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## **Reforms in agricultural value chain: A contextual study of India**

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### **Abstract**

A typical agricultural value chain covers all the actors along the chain and involves the whole range of activities that are required to transform a product from the initial input-supply stage, traversing through various phases of production, reaching markets and finally delivering goods to consumers. Such value chains cannot work in isolation and requires support not only from vertical players but also horizontal actors. The present article is an exploratory and descriptive study of the agricultural marketing value chains in the Indian context.

**Keywords:** Value chain, agricultural produce, agents

### **Introduction**

In recent times, Indian agriculture is transforming drastically into technology driven, innovation guided and business oriented "industry" that incorporates agrarian production, agriscience, and agribusiness. It associates firmly to the national and worldwide economy. Numerous individuals who work in farming really do not take a shot at farming but they do agribusiness. In the changing times, the agribusiness offers many opportunities for growth particularly for the value driven chains. Simply put, a value chain is a sequence that involves production, processing and marketing activities, where products undertake various activities of the chain in a particular order and, with each of activity, the product gains value. With changing times, these chains have also seen a large number of changes at various levels and there is a need for adaptations and upgradation of existing chains and emergence of newer value chains (Dinesh Jain, 2016) [5].

### **Changing Indian Agriculture**

Indian agriculture is undergoing various changes. Planners and all other stakeholders should be concerned about how agriculture will evolve in the future. Indian governments and organizations are addressing several challenges in the agriculture sector, such as small holdings of farmers, primary and secondary processing, supply chain management, infrastructure supporting the efficient use of resources and marketing and reduction of middlemen. The trend will continue in future as well. It is important to understand these expected changes and prepare production and marketing related strategy around these changes.

1. With an increase in income, globalization and awareness for safe food, the demand for agricultural produce is changing and will continue to be so in the future as well. These changes and preferences of the consumer may result in growing demand for fruits, vegetables, dairy products, fish and meat. The demand is anticipated to increase for quality products that are affordable and processed. This may only be achieved through research and improvement in technology leading to better production and reduced costs.
2. The environment conducive for participation of private players will help in creating competition and supply of various inputs like seeds, fertilizers, plant protection products, farm equipment and feed for animals in cost effective ways ensuring greater return on investment.
3. Breeding along with biotechnology will become extremely important in the development of eco-friendly and disease-resistant varieties of crops that are more nutrient rich, tastier and climate-resilient.
4. There will be application of technologies like hydroponics, bio-plastics and plastics to make agriculture more efficient. Vertical and urban farming will be emphasized to find a new production area in the competitive market.
5. It is expected that precision farming based on soil testing and automation using artificial intelligence will be used for precise and optimal application of inputs.

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The cost-effective method will be used to fit sensors and drones for quality, precision and reduced use of inputs leading to environment protection and better economics. Small and marginal farmers will also be able to take advantage of these technologies with the participation of private players, government agencies and/or farmer producer organizations (FPOs). There will also be scope for use of GPS technology along with drones, robots, cameras and other tools to make lives of farmers easy and exciting with agricultural production and improved income. As a result of these advanced devices, agriculture will be more profitable, easier and environmentally friendly.

