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Farm Protests in India: A new menu needed

By Ajay Chhibber¹

Abstract: While the world has changed, India's farm policy is stuck in a 50-year-old mindset. India's response to food shortages in the 1960's was to establish a mix of price (procurement, ration, and minimum support prices MSP's) and non-price policies – irrigation, high yielding seed, subsidised fertiliser – which led a green revolution in cereals and a complex system of procuring and selling this grain through the Food Corporation of India and the Public Distribution System. But this system has outlived its usefulness for India but changing it is not easy as those whose livelihoods depend on it are unwilling to risk any changes as the farm protests show. This paper examines the issues behind the farm protests and suggests ways forward for India's farm policy

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1. Introduction

One of the late R.K. Laxman's best cartoons from the mid-1960s portrays a smiling food minister looking out of a window at a heavy monsoon downpour saying, "This year we can tell the Americans to go to hell." Fifty years ago, a good monsoon meant that that year, India was not dependent on food aid and wouldn't have to go hat in hand to the Americans for food under the PL-480 programme. In 1968, US President Lyndon Johnson held off PL 480 food shipments off the Bombay harbour until India voted with it at the UN and triggered India's desire to achieve food self-sufficiency. India reacted to this by unleashing a green revolution and the public food distribution system (PDS) but also setting up an elaborate system of grain procurement and buffer stocks at the Food Corporation of India.

What a different world we are in today. Our agriculture is not as vulnerable to the monsoon and we have mountains of grain — we maintain costly buffer stocks of more than twice our needs. But while India's food situation and the world have changed, our food and broader agricultural policy is stuck in a 50-year-old mindset. And ultimately the problems in the farm sector are, tied to developments in the non-farm sector.

Back in the day, we set up the Food Corporation of India (FCI) to procure grain from farmers at prices set by the Commission for Agricultural Costs and Prices in order to encourage production, subsidised agricultural inputs such as fertiliser, pesticide, water and electricity, and provided cheap food to consumers through fair price shops. This helped India get rid of its dependence on food aid, made it self-sufficient in grain production and brought about a Green Revolution. But today, our needs are different, and the world has moved on.

But what India needs to do is to move a large share of its population out of dependence on farming. Today India derives only 15% of its GDP from agriculture but over 40 % of its population remains dependent on farming – as against about 10% in China and less than 1 % in the USA. Nearly 61% of the farmers surveyed said they would prefer to leave farming if they found employment in the city, according to a 2018 CSDS report. Over 45 years to 2016, according to the agricultural census, the average size of the Indian farm has shrunk by more than half—from 2.28 hectares to 1.08 hectares. Plus, of 146 million farms, nearly 100 million are marginal, or smaller than one hectare in size. At the state level, according to Rangarajan and Dev (2021)² the average size of farm holdings in 2015-16 ranged from 3.62 ha in Punjab, 2.73 in Rajasthan and 2.22 in Haryana to 0.75 in Tamil Nadu, 0.73 in Uttar Pradesh, 0.39 in Bihar and 0.18 in Kerala.

Of the 42% - dependent on farming more than 50% do not even own land but work as labourers as they have no-where else to go for work. A CSDS Lokniti study³ in 2018 revealed that only 26% of farmers would prefer to remain in farming. More farmers

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<https://indianexpress.com/article/opinion/columns/nabard-agrarian-distress-farmers-protest-farm-laws-7222830/>

³ State of Indian Farmers: A Report by CSDS-Lokniti 2018 based on a survey conducted for the Farmers Association.

prefer direct income support to their bank accounts than even input subsidies – and only 8% of the farmers feel their problems come from low prices. Almost 50% feel their problems are linked to low productivity, lack of irrigation and poor institutional arrangements in agriculture. The Lewis model which predicts that rural wages will stagnate until surplus labour has been absorbed into non-farm occupations has not materialised. This has forced into a slew of inefficient subsidy programs to help farmers and employment guarantee schemes which take up more funds than productivity enhancing investments on irrigation, roads, electricity and research and development.

