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## **Doubling farmers' income through digital marketing**

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### **ABSTRACT**

*India is largely an agrarian economy. While the contribution of agriculture and its allied sectors to the GDP is 16 percent, nearly 58 percent of the workforce of the country is employed in agriculture. Eighty-five percent of the farmers in the country are small and marginal farmers with a landholding of 1-2 acres. They have very limited or no access to markets to sell their produce. This has resulted in a situation where, on the one hand, farmers do not receive adequate compensation for their produce, on the other, consumers are facing ever-rising inflation concerning their food basket. Agitations by farmers (June-July 2017) in certain parts of the country demanding the implementation of the M. S. Swaminathan Commission's recommendations (one of them being that the Minimum Statutory Price to be fixed by the government should be 50% plus the cost of production) exemplify neglect of post-harvest management of agriculture. Agricultural marketing has so far been regulated by the States as per their Agricultural Produce Marketing and Regulation Acts. The National Agriculture Market (NAM) is one of the various initiatives undertaken by the Government of India to provide remunerative prices to farmers. NAM is a "virtual" market that will harness the physical infrastructure of the APMCs at the back end. The e-NAM portal will thus enable the creation of a national agricultural market with uniform standards and will also provide a single platform for clarifying all issues about the working of APMCs. By facilitating online bidding, the portal will encourage competition among traders and fetch higher income for the farmers. Thus, real-time price discovery in a transparent manner will be achieved. This descriptive paper is an attempt to study the efficacy of the e-NAM in bringing about a second green revolution.*

**KEYWORDS:** Agricultural marketing, farmers' income, virtual market.

### **1. INTRODUCTION**

India lives in its villages – even in the 21st century. Despite being a very fast developing economy, agriculture as an enterprise has been neglected for far too long. It is to the credit of the Indian farmers that in the face of a lack of institutional support, our country

is self-sufficient concerning food grains. It is also an exporter of a variety of agricultural products including horticultural products. India is the largest producer, consumer, and exporter (15% of the world exports) of spices and spice products. India's horticulture output (fruits, vegetables, and spices) is the third-highest in the world producing 283.5 million tonnes (MT) in 2014-15. Further, the contribution of agriculture to the country's total export is around 10%. India ranks second in the world concerning the production of sugar (14% share in world production) and sixth concerning exports (2.76% share in world exports). However, a rise in agricultural production alone is not sufficient to kick-start the process of economic development in the country. The existence of an efficient and modern marketing system is essential to ensure the timely availability of agricultural products at all levels of the market at competitive prices. As per the definition given by Thomsen, "the study of agricultural marketing comprises all the operations and the agencies conducting them involved in the movement of farm-produced foods, raw materials, and their derivatives". Prof. Faruque observed: "agricultural marketing comprises all operations involved in the movement of farm produce from the producer to the ultimate consumer."

## 2. OBJECTIVES OF THE STUDY

- To study the evolution of the agricultural marketing system in India.
- To understand the need for reforms in the existing marketing system.
- To review the pros and cons of e NAM (National Agricultural Market).

## 3. REVIEW OF LITERATURE

Haveripeth (2014) has studied the impact of state regulation of marketing of agricultural produce on the agricultural sector and farmers' interests. He found that though the purpose of enactment of various Agricultural Acts about marketing, grading, and measuring was the regulation of trading practices, these Acts vary in their provisions concerning increasing the efficiency of the market through reduced market charges or protecting the interest of the producers and sellers. He also found that the regulation of markets resulted in alleviating the problems of the farmers about marketing their produce. However, these regulated markets have become highly constraining and monopolistic and provided no support to the farmers in accessing alternative marketing channels. These dominant markets have also discouraged investment of the private sector in agricultural marketing.

Kalvakonalu (2015) has inter alia examined the agricultural market system in India and studied the deficiencies in the agricultural market in India. He found that farmers had limited access to markets, literacy among farmers was low and multiple channels of distribution proved financially unviable to the farmers. According to the author, officials in regulated markets sometimes colluded with traders while at other times traders created a syndicate and fixed agricultural produce prices.

Rajendran and Karthikesan (2014) have studied the need for reforms in the agricultural marketing system. They concluded that a proper price discovery mechanism along with the adoption of a Market Information System will help streamline and strengthen agricultural marketing.

The Working Group on Agricultural Marketing Infrastructure, Secondary Agriculture And Policy Required For Internal And External Trade For The XII Five Year Plan 2012-17 (2011) has highlighted the major issues and concerns in agricultural marketing viz., the existence of too many intermediaries, inadequate infrastructure for post-harvest management, non-transparent price-setting mechanism, inaccessibility of market information, etc. According to the report, the need for reform in agricultural marketing should encompass the empowerment of producers with market information, providing multiple marketing channels to farmers, and attracting large-scale investments in post-harvest infrastructure.

