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An Introspection of Agricultural Marketing Reforms in India

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Abstract

India is an agrarian economy, with at least 55 per cent of the population making their livelihood from agriculture and related activities. Agricultural produce that was essentially bartered in India eventually developed into product with a certain amount of economic value. Consequently, Indian agricultural markets evolved from uncontrolled village haats to regulated markets such as APMCs. This paper is an attempt to examine the reforms introduced in agricultural marketing and its impact on the Indian economy. With the introduction of marketing reforms, there has been an increase in the food grain availability, number of regulated markets, cold storage and its capacity. Consequently, the share of agriculture in the total GVA also increased giving the much-needed momentum to the agricultural exports from India. Despite these advancements in agricultural marketing, the APMC system has been plagued by inefficiencies such as high market margins, unethical trader behaviour, minimum government investment and the like and even the recent marketing strategies like direct marketing, contract farming and online trade have not been able to yield the best outcomes. The study suggests that the need of a strong public sector engagement and the formulation of appropriate marketing strategies based on producer participation.

Keywords: Agricultural Marketing, Marketing Regulations, Marketing Reforms, Market Infrastructure

JEL Classification: Q13, Q18, Q17, H54

Introduction

The marketing system is the vital link that connects the non-farm sector to the agricultural production sector. In addition to carrying out the logistics and enabling tasks involved in moving commodities from producers to consumers, the marketing system also finds prices at various marketing phases. Difficulties and worries in marketing are connected to the system's performance (efficiency), which is dependent on the market structure and behaviour. Enhancing productivity, managing output, expanding markets, boosting farm revenue, developing agro-based industries, boosting national income through value addition, and creating jobs are all made possible by an effective marketing system. In the early 1950s, 30-35 per cent of food grains produced were marketed which increased to more than 70 per cent in recent times (Sharma and Wardhan 2015). Despite this achievement, a potential threat to Indian agriculture is posed by the post-harvest losses of perishables (milk, meat, fish, and eggs) ranging 10-25 per cent. It is estimated that about 30–40 per cent of fruits and vegetables are lost which is a threat to the Indian economy (Sharma and Wardhan 2015). Another estimate from CIPHET indicates that post-harvest losses amount to 92,651 crores yearly (Jha et al. 2015). In the Global Hunger Index 2023, India is ranked at 111 out of 125 countries in the world (Index, G.H 2023). Such findings come as a shock compelling us to raise questions on efficiency of the food distribution system, especially concerning the management of agricultural markets and distribution systems.

With the rise in agriculture production and surplus output, marketing has become the prime concern. In addition, the regulated market becomes essential for managing rapid commercialization of agricultural produce. During the early 90s the farmers were poor, poverty stricken, illiterate and exposed to various exploitative practices by the traders. Hence for improvement of agriculture and welfare of rural population the Royal Commission, 1928 was set up which made recommendation of single purpose cooperative society. Subsequently the Agriculture Produce Marketing Commission (APMC) was set up to protect the farmers from exploitative activities of traders and ensure fair marketing practices. But it was observed that the commission was biased towards cotton growing states. As such not much progress towards agricultural growth took place till independence (Bisen and Kumar 2018). During independence, the agricultural sector of our country was underdeveloped and the plight of the farmers were miserable thereby shifting

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the primary focus of the country towards attainment of food security. This can be achieved only through self-sufficiency which in turn can be obtained through enhanced production. The poor infrastructure prevailing during that time has been a major bottleneck in production and further marketing of agricultural produce. Hence this resulted in contraction of production and reforming the marketing system became essential (Ghosh and Vadivelu, 2014).

The 1st five year plan laid to the construction of storage structure, warehouses, transportation lines and wholesale markets (Gummagolmath and Darekar 2021). Many states and UT's during 1960 adopted Agriculture Produce Market Regulation Act and established APMC's. This resulted in open auctions, fair prices, increased production and well-equipped infrastructure. However, with passage of time, licensing, restricted the opportunities for private players and imposition of rigid rules led to the formation of cartels by the traders. This ultimately paved the path for creation of a monopolized market constituted by state Government and traders emerged.

