

# Agricultural Reforms in India

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## Abstract

This paper explores the recent farm laws passed by parliament and their impact on farmers' income. The laws collectively offer greater freedom to cultivators to sell their produce at better prices and allow farmers to enter into contracts with processors, aggregators, wholesalers, large retailers and exporters at mutually agreed crop prices. The laws also encourage private investment into storage and warehousing by removing stockholding limits. To make these reforms work, some conditions may have to be fulfilled and imperfections and concerns have to be addressed, which are elaborated in the paper. Finally, the paper focuses on other agricultural reforms to improve the supply-side factors, such as rationalization of subsidies, land reforms, use of technology, strengthening institutions and governance, and improving rural infrastructure.

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## I. INTRODUCTION

The performance of Agriculture in India is important as the sector not only contributes to the overall growth of the economy but also provides employment and food security to the majority of the population in the country. The structural reforms and stabilization policies introduced in India in 1991 initially focused on industry, tax reforms, foreign trade and investment, banking and capital markets. The economic reforms did not include any specific package specifically designed for agriculture. It is viewed that protection to the industry in the form of import substitution policies like tight import controls and high import duties have hurt the agriculture till 1991. Disprotection to industry since 1991 is supposed to correct this bias and increase terms of trade for agriculture. “This would create a potentially more profitable agriculture, which would be able to bear the economic costs of technological modernization and expansion” (Manmohan Singh, 1995, p.2). The reforms have improved terms of trade for agriculture and opened new opportunities such as benefits from trade and specialization, widening choices in new technology including biotechnology.

Trade reforms are expected to have a positive impact on agriculture. There has been a significant increase in agricultural exports after economic reforms were initiated. Increase in exports initially was due to a significant reduction in the import duties and devaluation of the Indian rupee. The economy-wide reforms seem to have benefited agriculture because of increasing business transactions between agriculture and the rest of the economy over time (Mishra and Rao, 2003).

It may be true that liberalisation of non-agriculture has had a positive impact on agriculture indirectly. But agriculture has not undergone direct reforms since independence. Agricultural markets witnessed only limited reforms. Since the early 2000s, there have been some attempts to amend the APMC (Agriculture Produce Marketing Committee) Act. Recently, the Central Government has brought out three farm laws as part of the agriculture market reforms. The objective of this paper is to examine (a) the recent three farm laws and their impact on farmers’ incomes and supply chains; (b) other agriculture reforms needed for higher growth and incomes.

## II. AGRICULTURAL MARKETING REFORMS

India has not been able to provide remunerative prices for farmers in the last 70 years since independence. Farmers have been getting low prices in normal, drought and good years because of distortions in price and market policies. It may be noted that despite MSP and subsidies, Indian farmer is net taxed as compared to farmers of other countries. A study conducted by OECD and ICRIER shows that PSE (producer support estimates) was negative to the tune of 14% on average during the period 2000-01 to 2016-17 (Gulati and Cahill, 2018). In other words, distorted policies are hurting the Indian farmers.

Variation in agricultural prices across regions is quite high in India. Chatterjee and Kapur (2017) examine spatial price variation using high-frequency price and quantity data from the AgMarket portal of Government of India. The study shows that the average standard deviation of log (real) prices across *mandis* in a given month is 0.17. This spatial variation is higher than those of some other developing countries. The price variation persists over time despite substantial investments in rural roads and improvement in information and communication technologies (e.g. mobile phones). District-fixed effects could explain part of the variation but 39% of it is unexplained which could be attributed to the time and

location varying factors (Chatterjee and Kapur, 2017). It shows that we have a distorted price and market policies.

Agriculture and markets are in the 'State List' and states regulate these two subjects. APMCs were created in the early 1960s to ensure price discovery, farmers' access to markets and fair transactions. It was a mandate to purchase some 'notified' commodities through these APMC systems (*mandis*) by paying commissions and market fee. The traders and middlemen (commission agents) have to get licences from the APMC. Many of the APMCs used the funds for creating a market infrastructure which is useful for farmers and other stakeholders. It started with good intentions of a democratic system with auctions for providing better prices for farmers. Over time, however, the vested interests took over and the system deteriorated. As the states get revenue, the governments have their nominees in the boards of *mandis*. It was difficult to break the nexus between politicians and traders/middlemen. APMC system was inefficient as it was dominated by the traders and middlemen. They keep out the competition by forming cartels and farmers had little bargaining power on prices.