The government has promised a doubling of farmer's incomes by 2022. That was a stretch target and unlikely to be achieved in any case – even before the pandemic. What ails Indian farmers today is not just the need to move people out of the farm sector but also the need for a leap in productivity, better crop mix to move to more in-demand products with more lucrative prices, much improved farm to plate marketing chains, protection against climate change and new mechanisms for reducing risk and uncertainty.

2. A Few Key Analytical Constructs for Agriculture

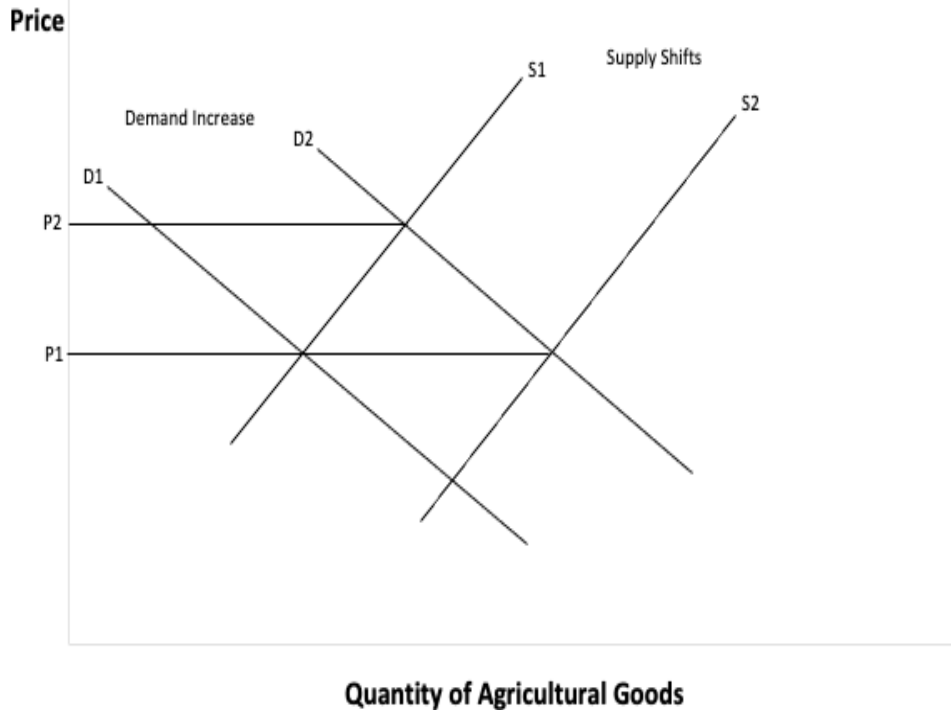
Much has been written about Indian agriculture and it can get into huge complexities. But to better understand the forest from the trees so to speak, a few analytical constructs may be instructive to understand better the complexities of farm policy and its intended and often unintended consequences.

Figure 1 explains why farm pricing is very important. If you want more supply along a supply curve S_1 you need to raise farm prices. But if farm prices are raised too high, farm products become unaffordable. This brings in the critical role non-price factors play in balancing adequate returns to farmers with providing produce at affordable prices to consumers. In period 1 we have demand and supply balanced at price P_1 . But as the population expands and incomes rise, the demand for food shifts to D_2 . If supply does not increase, prices will rise to P_2 – this is the increase in prices farmers will need to increase supply. But at P_2 , food prices will rise to unaffordable levels. One option is to import more food. But that will require foreign exchange. The other option is to find ways to improve productivity – by which the supply shifts from S_1 to S_2 so that prices can go back to P_1 and demand and supply have both increased. More farm products are being demanded and now produced at an affordable price.

