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WP 02/2020

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**INSTITUTE FOR
HUMAN DEVELOPMENT**

www.ihdindia.org

Published by:

INSTITUTE FOR HUMAN DEVELOPMENT

256, 2nd Floor, Okhla Industrial Estate, Phase-III

New Delhi - 110020

Tel: +91 11 41064676, + 91 9871177540

E-mail: mail@ihdindia.org

Website: www.ihdindia.org

ISBN: 978-81-88315-69-7

The Agricultural Market Reforms: Is There a Trade-off Between Efficiency and Equality?

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There is an imperative for introducing new policies for the agricultural sector as the economy changes: demands from the sector shift, ecology places restraints, or any other. Recently, the government of the day has opened up the output market with the aim to let market forces improve efficiency and create more value to the farmers and the economy. In principle, a change is welcome, but there are many caveats to be addressed yet. First, given the limited infrastructure and imperfect information base, would it be possible to exploit the full potential that perfect and competitive markets offer? Second, partnerships work best between “equals” and not otherwise. Thus, small and marginal farmers to become partners with corporates or large monopolies on equal footing might require many intermediate platforms. Third, the hinterlands, which will de facto remain outside the ambit of the new policies as of now, can be integrated into the national markets only if huge investments are made for several years, and it is not clear as to who would make these investments and why. Finally, there is the ecological dimension: will the markets, especially in the short-term, be sensitive to such issues as waste of non-renewables like fossil fuel and water? In short, these and many issues, also pointed out in the government’s Report of the Committee on Doubling Farmers’ Income of 2019, which need implementation rather than “shock treat” the sector through withdrawal of the state opening up the markets.

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1. INTRODUCTION

Since Independence, successive governments have put in place policies and strategies to ensure food security for the country and for farmer's betterment and many have succeeded. Yet, in recent years the labour productivity in the farm sector is some four times lower compared to that in the non-farm sectors, and the sector is stagnating. The agricultural sector, thus, requires new policies to increase its productivity and incomes therein.¹ In 2020, the Central Government enacted three laws related to agricultural marketing and pricing, which in effect *virtually let the agricultural sector's sales to be market-driven*. The government believes that the new laws would bring-in larger investments in agriculture, thereby raising production and productivity. On these, there is a sustained debate between those agreeing with the laws and those disagreeing with them.

The New laws²

1. Farmers' Produce Trade and Commerce (Promotion and Facilitation) Law, 2020;
2. Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Law, 2020; and
3. Essential Commodities (Amendment) Law, 2020.

Says NITI Aayog member Ramesh Chand (Pg. 3, Ref: Footnote 2), "*There are at least ten significant reasons for initiating reforms in the agriculture sector*". These range from excess lands allocated for certain grains to stagnation of the sector. Another stalwart, Ashok Gulati, has been arguing for more than three decades for removing distortions in the agricultural sector to bring about greater efficiency in it.³ While Ramesh Chand's arguments (or for that matter, those of Gulati) are compelling and persuasive, it does not follow that a sudden opening of the market is a solution.

A critical examination of these in light of the premise presented below and the state of Indian agriculture forms the *raison d'être* of this paper.

The Premise

There are a few non-negotiable aspects while implementing any change in policy.

- *First*, any policy relating to agriculture must not compromise on food security: this is recognised globally.⁴ India's vulnerability to international politico-economic forces in the 1960s, when India was continuously dependent on food from the USAID, is a case in point.

- *Second*, farmers' incomes must rise steadily over time and there is sufficient incentive for farmers and other stakeholders to invest in agriculture and agro-based activities.
- *Third*, inequality should not rise unsustainably.
- *Fourth*, any further ecological damage is controlled.

The paper discusses the various nuances and intricacies of three new laws regarding marketing, with a special focus on small farmers and semi-arid areas. However, it does not deal with other problems that the agricultural sector faces that accounts for the massive rural distress.⁵ Next, it takes no sides: it is not favouring the present system of *Mandis*-ensured minimum price of certain crops, nor is it endorsing the new laws as they are. Rather, it finds that these laws are akin to a “shock treatment”; a complete withdrawal of the state from agriculture, an approach not followed elsewhere, e.g., in industry or services where corporate governance laws, SEBI etc. define the rules, monitor and also act. Thus, the laws should not be seen only in terms of MSP but also of state no more acting as a protector and advocate of the farmers.⁶

The paper does not claim to be an original research exposé. It is a compilation of facts and arguments seen from recent press reports, research papers and government documents, which are then simplified, elaborated and commented upon. However, all field discussions and conclusions are our own.

2. A BRIEF ON THE AGRICULTURAL SECTOR

Indian agriculture is very heterogenous, with some agroclimatic zones being the most conducive ones for agriculture while others are challenging. This heterogeneity extends to people engaged in agriculture and their farming practices. No single policy for promoting agriculture and its allied activities are likely to be uniformly applicable across all crops and regions. The taxonomy of the sector could be seen in Table 1 and performance in Table 2.

Agroclimatic Regions

Regional variation in agriculture within the country emanates from natural endowments: parts of the country are desert or semi-arid (west), where uncertain rainfed agriculture yields less; parts of the east have surplus water; some southern regions are hot/dry, and are suitable for coarse crops (inland peninsula); the northwest has extensive artificial irrigation and temperate weather for at least part of the year. Only about 48% of the land is irrigated; the rest is rainfed, making

farmers in this category doubly vulnerable, to the markets and weather. It is not surprising that the country grows more than 50 types of crops.

Socioeconomic Characteristics

Socioeconomic factors also matter. The relatively less-populated areas in the northwest, which also have somewhat large land plots, have gained from investments and have ushered the green revolution [grain yield: 5-6 tonnes/hectare (t/ha)]. In contrast, in the Indo-Gangetic plains, the labour-land ratio is very high, resulting in land plots being very small, making investments, yield rates and labour productivity in agriculture to be average to very low (average plot size <1 ha; yields 1.8-2.5t/ha). Next, some enabling socioeconomic factors are, progressive and inclusive governance, education and attitude. Farmers in the central-India belt—these are thickly forested and partly undulating, and where there is a large concentration of tribal populations—lack in these and agriculture there is at best subsistence (1-1.5t/ha). No single state or region is best in every crop: Uttar Pradesh has achieved high yields in sugarcane; Karnataka in cotton; Punjab-Haryana in paddy, wheat and pulses; and Western Maharashtra in sugarcane. A few northern and western states do well in horticulture, aquaculture, flower and fruit plantations.

Table 1
Taxonomy of Regions, Crops and Socioeconomic Factors

| <i>S. No</i> | <i>Region</i> | <i>Grain yield rate</i> | <i>Population density</i> | <i>Poverty rate</i> | <i>Rainfall /water</i> | <i>Land plot size</i> | <i>Investment in agriculture</i> |
|--------------|-----------------|-------------------------|---------------------------|---------------------|------------------------------|-----------------------|----------------------------------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1 | Northwest | High | Medium/ Low | Low | High (artificial irrigation) | Large/ medium | High |
| 2 | West/Centre | Low | Medium/ Low | Low/Medium | Low | Large/ medium | Low |
| 3 | East | Low/medium | High | High | High | Small | Low |
| 4 | South/peninsula | High, medium | Low/medium | Low/Medium | Low/semi-arid | Medium | Medium/ high |
| 5 | Northeast | Low | Mostly Low (except Assam) | Medium | High | Small | Low |

The country's aggregate crop yield rates have shown a steady increase in tonnes (of grains) per hectare for most crops in last 4-5 decades (Table 2 and Figure 1). These gains have come about from the Green Revolution areas which also have artificial irrigation (Punjab, Haryana, Western Uttar Pradesh (UP), North-western Rajasthan, parts of Andhra, parts of Tamil Nadu, Western Maharashtra, parts of Gujarat, etc.); through improved transportation means (all these regions); availability of electricity (most of these regions); modern knowledge of agriculture; and land

reforms. Despite these accomplishments, however, India on aggregate, still lags in yield rates behind China and the US: the aggregate paddy yield rate is twice as high and wheat yield rate 1.6 times higher in China compared to India.

