

AGRO-BASED INDUSTRIES IN INDIA: AN OVERVIEW

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Indian planners and policy makers have always encouraged rural and agri-industrialisation. The inherent advantages of agri-industries are optimal utilization of local agri-resources, mobilization of investment on a large scale, creation of job opportunity, prevention of distress rural-urban migration and reduction of disparity across sectors and regions. These industries have the capability of offering a wide, reliable and sustainable model for promotional/profitable occupation and activity diversification in villages.

Economic policies of developing nations have always advocated enhancing farmers' income through product and productivity growth and by systemic value addition in agri-products through processing and manufacturing. India's 54.6 per cent population is still engaged in agriculture and allied activities. Indian farmers are largely unorganized. They rely on external agencies for disposal of their marketable surplus. Lack of capital asset endowments in rural areas compels them to sell their produce at throwaway prices to the middlemen/commission agents. Low income from the primary farm produce and lack of investment in the processing and agri-value chain has caused rapid reduction in farm profits and the farm occupation has now come under severe pressure.

Industry Scenario in Rural and Urban India

The industrial statistics of organized manufacturing units as reported in the Annual Survey of Industries of Central Statistical Organization [Table 1] indicates that there was less number of factories in rural areas vis-à-vis urban areas in 2017-18. However, their contributions towards total output and net value addition in the sector were somewhat identical. This shows that establishment of more rural industrial units would go a long way in not only absorbing surplus labour but also contributing largely to the total industrial output and value addition.



Agro-based Industry – Definition & Types

Development of agro-based industries has the propensity to stabilize and make agriculture acceptable and lucrative. An omnibus expression – 'agro-industry' covers a variety of industrial, processing and manufacturing activities based on agricultural raw materials and also those activities and services that come back to agriculture as inputs. Agriculture provides inputs to the industry and industrial outputs are used in agriculture to expand its production and productivity base. Thus, agro-industry encompasses not only the activities that utilize raw materials sourced from agriculture, but also those that provide inputs for modern agronomic practices.

Based on the input-output linkages and the interdependence between agriculture and industry, agro-industries can be of two types – (a) processing industries or agro-based industries and (b) input supply industries or agro-industries. The agencies supporting agriculture by way of designing and manufacturing inputs for production and productivity growth of the primary

Table 1: Rural-Urban Break-up of Industries in India [2017-2018]

(Value Figures in Rs. Lakh & Others in Number)

Sector	Factories	Workers	Total Persons Engaged	Total Output	Net Value Added
1	2	3	4	5	6
Rural	98,177	55,55,120	69,82,408	40,34,65,937	6,20,03,250
Urban	1,39,507	66,69,282	86,32,189	40,47,01,178	6,18,09,605
% Rural to Total	41	45	45	50	50
Total	2,37,684	1,22,24,402	1,56,14,598	80,81,67,115	12,38,12,856

Source: Annual Survey of Industries, Central Statistical Organisation, 2017-18 (Provisional)

sector are termed as agro industries whereas agro-based industries process and add value to such agri-resources which contain ground and tree crops, fruits and vegetables, etc., as well as livestock for their day-to-day operations. As per the International Standard Industrial Classification (ISIC) framework, agro-based industry consists of the manufacturing/processing of food and beverages, textile, footwear and apparel, leather, rubber, paper and wood and tobacco products.

Why Promote Agro-Based Industries?

India has the world's 10th largest arable land, 20 agro-climatic regions and 15 major climates. Census data indicates that the total number of cultivators in the country has decreased from 127.3 million in 2001 to 118.8 million in 2011. This may be due to excessive product orientation of Indian agriculture with inadequate focus on value addition, wastage reduction and incremental income through agri-processing and manufacturing.