Supply shifts are caused by investments – these could be on-farm investments that improve productivity such as soil improvement, terracing, irrigation, or much broader collective investments – large irrigation projects, better seed varieties. The on-farm ones can be incentivized by higher prices but could also be due to better tilling, provision of cheaper credit and pricing of water and electricity. The much larger shifts typically come from public investments in irrigation, research and extension, rural electrification, and connectivity. Rural roads play a role as well as they open new markets and IT connectivity increases information and knowledge of new farm

practices, better information of markets, weather conditions and access to credit and inputs.

Figure 1: Agricultural Supply Response: Price and Non-Price Factors



The bigger the supply shifts caused by investment and expenditure in irrigation, roads, electrification, new seed varieties the more agricultural produce can be provided at affordable prices. If demand keeps increasing, then supply shifts are needed to keep farm prices affordable. This applies to any farm product but does not mean it must apply to every farm product. A country could have surpluses in some items and deficits in others so trade can play a key role. India can export extra grains and import lentils or potatoes. But for key commodities that are needed, countries like to be self-sufficient in normal years and use some buffer stocks if the rainfall fails or a crop disease knocks out a part of the produce. Forward markets also typically develop – these use private stocks to ensure farm products are provided at pre-determined prices. Cropping patterns can also change depending on the supply shifters. For example, when irrigation expands in a certain area – farmers may shift from less water-intensive crops to more water-intensive crops.

In 1965 India faced famine-like conditions. Agriculture had been neglected as India placed all its efforts on industrialization and supply could not keep up with growing demand – even for basic food items like cereals. India became highly dependent on food aid as it was short of foreign exchange to buy it on world markets. The US provided food aid under the PL-480 program, but this rankled with Indian policymakers as the US demanded India's support in return on issues such as the

Vietnam War. This forced India to foster the Green Revolution, ironically, with heavy support from the US through the Rockefeller Foundation. India invested heavily as well in supply shifters – like irrigation, high-yielding and rust-free seeds and subsidized fertilizer, pesticides, and credit. Farm support prices were also introduced to change the terms of trade between agriculture and industry. Initially, the focus was on wheat, but subsequently, new high-yield rice varieties were also introduced.⁴ Since irrigation was key to its success, the spread was uneven with huge benefits to Punjab, Haryana and Western UP, where irrigation was well-developed.

Hayami and Ruttan (1971)⁵ attribute the slow diffusion of high yielding seed varieties which would spur productivity shifts to the lack of suitable adaptations to local conditions. When local research institutes were able to provide the necessary adaptation – diffusion accelerated. Agarwal (1983)⁶ shows that diffusion of innovations in rural areas is more complex and are subject both to the type of innovation and the social and economic characteristics that they are introduced into determine the pace of adoption. If irrigation is available, farms are of a certain size and innovations generate individual cash returns then they are a likely to get adopted quickly.

Farm products are also sometimes subject to a cobweb cycle – where prices fluctuate sharply from one year to the next (Figure 2). Sugarcane, onions, potatoes, pulses, oilseeds, meat, and poultry products are most susceptible to such cycles as their storage costs are high and trade is restricted. For an Indian diet, onions are very important and rising onion prices have been known to bring down governments – if they happen just before an election. A sudden drop in supply, say due to bad weather, can then increase prices, which then causes a sharp increase in production in the next crop cycle, the following year leading to a sharp price drop and the cycle goes on. These volatile farm price cycles discourage the production of those items and investment in their productivity. The 2019-20 Economic Survey shows how the cobweb model explains huge fluctuations in pulse prices between 2018 and 2019. Tomatoes, onions, and potatoes (TOP) also go through periodic price fluctuations that would be explained by a cobweb model. According to an SBI Ecowrap report for 2017, tomato prices rise every 2.4 years, onions every 2 years and potatoes every 2.8 years and fall in subsequent years, a typical cobweb cycle.