Additionally, India experiences some of the highest food losses in the world at about 40%.⁷

Small and marginal farms holding less than two hectares of land account for 86.2% of all farms in India but own just 47.3% of the crop area, according to numbers seen from the Agricultural Census of 2015-2016. Over time, the land has been getting increasingly atomised as non-farm jobs are not rising at the rate the rural and agricultural workforce is, implying that farmers face fragility in adverse circumstances.⁸

It is in this backdrop that new policies are required. However, any new paradigm requires being transitioned to (as against hurried to), in a benign and participatory manner.

Table 2
Agricultural Performance

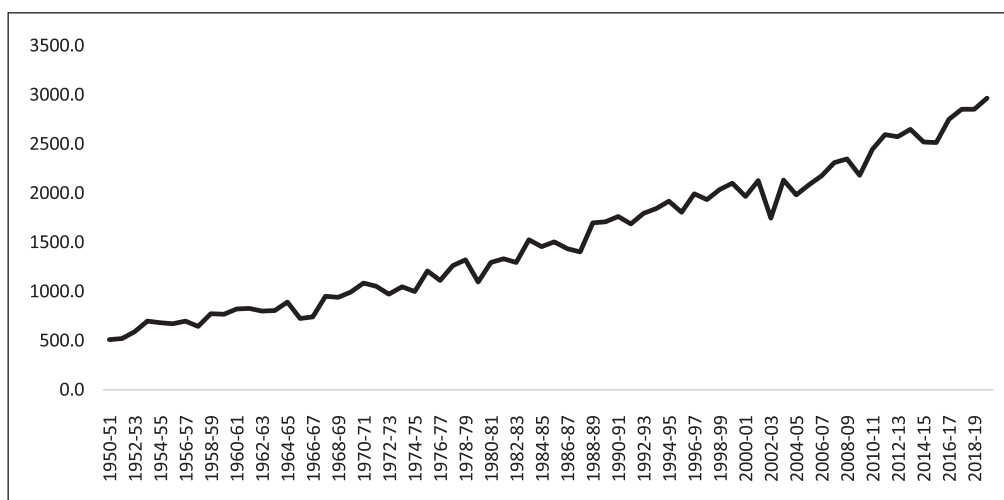
| | |
|----|--|
| 1. | Agricultural sector in India contributes about \$396 billion per annum to the GDP (i.e., about 15% of the GDP – 2018 assessment), which is roughly 7.5% of global agricultural output in that year. |
| 2. | The sector employs about 44% of the workforce in the country (2017-2018 data). |
| 3. | In terms of tonnage, during 2019-2020 crop year, food-grain production was reckoned to have touched 295.67 million tonnes (MT), the second highest in the world after China. In 1965 the grain production was about 65-70 million tonnes compared to almost six times now. |
| 4. | India is world's largest producer of pulses at about 25% of global production. This is an important crop because it is a protein-provider to a large number of people who are vegetarians or are sparse eaters of meat, fish or eggs. |
| 5. | Production of horticulture crops in India was estimated at 320.48 MT in FY2020, second largest in the world after China. |
| 6. | Sugar production at 26.46 MT (2019-2020 data) is again the second largest in the world after Brazil. |
| 7. | Indian agricultural production looks large partly because the area of the country and proportion of area cultivated are both large. The consumption levels in the local population are modest. |

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8. Horticultural crops have grown three times in the last 25 years.

 9. Indian Agricultural production looks large partly because the area of the country and proportion of area cultivated are both large. The consumption levels in the local population are modest.

 10. Until 2005, the labour to land ration in agriculture was rising continuously. Since then, it has begun to fall. The average size of land is <2 ha, making agriculture a precarious operation.

Figure 1
Food-grain Production through Seven Decades ('000,000 Tonnes)



Source: <http://www.indiaagristat.com/table/agriculture-data/2/total-foodgrains/17193/1316396/data.aspx>

3. AGRICULTURAL MARKETING: A BACKDROP

Regulating agricultural marketing in India could be traced back to the recommendations of the Royal Commission on Agriculture in 1928.⁹ In 1935, the then Government established the Central Marketing Department for building a knowledge-base on the marketing of agricultural commodities.¹⁰

The primary location for exchange of agricultural products has been the 'Mandi' (agricultural product market). In the earlier days, *Mandis* were completely unregulated and merchants ruled the roost. As the folklore says, ...*there was a poor farmer...and a rich merchant or landlord...*this folklore came about only because farmers were perpetually poor with little protection against the merchants or any other eventuality. Sir Chhotu Ram, a prominent farmer-representative and Minister in the Provincial Government in Punjab in the 1930s, had got the Punjab Agricultural

Produce Markets Act passed in the Provincial Assembly in 1939, which provided for regulation of the *Mandis* to curb irregularities through “marketing committees” constituted of elected members, of whom at least two-thirds were to be farmers.

Yet, until the late 1950s, *Mandis* were dominated by price misinformation and excessive arbitrage. Among the reasons were lack of education, low bargaining capacity (of farmers – they were small, far too many and unorganised, divided by caste and language, and much in need of immediate cash all the time), poor transport and communication, and so on. Both, food security at the macro level and farmers’ incomes at the local levels continued to be low, also because there was little investment in land. Food-grains were regularly imported until the late 1960s and early 1970s.

Two main policies *in regard to marketing*, adopted in the early 1960s for ensuring food security, were as follows:

1. Improving marketing of food/other crops through regulating the *Mandis*, and
2. Setting a lower price-ceiling on the prices of select crops below which they should not fall.

The Agricultural Produce Market Committees (APMC) were set up at that time to ensure price discovery and fair transactions in a democratic and decentralised manner, with physical auctions being the basis of price discovery through licenced traders. APMCs also created the infrastructure for food-grain auctions and storage, paid from the cess paid by the buyers *and not through government taxes*.¹¹ Also, non-standard weights and similar weighing scales were abolished. The APMCs, thus, effectively became the APMC *Mandis*.

Agriculture being a state-subject, the APMCs did not come about everywhere simultaneously and in the same shape. Over time almost all states enacted APMC Laws, and as of recent, there were some 7,300 APMC *Mandis*, both principal and sub-market yards, across India.¹² The APMC Laws have required that the produce of crops is auctioned and sold only in the designated *Mandis* and the base prices, though determined through auctions, should not normally fall below the Minimum Support Price (MSP) for select crops set by the Government of India. If the auction prices dip below the MSP, the farmers have the option to sell their produce of these select crops to the government.

Box 1: The APMCs – A Brief

The *Mandis* are established at different locations within states, depending upon the population and the marketable surplus. Farmers are required to sell their produce via auction at the *Mandis*. Traders require a license to operate to do business within the *Mandis*. Wholesale and retail buyers (e.g., shopping mall owners or exporters) and food processing companies cannot buy produce directly from farmers except in cases where some state governments have made relaxations.

The Central Government in 2003 had passed a Model Law to encourage states to adopt them. Some salient features of the APMC Model Law 2003 are as follows:

1. Facilitates contract farming.
2. Special market for perishables.
3. Farmers or private persons can set up their own market.
4. Licensing norms relaxed.
5. Single market fee.
6. APMC revenue to be used for improving market infrastructure.