Eventually with the realization of the government to reform the marketing structure, the Model Act 2003 was enacted to establish direct link between farmers and retailers which was meant for promotion of agricultural markets in private and cooperative sector and foster direct marketing and contract farming programs. The role of State Agricultural Board was reanalyzed to examine grading, quality and standardization (Gummagolmath and Darekar 2021). However, the implementation of this act did not gain the required momentum owing to a lack of state participation. The Empowered Committee led by State in charge of Agricultural marketing in 2013, recommended that states follow the principles of the Modal Act. It also put forward the idea of 'National Single Market' for agricultural produce. To achieve this objective, e-Nam, 2015, was launched. About 585 regulated agricultural markets in 16 states and 2 UTs have adopted electronic platform in 2018 and it was anticipated that the electronic market will increase market efficiency, competitiveness, transparency and net returns, market diversification and trade expansion (Bisen and Kumar 2018). The Government realized that reforms were not delivering the needed objectives and hence the New Model Agricultural Produce and Livestock Marketing - Promotion and Facilitation (APLM) Act, 2017 was introduced to increase competition, end monopolies and to increase income sources of the farmers. The post-harvest losses, distress sale were the emerging challenges. To curb these challenges the government introduced The Contract Farming, 2018, with a view to decrease harvest losses, facilitate easy selling and provide higher income to the farmers.

The lack of contentment on implementation of APMC act, state investment and corruption practices evoke the Government to deregulate the Agriculture Marketing System and facilitate the entry of private corporations. Recently in 2020, the Central Government brought out three farm laws as a part of agricultural marketing reforms which were later repealed owing to several shortcomings. Against this backdrop there is a need to examine the market reforms and their impact on agricultural income of the farmers. The present study will provide some useful insights on the various agricultural marketing reforms and their impact on Indian economy.

Data Sources and Methodology

Numerous literatures on agricultural marketing reforms were collected and reviewed from database-viz Google Scholar, research gate for the period of 1998-2023. These databases enable an in-depth investigation of subfields within an academic or scientific discipline by providing access to numerous databases that reference cross-disciplinary research. The publication search was conducted in Google Scholar deploying the keywords "agricultural marketing reforms", "agricultural marketing development", "impact of marketing reforms", "agricultural marketing reforms in states of India", and "Indian agricultural marketing". The keywords provide the cover title, abstract, authors, first author affiliation, and keywords of each publication. After collection and compilation, the duplicate number of publications was identified and removed. A total of sixty publications were extracted out of which thirty-six publications were selected. Various government reports such as Index, G.H. 2023, DFI-IV-2017, DAC& FW 2019-20, and N.S.S report rounds 70 & 77, and government sites such as INDIASTAT, Agricultural Statistics at glance (various issues), Agmstat (various issues), and Economic survey (various issues) were also selected for qualitative and quantitative content. Furthermore, the reforms are divided into four time periods: pre-independence, post-independence (1947–1993), pre-liberalization (1990–2003), and post-liberalization (2003–2021). Additionally, reforms have been categorised as; regulatory measures, social structure, physical development, and economic system.

Results and discussion

Agricultural Marketing Reforms Prior to Independence

The Indian government exhibited little interest in agricultural matters before independence and focussed on fund-raising and preserving the country's legal system, and order conditions. The devastating famine of 1866, which destroyed the provinces of Assam and Bengal, compelled the government to emphasize on the need to develop agriculture as a mechanism for prevention of famines and saving people from the grippling hands of starvation. The government's regulatory actions for the growth of the country are highlighted in Table 1 which also draws attention to the marketing sector's physical, social, and economic systems.