6. Agricultural will see improved efficiency due to use of nanotechnology. The nano-materials will reduce the use of chemicals, minimize nutrient losses in fertilizing and can be used to manage pests and nutrients for achieving higher yield.
7. Digital connectivity in India has increased significantly in recent past which has improved access to domestic and global market. According to projections, the number of internet users in the country will reach more than 666.4 million by 2025. Farmer's behaviour will be smarter with availability of mobile phones and they will be better connected with wide range of stakeholders. Government has extensive plans for implementation of various farmer centric schemes by using digital technologies for creating awareness, disseminating information and managing direct payments of benefits.
8. Central and State Governments, village communities, agriculture startups, and private players will have to play a major role in conserving sharply depleting natural resources like water and land. A revolution can be brought about in this direction with the application of digital technology.
9. The application of technology like IoT and drones with ability to collect and analyse information more precisely, quickly and effectively will help in providing better estimates on soil health, acreage under different crops, crop yield and various other related factors. The better estimates obtained with the application with technology will make availability of various services cheaper like insurance. The cost of production will also come down with optimum utilization of inputs.
10. Niche markets will be more prevalent. Equipment specific to operations, area/ region and crop will be available with capacity to streamline operations even at small farms.
11. There are policies of the government not only to encourage construction of storage capacity by private players but also to integrate them with market. The warehouse sector is expanding and is expected to have creation of more storage space by the private sector with better linkage with government warehouses and market. This will help in creating a balance between supply and demand and, stabilize the price of agricultural products.
12. Retail market is going to be another important component in marketing of agri-produce. Retail market is estimated to reach USD 1.6 trillion by 2026 (Dr. V. David Chella Baskar and Dr. Shalendra, 2022) <sup>[7]</sup>.

### Description of value chains

Value chains include all of the vertically linked, interdependent processes that generate value for the consumer, as well as horizontal linkages to other value

chains that provide intermediate goods and services. Value chains focus on value creation typically via innovation in products or processes, as well as marketing and also on the allocation of the incremental value.

### Analyzing and evaluating value chains

The unorganized small-scale producers, entrepreneurs and processors are likely to be more affected by increasing competition because of their lack of resources, especially capital to improve upon their technological capabilities to face global competition and stringent food safety standards. These tendencies suggest that smallholders need to adjust their agriculture to the emerging market forces, which is difficult unless they are supported with finance, markets, technologies, information and services. Given these constraints that small farmers face, there is an increasing recognition that some of these constraints related to access to product and financial markets can be overcome using a value chain approach. The value chain approach brings different chain actors including farmers, aggregators, traders, processors and financial institutions together in order to realize economies of scale, reduce transaction costs, and minimize uncertainties in supplies and quality of inputs and outputs. In the past the Government of India has made several policy changes to facilitate development of integrated value chains. Important among these include: deregulation of the food processing industry, reduction in taxes and duties on processed foods, establishment of agri-export zones and food parks and institutional lending to food processors on easy terms, Background In the past four decades, the Indian economy has not only grown, but has also undergone a structural transformation (NABARD and IFPRI, 2015) <sup>[13]</sup>.

### Current status of regulated markets in India

Establishment of regulated markets for orderly marketing of agricultural produce is the major intervention made by most of the state governments in India. An expert committee on agricultural marketing constituted by the Government of India (GoI) in the year 2001, suggested various market reforms. The finalized rules were circulated to all state governments in the year 2003, which then transformed as the Agriculture Model Act to be implemented by the states. Several states have amended their APMC Acts as per the provisions of the Model Act while others have partially implemented it.

### Need for the Agri value chain

- Prevent Colossal Wastage of Agriculture Produce “billions of dollars” loss to economy
- Ensure that share of Farmer in consumers wallet can increase, which is merely 25-30% as compared to western market where it goes as high as 50-75%
- Facilitate demand for MSP regime which will automatically go away and farmer can expect a rightful price for the produce
- Ensure optimal management of natural resources and mother earth which is being abused
- Make that India becomes “Global Hub for Food Industry” (Niranjan Hiranadani, January 2020) <sup>[15]</sup>.

### Traditional agriculture value chain in India

In 1950's, the agriculture marketing in India was highly regulated and badly organized. The overburdened

agriculture marketing mechanism leads to ineffective farm-market linkages, leading to low income to farmers, high post-harvest losses and high marketing costs. Many regulations and acts were in place, which controlled the storage, transportation, exports, imports and direct marketing of agriculture produce. The government has enacted APMC act (Agriculture produce and Marketing Committee) to regulate the agriculture produce market in 1963. Many researchers and academicians argue that this act over the past several years have led of ineffectiveness and inefficiencies in the agriculture markets. The Act prohibited directly selling of agriculture produce to consumers by mandating the selling to agriculture produce through regulated government mandis. The APMC act gives more power to the bureaucrats for the management of APMCs and market fee is charged for each transaction which contributes to the government revenues.