However, not all states have accepted the model. Some states have passed laws but have neither framed rules nor notified them. Thus, inter-state barriers continue.

Note: APMC platforms are places to sell all crops, covered by MSP or not. Source: Ministry of Agriculture, Government of India

The other policy relates to setting minimum remunerative prices for the farmers. It had been well-known since at least the early 1960s that farmers respond to higher prices and provide better yields, both through allocating more land to the crops that fetch higher prices and improving the yield rate of those crops through technological improvement.¹³ Yet it took a USAID specialist Frank W Parker to point out the problem of low crop prices at which the farmers had to sell their crops at harvest. He stated that “One of the greatest economic incentives for production is a satisfactory and dependable level of prices”, while recommending that the government “establish minimum or support prices for all major crops at least one year before harvest”.¹⁴

The government followed up on these recommendations with the setting up of the Agricultural Prices Commission (later renamed, Commission for Agricultural Costs and Prices in 1985) for recommending Minimum Support Prices (MSP), and the Food Corporation of India (FCI) for storing government-purchased crops. Initially, the crops brought under the MSP umbrella were wheat and paddy, but the purview has gradually expanded: in 2019, MSP was calculated for 23 crops, though the crops actually bought under the MSP regime were fewer and not the same across states.¹⁵ Farmers still sell the produce in the regulated *Mandis* at prices

as per the auction, but as stated earlier, if they feel this price is lower than the MSP, they have the option to sell select crops to the FCI.

Box 2: Calculating MSP

MSP is calculated through a costing exercise done on field data collected for different crops under a scheme, called "Cost of Cultivation Surveys". The surveys are conducted periodically and the samples are rotated spatially from one to another location to obtain data on a wide cross-section. The surveys are crop-specific: what is the cost of cultivation of each crop. The cost of indivisibles like land and equipment are thus imputed. Also imputed are a number of rents and own labour costs.

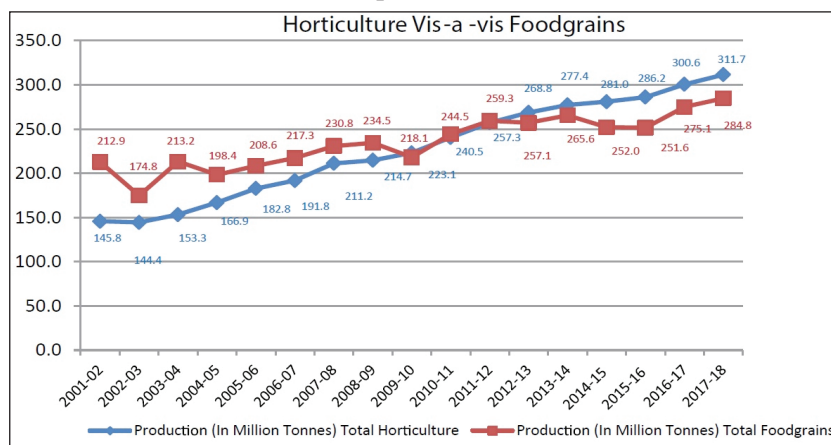
The Ministry of Agriculture in the Central Government has these surveys conducted through different agricultural universities across the country. In select states, the state governments also conduct their own surveys, like in Maharashtra.

MSPs for most crops are revised each year.

The primary producers i.e., the farmers—who are very large in numbers—are not always the main sellers in the regulated marketplace. If these farmers sell their products in *Haats* (local markets (numbered some 16,000 as per the Swaminathan Commission), the *de facto* sellers are the local merchants from the *Haats*. The key operators in the regulated-markets other than the farmers are the traders (*Haat* traders included), grain buyers (large aggregators or food-processors), FCI (for select crops), and the government-appointed regulation officials.

The average marketed surplus was 60-85% of the production as in 2017, depending upon the crop and area. This is about 10% of the country's GDP.¹⁶

Figure 2
Horticulture vs All Crops Production, India, 2000-2018



Source: See, Endnote 17

Surely, the marketing system (along with modern technologies and irrigation) have helped in India raising its food-grain production by 4-5 times through the last 60 years (Table 2). There is also a sizable expansion in pulses, oilseeds, cash crops and horticulture. The country has large food surpluses: the count for the year 2020 showed a stock of about 70 million tonnes grain stock with the FCI.¹⁷

It is another matter that the average price of different food-grains has risen 55-80 times over the last 60 odd years through 1960s to 2019, while the Consumer Price Index (CPI) has risen over 150 times in the same period.¹⁸ It is also another matter that there is still hunger in the country.¹⁹

4. PROBLEMS AND ISSUES

Why Change?

Farmers are selling and traders and aggregators are buying under regulations; then, why is a change in policy sought? What is not so desirable in the existing policies?

There are many issues calling for attention. At the macro level, the main concern is the stagnation in agricultural (grain) productivity for many years now, due to which many farmers' incomes are not rising and the contribution from agriculture has reduced to <15-16% of the GDP. However, is the APMC-Mandi System responsible? Critics believe that the system did serve its purpose for a few decades in boosting farmers' incomes but it has outlived its utility.

Some Key Issues

First, there has been a sharp increase in non-crop produce (see Figure 2). The production and value of horticulture and fruit crops has risen dramatically since successive governments began promoting these crops since the 1990s. In 2017-2018, the total produce has been estimated at 307 MT, near to grain production in volume (Figure 2). It is also estimated that up to a quarter of the fruits and vegetables are wasted (valued at about Rs. One Lac Crore), and only 3-4% are processed. Further, there are wild fluctuations in the prices of these (perishable) products (60-100%).²⁰ These erode the farmers' incomes, since farmers cannot wait—they need the cash to pay-off their creditors—and sell at prevailing prices, however low. Says Ramesh Chand, "...agricultural segments such as horticulture, milk and fishery—where market intervention by the government is either nil or very little—show 4–10% annual growth. Compared to this, the growth rate in cereals—where MSP and other interventions are quite high—remained 1.1% after 2011–12" (Pg. 4-5, Ref: Endnote

2). If scientific systems of marketing for these products are established rather than MSP for some grains, it would help both, the macroeconomics and the farmers.

Second, APMCs are supposedly run by committees constituted of farmers but in reality, often large land-owners in most areas control the *Mandis*, as they alone win the committee elections. Traders and bulk buyers become their partners. For all practical purposes, this nexus controls the management of *Mandis*.²¹ Different analysts have identified corruption, dis-functional entities and institutions, monopoly of traders, cartelisation and lack of a proper price mechanism as knotty. Examples of malpractice: Licences in many instances have not been issued to prospective new traders so as to protect the vested interests of the entrenched traders; cartels rig prices to save on the cess; and in some cases, especially in remote areas, MSP prices displayed are not updated resulting in the auction prices being old/low. The nexus mentioned above is blamed to be central to the said corrupt practices.

Third, there have been deviations from democratic practices within the *Mandi*-MSP System as well. For example:

- A government-appointed Administrator has in recent times, superseded the Elected Board in Delhi, undermining the democratic procedure in the *Mandis*.²² This might have been done to counter corruption in *Mandis*, but it is an undermining of the democratic nature of the market.
- In Bihar, one-time cess has been charged on milk powder in *Mandis* to *purely raise revenues*, as this is a product completely outside the purview of the *Mandi*-MSP and regulated market-regime.

These and such practices might have helped to beef-up the revenues of the state by way of the cess charged, or to grapple with corruption; but they are much to the chagrin of the buyers (they have to pay the cess) and farmers (who find it difficult to find buyers, as they shy away due to the cess).