Central Institute of Post-Harvest Engineering and Technology (CIPHET) of Indian Council of Agricultural Research (ICAR) has reported, in its 2015 Report entitled "Assessment of Quantitative Harvest and Post-Harvest Losses of Major Crops and Commodities in India", that the harvest & post-harvest losses for agriculture commodities range from 4.65–5.99 per cent for cereals, 6.36–8.41 per cent for pulses, 3.08–9.96 per cent for oilseeds, 6.7–

15.88 per cent for fruits and 4.58–12.44 per cent for vegetables. The total estimated economic value of quantitative loss was found to be Rs. 92651 crore at average annual prices of 2014. Thus, to reducing the extent of losses, promoting and adopting modern agro-processing technology and setting up of more numbers of agro-industries in rural areas are the need of the hour.

There is opportunity of an overall growth of agricultural economy as only 2 to 3 per cent of agri-commodities are processed. Considering the extant depressed price discovery scenario in the Indian agriculture, it is necessary to amply invest in rural areas so as to develop suitable processing and manufacturing infrastructure and to attract private public partnerships for setting up of modern agro-based industries in and around rural areas.

Agro-Based Industry: Characteristics

In India, the agro-based industries can be grouped under three categories viz. (a) Agri-processing units covering fruit and vegetable processing units, dairy plants, rice mills, dal mills, etc.; (b) Agri-manufacturing units covering sugar, dairy, bakery, solvent extraction, textile units, etc.; (c) Agri-input manufacturing units covering mechanization of agriculture, agriculture implements, seed industries, irrigation equipment, fertilizer, pesticides, etc. **Table 2** shows, from the review of available literature, the complex and diversified nature of India's agro-based industries.

Table 2: Category of Agro-based Select Industry and Finished Output

S.N	Category of Industry	Finished Product
1	Cereals	Wheat Flour; Biscuit Manufacturing; Confectionary and Bakery; Rice (puffed and flaked); Rice Bran and Rice Bran Oil; Corn flakes; Canned Baby Corn; Starch Material etc.
2	Pulses	Gram Flour (Basen); Namkeens (ready to eat snacks); Papad; Whole or Split Dal etc.
3	Oilseed	Edible Oil; Animal Feed; Processed Seed (Sesame) etc.
4	Fruits & Vegetables	Frozen fruits & Vegetables; Chips & Wafers (Ready to Eat snacks); French Fries (Ready to Eat snacks); Dehydrated Vegetables; Ketchups, Purees & Concentrates; Juices; Pickles etc.
5	Spices	Pastes & Powders; Oleoresins; Aromatic Extractions etc.
6	Dairy	Skimmed Milk Powder, Ghee, Curd ,etc
7	Floriculture	Fresh & Dried Flowers etc.
8	Fisheries	Fish Processing; Fish meal; Fish / Prawn Pickle etc.
9	Livestock & Poultry	Processed Poultry Products; Meat Gravy Concentrates; Mutton & Lamb Processing etc.
10	Medicinal Herbs	Medicinal Products
11	Cotton & Jute	Fibres
12	Sugarcane	Jaggery, Confectionary & Bakery Products
13	Plantation Crops	Tea Powder; Coffee Powder etc.
14	Others	Honey; Mushrooms etc.

Rural and agro-based industries help create employment opportunity at production, distribution, manufacturing and marketing stages. **Table 3** examines few principal characteristics of select agro-industries. Around 45.3 per cent of agro based industries in 2017–18 shared only 24.1 per cent of the total net value addition even though 44.2 per cent of total workers were engaged in this sector. This shows that the agri-based industrial scenario has not fully capitalized the benefits of the local available resources and the efforts of the government through various subsidy-oriented central schemes. There were a total of 1.07 lakh agri-based units in 2017–18. The manufacturer of food products and beverages accounts for 38 per cent of the total number of agri-

industries and shares 36.8 per cent of the total net value added. There lies a great potential to make agro-based industries more visible and remunerative by identifying and resolving impending issues in a time bound manner.