The domestic reforms in the agricultural sector started only in the early 2000s. There have been moves to liberalize agricultural markets since 2002. The Government has been gradually moving towards a more deregulated regime and encouraging investment. Budget 2002-03 recognised the importance of agricultural diversification and food processing. The Tenth Plan has identified The Essential Commodities Act, 1955 (ECA) as another problem area which did not encourage investment in storage and warehousing. An Inter-Ministerial Task Force on agricultural marketing reforms had enumerated more than 200 control orders by various states. Although many agricultural commodities have been taken off the ECA, the rigid rules framed under the Act continue, for the most part.

The APMC Acts have not allowed the setting up of parallel competitive markets. The markets set up under the Acts also do not provide direct and free marketing, organized retailing, smooth raw material supplies to agro-processing industries, competitive trading, information exchange etc. The Department of Agriculture and Cooperation (DAC) has drafted a model Agricultural Produce Marketing Act 2003 and circulated it among the states. The Model Act provides for legal persons, growers and local authorities to establish new markets, growers to sell their produce in markets other than the regulated markets, establishment of direct purchase centres, consumers'/farmers' markets for direct sale, promotion of public-private partnership in the management and development of agricultural markets, regulation and promotion of contract farming, etc.

Basically, domestic market reforms involve removing all controls in the domestic market. Prevailing restrictions on domestic trade and processing of agricultural commodities were inherited from the post-war, pre-green revolution era of shortages. With the achievements of self-sufficiency in food grains, increasing trend towards diversification of agriculture, globalisation of trade, such restrictions on movement, storage and processing have outlived their utility and have become counter-productive. The restrictions also deny fair prices to producers as well as to consumers and inhibiting much needed investments in the technological upgradation and modernization of storage, marketing and processing.

The response of the state governments to the model APMC Act 2003 has been both tardy and varied, with some adopting it partially and others not adopting at all. Again in 2013 and 2017 two more model Acts were proposed respectively by the UPA and NDA governments. The model act, namely, the Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act, 2017 (APLMA, 2017), is supposedly more in tune with the changing times (Singh, 2018). It has also decided to take contract farming out of the APMC domain. Again, the state governments did not show enthusiasm.

In 2008, the central government announced a new Umbrella Scheme called ‘*Pradhan Mantri Annadata Aay Sanrakshan Abhiyan*’ (PM-AASHA). The scheme is aimed at ensuring remunerative prices to the farmers for their produce as announced in the Union Budget for 2018. It has three components: (1) Price support scheme (PSS) (2) Price Deficiency Payment Scheme (PDPS). (3) Pilot of Private Procurement & Stockist Scheme (PPPS). But these price support schemes made little headway and have remained on paper in many parts of the country.

## 1. Recent Farms Laws and Market Reforms

Agricultural growth has been around 3.3% per annum during the period 2014-15 to 2019-20 and was 6.1% in FY 19 and 4% in FY 20. The impact of Covid-19 on agriculture is much less than in urban areas. The only saving grace for the Indian economy this year is indeed the performance of the agricultural sector. In FY21, agricultural gross domestic product (GDP) is expected to grow at 2.5 to 3 per cent, although GDP for the overall economy may contract by more than 10 per cent. India is likely to have a bumper crop in both Kharif and Rabi seasons due to normal monsoon. However, bumper crops can lead to a fall in farm prices. Farmers may not be able to get remunerative prices as there are still supply chain problems.

Covid-19 lockdown triggered the need to maintain supply chains with central legislation. As part of the Covid-19 response, the Central government announced *Atmanirbhar Bharat* (Self-Reliant India) with a package of around Rs. 20 trillion (10% of GDP). This package consists of direct transfers, credit and liquidity measures and reforms. The government used the coronavirus crisis to push through the long-awaited agriculture reforms. Earlier the Centre shared the model laws with the state governments. While some states have amended the APMC act, others are yet to do the reforms. Though agriculture is a state subject, the new laws also deal with inter-state trade which is a central subject.

The central government promulgated three ordinances on farm bills relating to agricultural marketing in June 2020 and became law after Parliament approval in September 2020. These three laws are: (1) The Farmers’ Produce Trade and Commerce (Promotion and Facilitation) Act, 2020 (FPTCA); (2) the Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Act, 2020 (FAPAFSA) and; (3) the Essential Commodities (Amendment) Act, 2020.