Some price stabilizing mechanisms are then needed. Forward markets play a stabilizing role but even so, farm prices are subject to greater volatility than non-farm prices. Removing trade restrictions is another option – but arranging sudden imports of

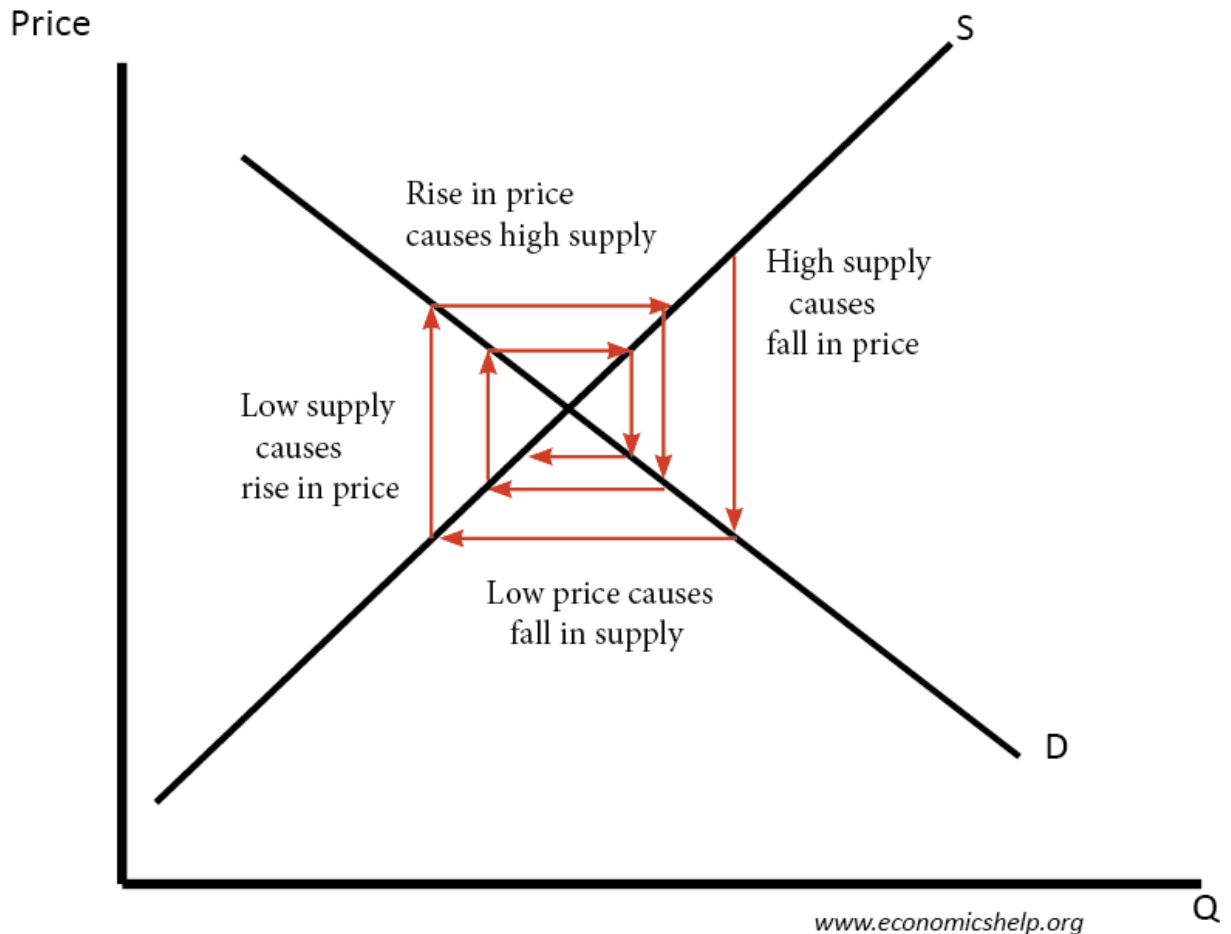
⁴ Norman Borlaug, a Nobel Prize-winning American economist played a huge role in bringing the Green Revolution to India and M.S Swaminathan often called “the father of the Green Revolution” was the key scientist behind the revolution in India, but the Indian government played a huge role in providing the funding and organizational support as well.