Table 1. Agricultural marketing status prior to independence in India, 1928-1947

Categories	Particulars / Status
Social structure	Lack of food self sufficiency Illiteracy, poverty, lack of bargaining power, unawareness about prices and Exploitation of farmers
Economic System	Producers share in consumer rupee was less. Middlemen share in different agricultural commodities varied from 26.3 per cent to 57.7 per cent
Regulatory measures	The Royal Commission in 1928 Directorate of marketing and inspection 1935 Agricultural Produce Marketing Commission Act of 1938.
Physical development	Establishment of regulated markets In 1939, total markets were 57 which increased to 146 in 1945

Although India began selling agricultural produce such as cotton during 1886 to UK (Vaikunthe 2000; Paty and Gummagolmath 2015) yet, the Royal Commission realized the significance of an effective agricultural markets only during 1928 (Mani et al., 2015). The first law that attempted to create a regulated market to include fair marketing practices was the Agricultural Produce Marketing Commission Act of 1938 (Bisen and Kumar 2018). Farmers were uneducated, impoverished, and unaware of the prices of commercial crops during pre-independence period (Mani et al., 2015). Commission agents exploited farmers owing to misinformation, lack of bargaining strength, and an unsuitable marketing framework (Gummagolmath and Darekar, 2021). Given the illiteracy of the farmers in Punjab, they were ignorant related to the price of their produce and majority of them entrusted their agricultural produce to village bania or dealers because of their unconditional faith in them (Haque 1945). From 1939 to 1945 the number of regulated markets increased from 57 to 146 and the states that produced cotton benefited more from the expansion of controlled markets (Bisen and Kumar 2018). However, this expansion in markets did not transform to farmers'profits (Mani et al., 2015). In the case of wheat and rice in India, the producer shares were 58 and 52 paisa whereas middleman share ranged from 26.3 to 57.7 per cent (Srivastava et al. 1970).

Table 2 Net production, imports, food availability and procurement of cereals in India, 1951-2021

(million tonnes)

Year	Production of cereals	Net imports	Net availability	Procurement
1951	48.1	4.8	52.4	3.8
1956	60.7	1.4	62.6	Neg.
1961	72.0	3.5	75.7	0.5
1966	63.3	10.3	73.5	4.0
1972	92.0	-0.5	94.3	8.9
1976	105.9	0.7	95.8	12.8
1981	113.4	0.7	114.3	13.0
1986	131.6	0.5	133.8	19.7
1991	154.3	-0.1	158.6	19.6
1996	157.9	-3.1	163.3	19.8
2001	171.4	-2.9	156.2	42.7
2006	182.5	-2.3	181.9	37.0
2011	213.9	-6.9	203.1	64.5
2016	220.1	-2.7	226.3	60.8
2020	266.6	-6.8	247.9	99.1
2021	278.4	-20.6	255.3	101.5

Source: Economic Survey (various issues)

Post-Independence Agricultural Marketing Reforms

Food self-sufficiency was the main concern at the time of independence, because food grains were imported for domestic consumption by India (Ghosh and Vadivelu 2014). India's net imports rose from 4.8 million tonnes to 10.3 million tonnes between 1951 and 1966 (Table 2). The problem of ensuring a remunerative producer's income remained a major challenge post-independence. In the APMC marketplaces, several unethical behaviour were prevalent, including physical harm incurred while loading and unloading, prolonged producer wait times, trader cartelization, and bureaucratization of management (Acharya 1998).

Countering such malpractices, the government decided to intervene in the agriculture market directly and indirectly in several ways (Bisen and Kumar 2018). During 1965, the government established the Agricultural Prices Commission (ACP), a decentralized organization to suggest minimum support prices (MSPs) for major crops so that the producers receive an assured income support through the MSP guarantee. The governments of several states enacted the APMC Act and established regulated markets in the 1960s. A market committee license was necessary under the APMC Act for anyone to conduct business (Chand 2012). The state government had also set constraints on credit limits, sales and purchases inside notifiable areas, FDI prohibitions, entrance hurdles for individual and organized merchants, and import and export limitations on agricultural products (Acharya 2015).

Production, food availability, and food grain procurement increased throughout the MSP regime. Food grain production increased from 48.1 million tonnes to 92 million tonnes during 1951 to 1972 (Table 2). Procurement grew from nearly non-existent in 1956 to 9 million tonnes during 1972. The government's policy of purchasing wheat and paddy at the MSP made the country self-sufficient. Food grains became more accessible in 1972, rising from 52.4 million tonnes in 1951 to 94.3 million tonnes, and food grain exports started. The production of wheat in 1970-71 was 23.84 million tonnes, which increased to 55.14 million tonnes in 1990-91. Similarly, procurement of wheat increased from 5 million tonnes to 11 million tonnes in the respective years.