Fourth, in some states (Haryana and Punjab) FCI is the largest buyer of wheat and rice. Consequently, the food stocks get wastefully locked up and some also rotted in the store houses.

Fifth, given an assured market and price, farmers feel little necessity to seek alternatives in the cropping pattern (e.g., switch from paddy in Punjab or sugarcane in Western Maharashtra) and/or switch to more scientific farming practices (like sowing less water-using crops or install water-saving devices). Over-use of water has already adversely affected water tables: in Punjab, they have fallen about 10 feet through the period 2007-2017.²³

Box 4: Two Experiments in Relaxing the APMC Law

Different states at times have believed that free markets provide a solution to boost the agricultural sector, and they have/had begun implementing their own version of APMC. In principle, this might make sense since the realities are very different across states.

The Karnataka Agricultural Marketing Policy of 2013 provides for introduction of warehouses for sales, single unified license for traders, and setting up of direct purchase centres to buy the agricultural produce directly from farmers. The authorities connected their agriculture markets through unified markets platform to facilitate electronic trading of commodities. The government, in a joint venture with the NCDEX Spot Exchange, has established the Rashtriya e-Market Services to roll out the unified markets platform (UMP). It connects the agriculture markets through the UMP to facilitate electronic trading of commodities. However, there has been no noted advantage observed for the farmers in the form of better price or off-take compared to other states.

Bihar too, believing that open markets could help bring a better deal to farmers and also bring investments in agriculture, repealed the APMC Law in 2006 to permit market forces to take over. It's a different matter that not much happened in that state to improve the farmers' status.

It is good governance, investor confidence and suitable infrastructure attract investments, and not just freeing up markets and/or setting up electronic systems. At least in Bihar none of these is offered, and no investors have come in there.

Source: Acharya SS and NL Agarwal (2016), *Agricultural Marketing in India*, New Delhi: CBS Publishers and Distributors

Sixth, there has been stickiness in the movement of food-grains across states as the present law does not permit inter-state movement of certain grains without permission. Such a law ensures overall sub-optimality: farmers do not get the right price, there is sub-optimal cropping pattern, wastages occur, etc. There are also instances of grain-dealers transporting grains across state borders on the sly, in contravention to the law. All entities lose, other than the law-breakers [Examples reported are of pulse transported from UP to Rajasthan, near Agra border, 2019 – seen by the authors].

Seventh, the buying and selling process in the *Mandis* is through auctions on that day. If the auction price falls below the MSP, farmers have the option to sell select products to the government. Field observations in Rajasthan and Maharashtra, however, have indicated that it is not uncommon for the small farmers to sell their produce to local traders / *Mandis* at below the MSP. Reason: Payments from the sale to the government (for FCI) come-in up to six weeks later, a time period the farmers cannot wait as they need the cash immediately for paying off creditors. “*Why not pay on the spot*”, asks a farmer in Rajasthan, but gets no answers.

Thus, it is clear that the MSP-Mandi regime in its present form has out-lived its utility and the need of the hour is to put in place policies that would pull the sector out of the presently stagnant situation through new investments and new ideas.

To summarise, the takeaways from the analysis thus far are as follows:

- The agricultural sector's growth has reached a real slowdown, despite that there being potential to grow and add value for the economy. The crop-composition is not widening sufficiently quickly, investments in land are not growing, and land fragmentation is rising.
- Lack of or limited spatial movement of products is causing problems of local surpluses and shortages.
- Not much can be said about inequality within the sector, but there is a rise in inequality between the farm and non-farm sectors (Ref: Ramesh Chand in Endnote 2: Pg. 3-4).
- Ecologically, there are many issues, like underground water levels sinking further, soils getting exhausted owing to repeated mono-cropping, and so on.

5. THE NEW LAWS OF 2020 AND DISSENT

The government of the day feels that they have found the right solution in ushering-in market forces in the sector.²⁴ It claims that the laws would transform the agricultural sector through improved efficiency in marketing and also larger investments from the corporates and FDI for improving the supply. It also claims that these laws would enable doubling farmers' income by 2022 – though, with the onset of COVID-19, such claims have been shelved.

There are both, agreeing and dissenting political views and farmers' views on them and there is no consensus on the direction of change. Let us discuss the laws in a little more detail before analysing them.

The Laws

First Law: Farmers' Produce Trade and Commerce (Promotion and Facilitation) Law 2020

This Law states that farmers are now free to sell all their products anywhere and to anyone—beyond the physical premises of APMC markets or other markets notified under the state APMC Laws; unlike earlier when they were required to sell

these only in the designated 7,300 odd *Mandis*, and to traders who were licensed to buy (the select) farm products there. Also, unlike earlier, the new law permits trading in an “outside-trade area” like farm gates, factory premises, warehouses, silos, and cold storages within or outside the state. The Law further permits electronic trading of farmers’ produce in specified trade areas, facilitating direct and online buying and selling of such produce through electronic devices and the Internet.

In short, the Law is expected to promote barrier-free, inter-state and intra-state trade of farmers’ produce, reduce marketing/transportation costs, help farmers get the best prevailing prices, and provide a facilitative framework for electronic trading. It is believed that the Law will facilitate lucrative prices for farmers through competitive alternative trading channels for promoting barrier-free inter-state and intra-state trade of agriculture goods.

Second Law: Farmers (Empowerment and Protection) Agreement of Price Law and Farm Services Law, 2020

The Farmers Agreement Law creates a framework for contract-farming through an agreement between a farmer and a buyer, prior to the production or rearing of any farm produce (including livestock). Farmers could enter into agreements with any large buyers: food-processing companies, large retailers, and exporters for the supply of farm produce at pre-agreed prices. In case of dispute, it provides for a three-level dispute settlement mechanism: The Conciliation Board, Sub-Divisional Magistrate/Collector and Appellate Authority.

Farming Agreement: The Law provides for drawing up a legal agreement between the farmer and the buyer prior to the production (or rearing) of any farm produce, containing clauses on the quality and quantity of sale, financial agreement and other clauses. The minimum period of an agreement will be one crop season or one production-cycle of livestock. The maximum period is five years, unless the production cycle of the crop is more than five years (as is the case of some fruit trees).

Pricing the farming produce: The sale price of farm produce is to be mentioned in the agreement. A guaranteed price for the produce and a clear reference for any additional amount above the guaranteed price must be specified in the agreement. Further, the process of price-determination must be transparent and mentioned in the agreement.

Dispute Settlement: The agreement must provide for a conciliation process

for settlement of disputes. At first, all disputes must be referred to a Board for Resolution. If the dispute remains unresolved by the Board after 30 days, parties may approach the Sub-divisional Magistrate (SDM). Parties will also have a right to appeal to an Appellate Authority (presided by the Collector or Additional Collector), against the decisions of the SDM. Both, the Magistrate and Appellate Authority will be required to dispose-off a dispute within 30 days from the receipt of the application. The Magistrate or the Appellate Authority may impose certain penalties on the party contravening the agreement. *However, no action can be taken against the agricultural land of the farmer for recovery of any dues.*

The Law puts forth a framework that would enable farmers to engage with agri-business companies (including FDI-companies), retailers, and exporters for service and sale of the produce, while also give the farmer access to modern technologies and crop varieties. Next, the Bill removes items such as cereals and pulses from the list of essential commodities, permitting contract trade in them as well. In principle, contract farming assures the farmers a market at a pre-determined price, relieving them of market or price uncertainties. This is somewhat similar to the AMUL model, though not quite the same since the AMUL model bases itself on collectives of milk producers rather than individual farmers, and the buyers too are cooperatives rather than corporate entities.²⁵ In fact, these two differences make the law seemingly similar but fundamentally different from AMUL.