⁵ Hayami Y and V Ruttan (1971): *Agricultural Development: An International Perspective* John Hopkins Press, Baltimore.

⁶ Agarwal, B (1983) *Diffusion of Rural Innovations: Some Analytical Issues and Application to Wood Burning Stoves* World Development, Vol 11, No. 4, pp 359-376, Pergamon Press.

the volume India needs is not easy. In 2019, India had to arrange onion imports from Iran, but it took several months for supplies to arrive and abate the rise in prices.

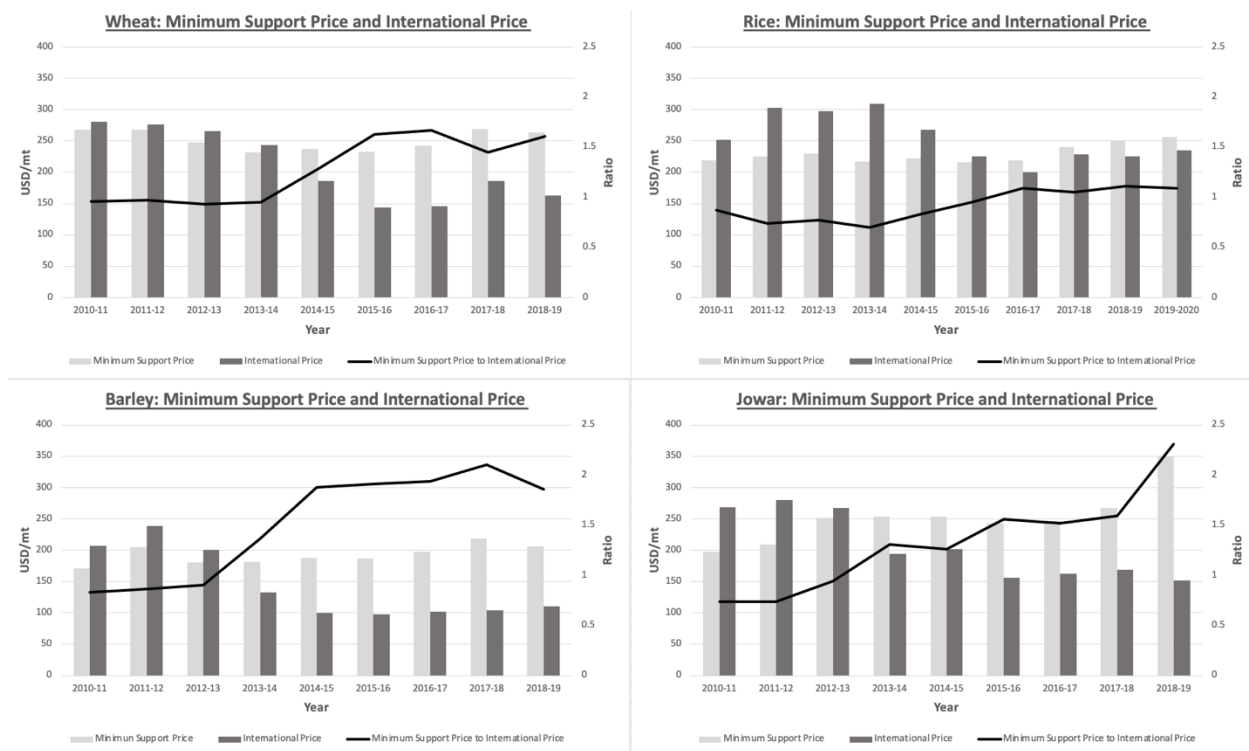
Figure 2: Cobweb Model



One mechanism India developed to stabilize prices of cereals and some essential commodities was the Bureau of Agricultural Costs and Prices whose main function is to establish minimum support prices (MSP's), and the Essential Commodities Act which includes cereals, potato, onion, pulses, oils and oilseeds and are subject to trade and price regulations. In the past, MSP was set below the market price – but gradually – and partly under political pressure – a cost-plus concept developed by the Swaminathan Report came into being – with MSP set at 50% over the cost of production. As a result, India's MSP now bears no relation to market prices or international prices. Between 2010-11 and 2013-14, international food prices were high, and MSP was below it – but since 2014-15, MSP for wheat is around 1.5 times international prices and for barley and jowar, twice as high as international prices. Only

for rice do we see some parity between the MSP and the international price – largely because international rice prices have not fallen as sharply as they have for wheat.