Agriculture marketing in a particular state is regulated by the state’s APMC act with variations existing among states. An Agriculture produce marketing committee is responsible for a particular market area, if implemented. These committees have local famers as their members are often administrated by bureaucrats with no regular elections (Acharya, 2004) [20]. The committee is responsible and

empowered to establish markets, manage the issue and admission of traders, levy market fees and manage the local operations. The APMC collect significant amount of revenues for the government, but in turn the investments for the development of wholesale markets and facilities is very low. APMC act was enacted to protect the farmers from market shocks and help them to get the justified price for their produce. Unfortunately, over the years due to traders monopoly and government over-regulation required innovations and development of new markets is missing in the present agriculture marketing system.

The committee allots the shops in the wholesale market yard to various brokers and traders based of the eligibility criteria upon the payment of the license fees. Normally, the number of license holders exceeds the total number of shops available in the market yard which causes mess many a times due to lack of space. The licenses given to the brokers are renewable every year which can be done easily and passes from one generation to other (Minten, 2009) [21]. The figure below shows the traditional agriculture value chain which still dominates the agriculture marketing in India. The numeric percentage figures in the figure shows the distribution of the final price paid by the consumer among different components of the value chain.

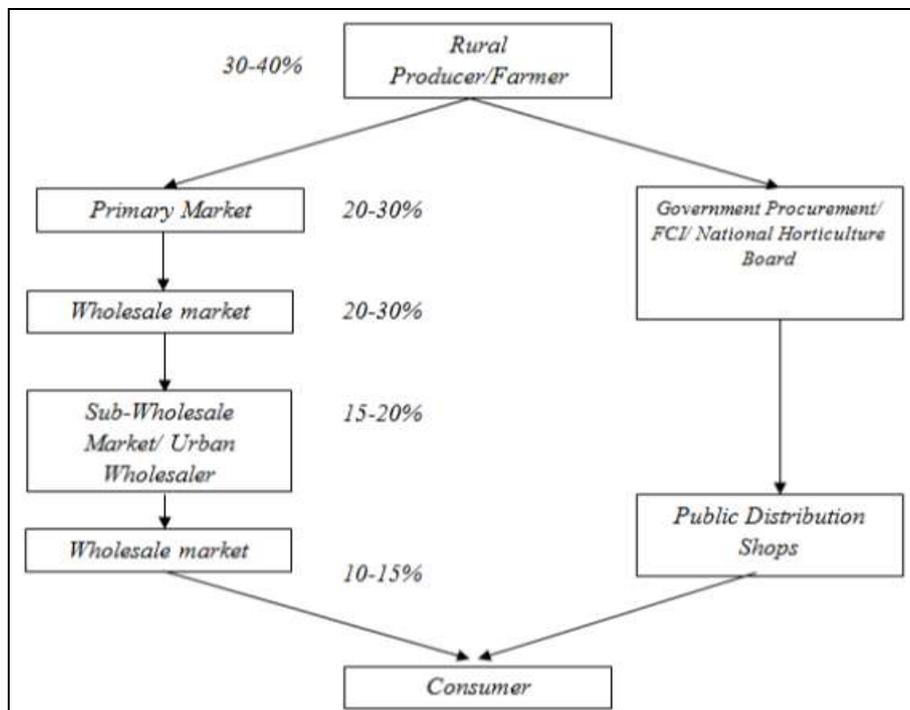


Fig 1: Traditional Agriculture Value Chain in India

**Review of literature**

RBI Bulletin (2019) [16] analyses data collected through a pan India primary survey of farmers, traders and retailers to examine the role of mark-ups charged by different intermediaries in the agricultural markets in creating a wedge between farm gate prices and retail prices for 16 major food items covered in the Consumer Price Index-Combined (CPI-C) basket. The average share of farmers in the consumers’ rupee is found to be in a range of 28 per cent and 78 per cent for different food items. A typical agricultural market supply chain functions as a part of the complex network involving various market agents like farmers, aggregators, traders/commission agents,

wholesalers, processors and retailers. (RBI Bulletin, 2019) [16].