Third Law: The Essential Commodities (Amendment) Law, 2020

This Law is an extension of the Essential Commodities Law of 1955, which regulated how much produce could be stored and sold.²⁶

Regulation of food items in the new law: The Essential Commodities Law of 1955 empowered the Central Government to designate certain commodities (such as food items, fertilisers and petroleum products) as essential commodities, which it could regulate or prohibit their production, supply, distribution, trade, and commerce. The New Law of 2020 has opened up the market with no restrictions *under normal conditions*. It pronounces that only under *extraordinary conditions*, the central government would regulate the supply of certain food items including cereals, pulses, potatoes, onions, edible oilseeds, and oils. These extraordinary conditions include: war, famine, excessive price rise and natural calamity of a grave nature.

Stock limit: The earlier stipulation of stock limits is withdrawn. The new Law requires that imposition of any stock limit on agricultural produce must be based on price rise. A stock limit may be imposed only if there is:

- (i) A 100% increase in the retail price of horticultural produce; and
- (ii) A 50% increase in the retail price of non-perishable agricultural food items.

The increase will be calculated over the price prevailing immediately preceding 12 months, or the average retail price of the last five years, whichever is lower.

Taken together, the new marketing and pricing reforms promulgated are expected to loosen the rules around sale, pricing and storage of farm produce; rules which part-helped usher the green revolution, but have outlived their utility. The new laws permit farmers to sell their produce at the market price, directly to private players, be they agri-businesses, supermarket chains; online grocers, or any other; outline rules for contract farming where farmers tailor their production to suit a specific buyer's demand; and also allow private buyers to hoard essential commodities for future sales, which earlier only government-authorized agents could do. In short, the three laws aim to increase the numbers of buyers for farmers' produce by allowing them to trade freely without any license, stock limit or borders.

The Laws vs the Background – An Evaluation

To what extent can pure market signals and operators be lodestones for an agricultural policy? The answer is clearly “to some extent, not much”. Even in the US, UK, Europe and Japan, the agriculture sector is protected through subsidies (>\$100 billion/year) and a string of other measures including embargoes to protect the sector. In India, successive governments in the post-independence period have tried to promote agriculture using a range of measures; among them were, establishing marketing boards for different crops (cotton, sugarcane, spices, others); and setting up minimum prices for select crops.

General Issues

1. Full opening up of the markets without controls is an action akin to the withdrawal of the state from the sector. In the existing system, if things were not felt right, farmers would complain to local MLAs and MPs or in leaders in the Panchayats, who make whatever noise on their political forums and are able to get some corrective action done. In a purely market-determined regime, this channel—which is the only channel that farmers and rural people have—will fade away.
2. The central government's aim also seems to stem from the fact that its expenses in buying and storing large quantities of grains in its store houses would be

saved. This being largely a wasteful expense, its curtailment will help release resources, hopefully for other productive purposes. However, opening up a sector to markets for cutting on its budget deficits seems more acceptable in a sector like telecommunication or transport, rather than food, given the strategic importance of agriculture at all times, and especially in disasters, wars and peace.

3. All major propagators of reforms and opening up of markets in agriculture have proposed a lot of infrastructural facilities, information network and such facilities for farmers to take advantage of markets, market signals, improved methods of farming, etc.²⁷ These recommendations, however, would take a while to be implemented, as infrastructure, e-market facilities etc. take time to set up. It is thus not known as to what extent and after how long will the Indian farmers—small and educationally, socially and financially poorly endowed as they are, at least today—be able to access the “brave new larger (electronic or other) markets”. Are we headed to pre-Sir Chhotu Ram days?
4. Farmers depending upon MSPs and government purchases (as in Punjab, Haryana) would be more impacted by this law. However, in states like Orissa, Bengal, Uttar Pradesh (excepting west UP) or Bihar, where farmers do not depend much upon government purchases, the farmers are less likely to be touched per se by this opening up. It is not clear whether and how this law would be able to fix marketing issues for *all other crops in all places*.

The Mandi Fee

Ramesh Chand states that 1.5% cess is sufficient to maintain the *Mandis* (Ref. Endnote 2, Pg. 11). But at what turnover? Presently, market/*Mandi* fees are levied by the state governments and range from 1-6+% of the sale value of the product to ostensibly maintain the *Mandis*. With the coming of “outside markets”, however, farmers need not go to the *Mandis*: in fact, it would theoretically suit everybody, to trade without a fee.²⁸ This will reduce the turnover in the regulated *Mandis*.²⁹ The government maintains that the MSP-*Mandi* System will continue, but the removal of fees for trade outside the *Mandis* will lead the regulated *Mandis* to a gradual bankruptcy and fading away in 2-5 years; as the state governments, which were earlier beneficiaries of the market fees and would now face loss of revenue from this source, are unlikely to pay for supporting the *Mandis*.

If *Mandi*-fee fades away, it might have more than just fiscal implications. The essence of a federal structure—important for keeping a very diverse country

together—is a decentralised governance system, in which control over revenues (levy and expenditure) is fundamental. Earlier the GST and now the law to abolish *Mandi* taxes will lead to increased dependence of the states on transfers from the centre, hitting at the root of the decentralised process. If the state and central governments belong to different parties, the political ramifications of this aspect can be explosive. Things are already happening: The Government of Punjab (ruled by the Congress Party, which is in the opposition in the centre) has passed amendments in the Central Laws on agricultural marketing to part-neutralise the impact of these laws and save this source of revenue (the cess) for the state. The Government of Rajasthan, another Congress Party government, too has brought about legislation that requires all warehouses of the FCI and also the State Warehousing Corporations to be de facto *Mandis*, thereby preserving its rights to charge some fees.

What happens when the centre passes a law which the states refuse to follow or worse, reverse elements of it in their assemblies? This has not happened in India earlier and could raise serious questions regarding the Constitution and the federal structure.

The Buyer Base

Seen on aggregate, as of today India is food-grain surplus, at least in wheat and paddy in addition to some coarse grains. Farmers face wide fluctuations in the prices of their crops but the MSP-regime provides *insurance against a price collapse, at least for rice, wheat and a few crops*. Interviews with farmers in Rajasthan and Maharashtra reflected their apprehension about the new law. *The essence of their position was based on their concern for remunerative prices and price stability*. Some notes from the field:

1. *Mandis* are self-supported through the cess collected from buyers. With a dwindling of cess money, financial support for the continuation of *Mandis* will diminish, since the state governments would not be interested in financially supporting the *Mandis*. They repeated what we have stated earlier.
2. The New Law does not mention “in writing” that MSP would continue, and all that exists are verbal articulations of its continuation by political leaders. *Even if these leaders keep to their word, the fact is that these leaders will not continue forever and the new ones might just not keep to these verbal assurances, under pressures from trading or corporate lobbies. Also, even if it is given in writing now under pressure from farmers, it could be repealed later*. A trust-deficit between farmers and the state has taken root.

3. Entry of larger operators in the market might make the local traders to be junior partners in the marketing chain, and since the farmers depend upon local operators, their voice in general decision-making would get muted.
4. In situations of excess supply, the prices could nosedive. The farmers were divided on this: the “believers” said that in a large country, if there is a glut of a crop in Punjab but the demand is high in Bihar and Bengal, the stock would be transported to these states. Others, however, maintained that this will depend upon traders since the rules on hoarding are now relaxed. Also, huge transport cost would be involved, which would ultimately be adjusted in the farmers’ profits since they being small and scattered, are the weakest link in the chain. The rising diesel prices only worsen matters.
5. The larger farmers might get into long-term contracts with companies or larger aggregators (at least for some crops) and insulate themselves against wild price fluctuations. However, every time there is a bumper crop and prices plummet, the smaller farmers will have to depend on spot prices, which are the lowest in glut situations.