The number of regulated markets increased from 286 in 1955 to 6920 in 2021(Table 4). Arrivals at the markets went up, for e.g., in Punjab, the market arrival of paddy in 1970–71 was 3.71 lakh tonnes which increased to 44.32 lakh tonnes during 1980 (Rangi and Sidhu 2003; Sekhon and Rangi,2007). The number of cold-storage grew from 43 in 1955 with a capacity of 0.83 lakh tonnes to 8186 with a capacity of 374.25 lakh tonnes in 2021 (Table 4). The overall GVA climbed from 3.68 per cent to 6.74 per cent and the growth rate of agricultural GVA went up from 2.78 per cent to 3.21 per cent during 1950-51 to 2017-18 (Table 5)

Biased procurement practices came to light in the 1980s. In Punjab and Haryana, the government obtains close to 96 per cent of the total marketable surplus whereas in West Bengal, at the village level, traders acquire 68.4 per cent of the total output, with the government receiving the remaining 0.7 per cent (Mogale et al 2020). The limitations imposed by the APMC Act prevented individual dealers from entering the market.

Table 3 Agricultural marketing development post-independence in India, 1947-1990

Categories	Particulars / Status
Social structure	Malpractices in APMC market includes physical damage during loading and unloading, prolonged wait time for farmers, moisture content, delay payments, bureaucratization of management, lengthy supply chains, excessive market fees, licensing delays, asymmetry in market knowledge, non-issuance of sale slips, limited space, and the dominance of political leaders.
Economic System	Production of food grains increased from 48.1 million tonnes in 1951 to 154 million tonnes in 1991 Availability of food grains increased from 52.4 million tonnes in 1951 to 159 million tonnes in 1991 Procurement increased from 3.8 million tonnes in 1951 to 19.6 million tonnes in 1991 Achievement of food grain self-sufficiency in 1972 Growth of agricultural GDP from 2.78 per cent in 1950 to 3.45 per cent in 1990
Regulatory measures	Agricultural Prices Commission ,1965 Minimum support price (MSP) for major crops Restrictive trade policy (refer table 6)
Physical development	The number of regulated markets increased from 2481 in 1978 to 6217 in 1990. The average area covered per market was 481 sq. km in 1995-96. The number of cold storage increased from 359 in 1960 to 2795 in 1990. With its storage capacity from 3.06 lakh metric tons in 1960 to 39.65 lakh metric tons in 1990.

Table 4 Total number of regulated markets, cold storage and warehouses in India, 1950-2020

Period	Number of regulated markets (PMY+SMY)	Number of cold storage	Capacity of cold storage (lakh tonnes)
1955	286	43	0.83
1960	715	359	3.06
1970	NA	1218	16.38
1980	NA	2283	39.65
1990	6217	2795	68.15
2001	7177	4199	153.85
2010	7249	5837	283.03
2017	6630	7645	349.58
2018	6946	7916	366.06
2021	6920	8186	374.25

Source: Indiastat.com; Acharya and Agarwal (2021)

Agricultural Marketing Reforms during Liberalization

To address market failure, government intervention became less important in the 1960s and was replaced by market-oriented liberalization in 1990 (Bisen and Kumar 2018). The agricultural sector saw significant liberalization following 1991 (Gummagolmath and Darekar 2021). In trade policy, import and export liberalization were prioritized over quantitatively restricted tariffs (Bhattacharyya 2003). Table 6 lists several relaxed regulations about the sale and acquisition of agricultural produce.

India increased its exports following the attainment of self-sufficiency in 1972. The share of agricultural exports to total exports increased from 18.5 per cent in 1990–91 to 19.18 per cent in 1995–96 as presented in table 7. India's per centage of global exports increased from 0.5 per cent in 1990–1991 to 0.7 per cent in 2002–2003.

The net production of food grains grew from 154 million tonnes in 1991 to 171 million tonnes (Table 2). In wheat, the market surplus ratio grew from 30 per cent in 1950–1951 to 61 per cent in 1997 (Sharma and Wardhan 2015). In 1990–91, there were 1826 warehouses which increased to 2105 the following year and as a result, its capacity also incremented 160 lakh tonnes to 232.9 lakh tonnes.