Dinesh Jain (2016) [5] examines the evolving environment for agri commodity businesses, identifies issues and challenges, and explores various institutional arrangements that have emerged over the years to address the above challenges. In the twenty first century, Indian agriculture has moved beyond self-sufficiency and it is globally oriented “industry” with inter sectoral linkages. In spite of modern technologies and policy support, the agricultural value chains are experiencing various bottle necks, namely lack of sufficient quantity and acceptable quality of raw material, adoption of the appropriate technology and

practices, meeting working capital requirements for processing and operations, delivering strong marketing efforts, sharing benefits across the chain and sustainability issues. These bottle necks are primarily because of lack of efficient value chains that minimise and address the issues of information asymmetry and high transaction costs (Dinesh Jain, 2016) [5].

Sazzad Parwez (2014) [18] attempt to example the problems faced by Indian agriculture for food security in item of inadequate infrastructure and highly inefficient supply chain in context information technology. Due to lack of efficient infrastructure and food processing industry about 30-35 per cent of all foods produced in India are wasted. The researcher examines the critical issues that each sub-system of agriculture supply chain, starting from the input to the consumer with a view to integrating them in efficient and effective manner. Investment in cold chain infrastructure, applied research in post- harvest technologies. Installation of free processing plants in various sectors and development of food retailing sector are mandatory for achieving gains in this sector (Sazzad Parwez, 2014) [18].

Vishal Sharma *et al.* (2013) [19] propounds that the food grains are the critical requirement for human survival. The availability needs to be backed by availability at affordable price and adequate quality. The availability may be assured by production as well as reduction of wastage. The same applies to rice also. To remain competitive the rice processing unit needs to adopt the latest supply chain strategies. They need to focus on co-ordination, collaboration with farmers and customers for smooth flow of processed rice. Demand consolidation will help in inventory reduction. Focus has to be made on distribution channel design. It is essential to redesign the supply chain of rice for better performance of a company as well as better service to the customers. The present supply chain structure of rice in India works on the traditional framework which involves many intermediaries at supply and distribution fronts. The current supply chain structure of rice in India is somewhere lacking in efficiency and needs reforms (Vishal Sharma, Dr. Sunil Giri and Siddharth Shankar Rai, March 2013) [19].

David Chella Baskar and Shalendra (2022) [7] opine that Indian agriculture has made impressive growth since Independence. The foodgrain production has gone past 300 million metric tonnes (mmt). Same is the case with

production of horticultural crops which stands at 325 mmt during 2020- 21. However, the challenge is to integrate this production with market mainly when so many changes are being observed in the trade environment on account of preference of consumers and need for a transparent and competitive agriculture marketing system. The Government has also introduced so many initiatives in the recent past to make agriculture marketing system in the country effective and efficient like reforms in agricultural marketing facilitated by the Model Acts circulated during 2003 and 2017, electronic National Agriculture Market (eNAM), regulations in Agri-warehousing sector and aggregation of farmers. Farm Acts introduced by the Government during 2020, through repealed subsequently, also expresses the need of the sector and intent of the Government.

**The model APMC Act**

Since the State Acts created fragment markets for agricultural commodities and curtailed the freedom of farmers to sell their produce other than through the commission agents and other functionaries licensed by the APMCs, the Ministry of Agriculture developed a model APMC Act, 2003 and has been pursuing the state governments for over a decade to modify their respective Acts along the lines of the Model APMC Act, 2003.

