



# **AGRIBUSINESS AND AGRI INFRASTRUCTURE**

## **Complementing Each Other**



**A**griculture contributes to the livelihood of more than sixty percent of the Indian population. Majority of the rural populace is involved in this vocation, probably the oldest one in the human history. From raising the crops to selling them in the market place, the agriculture of today's era has expanded in its horizon and its imprint in the national and global economy. With technology being constantly added and updated, the agricultural operations now requires more than just working hands. Mechanization of agricultural operations has opened up new vistas and new set of business avenues, so is the wide world of agri input segment. From seeds, fertilizers, crop protection to credit, agricultural activities in the upstream segment is diversified and has turned into an important business segment. The post production scenario which has now moved beyond the commodities era into value addition and processing, has created a strong presence in the Indian economy. Agriculture is now more of an enterprise than a mere vocation and its area of operation has extended beyond Indian borders. This has necessitated the infrastructure associated with agriculture to evolve and develop to help the farm segment to withstand the pressures and demands of the new and evolving agri segment. Agri infrastructure, however, is still in its nascent stage and holding back the true potential of Indian agri business. Therefore it becomes significant for the agri infrastructure segment to develop concomitantly to accommodate the vast scope of agribusiness.

### AgriCommodities – The Foundation of Agribusiness

Agriculture, in this new era is multifaceted and is better represented by the moniker, Agribusiness. The agricultural commodities that are produced by

the country's strong population of farmers constitute the basis for the agribusiness. In that sense, it can be inferred that India has a strong base in agribusiness considering the commendable position the country holds in the production of these commodities.

The largest producer of milk, the second largest producer of foodgrains, fruits and vegetables and fisheries, India has the world's largest arable land and more than fifty per cent of its population dependent on agriculture. India is estimated to have harvested a record 279.51 million tonnes (MT) of foodgrains in the 2017-18 crop year, up 1.6 per cent from the previous year. The country achieved an all-time high production in all four foodgrains -- rice, wheat, coarse cereals and pulses -- during 2017-18 crop year (July-June), according to the third advance estimates released by the agriculture ministry.

Total agricultural exports from India grew at a CAGR of 16.45 per cent over FY10-18 to reach US\$ 38.21 billion in FY18. In April-May 2018 agriculture exports were US\$ 6.43 billion. India is the largest

producer, consumer and exporter of spices and spice products. Spice exports from India reached US\$ 3.1 billion in 2017-18. Tea exports from India reached a 36 year high of 240.68 million kgs in CY 2017 while coffee exports reached record 395,000 tonnes in 2017-18.

According to the data, rice output is estimated at record 111.52 MT as against 109.7 million tonnes in the 2016-17 fiscal. The production of wheat during 2017-18 is estimated at record 98.61 MT as against 98.51 MT in the previous year. Coarse cereals output is also seen at record 44.87 MT tonnes as against 43.77 MT achieved during 2016-17. Total pulses production during 2017-18 is estimated at record 24.51 MT which is higher by 1.37 MT than the previous year's production of 23.13 MT.

With a significant increase by 49.03 MT over 2016-17, total production of sugarcane in the country during 2017-18 is estimated at 355.10 MT. Production of cotton during 2017-18 is estimated to have increased to 34.86 million bales (of 170 kg each) from 32.58 million bales in the previous year.



Jute and Mesta output is estimated at 10.62 million bales (of 180 kg each), lower than the production achieved during 2016-17.

Production of horticulture crops like vegetables and fruits is expected to touch a record 305.4 million tonnes (mt) in 2017-18, about 1.6% higher than the previous year and 8% higher than the previous five years' average. Within horticulture, production of vegetables is estimated at 181 mt in 2017-18, about 1% higher than the year before, while that of fruits is estimated at 95 mt, 2% higher than the previous year. The record production during 2017-18 will mark the sixth straight year of horticulture production outstripping that of foodgrains (estimated at 276mt in 2016-17).

India's milk production is estimated to have increased by 6.6 per cent to 176.35 million tonnes during the last financial year. Egg production in the country during 2017-18 was 27.95 billion — up 7.4 per cent than the previous year. Combining the production of

all types of fisheries (capture and culture), the total fish production has reached at about 11.41 million tonnes in 2016-17 and India has become the second largest fish producing country in the world.