With the substantial increase in market arrival, market yards became overcrowded in many states which further resulted in longer time duration for farmers in disposal of their produce, delayed payments, non-issuance of sale slips by traders, private traders handling most produce, payment deductions, and strong ties amongst commission agents creating hurdles to entrance (Patnaik 2011). The marketing system is additionally plagued by various tax and license systems, a high frequency of market fees, a dearth of market infrastructure, and heavy supply chain waste (GOI 2013; More et al. 2016). The supply chain of agricultural produce remains fragmented. The total margins in the agricultural supply chain were 60- 75 per cent, out of which farmers received only 20-25 per cent and about 30-35 per cent was enjoyed by wholesalers (Patnaik 2011). The estimated market charges for the value of marketed produce were more than 12 per cent (Mani et al 2015). In Gujarat, the incidence of

Table 5 Growth rate of agriculture and total GVA of India at constant prices (2011-12) from 1950-51 to 2020-21

Time period	Agricultural GVA	Total GVA
1950-51 to 1959-60	2.78 ***	3.68 ***
1960-61 to 1969-70	1.74 **	3.29 ***
1970-71 to 1979-80	1.96 **	3.45 ***
1980-81 to 1989-90	3.45 ***	5.17 ***
1990-91 to 1999-00	3.5 ***	6.14 ***
2000-01 to 2009-10	2.9 ***	6.86 ***
2010-11 to 2017-18	3.21 ***	6.74 ***

**indicates significance at 1 % level*

Table 6 Market regulations during liberalisation period in India, 1990-2003

Categories	Particulars / Status
Social structure	Malpractices in APMC markets observed Fragmented supply chain Farmer's margins in the agricultural supply chain was only 20–25 per cent Multiple tax and license systems Post-harvest losses higher in fruits and vegetables
Economic System	Agricultural exports showed upward trend Agricultural imports also increased
Regulatory measures	Agro-based industries were liberalized to a great extent. Rice and sugar mills have been delicensed. The license for setting up a new floor mill has been abolished. The pricing and distribution of wheat products have been deregulated. The public distribution of sugar below the market price and the distribution of wheat and rice to non-poor families have been discontinued. The imposition of a stock limit during peak arrival under the Essential Commodities Act has been cancelled
Physical development	Number of regulated markets increased Cold storage and capacity improved

market charges for fruits and vegetables goes up to 8.5 per cent and in Punjab, total market charges on the transaction of food grains were around 15.5 per cent (GOI 2013). Post-harvest losses in different commodities varied from 3.9 to 6.0 per cent for pulses, 5.8 to 18.0 per cent for fruits, and 6.8 to 12.4 per cent for vegetables in 2009 (ICAR 2015)

Agricultural Marketing Reform Post Liberalisation Period

Economic reforms that caused subtle adjustments in the non-agricultural sector made modifications in agricultural trade necessary (Bisen and Kumar 2018). During 1990, various committees were established to look at the functioning of agricultural markets such the high-powered committee on Agricultural Marketing in 1992, the Expert Group on Agricultural Marketing in 1998, the expert Group on Strengthening and developing agricultural marketing in 2000, and the inter-ministerial Task Force on agricultural marketing in 2001 (Patnaik 2011; GOI 2013). With the recommendation of the committee, Model APMC Act 2003 was implemented. Amendments to advance and create alternative marketing channels include contract farming, direct marketing by

Table 7 Share of agricultural exports and imports in total trade of India, 1990 to 2023 **(Rs trillion)**

Years	Agricultural exports	Total exports	Share of agricultural exports (per cent)	Agricultural imports	Total imports	Share of agricultural imports (per cent)	Trade balance	India's share in world's total exports (per cent*)
1990-91	0.06	0.33	18.49	0.01	0.43	2.79	-0.11	0.5
1995-96	0.20	1.06	19.18	0.06	1.23	4.80	-0.16	0.6
2000-01	0.29	2.01	14.23	0.12	2.28	5.29	-0.27	0.7
2005-06	0.49	4.56	10.78	0.21	6.60	3.26	-2.04	1
2010-11	1.11	11.43	9.71	0.51	16.83	3.03	-5.41	1.5
2015-16	2.15	17.16	12.55	1.40	24.90	5.63	-7.74	1.6
2019-20	2.53	22.20	11.40	1.47	33.61	4.39	-11.41	1.7
2020-21	3.11	21.59	14.40	1.55	29.16	5.30	-7.57	1.6
2021-22	3.76	31.47	11.94	2.32	45.73	5.07	-14.26	1.8
2022-23	4.28	36.22	11.81	2.76	57.50	4.80	-21.28	1.8