### Benefits to the farmers including smallholders

The agricultural economists and other stakeholders have been advocating agricultural market reforms in the last few decades particularly since the introduction of economic reforms in 1991.

The first farm law on trade and commerce seeks to offer greater choice to cultivators to sell their produce to whoever and wherever they can realize a better price. Freedom for buyers also improves private investment in agriculture infrastructure and marketing. The monopsony of the markets run by the APMC in the notified commodities has been dismantled by permitting out of *mandi* (market) transactions of farm goods. These *mandis* also have commissions and taxes and state governments also impose cess to get revenue. Thus, APMC is considered as an exploitative system and do not help farmers get remunerative prices.

The new FPTCA law limits APMC jurisdiction to market yard. Outside of the market yard, farmers are free to sell directly to any trader, processor, retailer and exporter. The outside of the APMC market yard is referred to as the ‘trade area’. According to the law, ‘any farmer or trader or electronic trading and transaction platform shall have the freedom to carry on the inter-State or intra-State trade and commerce in farmer’s produce in a trade area’. In this ‘trade area,’ there is a no obligation to pay a market fee or cess

or levy under any State APMC Act or any other State law. Therefore, the buyers can transfer the benefits of trading to farmers in non-APMC area.

The second law FAPAFSA relates to contract farming which has been legalized. Farmers can sign contracts with processors, aggregators, wholesalers, large retailers and exporters at mutually agreed crop prices. Farmers can withdraw from the contract at any stage without penalty but a corporate buyer will have to pay agreed price and penalty for breaching the contract. They will be paid within three days of signing the contract. Dispute mechanism is also included and will be resolved within a fixed time frame.

What about the smallholders? The small and marginal farmers (86 per cent of the total) can't compete with the big corporates in bargaining. The real hope is in the farmer producer organisations (FPOs). The FPOs can help the small farmers in both input and output markets and the government is planning to set up 10,000 FPOs across the country to enable the smallholders to deal with corporates.

The third law is amending the outmoded Essential Commodities Act, 1955 which was hurting the farmers by discouraging private investment in storage. The new law removes stockholding limits on several commodities except under 'extraordinary circumstances' such as war and natural calamities. The amended law is supposed to attract corporate and foreign investment in food supply chains like cold storage and warehouses by addressing fears of excessive regulatory interference. Both farmers and buyers will gain as supply chain improvements will bring price stability. Better storage will also reduce food wastage.

### **Is it the 1991 moment?**

There have been extreme reactions to the three farm laws. Some say that these agriculture market reforms are similar to the 1991 moment while some others completely condemn the new laws. In our view, the farm laws are important and they are supposed to address the longstanding problems of the farmers. But, the truth in terms of the impact on farmers may lie somewhere in between the extreme views. There is a wrong impression that earlier farmers had to sell only to APMCs. It may be noted that only 25 per cent of the transactions were done in APMC *mandis*. Thus, even before these bills were introduced 75 per cent of the trade was done by private traders outside these *mandis*. Some state governments have already done some of these reforms and allowed direct purchase from processors and bulk buyers. States like Kerala and Bihar do not have APMCs. Thus, it is part of a continuous process initiated by several states and may not be a 1991 moment for the first two laws. The only difference is that now it is done at the all India level. But, the amendment of the Essential Commodities Act is somewhat closer to the 1991 moment. Another point is that the current reforms are done by the Central government and more freedom is given to farmers and traders outside the APMC system.

### **Issues, Concerns and uncertainties**

There are uncertainties and concerns about the potential impact of agriculture market reforms. Some of them are given below.

Some sections of the farmers particularly in Punjab and Haryana have started protests on the farm laws. The first concern is that the existing system of minimum support price (MSP) and procurement will be done away with although it is clarified that the MSP system would not be removed. Distortions in minimum support price (MSP) policy are well known. Criticism of the MSP policy is that it is limited to a few crops (mainly rice and wheat) and few states. Even for commodities covered, not all farmers can sell their produce at the MSP in other regions. Focusing mainly on rice and wheat is creating problems for diversification. A few years back, the government has announced MSP at 1.5 times the A2+FL cost (paid

out cost plus cost of family labour) for all Kharif crops. It may be noted, however, that less than 10 per cent of the farmers in India benefit from the MSP system.