The Committee for Doubling Farmers' Income in its Volume III report (2017) has examined the status of post-production operations to ascertain whether a farmer has access to multiple avenues for selling his produce in various forms across time and place. With this end

in view, the committee has suggested the various improvements required in terms of logistics as well as near-farm processing facilities.

The Committee for Doubling Farmers' Income in its Volume IV report (2017) has examined the need for reforms in the agricultural marketing system. The report discusses the various reforms needed to enable the transition of the agricultural marketing system and has suggested the measures to be undertaken for establishing a unified "National Agricultural Market" which will be truly beneficial to the small and marginal farmers.

The Committee on Doubling Farmers' Income in its Volume XI report (2017) has examined the need for reforms in the agricultural extension system. As compared to a period of intensive farming when the country faced deficit agricultural production, the country has moved to a phase where a majority of farmers are producing an increasing amount of marketable surplus. Accordingly, the nature of extension services to be provided to the farmers has changed to include knowledge of marketing the product while also enabling farmers to manage risks arising from climate change, and pests and diseases. Extension systems should also include knowledge dissemination on various agricultural reforms which will empower the farmers.

The Committee on Doubling Farmers' Income in its Volume XII report (2018) discusses the availability of various digital technologies and associated applications which can be utilized to enhance farmers' income. According to this report, linking farmers with optimal demand and assisting the marketing system to develop optimized supply chain operations are critical areas where technologies can add great value to the farmer.

Sivakumar (2017) has reviewed the need for agricultural marketing reforms with the aim of raising farm productivity. According to him, de-risking volatility in perishables through derivative markets, reducing taxes on processed food, bringing in quality checks, and implementing the 2017 Model APC Act by all states would drastically change the agricultural marketing scene in India.

Yadav (2016) has studied the problems and prospects of agricultural marketing in India. According to the author, the agricultural sector faces several natural and man-made problems. While the Government of India has sanctioned crores of rupees for Price Stabilisation Fund for Cereals and Vegetables, an Agri-tech infrastructure in the form of an e-marketing platform, as well as Insurance schemes for protecting farmers from yield losses and price fluctuations are among the suggestions given by the author to reform the agricultural marketing sector.

#### **4. RESEARCH METHODOLOGY**

An extensive literature review was undertaken by the author to understand the current scenario of agricultural marketing in India. The various laws and regulations enacted by the government to regulate agricultural markets and their success were assessed by studying various articles and reports published in journals and magazines. The details on the establishment of the National Agriculture Committee and its work were obtained from the concerned government website. Other reports of government committees established in the context of Doubling Farmers' income were also studied to understand how the government intends to achieve its objective of enhancing farmers' welfare. Content analysis of secondary data thus obtained has been done in this paper to analyse the problems and various issues relating to the marketing of agricultural produce.

#### **5. FINDINGS OF THE STUDY**

Post-independence, the Government of India undertook the mission of improving the system of agricultural marketing in the country. As an important first step, most the states enacted the Agricultural Produce Marketing Committee (APMC) Act in the 1950s to bring transparency and end the discretion of traders. According to the Act, the State Governments were mandated to constitute Market Committees for their respective states which would then manage the different markets into which the entire State was divided. The Government not only established regulated markets but also provide services like warehousing, grading, and

standardization of farmers' produce. The Government also encouraged the establishment of farmers' cooperatives to aggregate their produce and enable them to procure better prices. To date, the number of agricultural markets across states where farmers can trade their produce is as under:

- Wholesale and primary rural markets: 27,739
- Regulated markets: 7,157

However, among the 21,221 rural markets, only 15 percent are regulated. Thus, except for the wholesale markets, the establishment of regulated markets has not helped in alleviating the problems of agricultural marketing, particularly those of Rural Periodic Markets and Tribal Markets.

The APMC system, however, suffers from several shortcomings. The regulated markets took on the form of a monopoly whereby the traders holding licenses formed cartels, fixed prices, and in general manipulated the farmers out of fair pricing of their produce. These markets also featured huge entry barriers in the form of high license fees, high rents for shops, etc. Moreover, there was a conflict of interest in the APMC playing the dual role of the market and the regulator. To overcome these shortcomings, the Government enacted the Model APMC Act in 2003 and has been urging state governments to adopt it in letter and spirit. The Model APMC Act gives the freedom to the farmer to sell his produce in alternate markets like direct purchase centers and private market yards/mandis. It also laid down guidelines for the APMCs to ensure fair and transparent pricing of agricultural produce and provides for the abolishment of the commission agent system among other things. However, this effort has met with limited success due to the reluctance of the State Governments and the trading agencies to give up their stranglehold over markets. The existing market infrastructure is thus far from satisfactory. Such an infrastructure will not enable the farmers to market their products competitively in the domestic and/or global markets.