*Source: Author's calculation ; *It included both agri and non-agri exports* farmers to consumers, organized retailing, single point levy of market fee, e-trading, establishing private markets, and de-regulation of marketing of fruits and vegetables (Patnaik 2011; GOI 2013; Panwar and Abbott 2014; Jahanmohan 2016; Gummagolmath and Darekar 2021). Various states have adopted the above provisions (Annexure 1)

The government implemented strategic measures to improve harvest price realization through the conversion of traditional APMC marketplaces to electronic marketplaces, the removal of notified regions, and the prompt procurement of high-quality produce. The government launched e-Nam (Electronic National Agricultural Market) in 2015 to connect smallholders to the output market electronically (Reddy 2016). Considering the doubling of farmer's income, the Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act 2017 and the Agricultural Produce and Livestock Contract Farming and Services (Promotion and Facilitation) Act 2018 were initiated (Gummagolmath and Darekar 2021). It was believed that these two laws would benefit farmers, who receive a guaranteed market for their produce, and buyers, who gain significant control over price (Kauris and Singla 2018). To promote contract and direct marketing, inter and intrastate trading, and agricultural investment, the government enacted farm laws in 2020 (Gummagolmath and Darekar 2021). The first act, the Farmers Produce Trade and Commerce (Promotion and Facilitation) Act, allows farmers to trade outside APMC limits. This prohibits the state's interference in the movement of goods. The second act, the Farmers (empowerment and Protection Agreement of Price Assurance and Farm Services Act related to contract farming), provides a legal framework for farmers to enter prearranged contracts with buyers. The Essential commodities (agreement) Act removes all legal stock limits on food (Baskar and Shalendra 2022). However, there was restlessness among farmers in India, especially in the states of Haryana and Punjab. The massive strikes and agitation prompted the government to repeal the farm laws in 2021. The reform implemented during this timeframe is presented in Table 8.

As a consequence to these reforms post liberalisation, the average annual income at current prices per agricultural household in India increased from Rs. 25,380 in 2002–03 to Rs. 1, 22,616 in 2018–19. During the same period, it rose from Rs. 26,971 to Rs. 45,829 in terms of constant value at 2004–05 prices (Narayanamoorthy et al 2022). The average area covered per market in India increased from 440 sq. km in 2007–08 to 496 sq. km in 2017–18; the distance between two APMCs has reduced, 6 km in Punjab and 7 km in Haryana, whereas it is 12 km in Andhra Pradesh and 13 km in Madhya Pradesh (DAC& FW 2019–20).

There has been a significant increase in the imports as well which caused the trade balance to become negative post 1990 till 2022-23 (Table 7). The proportion of agricultural exports in total exports started to fall from 19 per cent in 1995–1996 to about 12 per cent in 2022-23. After the middle of the 1990s, development slowed down because of quicker growth in merchandise exports, a decline in the price of most commodities internationally, and a sharp rise in domestic administrative charges that rendered Indian goods non-competitive (Parsad 2015). When compared to other suppliers

Table 8 Marketing regulations during post liberalisation period in India, 2003-2020

Categories	Particulars
Social structure	While local market preference increased, APMC market preference decreased Contract farming, e-trading, direct marketing begins
Economic System	India's share in world exports increased Agricultural imports increased Agricultural exports in total exports Income of the farmer improved
Regulatory measures	Model APMC Act 2003 was initiated E-Nam (Electronic National Agricultural Market) 2015 was initiated Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act 2017 was initiated Agricultural Produce and Livestock Contract Farming and Services (Promotion and Facilitation) Act 2018 was initiated The Farmers Produce Trade and Commerce (Promotion and Facilitation) Act 2020; The Farmers (empowerment and protection) agreement of price assurance and farm services act 2020; The essential commodities (agreement) act 2020 were initiated Farm laws 2020 were repealed in 2021
Physical development	Regulated markets decreased in number Cold storage and its capacity improved

who are in the same market, India also has high landing prices (Arora 2013).