Review of Select Government Initiatives

(a) Food Processing & Beverages: The Ministry of Food Processing Industries implements various Central Sector Schemes to boost food processing industries and value addition activities. It has recently re-structured its schemes under the new Central Sector Scheme – Pradhan Mantri Kisan Sampada Yojana (PMKSY) with an allocation of Rs. 6,000 crore for the period 2016–20. The

Table 3 : Principal Characteristics of Select Agro Based Industries in 2017-2018

SN	Category of Industries	Factories (No.)	Total Persons Engaged (No.)	Net Value Added (in Lakh INR)
1	2	3	4	5
1	Food Products	37,833 (15.9)	17,72,399 (11.4)	93,71,285 (7.6)
2	Textiles	17,957 (7.6)	16,78,561 (10.7)	5669257 (4.6)
3	Rubber & Plastic Products	14,193 (6.0)	7,12,872 (4.6)	43,23,694 (3.5)
4	Wearing Apparel	10,498 (4.4)	11,89,520 (7.6)	32,38,377 (2.6)
5	Paper & Paper Products	7,109 (3.0)	2,84,057 (1.8)	17,41,060 (1.4)
6	Tobacco Products	3,591 (1.5)	4,61,335 (3.0)	16,39,755 (1.3)
7	Beverages	2,329 (1.0)	1,61,065 (1.0)	16,27,362 (1.3)
8	Leather and Related Products	4,617 (1.9)	3,87,134 (2.5)	10,91,491 (0.9)
9	Cotton Ginning, Cleaning, Bailing, seed processing etc.	3,316 (1.4)	79,471 (0.5)	4,18,527 (0.3)
10	Wood and Wood Products except Furniture	4,565 (1.9)	98,653 (0.6)	3,68,650 (0.3)
11	Manufacture of Furniture	1,755 (0.7)	81,465 (0.5)	3,56,103 (0.3)
12	Total Agro-Based Industries	1,07,763 (45.3)	69,06,532 (44.2)	2,98,45,561 (24.1)
13	Others	1,29,921 (54.7)	87,08,066 (55.8)	9,39,67,295 (75.9)
	All India	2,37,684 (100.0)	1,56,14,598 (100.0)	12,38,12,856 (100.0)

Source: Annual Survey of Industries, Central Statistical Organisation, 2017-18 (Provisional)

Note: Figures in the parentheses are % to Total in the respective columns



scheme components include setting up of (a) Mega Food Parks (b) Integrated Cold Chain and Value Addition Infrastructure (c) Food Safety and Quality Assurance Infrastructure (d) Human Resources Development and Institutions. PMKSY encompasses three new schemes namely: Infrastructure for Agro-Processing Clusters, Creation of Forward and Backward Linkages and Creation/Expansion of Food Processing & Preservation Capacities focusing on creating robust modern infrastructure for food processing/preservation units. The PMKSY is very crucial in reducing the harvest and post-harvest losses of the agricultural produces and ensuring remunerative income and adequate employment in rural non-farm sector.

(b) Textiles Industry: The textile industry is known for its employment intensity. It employs 4.5 crore people directly and another 6 crore people in allied sectors, including a large number of women and rural population. Indian Cotton Textile Industry is largely unorganized and suffers from high production and labour costs. Other vital issues of the industry are – ageing machinery, quality of raw material and absence of level playing field for value added cotton products in domestic and international markets. With a view to make Textile Industry globally competitive, boost exports and facilitate modernization, the Government has rolled out a number of initiatives: Scheme for Integrated Textile Park, Integrated Processing Development Scheme, Group Workshed

Scheme, Common Facility Centre and Amended Technology Up-gradation Fund Scheme, Scheme for the Development of the Powerloom Sector (Power-Tex), SAMARTH - The Scheme for Capacity Building in Textile Sector (SCBTS), Comprehensive Handloom Cluster Development Scheme (CHCDS), Rebate of State and Centre Taxes and Levies (ROSCTL) etc.

(c) Jute Industry: Jute Industry in India has an installed capacity of 16.5 lakh MT out of which 11.5 lakh MTs of Jute goods are

produced. The excess capacity is due to marketing and labour related issues. The Govt. has attempted to modernize the Jute mills by increasing their productivity and bringing in modern technology and equipment. National Jute Board's schematic interventions, inter alia, provide capital subsidy to jute mills to address their issues and challenges at hand.