Figure 3: India MSP and International Prices for Cereals



Source: Ministry of Agriculture & Farmer's Welfare, Govt. of India Statistics At A Glance 2019.

A third issue for farm products is the high costs of marketing. Farm products are perishable, not consistent in quality and shape, and provide a price premium for freshness, as a result the supply chain from farm to plate can be costly. Regulations on packaging and processing, marketing, can also add to these costs – so the plate to plough price differentials can be huge and cartels can develop that drive up the differential between consumer and producer prices.⁷ For most farm products, the plate to plough price ratio is 10-15 and then there is huge wastage and movement losses due to inadequate modern storage and handling facilities in the supply chain, numerous intermediaries and cartels that ensure the farmer the lowest possible price.

One alternative that worked well in India is provided by the milk revolution that was pioneered by PC Kurien – initially in Gujarat but one that has now spread in many parts of the country and made India the largest milk producer in the world. According to Hitesh Bhatt (2019)⁸ who now directs IRMA founded by Dr Kurein, in the 1950s, India

⁷ The Review of Economics and Statistics Vol. C March 2018 Number 1 ASYMMETRIC INFORMATION AND MIDDLEMAN MARGINS: AN EXPERIMENT WITH INDIAN POTATO FARMERS Sandip Mitra, Dilip Mookherjee, Maximo Torero, and Sujata Visaria*

⁸ National Milk Day: Dr. Kurien's Lessons from Building India's Largest Rural Industry

largely depended on milk imports, however, in 1970, Operation Flood helped the country's milk production soar, providing livelihoods to millions of farmers through the cooperative model. The success of Operation Flood helped to make brands like Amul (Gujarat Cooperative Milk Marketing Federation), Nandini (Karnataka Milk Federation), Milma (Kerala Cooperative Milk Marketing Federation) and Verka (Punjab State Cooperative Federation of Milk Producers Unions) household names. According to the Agriculture Skill Council of India report, around 8.4 million small and marginal dairy farmers, directly and indirectly, depend on the dairy sector for their livelihood, out of which 71% are women. Moreover, of the total workforce engaged in dairy activities, 92% are from rural areas. Further, around 69% of dairy workers belong to socially and economically disadvantaged communities.

Figure 4: Farmer Producer Organizations

BENEFITS OF JOINING FPO: MAHARASHTRA AND BIHAR

	Changes in gross income (% respondents)			Changes in Productivity (% respondents)		
	Increase	Decrease	No Change	Increase	Decrease	No Change
Promoted FPOs (PFPOs)	64	9	27	56	5	38
Organically evolved FPOs (OFPOs)	98	0	2	97	0	3
Non FPO	32	34	34	29	40	32

Note:

Sample: PFPOs= 303; OFPOs= 99; Non-member=171

Source: Devesh Roy et al, IFPRI, 2020

State-sponsored cooperative farming has been tried in other agricultural commodities but in a half-hearted manner and often opposed by larger farmers. Singh (2017)⁹ explains how Charan Singh – who later became Prime Minister of India – opposed Jawahar Lal Nehru's ideas of joint and cooperative farming. He felt copying Soviet-style cooperative farming could not work in India where farmers were wedded to their soil. But as the White revolution in milk shows, joint approaches where farmers produce on their land but cooperate in marketing and supply chains can also be made to work. There is now mounting evidence that well-designed joint farmer producer organisations can be made to work.