But the gap in income between workers in agriculture and non-agricultural sectors widened. Men and women in agriculture made, on an average, Rs 296 and Rs 214 per day in 2018–19, in contrast, men and women in non-agricultural jobs made, on average Rs 341 and Rs 224 per day (NABARD 2018–19). Although the number of regulated markets in India increased as a result of these reforms, yet, the amenities in those markets remained substantially less with nearly 38 per cent farmer's rest houses, 22 per cent grading equipment, and 15 per cent cold storages in India (Acharya and Agarwal 2016). The marketing system has several challenges, including low government investment, large market margin, and a large number of small and marginal farmers, unethical APMC markets, and dishonest local dealers which led to a decrease in APMC's preference. In 2012, 29 per cent of farmers offered their paddy for sale at the APMC Market, while 41 per cent of farmers disposed in the local market. As of 2019, 1.7 per cent chose the APMC market, while 69.8 per cent disposed in the local market (NSSO 2013 & 2019). For other crops, the pattern stayed the same. Even the most favoured marketing strategies, such as contract farming, direct marketing, farmers markets, and online trade do not yield the best outcomes (Bisen and Kumar 2018). Inappropriate price fixing, inadequate power supply, lack of space, monopoly practices, cartelization, and inadequate marketing infrastructure are among the obstacles that still exist (Singh 2002; Swain 2011 and Reddy 2017).

To enhance agricultural marketing infrastructure, including storage facilities, the Ministry of Agriculture and Farmers Welfare introduced the Agricultural Marketing Infrastructure Scheme in 2018. A total of Rs 2957 crore in subsidies were made available for 38964 godowns, or storage infrastructure projects, with a combined capacity of 65.54 million tonnes of storage. Similarly, funds have been granted for 18565 more marketing infrastructure projects, and subsidies totalling Rs. 1816 crores have been made available (DAC&FW 2019–20). Training of farmers and traders and developing exportable types of agricultural commodities in the state are being carried out by agriculture colleges located in the Jaipur district at Jobner and at the Agriculture Research Station (Agriculture University, Kota) at Ummendganj in Kota (Sharma and Burark 2021).

Conclusion and Policy Implications

With the implementation of various marketing reforms, India achieved food grain self-sufficiency and production of food grains increased from 48 million tonnes in 1951 to 278 million tonnes in 2021. The procurement of food grains which was essentially non-existent in 1956 rose to 101.5 million tonnes in 2021. The GVA contribution of agriculture to the overall GVA grew from 2.78 per cent in 1950-51 to 3.21 per cent in 2017-18. Increment in exports has been witnessed and eventually, India's percentage of global exports rose from 0.5 per cent in 1990-91 to 1.8 per cent in 2022-23. The marketing reforms also had a positive impact on the physical market infrastructure in terms of an increase in the number of regulated markets, increase in cold storage units and their capacity, reduction in the distance between two APMCs etc,. Reforms in agricultural marketing gave farmers the skills, information, and knowledge they needed to participate in production driven market, particularly small and marginal farmers. In addition, these reforms reduced monopolistic practices, provided farmers with a range of competitive marketing channels, provided efficient services at reasonable transaction costs, and attracted capital for the development of post-harvest infrastructure.

Nevertheless, the system has been plagued by inefficiencies, a high market margin, unethical local trader behaviour, a minimum government investment, a majority of small marginal farmers and malpractices in APMC markets. Even the best marketing strategies, such as direct marketing, farmers markets, contract farming, and online trade, failed to yield the best outcomes. The Indian agricultural marketing is inflicted by several issues including inadequate power supplies, monopolistic activities, cartelization, inadequate negotiating leverage, inadequate space, improper pricing fixing, delayed payments, and a lack of integrated marketing infrastructure rendering the system ineffective in meeting the needs of the farmers.