### Agri Input industry – The Strong AgriBusiness Segment

While we have a promising farm segment delivering to the demand for farm products, a robust agri input industry is another feature of India. Agri inputs such as seeds, fertilizers, crop protection chemicals, farm machines have played an important role in fortifying the country's agriculture segment and has helped immensely in the leap from the segment being farm oriented to being business oriented.

Indian Seed industry has played a crucial role in ensuring country's agriculture production. The journey from farm saved seeds to the GM seeds, Indian farmers' dependence on seed companies and corporations have been increasing. India constitutes the fifth largest seed market measured in value

terms in the world. The share of Indian seed industry in the global seed production is 4.7 percent preceded by the US (28.1 percent), China (21.2 percent), France (8.4 percent), and Brazil (6.2 percent). With a turnover of over Rs.15,000 crore, the Indian seed industry ranks fifth in the world. India produces four million tonnes of seeds every year. The domestic seed industry is expected to grow at a double-digit growth rate in the medium-term driven by improved seed replacement ratio (SRR) and rising adoption of improved hybrid seeds according to ratings agency ICRA. The profitability of private seed companies will remain healthy while investments in R&D and working capital to maintain a strong product pipeline will keep private sector's indebtedness at moderately high levels. The favourable policy environment aimed at supporting the usage of seeds through National Seeds Plan and boosting agricultural productivity through National Food Security Mission (NFSM) augur well for the industry. According to the





report, the Indian seeds industry grew at a Compound Growth Rate (CAGR) of 8.4 percent in volume terms from FY 2009 to FY 2015 to reach 3.5 million tonnes in consumption. On an average, private sector companies saw operating margin of about 15.5 percent between Financial Year 2011 - FY 14 vis-a-vis 9.3 percent for state run companies.

Agrochemicals have played a crucial role in engendering a positive outlook for Indian agriculture. Fertilizers and crop protection chemicals have become indispensable components of Indian agriculture. India is the fourth largest producer of agrochemicals globally, after the US, Japan and China. This segment generated a value of USD 4.4 billion in FY15 and is expected to grow at 7.5% per annum to reach USD 6.3 billion by FY20. Approximately 50% of the demand comes from domestic consumers while the rest goes towards exports. While the domestic demand is expected to grow at 6.5% per annum, exports are estimated to grow at 9% per annum during the same period. However, the usage of agrochemicals in India is one of the lowest in the world at just 0.58 kg per hectare against 4.5 kg per hectare in the US and 10.8 kg per hectare in Japan and nowhere near

the world's average consumption of 3 kg per hectare. This shows there is clearly a large scope of growth in usage and demand. With limited availability of fertile land to cultivate food and feed for an ever growing population, the only alternative we have is to increase productivity per hectare. Besides, it is proven that protection chemicals can increase crop productivity by 25-50%, by mitigating crop loss due to pest attacks. Crop protection chemicals are therefore very crucial to ensure food and nutritional security. Insecticides dominate Indian crop protection market and they constitute around 60% of domestic crop protection chemicals market. Fungicides and Herbicides are the largest growing segments accounting for 18% and 16% respectively of total crop protection chemicals market. India has been slowly emerging as a strong exporter of pesticides. Currently, India occupies the thirteenth position in terms of export of pesticides. India exports to Brazil, USA, France and Netherlands. Low cost manufacturing, availability of technically trained manpower, seasonal domestic demand, overcapacity, better price realization globally and strong presence in generic pesticide manufacturing (India has process technologies for

more than 60 generic molecules) are the drivers of this new trend. Contract manufacturing of agrochemicals also presents good opportunities for Indian companies. By 2020, agrochemicals worth USD 4.1 billion are expected to go off-patent providing significant export opportunities for Indian companies which have expertise in generic segment. Top 6 importing nations constitute only 44% of India's agrochemical exports. This also indicates export potential for Indian companies. The herbicide consumption in India stood at 0.4 USD billion in FY15 and is expected to grow at a CAGR of 15% over the next five years to reach ~0.8 USD billion by FY20. On the other hand the fungicide industry in India has grown due to the growth in Indian horticulture industry, which has grown at a CAGR of 7.5% over the last five years.