A second concern is that these laws particularly on contract farming will lead to the corporatization of farming and farmers will be at the mercy of corporations and retailers. The APMC system will be weakened and thereafter the buyers outside APMC will reduce the prices for cultivators. It is difficult to predict whether big corporates will come and start business immediately. If they enter, it is possible that cartels may be formed by crowding out the competition. Some state regulation or regulatory oversight may be needed without hurting the freedom to operate by the buyers and sellers.

Note that middlemen, traders and commission agents may not be eliminated even in the new environment as corporates prefer middlemen for aggregation from the farmers rather than directly purchasing from the farmers.

Another imperfection is that farmers sell to input dealers and traders because of interlocked credit markets in several parts of the country. Moneylenders or input dealers provide credit or inputs on the condition that the produce is sold to them. In these conditions, farmers may get a lower price even with the new farm laws because of the dependence on the interlocked system.

Bihar state has abolished APMCs in 2006. A study by NCAER (2019) showed an increase in price volatility. It was expected that private investment would take place in creating new markets and strengthening facilities in the existing markets after the abolition of APMC. On the contrary, according to the study, the situation at the ground level has not improved. As the government procurement is low, farmers are left to the mercy of traders who fix a lower price because of lack of competition. The study also indicates that inadequate market infrastructure and institutional arrangements are responsible for low price realisation and instability in prices. Thus, policy change alone may not reform agriculture market system.

The private traders in the non-APMC areas have been using the price at APMCs as a reference price for purchasing produce. Under the new law, it is not clear what price these traders will use as it does not make sense to use the APMC price now.

The APMCs will coexist with the private trade in the trade area. There is a need to strengthen the APMCs for promoting competition. Infrastructure has to be modernised. The boards must include more professionals rather than people with political affiliations. These markets can have some links with farmer producer organisations.

Another view is that the reforms may not work unless we develop private markets and infrastructure outside the APMC. In other words, infrastructure is a pre-condition for success. Public investment in agriculture marketing is needed to attract private investment in agro-processing and retail sector (Rawal et al, 2020).

The main consideration is whether the smallholders benefit from the farm law. It also depends on several other agricultural policies like institutional credit, other inputs and success of FPOs. The reforms are beneficial only when information access is high and transaction costs are low. Without internet connectivity and market intelligence, the transaction cost associated with selling in places outside the local market is higher than the value of the produce.

Recently, the government of India imposed an export ban on onions, and this is inconsistent with the reform of amendment to the Essential Commodities Act. Banning exports is another distorted policy. The National Export policy is formulated in line to double the farmers' income and increase agriculture exports from present \$30 billion to over \$60 billion by 2022. We do not see consistent policies regarding

domestic and international trade. There is no long-term policy on exports. Export bans are imposed frequently, and they hurt the farmers most. It is known that governments ban exports of crops like onion, pulses etc. when the consumer prices rise. The exports are controlled through minimum export price and export bans. There is a need for predictability and stable export policies.

### **III. OTHER NEEDED AGRICULTURAL REFORMS**

Apart from marketing reforms, Indian agriculture needs some other reforms to improve the supply side factors which are discussed below.

#### **1. Subsidies in agriculture**

The question of subsidies in agriculture has emerged as an important issue in policy debates. Agricultural subsidies are fiscally unsustainable and encourage misuse of resources, leading to environmentally malignant developments. These subsidies result in crowding out public investment resources and adversely affect the overall agricultural growth in India. Allocation of public resources and investment management is a politically sensitive and economically complex problem for most governments. This larger debate encompasses many crucial public decisions regarding shifting available resources from concessions to productive investment channels with a constructive and futuristic focus.

Input subsidies are leading to degradation of land and water. These subsidies caused severe deterioration of the systems due to the neglect of their maintenance in addition to becoming fiscally unsustainable. Further, they have led to the highly wasteful use of canal water, ecological degradation from waterlogging, salinity, pollution, excessive consumption of electricity, and over drawl of groundwater resulting in the shortage of drinking water in several parts of the country. Similarly, the prevailing heavy subsidy on nitrogenous fertilizers perpetuates inefficiencies in the domestic fertilizer industry. Irrigation and use of power seem to be as high under small farm as compared to large farms. However, these are cornered by the farmers in irrigated areas and those in unirrigated areas do not get these subsidies. Most of the fertilizer subsidy also goes to the farmers under the irrigated area. The benefit flowing to the farmers and consumers of food is illusory, as it is leading to the degradation of soil on account of excessive chemicals and adverse NPK (Nitrogen, Phosphorus and Potassium) ratio.