The reality and cause for concern show that while the right laws and regulations are made at the right time, their execution is insufficient. If more private sector involvement in agriculture marketing is important, a country also needs a strong public sector presence and engagement, as well as marketing strategies based on producer participation. It should be kept in mind that agriculture is a state subject and hence the states should be responsible for efficient marketing of produce in their premises. Enabling farmers in the form of FPOs to access e-markets, futures market, export market in addition to benefits of collective bargaining power and sale of value-added products can aid farmers in obtaining remunerative prices for their produce. Farmers' market access will lead to higher income which in turn will improve their ability to investment in new technologies. The cumulative effects of technology have the potential to change the face of Indian agriculture and this calls for investment in innovations, inventions, research and development in the field of agricultural marketing. For development of agriculture and improving linkage of farmer with market Information and Communication Technology (ICT) can play a very important role with its utilisation depending upon a number of factors like literacy level, understanding of ICT, extent of telecommunication infrastructure, level of awareness of the farmers, information need of the farmers, etc.

In addition, it is important for the government to address issues related to efficient commodity pricing mechanism, improved infrastructure, access to market and finance and availability of affordable credit. Meanwhile, farmers should be trained regularly on various aspects of production and marketing like business management, management information systems, production practices, and production based technical skills. There is a need to evolve a public private partnership regime in the sector which calls for removing glitches of the regulatory marketing system through promotion of direct marketing, contract farming and setting up of markets in the private and cooperative sector, promotion of a responsive market information system, a vibrant mechanism for price discovery and risk management, a need-based marketing extension system, promotion of grading and standardization and promotion of modern marketing system like hub-and spoke model of terminal markets. In each model, there should be clarity on sharing of fund investment, research and development components and business operations. Affordability of new technologies and other interests of small farmers need to be kept under consideration while taking up PPP as an empowerment model.

Although agrarian reforms are a must for the Indian agricultural sector to sustain the growing competition, which would eventually aid in the system's repair, the scenario of different states suggests that a balanced approach from the part of the government is also welcomed from the welfare point of view.

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Annexure 1: Reforms adoption position of the states in India

Area of Reforms	Name of the States/UTs, which have adopted reforms
Establishment of private market	Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Gujarat, Goa, Himachal Pradesh, Karnataka, Maharashtra, Mizoram, Nagaland, Odisha Rajasthan, Sikkim, Telangana, Tripura, Punjab, UT of Chandigarh, Jharkhand, Uttarakhand, West Bengal, Uttar Pradesh
Direct wholesale purchase of agricultural produce from agriculturist (direct marketing)	Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Gujarat, Goa, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Mizoram, Nagaland, Rajasthan, Sikkim, Telangana, Tripura, Punjab, UT of Chandigarh, Jharkhand, Uttarakhand, Uttar Pradesh and West Bengal
Establishment of farmers consumer market in private sector	Arunachal Pradesh, Assam, Chhattisgarh, Gujarat, Goa, Himachal Pradesh, Karnataka, Maharashtra, Mizoram, Nagaland, Rajasthan, Sikkim, Tripura, Jharkhand, Uttarakhand, Uttar Pradesh and West Bengal
Contract farming	Andhra Pradesh, Assam, Chhattisgarh, Goa, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Maharashtra, Madhya Pradesh, Mizoram, Nagaland, Odisha, Punjab (separate Act), Rajasthan, Sikkim, Telangana, Tripura, Uttarakhand
Provision of e-trading	Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Gujarat, Jharkhand, Haryana, H.P., Karnataka, Rajasthan, Sikkim, Goa, Madhya Pradesh, Maharashtra, Mizoram, Telangana, Uttarakhand, Uttar Pradesh, Chandigarh, Tamil Nadu, Punjab, Odisha
Single point levy of market fee	Andhra Pradesh, Arunachal Pradesh, Rajasthan, Gujarat , Goa, Haryana, Himachal Pradesh, Chhattisgarh, Karnataka, Madhya Pradesh, Maharashtra, Nagaland, Jharkhand , Sikkim, UT of Chandigarh, Punjab, Mizoram, Telangana, Uttar Pradesh, Uttarakhand, Tamil Nadu, West Bengal and Odisha

Source: DAC&FW 2019–20