**The Model APMC Act**

- a. provides for direct sale of farm produce to contract farming sponsors;
- b. provides for setting up “Special markets” for “specified agricultural commodities” – mostly perishables;
- c. permits private persons, farmers and consumers to establish new markets for agricultural produce in any area;
- d. requires a single levy of market fee on the sale of notified agricultural commodities in any market area;
- e. replaces licensing with registrations of market functionaries which would allow them to operate in one or more different market areas;
- f. provides for the establishment of consumers’ and farmers’ markets to facilitate direct sale of agricultural produce to consumers; and
- g. provides for the creation of marketing infrastructure from the revenue earned by the APMC (National Bank for Agriculture and Rural Development, 2018) [14].

**Table 1:** Adoption of Market reforms by the Indian States

Sl. No	Area of Reforms	States adopted the suggested area of market reforms
1	Establishment of private market yards/ private markets managed by a person other than a market committee	Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Gujarat, Goa, Himachal Pradesh, Karnataka, Maharashtra, Mizoram, Nagaland, Orissa (excluding for paddy / rice), Rajasthan, Sikkim, Telangana, Tripura, Punjab, UT of Chandigarh, Jharkhand, Uttarakhand, West Bengal.
2	Establishment of direct purchase of agricultural produce from agriculturist (Direct Purchasing from producer)	Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Gujarat, Goa, Haryana (for specified crop through establishment of Collection Centres) Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Mizoram, Nagaland, Rajasthan, Sikkim, Telangana, Tripura, Punjab (only in Rule), UT of Chandigarh (only in Rule), Jharkhand, Uttarakhand and West Bengal.
3	Establishment of farmers/ consumers market managed by a person other than a market committee (Direct sale by the producer)	Arunachal Pradesh, Assam, Chhattisgarh, Gujarat, Goa, Himachal Pradesh, Karnataka, Maharashtra, Mizoram, Nagaland, Rajasthan, Sikkim, Tripura, Jharkhand, Uttarakhand and West Bengal
4	Contract Farming Sponsor shall register himself with the Marketing Committee or with a prescribed officer in such a manner as may be prescribed.	Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Goa, Gujarat, Haryana Himachal Pradesh, Jharkhand, Karnataka, Maharashtra, Madhya Pradesh, Mizoram, Nagaland, Orissa, Punjab (separate Act), Rajasthan, Sikkim, Telangana, Tripura and Uttarakhand.
5	Contract Farming Sponsor shall register himself with the Marketing Committee or with a prescribed officer in such a manner as may be prescribed.	

(National Bank for Agriculture and Rural Development, 2018) [14]

**Reforming agriculture markets**

Reforming agricultural markets is essential for enabling the provision of competitive choices of marketing to farmers, simplifying transactions, reducing intermediation, cost and wastage, improving quality and encouraging private investment for the development of market infrastructure and alternative marketing channels. In the new (NAM) framework, all the registered market participants such as farmers and traders will have direct access to grading and storage facilities and will be able to access financing options. With this upcoming initiative, some of the following key action areas have emerged in recent years:

a. Farmer Producer Organizations (FPOs) and Producer

- b. Companies (PCs) have been established to create online platforms for National Agriculture Marketing;
- b. Integration of the APMC regulated market yards across the states into the online platforms to create a unified NAM;
- c. Enabling buyers / sellers situated even outside the state to participate in trading at the local level;
- d. Reducing transaction costs on moving produce from one market area to another within the same state;
- e. Unified licensing system and establishing a quality management system for quality assurance and grading (K V Raju, Gopal Naik, R Ramaseshan, Tushar Pandey and Partha Joshi, 2016) [11].