An additional point is that farmers regularly frequenting *Mandis* develop a personal relationship with the traders, who lend them money when the former are in need, with or without interest. At harvest time when the farmers need cash the most for personal or other purposes, traders offer this to the farmers. In personal emergencies as well, farmers reach out to the traders at any time on any day or night and on any day. In open markets, such informal relationship tends to slowly weaken.

Spin-off Effects

The buyer-base for the regulated crops, presently composed of traders in the *Mandis* and the corresponding buyers, would enlarge with new players coming in. Some believe that this might have spin-off effects: large private companies which buy wheat for making wheat-flour (packing and selling under a brand name), might get attracted to buy some of the non-MSP-protected crops as well (e.g., oilseeds, coarse grains) and thus provide farmers with another window to sell. However, this seems to be wishful thinking. The reasons are as follows:

1. There is a full-fledged market system for oilseeds: Oilseeds are being already purchased (at times in advance) from farmers through the *Mandis*.
2. Sugarcane and cotton are purchased through cooperatives/boards, etc.

3. For coarse grains, there is a little market outside the present windows.

What could happen is that the new traders of wheat, rice, etc., would compete with the existing ones, cutting into their quasi-monopoly, and this is the reason that traders in Punjab and Haryana are agitating, where traders are a major lobby. Farmers, however, would not gain.

Contract Farming

The second Farm Law of 2020 aims to promote Contract Farming, aimed at improving the quality of the products and providing access to markets. In reality, however, this will only benefit large farmers, because for corporates it makes business sense to deal with a few large entities rather than a large number of smaller entities. Most larger aggregators, processors, and re-distributors will not spread out across 700+ districts, 6,000+ development blocks, or 600,000+ villages. It makes business sense for them to collect products in large and assured quantities at the least cost, for which they would appoint large dealers and stockists (for a commission) in select areas where they find marketable surplus. On their part, the large dealers and stockists would appoint local agents, who would buy out the products from the local (privatised) *Mandis* controlled by yet smaller traders. The supply chain would be long and the commissions stretched over them.

Only in very few cases would the larger aggregators and companies find it profitable to enter into contracts with farmers or a consortium of farmers, and these cases would be those where they want the product to be “special” (like all tomatoes or potatoes to be of the same size and colour; or exotic products).

Next, the dispute redress system is an integral part of contract farming. However, large corporates can hire highly paid and skilful teams of lawyers, while farmers do not have this option. Hence, if there is a duel between these unequal entities, inevitably the result would be a huge risk of loss to the farmers. Also, the Sub-Divisional-Magistrate or Collector, important adjudicating authorities, already have loads of revenue-related and law-and-order cases, and adding to this load will only result in further delays. Evidence from the field suggests that even access to any Class-1 official by common folk is extremely difficult in the hinterland, leave aside getting disputes settled. Also, while the law says that in each dispute the settlement must happen within 30 days, in reality, this does not happen.³⁰ It is well-known that justice delayed is justice denied, especially for farmers whose holding capacity is limited to less than a few days.

The government expects that for grains or fruits and vegetables, corporate investments and FDI will boost productivity in the sector. Data, however, suggest that a lot of micro-level intricacies need ironing out before such schemes fructify. Some of them relate to the final price that the farmers get, others to the (hitherto unknown) legal agreements farmers will enter into, yet others to natural factors like unseasonal rain or drought, and more to the smallness of farms making contracts difficult to enforce, and this list is only illustrative.

Put briefly, it appears as if only those farmers who have clout (large farmers, i.e., <10% of total farmers) may see better and prosperous days. A new class formation might emerge similar to those in the old days where the small and marginal farmers were the “underdogs” (closer to being serfs). Since the SCs own smaller pieces of land, they would suffer most. At the macro level, though, contract farming would reduce wastage and rotting of food and the farmers would get steady prices, but at the cost of rising inequality.

Seen regionally, a few states (Punjab, Haryana, Western Uttar Pradesh and Madhya Pradesh, and parts of Tamil Nadu, Andhra Pradesh, Gujarat and Maharashtra), which show promise of large marketable surplus, are the likely gainers. The hierarchy of gainers might go like this:

1. Large farmers in select well-endowed states with large marketable surpluses (as per some estimates, <10% of the farmers),
2. Select small/medium farmers in well-endowed states with marketable surpluses.
3. Select large farmers in agriculturally poorly-developed states who have artificial irrigation facilities.

Thus, large swathes of land particularly in rainfed/semi-arid areas might remain outside the realm of the larger markets and in subsistence. States not having effective political stability, updated land records, functional judiciary and other governance institutions, will also remain untouched (Bihar, Assam). After all, no one wishes to invest capital in politically uncertain situations.

In some agriculturally advanced states, the dynamics of the situation, at least in extreme cases, might require land-consolidation in fertile and irrigated areas. Here, the small and medium farmers might lease-out their lands to the larger ones and themselves become wage-workers on their own land or elsewhere. A trend in this direction is already being seen: it might become more acute.

Such a regional skew and increased inequality might be a reason for political instability.³¹

Box 6: Findings from a Field Meeting

In meetings with farmers in Maharashtra and Rajasthan, there was concern about the upper hand of agri-businesses and big retailers in negotiations...they said that if they do not agree with the companies, there is no place for them to go, since other options would be closed for them. Also, even if some independent buyers show interest, the corporate lawyers may scare them for working against the corporate interests...there might be legal suits dragging years, culminating in fines or jail terms. The sheer reference of the police and state was intimidating.

They were also not sure whether the corporates will have differential policies for large and small farmers, citing lower productivity/cost of procurement from the latter. Overall, there was a lot of apprehension about legal documentation and the fine print therein.

Finally, a general point was stated by all farmers, large and small, and for all crops: that economic entities other than farmers are the price-makers (they fix prices for farm produce), while farmers are price-takers (i.e., others set the price for them, through auction or otherwise). For non-farm products, the situation is the other way around. This, they felt was an unequal relationship.

Fieldwork done in Bharatpur, Rajasthan and Marathwada, Maharashtra

Experiences from across the world have shown that corporatisation of agriculture, contrary to improving farm incomes, has often depressed them. Some countries in Africa and Latin America suffered a serious food crisis in the 1970s due to the corporatisation of agriculture.³² The argument goes as follows: To earn profits, farmers may begin/have to grow such crops where they experience more global demand articulated through the corporates. This shift may bring basic food-grain shortage locally, leading to higher prices of staple food for the “net food-purchasing poor”.

Ecology and Cropping Pattern

A notable part of the land area is under crops that are regulated through the *Mandi-MSP* process, especially in lands owned by large farmers in green revolution areas. This is so even if such a practice is ecologically undesirable. Thus, there is excess production of wheat, paddy and sugarcane, less of pulses and such crops, although the demand for the latter is now high due to changing consumer preferences, increased incomes and partly, aging of the society. The surplus of wheat and rice shows up in the stocks of the FCI. Will the farmers—who number in millions—

be able to adjust to alternative crops and cropping patterns soon enough to avoid falling into a situation of glut and crashing prices if MSP-System fades out, or will they pressurise governments and continue with ecologically harmful practices?