During the initial stages of the adoption of new technology in agriculture, some of these subsidies may be justified as 'front-up costs'. Over time it was found that the richer states and well-irrigated areas, certain crops, and rich farmers captured a disproportionately high share of the major input subsidy programmes of fertilizer, power, irrigation and credit.

Therefore, one major reform needed in agriculture sector relates to a reduction in subsidies and an increase in investments. There is a trade-off between subsidies and investments. Public investment declined while subsidies increased. A rise in public and private investment is crucial for enhancing agricultural growth

#### **2. Land issues**

There is some consensus among a majority of agricultural economists that land tenure should be legalised. Smallholders will have access to land due to this measure. An expert committee chaired by T.Haque prepared a Model Leasing Act at a national level. It recommends legalizing land tenancy to

provide complete security of land ownership rights for landowners and security of tenure for tenants for the lease period<sup>1</sup>. It also recommends facilitating all tenants to access bank credit and insurance facilities. Another related reform on land policy relates to land records and ownership titles. National Land Records Modernisation Programme (NLRMP) was launched by the government of India in 2008. It was revamped in 2014 as the Digital India – Land Records Modernisation Programme (DILRMP). Narayanan et al (2018) present findings of an impact assessment of the programme in Himachal Pradesh and Maharashtra. There are significant differences between land records and the ground situation in villages. Based on the findings, the study provides suggestions for better land records management.

Another major issue relates to the shrinking size of farms which is also responsible for low incomes and farmers' distress. The average size of farm holdings declined from 2.3 ha. in 1970-71 to 1.08 ha. in 2015-16. The share of small and marginal farmers increased from 70% in 1980-81 to 86% in 2015-16. The average size of the marginal holdings is only 0.38 ha. (less than one acre) in 2015-16. The monthly income of small and marginal farmers from all sources is only around Rs. 4000 to Rs. 5000 as compared to Rs. 41000 for large farmers in 2003. Thus, the viability of marginal and small farmers is a major challenge for Indian agriculture.

Many of the small farmers cannot leave agriculture because of lack of opportunities in the non-farm sector. In this context, consolidation of land holdings becomes important for raising the incomes of farmers (Rangarajan and Dev, 20119). There was a lot of discussion on this topic in the 1960s and 1970s. In the context of rural poverty, B.S. Minhas had argued in the 1970s itself that compulsory consolidation of land holdings along land development activities could enhance the incomes of livelihoods of the poor in rural areas. Unfortunately, there is little discussion now on land fragmentation and consolidation of farm holdings. We need to have policies for land consolidation along with land development activities to tackle the challenge of the low average size of holdings. Farmers can voluntarily come together and pool the land to gain the benefits of size. Through consolidation, farmers can reap economies of scale both in input procurement and output marketing.

### **3. Technology and Extension**

Technology (including IT) is crucial for a rise in total factor productivity. The new agricultural technologies on the horizon are largely biotechnologies. There has been a revolution in cotton production due to the success of BT cotton. India allowed BT cotton but not food crops so far. Some of the concerns of GMOs relate to food and health safety, control of corporates on agriculture, pricing of seeds etc. However, many countries adopted GM crops. India did not approve of BT Brinjal, Mustard and Chickpea. Recently, gene editing is becoming popular and this can be encouraged in India. Technology adoption should be based on science and not on ideologies.

A study by Mathur (2016) shows economic inefficiency in Indian agriculture. According to him, the implied cost of economic inefficiency is quite high as farmers are losing on average over two-thirds of their potential income through sub-optimal crop and input choices. It means that farmers' incomes could be increased over three times with the same resources. This can be achieved through extension services. Public sector investment for agriculture research and development and education in India is less than 1% of the agricultural GDP and needs to be increased. The returns to investment in research and extension will be much higher on agricultural growth as compared to other investments (Rao, 2005).



#### **4. Institutional reforms**

Strengthening institutions and governance is crucial for achieving higher growth, equality and sustainability of agriculture. Rigid institutions and inefficient governance are the primary cause of the poor implementation of various government programs. These institutions and old ways of governance thus need to be changed if agricultural performance is to be improved. Institutions throughout the agricultural value chains are important for better governance and effective implementation. Institutional reforms are important particularly in the domain of public systems for transforming agriculture. We need institutional reforms for input and output markets, land and water management and sustainable agriculture.