**Table 2: Reforms in Agricultural Marketing in India**

Farm Acts	Pros	Cons
The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020	<ul style="list-style-type: none"> <li>▪ Permits the sale of produce outside the Agricultural Produce Market Committee (APMC) Mandis</li> <li>▪ Trade taking place outside the Mandis will be exempted from any cess or levy</li> <li>▪ Permits interstate trade of agricultural produce</li> </ul>	<ul style="list-style-type: none"> <li>▪ The state may lose the income derived from the respective Mandis for trade taking place outside the market</li> <li>▪ Though the Acts aim at making the marketing channels slimmer and more efficient, many farmers across states fear that the scheme would end the Minimum Support Price (MSP) scheme, which otherwise has no bearing on the policy and process of procurement on MSP which continues to be the priority of the Government</li> </ul>
The Farmers (Empowerment & Protection) Agreement of Price Assurance and Farm Services Act, 2020	<ul style="list-style-type: none"> <li>▪ Under this Act, farmers with purchase orders will directly contract with buyers without the involvement of the state APMC, thereby encouraging 'contract farming'</li> </ul>	<ul style="list-style-type: none"> <li>▪ In view of the fact that companies may prefer negotiating with groups of farmers rather than individual farmers, conflicts may arise</li> <li>▪ A business perspective, dealing with the agents would be much better than dealing with a direct seller</li> </ul>
The Essential Commodities (Amendment) Act, 2020	<ul style="list-style-type: none"> <li>▪ Commodities like cereals, pulses, oilseeds, edible oils, onion and potatoes have been removed from the list of essential commodities</li> <li>▪ New investments can be made through FDI and by big companies in infrastructure development like cold storage</li> </ul>	<ul style="list-style-type: none"> <li>▪ The Act can be invoked if prices of perishables or non-perishables increase by 100 percent or 50%, respectively</li> <li>▪ The primary purpose was to protect the interests of consumers by preventing illegal trade practices, such as hoarding and distress sale</li> </ul>

Dr. V. David Chella Baskar and Dr. Shalendra. (2022) [7]. Agricultural Marketing in India reforms for a Liberal and competitive System. pp1-90.

**Historic reforms in agriculture marketing**

In September 2020, 3 Bills were passed by Parliament of India (Lower and Upper Houses):

**1. Farmers’ Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020**

- a. Intra and Inter State Trade of farmers produce was now allowed beyond the physical premises of existing markets: Trade in/at: (i) farm gate, (ii) factory premises, (iii) warehouses, (iv) silos and (v) cold storages.
- b. online trading of farmers produce was allowed and farmer organizations and private sector were enabled to set up their electronic trading platforms.
- c. State Governments would not levy market fees, cess or levies outside the physical market area

**2. Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020:**

- a. Farming agreements between farmers and buyers have been made possible, for production or rearing any farm produce.
- b. The price of the produce will be clearly mentioned in the contract.
- c. A clearly specified dispute resolution mechanism, protecting the rights of both farmers and buyers.

**3. The Essential Commodities (Amendment) Bill, 2020**

- a. The Central Government may only invoke the provisions of the Essential Commodities Act, 1955 in an extraordinary situation (war, famine, extraordinary price rises and natural calamities)
- b. Imposition of stock limits must only be based on price rises - if there is a 100% increase in retail price of horticultural produce and a 50% increase in the retail price of non-perishable produce
  - Importantly, these bills do not dismantle the existing structure of State APMCs; rather, they provide competition to this system by opening up alternative marketing structures, direct buying, and contract farming.
  - These bills do not replace the prevailing system of public procurement at MSP.

**Technology, markets and institutions driving Agri-value chains**

Technological breakthrough has been instrumental in developing agricultural value chains. While introduction of cross breed technology, artificial insemination, among others played an important role in transformation of Indian dairying, the poultry sector benefited from import of improved varieties of fowls. Thompson seedless cultivar helped enhance the quality and quantity of production of grapes. Tissue culture enhanced productivity of pomegranate and banana. Adoption of ultra-density planting and micro irrigation improved mango productivity

significantly.