### **Alternate marketing systems**

The Government has introduced the following initiatives to provide various avenues to the farmers for marketing their produce:

- direct marketing
- contract marketing
- direct linkage with retailers/processors/exporters etc.

NABARD has notably promoted several joint initiatives like Producer Cooperatives so that farmers may obtain better prices for their produce. This trend is especially noticeable concerning perishables wherein farmers' markets have been established by state agencies; for example, Shetkari Bazaar, Rythu Bazaar, and Apni Mandi in Maharashtra, Andhra Pradesh, and Punjab respectively.

### **Need for reforms**

With the advent of globalization, markets for agricultural products are becoming increasingly sophisticated. This is especially true due to the rise of food supermarkets which make a wide array of farm produce available to discerning buyers. Though this trend is just taking off, the day is not far away when every farmer will aspire to produce the highest quality product and sell it to the highest bidder through the best marketing format available. Not only the multinational companies but also Indian companies will vie with others for a share of the pie. As competition intensifies in this sector, the APMC-inspired mandi system will no longer be able to maintain its tight hold over agricultural marketing and new players will enter the market. Compounding the problem is the fact that a majority of the farm population belongs to the small and marginal category with landholdings of less than an acre. This vulnerable section is not only faced with the high risks inherent in the occupation but is also faced with insurmountable problems in the form of climate change, inadequate infrastructure concerning power and irrigation, unreliable input supplies, and of course outdated marketing structures. The trends established by globalization will no doubt enable

the middle and large farmers to better their lot. But in the absence of innovative institutional solutions, it is debatable whether these millions of small producers will benefit from the opportunities presented by globalization and be truly empowered.

## **6. DISCUSSIONS**

### **National agriculture market**

If the Indian economy has to develop at a fast pace, it is imperative to harness the advantages of digital technology in increasing agricultural production and productivity and especially in agricultural marketing. The APMCs established in the 1950s have failed in their mission to increase the share of the farmer's income in the price of farm produce. The National Agriculture Market (NAM) was established in April 2016 to overcome the deficiencies of the APMCs. The purpose of establishing such a market was to create a unified market at the national level by networking all the APMCs digitally and allowing for online bidding. NAM should not be thought of like a competition to the existing mandi system. It can be viewed as the front end of the physical market. The physical infrastructure of the mandis at the back end is sought to be integrated into a national network through this online trading portal. The Department of Agriculture has envisioned the working of NAM thus:

Farmers will bring their produce to the mandis where they will be required to register themselves and will be assigned a commission agent. They will then take their produce to the assaying laboratory which will ascertain the quality of the products and accordingly fix its price. The details of the bid will be loaded on the portal where buyers across India will be able to see it. The farmers also have the choice of selling their produce to the local traders. The highest bidder whom the farmer chooses will receive the invoice from their respective dashboards or they may receive it by email/SMS etc. Next, the buyer must pay into the e-NAM-provided account an invoice amount that includes market fees, commission agency fees, loading/ unloading fees, etc. On receiving the funds, e-NAM will send a confirmation message to the seller/agent. Terms of delivery of goods will be as per mutual understanding. When the buyer or his agent accepts the delivery of the goods, the bank holding the NAM account will pay the seller, commission agent, and other beneficiaries the amount to be paid into their respective accounts within one business day, subject to online approval by the relevant APMC.