Collectives or farmer producer organisations (FPOs) can help in having economies of scale in input and output marketing by organising the small farmers. They can participate throughout the value chain. Some of them are doing well. However, many FPO's are only on paper. There is a need to support them financially and strengthen the capacity of farmer producer organisations.

Vaidyanathan (2010) who was critical of government policies says that "there was hardly any change in the strategy for agriculture. It was hardly affected by the reforms. Policies continued as before to focus on large investments in irrigation and other infrastructure, and special programmes to increase rural employment" (p.32). He says that the efficiency of investments must be improved with institutional reforms rather than keep on increasing investments and subsidies.

Institutional factors are the key to improving efficiency in canal irrigation. A mere increase in water pricing may not result in financial sustainability unless institutions are in place to recover water charges (Reddy and Dev, 2006). Maintenance and management of canal systems through the participation of user societies is expected to contribute to an efficient and equitable distribution of water resources.

Earlier studies have also shown that several institutions have been working on natural resources management. Some examples are: (a) Common pool land resources: Tree Growers' Cooperatives, Joint Forest Management, Van Panchayats; (b) Watershed development: Ralegaon Siddhi village in Maharashtra under Anna Hazare; (c) Canal water: Water user associations; (d) Groundwater: Pani Panchayats. We have to scale up some of these successful institutions for improving sustainability<sup>2</sup>.

The importance of collective action in climate change adaptation and mitigation is recognized. Research and practice have shown that collective action institutions are very important for technology transfer in agriculture and natural resource management among smallholders and resource-dependent communities.

Reforms should involve a more efficient delivery system of public services. Social mobilization, community participation and decentralised approach are needed for better governance and implementation. It is recognized that decentralization in terms of transferring power to local councils is important for agricultural development. The experience of decentralisation in terms of greater devolution of functions, finances and powers to panchayati raj institutions (PRI) and urban local bodies in many states has not been satisfactory.

#### **5. Rural infrastructure and linkages with rural non-farm and urban areas.**

Investing in rural infrastructure is essential for raising farm income, employment and rural wages. We have to go beyond farming and invest in warehousing, logistics, processing and retailing. Similarly, rural construction is important for employment creation and enhancing rural wages. During 2004-05 and

2011-12, construction played an important role in raising the wages of rural workers. This will also raise farmers' incomes.

The All-India Rural Financial Inclusion Survey of NABARD provides information on the income of agricultural households and non-agricultural households for the year 2015-16. This survey shows that 35% income of agricultural households is from cultivation, 34% from wage labour, 16% from salaries and 8% from livestock (Table 1). The share of cultivation and livestock together was 43% in NABARD survey as compared to 60% in NSS Survey of 2013.

Another finding of the survey is that only 23% of rural income is from agriculture (cultivation plus livestock) if we consider all rural households (Table 1). Around 44% of income is from wage labour, 24% from government/private service and 8% from other enterprises. It shows that income from the non-farm sector is the major source in rural areas.

**Table 1. Average Monthly Income of Agricultural Households in current prices: NABARD survey 2015-16**

Source of Income	Agricultural Households		All (agri + non-agri) households	
	Income (in Rs.)	Share in income %	Income (In Rs.)	Share in Income %
<b>Cultivation</b>	3140	35.2	1494	18.5
<b>Livestock</b>	711	8.0	338	4.2
<b>Other enterprises</b>	489	5.5	679	8.4
<b>Wage Labour</b>	3025	33.9	3504	43.5
<b>Govt/Pvt.service</b>	1444	16.2	1906	23.7
<b>Other sources</b>	122	1.4	138	1.7
<b>Total</b>	8931	100.0	8059	100.0

Source: NABARD (2018)

NABARD survey provides interesting data on the number of sources of income. Only 13% of agricultural households have one single source of income. Around 50% of these households have two sources, 29% three sources and 9% four sources. It shows that agricultural households do not depend only on farm-income but they depend on multiple sources for their livelihoods. Thus, both agriculture and non-agriculture are important for raising the income of agricultural households.

Around 51 per cent of micro, small and medium enterprises (MSMEs) are in rural areas and they have to be revived. Covid-19 is a big shock for these MSMEs, which were already reeling in the aftermath of the non-banking financial company crisis. There are also opportunities in the space vacated by China. India can't become self-reliant without dynamic MSMEs.