Institutions such as farmer collectives have ensured successful farmer-market linkages. Success of the Indian dairy sector is ascribed to the pioneering efforts of the co-operatives, particularly Amul, followed by the private sector. Grapes value chain led by Mahagrapes; a producer company was successful in linking small grape growers to export markets. Integrator-led poultry sector brought about phenomenal gains to the small poultry growers in terms of risk management, backend support and assured markets. Commodities like tomato, onion, potato, mango, banana, and pulses are yet to witness any such significant institutional impact. However, the Operation Greens scheme launched in 2018 for TOP (tomato, onion and potato) and further extended to include 22 perishables aims at developing efficient and inclusive value chains for the same. Markets have played an important role in the success of dairy co-operatives, connecting the smallest milk producer to urban markets; poultry growers to organized markets; and grapes cultivators to export markets. However, similar market linkages have not been possible in case of banana and mango. In case of tomatoes, onions, potatoes and pulses, weak market linkages explain the extreme price volatilities. Success of contract farming in vegetables is limited but offer important lessons that can help strengthen direct farmer-market linkages. On the other hand, government backed price support and procurement have not always worked in favor of pulses farmers, when prices drop below MSP and farmers are forced to sell at losses. Indian agricultural markets have been admittedly imperfect,

influenced by frequent central and state government interventions in form of export bans and MEP, mostly seen as unambiguous consumer bias; as well as stocking limits and dual levy of market fees in APMC mandis (Ashok Gulati, Kavery Ganguly, Harsh Wardhan (eds.)).

**Government interventions**

- The Ministry of Agriculture and Farmers Welfare, Government of India had formulated a Model Act on agriculture marketing in 2003. Based on the Model Act, 17 states have already amended the APMC Act and seven other states notified APMC rules under their Acts. Some attempts have been made to automate these markets using Information and Communication Technology (ICT) tools. However, a silo approach could not remedy the fundamental and systemic issues.
- To deal with these problems, the Government of India has recently approved a new Central Sector Scheme for the promotion of a National Agriculture Market (NAM). The NAM will be realized through a pan-India electronic platform that can facilitate the participation of buyers and sellers from all over the country. Key enablers to operationalize this platform include provision for material accounting, trade fulfillment, fund processing and post-sale document creation (like generation of e-bills), which would increase the efficiency of intermediation. Generating e-permits for all transactions conducted on this platform would create an audit trail that is verifiable across the country and can simplify the movement of goods.

**Table 3:** Target and measures for agricultural value chains

Category	Target	Measures
Reform of post-production management of agriproducts	<ul style="list-style-type: none"> <li>▪ Develop efficient and competitive Agri-markets</li> <li>▪ Decreases post-harvest losses</li> <li>▪ Promotes private investment</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reforms of APMC Acts Rules</li> <li>▪ Develop traceability, quality assurance systems</li> <li>▪ Develop logistics infrastructure</li> <li>▪ Develop cold storage, cold chain</li> </ul>
Promotion of food processing industry	<ul style="list-style-type: none"> <li>▪ Increase percentage of food processing from 6% to 20%</li> <li>▪ Increase level of value addition from 20% to 34%</li> </ul>	<ul style="list-style-type: none"> <li>▪ Promote mega food parks</li> <li>▪ Develop integrated cold chain facility</li> <li>▪ Develop primary processing facilities, distribution depots in rural areas</li> <li>▪ Modernize food processing industry</li> </ul>

Final Report for Data collection and Confirmation Study for agricultural Value Chains in the Republic of India. (August 2015). Japan International Cooperation Agency, pp1-325.

**Recommendations to enable and develop a viable agriculture value chain**

The following are specific recommendations to enable and develop a viable agriculture value chain system in India:

1. In a large developing countries like India where infrastructure is not developed, tax and other related duties are often too high and total costs are unbearable for small and marginal farmers and new entrepreneurs, it is necessary that tax regime should be made innovator and entrepreneurs-friendly (Rota 2010). Recently, government announced several initiatives for „startup IT companies“, such facilities and packages should also be given to agriculture sector.
2. Given the fact that infrastructure is less developed in India and the public investments in it are very limited, than it is appropriate to encourage investments by the

private sector in agriculture. For example, testing laboratories, certification and inspection mechanism can be developed by either private companies or with their assistance. A coordinated mechanism for connecting infrastructure is also necessary. Initiatives like BBIN-Motor vehicle agreement should be encouraged and more agreements for connecting infrastructure facilities should be signed between the South Asian countries.