Although heavily dominated by manual labour, Indian agriculture has recently witnessed an increase in mechanization and automation. Development of smaller machines, group farming and custom hiring have increased the scope of farm mechanization in India. Tractors, threshers and power tillers are the most common farm machinery used in India. Among these, the biggest market in terms of annual sales is that of tractors (around 6 lakh units annually), threshers (around 1 lakh units annually) and power tillers (around 56,000 units annually). The tractor market is by far the largest (both in volume and value terms). Among farm machinery, tractors are most widely used by domestic farmers with the total market size estimated at Rs. 34,000 crore annually. Tractors and power tillers have been at the forefront of driving the mechanisation wave in India. Tractor sales have grown at a CAGR of 9.0% in FY05-15 to approximately 5.5 lakh tractors in FY15 (around 2.3 lakh in FY05) while sales of power tillers have grown at a CAGR of 10.6% in

FY05-15 to 48,000 power tillers in FY15 (17481 in FY05). Penetration of tractors in India is higher in northern India, mainly Punjab and Haryana. On the other hand, the penetration of power tillers in India is higher in southern and eastern India. This is on account of the small size of land holdings per farmer in these respective regions.

Irrigation is yet another significant segment that supports agriculture. Although the tracts under rainfed irrigation is more in India, irrigation especially Micro Irrigation Systems (MIS) are catching the fancy of Indian farmers. The current domestic industry is estimated at around Rs. 4,500-5,000 crores and is considered to be highly competitive. There are more than 100 large and small scale drip and sprinkler irrigation systems producers and marketers across different states. Major players include Jain Irrigation, Netafim India, Finolex and EPC Industries Ltd. Jain Irrigation commands a market share of more than 30% and Netafim India has a market share of about 18%. The industry has been growing at a CAGR of 5-7%. However, given the increasing requirement of water management, according to some estimates, the total market in India is expected to be more than Rs. 8,000 crores by 2020.

### Food Industry – Fuelling Agribusiness

Better income prospects and a marked enthusiasm in income spending has propelled the growth of retail segment in India. Of the overall retail industry, food and grocery accounts for the largest share in revenue in India. India is the world's second-largest producer of food. Food and grocery retail in India exceed US \$294 billion representing 16 percent of India's GDP. By 2020, food and grocery segment is estimated to constitute 66 percent of the total revenue in the Indian retail sector.

The Indian food and grocery market is the world's sixth largest, with retail contributing 70 per cent of the sales. The Indian food processing industry accounts for 32 per cent of the country's total food market, one of the largest industries in India and is ranked fifth in terms of production, consumption, export and expected growth. It contributes around 8.80 and 8.39 per cent of Gross Value Added (GVA) in Manufacturing and Agriculture respectively, 13 per cent of India's exports and six per cent of total industrial investment. The Indian gourmet food market is currently valued at US\$ 1.3 billion and is growing at a Compound Annual Growth Rate (CAGR)



of 20 per cent. India's organic food market is expected to increase by three times by 2020.

Between April 2000 and June 2017, the Indian food processing sector received FDI worth \$7.81 billion, making it the 13th largest sector receiving FDI in the country. In fact, 80 percent of the FDI in the food processing sector was received in the period since April 2012. FY17-18 is already showing strong promise for foreign investment in this sector, with \$263 million invested in the April - June quarter (FY17 Q1), according to Department of Industrial Policy and Promotion (DIPP) Quarterly Fact Sheet (April 2000 to June 2017). With the entry of multinational companies and their expansion in the market, India is rapidly becoming a production hub for processed foods, which are increasingly consumed in India as well as exported to countries in South Asia, the Middle East and Africa. The food processing sector is growing at an average rate of 8 percent per annum as per the Government of India (GOI) February 2018 budget report. As per the 2016-2017 Annual Survey of Industries, there are 37,175 registered food processing units in the country that employ approximately 1.7 million people in food and beverage manufacturing.

### Farm Infrastructure - The Weakest Link

A sound and adequate infrastructure becomes pertinent for agribusiness to thrive and develop. Unfortunately it is this area where India lags behind. Despite the presence of a bountiful natural raw material base, the country suffers from inadequate storage capacity, cold stores and even proper links between farm and market.

Warehouses serve as transit places for the agriculture produce between harvest and market. The duration of the transit varies depending upon a host of factors. Warehousing helps to maintain



food security in the country through uninterrupted supply of agricultural commodities throughout the year irrespective of harvest season. The issues of glut and scarcity are thereby kept at bay. Beyond the traditional functions of warehousing, today warehouses have become financial instruments as well which help the food producers access credit from financial institutions. Warehouse receipt financing has been primarily developed to provide liquidity for depositors while allowing them to hold on to their goods till they receive a better price. It also allows farmers to use this system to avoid a distress sale and obtain working capital. WR finance is estimated to be \$3.0- \$3.5 billion in India, quite far from its potential of \$60 billion.