The government has been promoting start-ups by giving incentives. It announced 'Start-up India' as a flagship programme in 2016. There have been new generation start-ups coming up in agriculture. Rao et al (2017) document the evolution of recent start-ups in agriculture. Broadly, they render either input services or output services in marketing and related jobs. BigHaat.com, Flybird, AgroStar, Stellaps, Kedut, EcoZen, MITRA, EM3, Skymet, YCook, IFFCOKisan, Aarav Unmanned Systems, and CropIn are some of the start-ups involved in input services. For output services, there are several start-ups like Ninjacart, TheAgrihub, SVAgri, Sabziwala, Flipkart, and Big Basket.

The start-ups brought several innovations in product, process, marketing and organisation. These start-ups relied mainly on online and mobile platforms and rendered input and output services (Rao et al, 2017). They have been altering the value chain and roles of different actors by cutting down the length of

the value chain. Experience in other countries also shows evidence of market failures in entrepreneurial activity in agriculture and the need for the state to intervene. A certain amount of start-up fund may be earmarked for spurring innovative start-ups in food and agriculture (Rao et al, 2017). Other suggestions of this study include channelling entrepreneurial activity in food and agriculture include remodelling technology business incubators under Indian Council of Agricultural Research (ICAR) on business principles and ensuing representation of ministry of agriculture in the inter-ministerial board for start-up promotion.

Lastly, agriculture and non-agriculture linkages, rural-urban connections are important for raising farmers' incomes. Professor T N Srinivasan argued that the solution for agriculture lies in labour absorption by non-agriculture (Srinivasan, 2008). Similarly, urban fiscal stimulus, solving the twin balance sheet problems of the corporate sector and banks would help agriculture and rural India because of rural-urban linkages.

#### **IV. CONCLUDING REMARKS**

To conclude, whether it is 1991 moment or not, the farm laws passed by the Parliament are in the right direction. The farmers have more choice and potentially get better price discovery. But, there are lots of uncertainties to realize the potential. To make them work, some conditions may have to be fulfilled and imperfections and concerns have to be addressed. More marketing infrastructure has to be developed outside the APMC system. The agriculture infrastructure fund of Rs. 1 lakh crore announced by the government can be used for this purpose. Agriculture and markets are 'State' subject in the constitution. Inter-state trade is 'Central' subject. Central and State governments have to work closely in a federal set-up for the success of these reforms. More transparency, communication and explanation to the farmers, particularly smallholders on the benefits of reforms are needed. Other reforms needed in agriculture relate to subsidies, land issues, technology, institutions, rural infrastructure and linkages with non-agriculture. These reforms can complement the agriculture market reforms.

Basically, we have to change the narrative on agriculture towards more diversified high-value production, better remunerative prices and farm incomes, marketing and trade reforms, high productivity with less input, focus on post-harvest value chains including storage, warehousing, processing and retailing, cost-effective and sustainable agriculture. The government policies have been biased towards cereals particularly rice and wheat. There is a need to shift from rice, wheat-centric policies to non-cereal focused policies like millets, pulses, fruits and vegetables, livestock and fisheries to promote diversified agriculture. The agriculture reforms will help in achieving the goals of higher agricultural growth and faster increase in farmers' income.

## NOTES

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<sup>1</sup> See Haque, Tajmul (2015)

<sup>2</sup> The Report of the Commission on ‘Inclusive and Sustainable Development of Andhra Pradesh (CESS, 2016) provides some examples of the following best institutional practices in agriculture in India : (a) Building Alternative Markets: Rythu Bazars, SAFAL (Bangalore); (b) Contract farming: Broiler Poultry and Sam Agritech on grapes in Andhra Pradesh; (c) Farmer Federations: Timbaktu Collective in Anantapur district of A.P, Vegetable and Fruit Promotion Council Keralam (VFPCCK); (d) Land lease for livelihood creation: Kudumbashree intervention in leasing and group farming; (e) Use of technology for price discovery: ITC e-Chaupal; (f) Building market infrastructure: Rural godowns by SHGs of small farmers in Germalam village, Erode district, Tamil Nadu; (g) Strengthening Panchayati Raj Institutions: An experiment in grassroots democracy and self-rule in village Menda-lekha Gadchiroli district of Maharashtra.

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