The agency which is responsible for implementing NAM is Small Farmers' Agribusiness Consortium (SFAC) along with technical support from M/s. Nagarjuna Fertilizers and Chemicals Ltd. as the Strategic Partner (SP). The infrastructure required to adopt NAM by the mandis will require heavy capital investment initially. As such, the agriculture ministry will be assisting the mandis with a one-time grant of around Rs. 30 lakhs at the time of integrating them into the network. But the running expenditure for NAM like maintenance of software, payments to assaying experts, etc., will be required to be met by the mandis through the revenue generated by online sales. The fear of APMCs that they may lose revenue is unfounded since the mandi fee is included in the cost of the product and will be passed on to the APMC. Further, to establish uniformity in assaying, a standard framework (of widely accepted criteria for establishing the quality of the produce) has been developed for over 90 commodities. This project is being launched initially in 585 regulated wholesale markets. As of 31st Oct 2017, 470 mandis across 14 states were operational on e-NAM. With the establishment of e-NAM, the government aims at promoting greater transparency in the auctioning process. By withdrawing restrictions on the number of licenses that can be issued, the government has enabled even buyers without any shop/premises in the market yard to participate in the bidding process. Moreover, the license issued to the trader is valid throughout the state thus abolishing multiple levies of license fees. Further, a single point levy of market fees drastically reduces intermediary costs. By establishing tradable parameters for farm produce, uniformity in quality standards will be achieved for which the government intends to establish assaying infrastructure in every market. The government also intends to provide Soil Testing Laboratories in or near the mandis so that farmers can avail of this facility easily.

Thus, NAM is expected to be a win-win solution for all the stakeholders in Supply Chain. The farmers' share of income in the price of farm produce will increase. This will be facilitated due to the large number of vendors that the farmers can access online as also the transparency in bidding. Scientific storage and assaying if provided as envisaged will only further strengthen the farmers' position. The buyers also have more avenues at the national and state levels for secondary trading due to NAM. Finally, bulk buyers/processors/exporters can procure farm produce directly at considerably lower prices without the involvement of intermediaries. This benefit can then be passed on to the customers in the form of lower prices, or higher exports for the economy.

### **Challenges ahead of NAM**

From the macro-economic perspective, several challenges have been put forward by various experts that the implementation of NAM will face. These include barriers imposed by state governments in the movement of agricultural commodities, and the dangers involved in bringing in aggregators to buy small lots for large numbers of farmers as these aggregators may end up dominating NAM, speculators, and traders forming cartels and causing price volatility, the ability of NAM to create value chains for promoting efficient transport and storage of products as well as establishing a clearance mechanism which will work smoothly and efficiently. Apart from these, several issues are being faced by farmers concerning NAM:

- Millions of farmers have small and marginal holdings of less than an acre. While the rural road networks are far from satisfactory, their conditions worsen during inclement weather conditions. Many of these farmers are so remotely located that even such roads are also non-existent. Transporting their produce to the physical mandis under such circumstances is a huge challenge for the farmers.
- Most of the time the value of the output of the farmers does not justify the transport cost to be undertaken. Many times the farmer enters into a distress sale with the local trader to get rid of his stock as early as possible so that he can meet his other expenses. If the farmer is already indebted, the need to conclude an early sale becomes even more imperative.
- Even if the farmer is ready to wait and sell to the highest bidder he can find, it is not possible due to the unavailability of adequate storage facilities in the rural markets. Again, in the case of perishable commodities the problem is magnified manifold, and many times farmers sell their stocks at throwaway prices.
- Assuming that the farmer can get his produce to the mandi for online bidding, the small farmer will find it difficult to establish credibility concerning the quality of his produce. Since the buyer is bidding online and cannot check the product physically, he will prefer to buy from large and medium-size farmers selling large lots of the highest quality products. The small farmer with small lots of relatively inferior variety of products will find it difficult to strike a good bargain and end up selling it to the local commission agent/trader at the price dictated by the latter.
- To compound the above problem, only 8 percent of all farm produce being traded in the regulated markets is graded. In the absence of assaying equipment and experts to handle them, the success of NAM in ensuring a truly unified market is highly questionable.

### **7. CONCLUSION**

The purpose of establishing e-NAM is to ensure fair and remunerative prices to farmers by providing them with a wider platform for selling their produce. Buyers/traders are also to be benefited since they can buy from any farmer across states. A secondary benefit expected to accrue is a steady supply of farm produce accompanied by modest food inflation, especially concerning perishables. Other beneficial features of NAM include the establishment of uniform quality standards, reduction in intermediary costs, and free movement of agricultural commodities across the country. However, 85 percent of the

farmers have very small holdings and mostly have limited access to physical mandis, and only 8 percent of the farm produce traded in man is graded. To move from such a dismal situation to a unified national market with online auctioning, transparent pricing, and immediate disbursal of payment is a very far call indeed. The rural road infrastructure is extremely poor, exacerbated at times by bad weather; and in the remote areas, it is non-existent. Giant steps require to be taken in the provisioning of transport, grading and sorting, warehousing facilities, and cold storage network. Where the government finds itself unable to meet the requirements, it has to encourage private investment massively. Implementation of NAM is already into its seventh year and has made very tardy progress mostly due to the resistance of the APMCs and States. It will take a lot of political will to move from the present commission agent system to a unified national agriculture market.

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