the latest data published by Department of Industrial Policy and Promotion (DIPP).

6. CONCLUSION

Demand will rise naturally with a growing population's demand for food, particularly in view of the rural migration taking place and as the younger generation is turning away from agriculture and towards the urban centres for employment opportunities. Indeed, there are already labour shortages at critical stages in the agri sectors. Developing countries still need labour-saving technologies. The important is to encourage sustainable public private sector development that can offer farmers the right choice of technology at the right price to increase agricultural productivity, provide food security and reduce post-harvest losses.

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