(d) Khadi & Village Industry: Ministry of MSME's Khadi and Village Industries Commission (KVIC) promotes setting up of various post-harvest agro and food based micro industries like processing of pulses & cereals, fruits & vegetables, village oil industry, bread baking, etc. in the country. Through Prime Minister's Employment Generation Programme (PMEGP), KVIC tries to generate self-employment opportunities through establishment of micro-enterprises in the non-farm sector which, inter alia, covers (i) Agro-based and Food Processing Industry (ii) Forest Based Industry (iii) Handmade Paper and (iv) Fibre/Textiles Industry.

(e) Animal Husbandry, Dairying and Fisheries: Considering the employment and income generation potential, the government implements variety of schemes viz. Dairy Entrepreneurship Development Scheme, Dairy Processing and Infrastructure Development Fund, Supporting Dairy Cooperatives and Farmer Producer Organizations engaged in dairy activities, Integrated Development and Management

of Fisheries and Fisheries and Aquaculture Infrastructure Development Fund to promote agro-based industries in this sub-sector.

Agro-Based Industries: Review of Issues and Problems

Agro-based industrial sector, in spite of its high potentiality to ensure equitable income and employment opportunities in rural areas, has remained underdeveloped. Review of available literature indicates that the agro-based units have to address impending issues viz. finance, industrial policy, research and development, infrastructure facilities, marketing, production and human resource related concerns. **Table 4** maps major issues with the types of problems faced by Agro-Based Industries in India.

Table 4: Issues and Types of Problems faced by Agro-Based Industries in India

Sr. No.	Issue	Types of Problems
1.	Financing agro-based units	<ul style="list-style-type: none"> ▪ Underfinancing/Inadequate/non-availability of bank finance ▪ Inappropriate project appraisal ▪ Delay in getting bank finance ▪ Cost overrun due to high interest rates and project completion delay
2	Industrial Policy, Research & Development	<ul style="list-style-type: none"> ▪ Lack of implementation of Industrial Policy ▪ Stringent regulatory provisions, environmental, Tax, Labour policy/act/rules ▪ Lack of Industrial Research and Development ▪ Non-availability of right consultancy ▪ Lack of accredited research laboratory for quality control
3	Infrastructure	<ul style="list-style-type: none"> ▪ Lack of warehouse, cold-chain facilities ▪ Expensive Logistic support ▪ Location disadvantages ▪ Wastage management ▪ Distance from warehouse, cold-chain facilities
4	Marketing	<ul style="list-style-type: none"> ▪ Lack of national/international market access with inappropriate market research ▪ Competition with Multi-National Companies

Sr. No.	Issue	Types of Problems
		<ul style="list-style-type: none"> ▪ Dependence on government subsidy and other support ▪ Inconsistent quality of processed products ▪ Weak and non-existent market development
5	Production	<ul style="list-style-type: none"> ▪ Backward forward linkage issues ▪ Inappropriate and obsolete processing and ancillary equipment ▪ Underutilization of capacity ▪ Shortage or inconsistent raw materials supply ▪ Seasonality of crops
6	Human Resources	<ul style="list-style-type: none"> ▪ Labour shortages in rural areas ▪ Unskilled labour ▪ Low investment in skill-set up-gradation

Concluding Remarks

Indian planners and policy makers have always encouraged rural and agri-industrialisation. The inherent advantages of agri-industries are optimal utilization of local agri-resources, mobilization of investment on a large scale, creation of job opportunity, prevention of distress rural-urban migration and reduction of disparity across sectors and regions. These industries have the capability of offering a wide, reliable and sustainable model for promotional/profitable occupation and activity diversification in villages. These industries are not free from issues and challenges. Government, through various central schemes and under Make in India, Start-up India, etc., attempts to ensure robust modern agri-industrial infrastructure.

Agri-based industries conform to the notion of competitive advantage both within and outside the country. They can play a role of a safety valve to absorb surplus rural labour and can address the problem of large scale unemployment/disguised employment in rural areas. The real challenge here is how effectively the government implements its schemes and policy interventions so as to ensure an all-round industrial growth in rural areas without undermining the identity of village, its socio-economic structure, agri-production systems and the basic agri-manufacturing characteristics.

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