The situation has other complications. The supply of some crops critically depends on the soil type, season (many pulses grow only in the Kharif season, while some like gram (chick pea) in Rabi, and Tur, an 8-month crop, grows across two seasons), irrigation, region, and many other agronomic factors. It is not necessary that the demand and supply will match. To match short-term price hikes or shortages, governments have been seen to resort to imports, a step detrimental to a major shift in the cropping pattern.

Another example is meaningful to quote here. As of now, there is a high demand for pulses while farmers are increasingly growing cereals. A group of farmers in central India (Rajasthan-UP-MP border) were asked whether they can shift the cropping pattern to pulses from wheat. They stated that some 30-35 years back their lands could provide good yields of pulses and gram (chick pea), but now after intensive use of fertilisers for wheat for several years, the lands do not provide the same yields of pulses or even gram (chick pea), since the soil quality and composition have undergone a change. A talk with agronomic experts suggested that with regular application of chemical fertilisers the soil has hardened and the oxygen-retaining capacity of the soil is diminished; consequently, the soil does not effectively support pulses. Can they switch back? The farmers and scientists were apprehensive and rightly so, since they, more than anyone outside are aware of the limitations of the soils.

Thus, seen in the context of the non-negotiables mentioned at the outset, a change in the policies is imperative, but opening up the whole sector to markets where there is imperfect information and unequal partners, might be questionable.

6. CONCLUSIONS AND RECOMMENDATIONS

In light of the principles with regard to food security and inequality highlighted in Section 1, the following recommendations are put forth.

Predictability of Price for All Crops

Any law should ensure that farmers must be guaranteed predictable and remunerative prices for all crops.

The Swaminathan Commission on Agriculture of 2004 noted that the average area served by an APMC market was 496 sq. km, much higher than the recommended 80 sq. km. Small farmers are not able to travel long distances as they cannot afford it; they, therefore, sell their produce to local merchants at village *Haats*.^{33,34} There were an estimated 16,000 unregulated village-level *Haats* at the time when the Committee was examining matters. The Committee recommended that these need to be regulated to reduce large price fluctuations in the agricultural produce since the small and marginal farmers accessed these *Haats* only. This was reiterated in a Standing Committee of State Ministers of Agriculture in 2018-2019.³⁵

A Committee of state ministers, constituted in 2010 for agricultural marketing reforms, observed that complete deregulation of markets does not help in attracting any private investment (Bihar example). It needs to be noted that there is a need for an appropriate legal and institutional structure with regulation to ensure the orderly functioning of the markets and to attract investment for infrastructure development. The Standing Committee on Agriculture (2018-2019) also recommended that the Central Government should create marketing infrastructure in states which do not have APMC markets (i.e., Bihar, Kerala, Manipur, and certain union territories).³⁶

The argument holds for not just grains, sugarcane or cotton, but also horticulture and fruits since their share in the agricultural produce has been rising steadily. Thus, situations like farmers dumping tomatoes in front of government buildings for want of a buyer at a feasible price, as in Maharashtra, should never happen.

If price regulation is fully done away with for all crops, the situation will only worsen.

The Union government (in 2020) has promised that the minimum support price (MSP) regime is here to stay, and that the new pieces of legislation are aimed at increasing the incomes of farmers. But many including the CPI-(M)-affiliated All India Kisan Sabha believe that a greater role for corporate buyers of crops will result in a raw deal for especially the smaller farmers. This feeling can only be mollified if a written statement is made about a floor price for all crops. If MSP for all crops is not an option, alternative measures that guarantee a decent income for farmers, through gradually introducing alternative crop regimes, investments, incentives and technological innovations, promoting farming-systems approaches and lot more, need putting in place. These approaches require to be location-specific, gradual and through a representative participation.

Food Security and Food Export

Any law must ensure food to the people first.

People consume wheat, rice, coarse grains, pulses, etc. The poor consume more of coarse grains, pulses and onion. In the event of farming for value addition and/or contract farming *establishing a firm footing*, the cost of food will increase. Surely, on aggregate, the food-selling farmers will gain, but the net food-buying persons—manual labourers and other low-earning people in the non-farm sectors—will have to buy expensive food. Since India is a labour-surplus country with the poor grouped towards the bottom, the wages of unskilled workers rise rather slowly even if the economy grows rapidly. The situation of hunger and food insecurity thus might become worse. *Qu'ils mangent de la brioche*.³⁷ Translated: “If they do not have bread, give them cakes...” said Marie Antoinette, the Queen of France during the French Revolution in 1789. She was beheaded, but coming to the 21st Century, a situation of the poor being hungry in the midst of plenty but expensive food should never be permitted to happen.

Food security is a serious issue and requires to be kept on top priority in any country. This is particularly so since agriculture takes quite a while to adjust to new situations. Both, technological improvements and price (i.e., profitability) require being considered while planning for the agricultural sector.

Contract Farming

Any form of marketing is acceptable as long as there is no trade-off between the interests of particularly the small farmers and large buyers.

The government aims to promote contract farming as a major agricultural strategy. However, for this to succeed, effective pricing of the product, indexing the product price with inflation (in the contract), and mention of agro-climatic conditions where the contract is signed, are paramount. Such contracts could be with individual farmers, or cooperatives of small and marginal farmers in the case of contracts with small farmers. In this regard, the Rajasthan Government's effort to ensure that prices never fall below a threshold, is a good example and could be emulated elsewhere.

The other issue with contract farming is the penalty that the farmers would face if they do not or are not able to fulfil their part of the contract. In no circumstances should the lands of, especially the small and marginal farmers, be mortgaged and sold.³⁸ The Rajasthan Government has introduced a bill to this effect, another progressive step to emulate.

While it is true that contract farming is an important progression, the inequality between the two parties—farmers, who are small and have little backend cushion, and corporates have all legal and financial facilities—need balancing, and the law should help here.

Small and Marginal Farmers and Semi-arid Areas

As of now, there are no facilitative and/or regulatory mechanisms to help small and marginal farmers to form producer cooperatives, such that middlemen could be eliminated and the small and marginal farmers could directly interact with consumers in the real sense. Marketing cooperatives of the AMUL-type are essential for the growth of these types of farmers. In due course, such cooperatives can create infrastructure like silos, cold storage chains, refrigerated transport of goods, set up processing units to add value to their produce, set up technical and other units to guide on technology, weather, markets, etc.

The more challenging issue is to integrate the semi-arid areas into the agricultural policies. They constitute about half the country in area and some 32% of the farmers, but their agroclimatic configuration is different and uncertainty high.

Ecology

The Earth has so far given; let not a situation come where it begins to take back.

At least the first law enacted in 2020 is one that would want farmers to grow what the market wants and in maximal quantity. This is alright under normal conditions but in areas where the groundwater levels have gone deep and the areas have been declared “grey zones”, there is a dilemma. The government has put a ban on sinking wells/borewells in such zones; yet, the market demand requires water. The government requires making appropriate investments in root-zone and sprinkler irrigation methods for the farmers to continue with irrigation and yet conserve water.