The total agri warehousing capacity in India is about 109 million tonnes as against the total demand of about 180 million tonnes. Agricultural warehousing accounts for fifteen percent of the warehousing market in India and is estimated to be worth Rs. 8,500 crore. However, there exists a gap between the demand and existing capacity. As on May, 2015, the cumulative storage capacity of various agencies such

as Food Corporation of India, Central Warehousing Corporation, state warehousing corporations, cooperatives and private parties stood at just 121.11 million metric tonnes (mt), while the marketable surplus of food grains in 2013-14 alone was approximately 159 million metric tonnes.

To tackle the situation, the central government is implementing a host of schemes to augment India's storage capabilities. The government is implementing the Integrated Scheme for Agricultural Marketing (ISAM) — a sub-scheme of which, the Agricultural Marketing Infrastructure (AMI) facilitates construction and renovation of warehouses in rural areas of various states. Between April 2001 and June 2015, 35,226 godowns with a capacity of 555.13 lakh mt have been sanctioned for construction and renovation, for which a subsidy of Rs 1908.50 crore was released. Of this, a total of 28,694 godowns with a capacity of 480.59 lakh mt have been constructed and 1,743 godowns with a capacity of 22.13 lakh mt have been renovated.

The widening gap has attracted many private players to invest in this space. Agri-commodity warehousing firms have witnessed strong growth

in their businesses adding just more than warehousing services. Apart from stocking a range of commodities and issuing receipts against them, modern commodity warehouses provide allied services such as procurement, maintenance, collateral management and financing. These new services have provided firms with more revenue lines and higher margins, attracting private equity investors to the space. Recently, Canadian investment firm, Fairfax bought a majority stake in National Collateral Management Services Ltd for Rs.800 crore. In 2014, Temasek invested Rs.250 crore in Star Agriwarehousing. Agri-warehousing firm Sohan Lal Commodity Management Pvt. Ltd had lately raised Rs.100 crore in private equity funding led by Chicago-based Creation Investments Capital Management Llc and existing investor Everstone Capital. Additionally, the shortage of agri-warehousing capacity and the low-level of private sector participation in the sector too has been an attraction for investors. Even the existing storage infrastructure has become outdated and would soon be required to be replaced by modern ones.

In addition to dry storage capacity, there is an acute shortage for cold chains in India. This is a severe handicap considering our post harvest losses. Cold Chain, a chain of logistics activities that ensure market connectivity of perishable produce from harvest to consumers, is still in a nascent stage in India despite its immense potential in an agriculturally significant nation like India. India's cold chain sector is a combination of surface storage and refrigerated transport.

Currently, India has 7645 cold storages with a capacity of 34.95 million MT in the country. These are mostly used for storing potatoes. However, the market is gradually getting organised and focussing towards multi-purpose cold storages.



More than 50% of the cold storage facilities in India are currently concentrated in Uttar Pradesh and West Bengal, while other states still face a challenge with investments from the government and private operators.

Recently in a bid to expand the cold storage capacity of the country, the Centre has sanctioned 101 new integrated cold chain projects that will leverage a total investment of Rs.3,100 crore. The projects, which will be developed by companies including Balmer Lawrie, Sterling Agro and Haldiram Snacks, are aimed at doubling farmers' income, reducing wastage in the agri-supply chain and creating huge employment opportunities. In May 2015, the Ministry announced the sanctioning of 30 cold chain projects. The total expected grant-in-aid to be released to these projects is Rs.838 crore. The balance funds is expected to be raised from the private sector. The 101 new projects – which are for fruits and vegetables (53 projects), dairy (33), fish, meat, marine,

poultry, ready-to-eat/ready-to-cook sectors – will create additional capacity of 2.76 lakh MT of cold storage/controlled atmosphere/frozen storage. Maharashtra cornered the maximum number (21) of the projects followed by Uttar Pradesh (14), Gujarat (12), Andhra Pradesh (eight) and Punjab and Madhya Pradesh (six each).

Indian needs more investments in cold storage considering the heavy losses the country incurs by way of wastage of fruits and vegetables which was pegged at Rs. 92,000 crore on the basis of the wholesale prices of 2014. The government has also plans for building National Cold Chain Grid in the country so that all food producing hubs are connected to cold storage and processing industries.

Agribusiness has immense scope for an agrarian and skilled country like India. However, we need an equally strong and updated infrastructure support for the rapidly expanding agri production and consistently evolving challenges.