3. Currently, India does not have famous brand for crops/food products in external markets. This can be done by identifying few products and specific export destinations (for example fruits to the South Asian countries) and by launching an aggressive marketing campaign similar to Indian tourism campaign Atithi Devo Bhava. Specific attention should also be given to such agricultural export promotion zones (AEPZs) where fruits and vegetables products are included in the list decided under the National Foreign Trade Policy 2015-2020.

4. Domestically, agro-processing sector should be considered an important component of agriculture and export policies thus there is a need for a new initiative, such as Grow, Process and Export from India similar to „Make in India“ campaign.
5. Farmers and entrepreneurs have little or no knowledge about latest technologies and how to work effectively and efficiently. The role of information technology and communication in agricultural should be developed and advertised. Although there are initiatives, such as launch of “Kisaan Channel” and “farmers’ helpline” but need is to make them popular among farmers and entrepreneurs.
6. Currently, multiple ministries and government departments oversee various facets of agriculture, export and allied sector and this creates confusion and insufficient accountability (McKinsey 2013). There is a need to create a single authority for this sector, similar to „TRAI“ in telecom sector. This will also be effective in eliminating the role of middleman and un-authorised agents.
7. Attention should be focused not just on increasing productivity and improving extension services, but also on increasing advocacy efforts through other channels. It was observed during field work that NGOs, self-help groups (SHGs), women’s association in rural areas, micro, small and medium enterprises (MSME) and farmer producer organisations (FPOs) are very active in this role and increasingly becoming effective to deal with the local level agricultural issues. Government should scale up its support to these institutions through focused schemes. This can be done with the assistance from existing organisations, such as National Bank for Agriculture and Rural Development (NABARD) or Small Industries Development Bank of India (SIDBI). Apart from government banks, private and foreign banks should also be encouraged to open their branches in rural areas and provide financial support to farmers and new entrepreneurs.
8. As most of the South Asian countries share similar agro-climatic conditions and their standards for certifying the agriculture products (for example, phytosanitary issues), such as germination and moisture requirements etc. are similar, they should start accepting certificates and validation proofs of other countries also for trade purposes. This will reduce additional costs and time and will motivate the new entrepreneurs to involve in cross-border trade.
9. Scientists and researchers should give training to farmers and entrepreneurs to time to time not only at district headquarters but also in villages and at their farms, so that they can learn about latest developments in the agriculture field. National institutions, such as ICAR, IARI etc. should start programme to identify farmers with potential excellence and encourage them to train other farmers in their areas.
10. Robust national and regional agriculture value chains have the potential to create economic and social impact on the country as well as on the region as a whole. However, the political economic condition under which they function today makes it difficult to achieve desired economic outcomes. Developing a favourable policy environment coupled with encouraging market conditions can lift their status. This can become a

significant step not only in the development of agriculture or welfare of farmers but also reducing the problem of region wide unemployment through motivating youth in entrepreneurship in agriculture and allied sector (Saurabh Kumar and Aparna Sharma, April 2016) <sup>[17]</sup>.

### Conclusion

Agricultural Marketing forms the integral part in the overall process of making the produce available from the production point to the consumption point. The agriculture sector forms a very important sector in the Indian context. Regulations in the agricultural marketing are introduced from time-to-time to safeguard and endure the farmers and other stakeholders. The policy framework has been pro-farmer aimed at marketing efficiencies, price support and other technical expertise. The benefits from the agricultural markets must translate into real and tangible benefits to all the people concerned.

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