A final word: A vastly diverse country and multiple agro-climatic zones, demographic pressures and land management systems cannot be governed by a “*one size fit all shock solutions*”. There is a need to establish region-specific transitions to move towards newer platforms, like a term plan to gradually shift the cropping pattern from paddy to other crops in Punjab-Haryana or from Sugarcane to other crops in Maharashtra. A typical example is of government offering compensations to farmers for immediate losses (for not growing paddy), against a target of shifting

say 5-7% of land away from paddy to other crops each season. *In any solution, farmers must be ensured a guaranteed price for whatever crop they grow.*

Notes

1. The Government of India set up a committee in 2016 for formulating guidelines to double farmers' incomes by 2020, popularly known as the *Ashok Dalwai Committee* (Government of India 2017). Its reports propose an elaborate marketing set up from local markets in rural areas to secondary and higher markets including exports (see, Volumes 4 and 14).
2. One of the best expositions of the new laws is provided in Ramesh Chand (2020).
3. The extensive writings of Gulati could be seen in Ashok Gulati - Wikipedia (accessed Dec 1, 2020)
4. See, Government of India (1976), *Reports of the National Commission of Agriculture*, Ministry of Agriculture (Government of India 1976). See also, Harsh Aditya <https://www.economicdiscussion.net/india/food-problem/food-problem-in-india-with-measures/21604> (accessed Dec 1, 2020)
5. For example, the paper does not deal with fertiliser subsidies reducing soil fertility; demise of the extension services; institutional credit being only providing for the medium and large farmers; and the like. Without action on these, India's agriculture cannot match China's or those of other east Asian economies. See, Singh AK and S Mehrotra (Eds.) (2014).
6. Market opening of the Education Sector was done earlier, making it more expensive and diluted in quality.
7. See, <https://thecsjournal.in/food-wastage-in-india-a-serious-concern/#:~:text=According%20to%20the%20United%20Nations%20Development%20Programme%2C%20up,the%20same%20fate%20and%20never%20reaches%20the%20needy> (accessed Dec 1, 2020)
8. Data source: <https://www.livemint.com/> (accessed Dec 1, 2020)
9. Regulated market: Such a market has transparent and non-arbitrary practices in regard to arbitrage, commissions, cess, storage fees, etc. Actual origin: Agriculture produce market regulation dates back to the 1880s for raw cotton to ensure availability of supplies at reasonable prices to the textile mills in Manchester. The first regulated market was established in 1886 and the first legislation was the Berar Cotton and Grain Market Act of 1887.
10. Acharya SS and NL Agarwal (2016).
11. The cess ranges from 1-6% of the produce transacted. Traders in high cess states feel that state governments levy very high charges. It is also true that state governments take away part of the cess for their own coffers.
12. Bihar, Kerala and Manipur do not have *Mandis*.
13. Among the earliest scientific researches was done by Raj Krishna (1963). Later researches also suggest that supply response to prices holds true.
14. See, <https://indianexpress.com/article/opinion/columns/the-men-behind-apmc-msp-and-procurement-6617277/> (accessed Dec 1, 2020)
15. Source: <https://www.gktoday.in/gk/minimum-support-prices/#:~:text=Crops%20Covered%20The%20MSP%20is%20announced%20by%20the,Following%20are%20the%2025%20crops%20covered%20by%20MSP%3A> (accessed Dec 1, 2020)
16. Source: FICCI (2017), *Agricultural Marketing*, New Delhi

17. Source : <https://fci.gov.in/stocks.php?view=46> (accessed Dec 1, 2020)
18. Source: Different data series seen from <https://www.indexmundi.com/>
19. Source : <https://www.bing.com/news/search?q=Hunger+in+India&qpv=Hunger+in+india&FORM=EWRE> (accessed Dec 1, 2020)
20. Source: Government of India (2018)
21. See, Krishnamurthy M and J Witsoe (2012).
22. See, <https://www.financialexpress.com/opinion/agri-reforms-where-did-the-apmcs-go-wrong/2091149/>
23. Source : <http://www.punjabdata.com/Ground-Water-Level-In-Punjab.aspx> (accessed Dec 1, 2020)
24. Union governments in India have spoken about the need for reforming the APMC Mandi system since the year 2000 (see Ramesh Chand as in Endnote 3, Pg. 7), but have held back because Agriculture is a State subject (entry 14 in List 1 of 7th Schedule of Indian Constitution). However, Union Governments had earlier not quite admitted to the fact—as the present government did—that there is an entry 33 in List 3. This entry pertains to Agriculture being in the Concurrent List, which allows the Union Government to intervene directly through legislation on: “Trade and commerce in, and the production, supply and distribution of: ... foodstuff, including edible oilseeds and oil...”. Entry 33 has given the Union government to legislate on APMCs.
25. See also, Parwez S (2017).
26. This manifested a “License Raj in Agriculture”; in the 1960’s, farmers could be booked for storing produce that exceeded the government’s sanctioned amount. In the process, middlemen cropped up, which led to corruption, proverbially from fork to plate and plate to fork. See, *Essential Commodities Act, 1955: Know meaning, objectives and punishment*, at <https://newsd.in/essential-commodities-act-1955-know-meaning-objectives-and-punishment/#:~:text=Aims%20and%20Objectives%3A%20Essential%20Commodities%20Act%2C%201955%201,storage%204%20Stop%20black%20marketing%20of%20essential%20commodities> (accessed Dec 1, 2020)
27. See for example, Ashok Dalwai Committee Report, Volumes 2, 4 and 5; and Ramesh Chand (2016).
28. Yogendra Yadav goes a step further: He argues that traders outside the *Mandis* might not pass-on the advantages of not paying the market fees to the farmers fully or even partially. Another possibility is of traders in and out of the *Mandis* form a cartel to drive down prices paid to the farmers. See, <https://theprint.in/opinion/what-economists-like-ashok-gulati-still-dont-understand-about-agriculture-in-india/513848/?amp>; and Site: Farmers’ apprehensions about role of mandis, terms of procurement under new laws need to be addressed | The Indian Express (accessed Dec 1, 2020)
29. Gurcharan Das writes that there is already a fall of 40% fall in Mandi transactions since June 2020 until now, meaning November 2020 (Don’t Kill the 2nd Green Revolution, *Times of India*, Dec. 3, 2020)
30. The average time for reaching a judgement in a law court in India is estimated at 4-6 years. This is unlikely to change anytime soon irrespective of pronouncements.
31. Elaborate as it is, the Ashok Dalwai Committee report seems relatively silent of issues of marketing for small and marginal farmers, especially in backward and rainfed areas.
32. Sources: George S (1986, 1990); and publications of, Institute for Food and Development Policy, USA (Website: Food First).(accessed Dec 1, 2020)
33. Report No. 62, Standing Committee on Agriculture, 2019-20: Action Taken by the Government on the

- Report, Agriculture Marketing and Role of Weekly Grameen Haats, http://164.100.47.193/Isscommitte/Agriculture/16_Agriculture_62.pdf
34. See, PRS Legislative Research (2020).
 35. See, http://agricoop.gov.in/sites/default/files/Agri_Ministers_Conference.pptx
 36. Source: The Farmers' Produce, Trade and Commerce (Promotion and Facilitation Bill 2020), at <https://www.prsinha.billtrack/farmers-produce-trade-and-commerce-promotion-facilitation-and-facilitation-bill-2020>; and Report No. 8, Standing Committee on Agriculture, 2019-20: Action Taken by the Government on the Report, Agriculture Marketing and Role of Weekly Grameen Haats, http://164.100.47.193/Isscommitte/Agriculture/17_Agriculture_8.pdf (accessed Dec 1, 2020)
 37. *Jean-Jacques Rousseau*, the famous French Philosopher, recalled that "At length, I remembered the last resort of a great princess who, when told that the peasants had no bread, replied: "Then let them eat brioches." See, <https://silo.pub/liberty-the-lives-and-times-of-six-women-in-revolutionary-france-ps.html>
 38. The present law says that land cannot be sold or bargained away, but if violations in contracts increase, the law could be relaxed or tweaked, or local forces might just create conditions for small farmers to give up their lands. The example of Pepsi getting into litigation against farmers over type/quality of the product is a case in point (see, PepsiCo sues small farmers in India over type of potato for Lays chips the food giant claims to own rights to - CBS News)

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