If farm size is very small, and irrigation and other investments require a certain size then group farming provides better alternative to individual farms – especially for

Hitesh Bhat, 26 November 2019 Outlook Magazine

⁹ Richa Singh, 2017 Remembering Charan Singh, the Man Who Brought Peasant Issues Into India's Electoral Politics (thewire.in).

commercial farming – such as for fruits, vegetables Agarwal (2020).¹⁰ Rangarajan and Dev ¹¹ also argue that farmer producer organisations are the way forward. They cite the work of Devesh Roy et al (2020)¹² where farmers were surveyed in Maharashtra and Bihar (see Figure 4) where organically grown FPO's show huge increases in income and productivity. Even promoted FPO's do much better than non-FPO's. India has only 10,000 FPO's but needs at least 1 lakh FPO's and they should be encouraged and helped through credit, market knowledge and other inputs.

3. Despite the Bali victory

That desire to not allow any outside power to interfere with its food security played itself out in the WTO discussions in Bali in 2014, where India rightly opposed a push by the US and others to limit the size of its food subsidy. The WTO system does not allow support for specific products – but does not object to income support. India objected to these restrictions on its support through price supports. But having won that battle, India must now try and modernise its food security system for its own sake, rather than under pressure from the WTO.

India's food subsidy bill has risen considerably in the last few years because of open-ended grain purchases at high minimum support prices, large and costly stock holdings and a food distribution system riddled with inefficiencies and leakages. The government now buys a major share of the marketed grain – 50 per cent in the case of wheat and 40 per cent in the case of rice. It is now holding almost 80 million tonnes of grain, more than twice the strategic buffer stock needed. The new National Food Security Act (NFSA) will expand the scope and coverage of the PDS. In order to understand the likely impact of the new act on the food subsidy bill and to deliver on its promise, it is important to understand the shortcomings of the existing PDS and its impact on the grain market and on the users of the system.

A 2018 study by OECD and ICRIER calculated a Producer Support Estimate (PSE) – which measures the combined effect on farm income of all the subsidies provided through inputs and purchase prices but offsets them against all the controls on trade and prices that end up costing the farmer in lower income. They concluded that

“On the one hand, restrictions stemming from agri-marketing regulations, together with export restrictions targeting several commodities, exert downward pressure on prices, with Indian farmers receiving prices lower than those prevailing in international markets across most commodities over the last two decades. On the other hand, there are

¹⁰ Agarwal, B_(2020) Does group farming empower rural women? Lessons from India's experiments| The Journal of Peasant Studies Volume 47, 2020 – Issue 4 Pages 841-872.

¹¹ C Rangarajan, S Mahendra Dev write: Farmer producer organizations could be a solution to the agrarian distress (indianexpress.com).

¹² **Are farmer producer organizations a boon to farmers? the evidence from Bihar, India, Verma Smriti*, Sonkar Vinay Kumar, Kumar Anjani, Roy Devesh**, International Food Policy Research Institute, South Asia Office, New Delhi-110012, India

programmes that provide huge subsidies for farm inputs, such as fertilisers, electricity, and irrigation water. These domestic and trade policies have combined to reduce Indian farm revenue by an estimated 5.7% in the past three years—amounting to an 'implicit taxation' of about Rs 1.7 trillion per year. At the same time, funding for public services—such as physical infrastructure, inspection, research & development, and education and skills—that are essential to enable the long-term productivity and sustainability of the sector has not kept pace. At the same time, funding for public services—such as physical infrastructure, inspection, research & development, and education and skills—that are essential to enable the long-term productivity and sustainability of the sector has not kept pace."¹³

The study's conclusions are based on data until 2016 and as we show in Figure 3 MSP's have continued to rise whereas international prices have not increased as much and as a result the farm PSE if extended further would not be as negative. Nevertheless, the important point is that this complex web of interventions has benefits to some parts of the farm sector but have huge negative effects on others. Larger farmers gain hugely as they get the bulk of the input subsidies and price support. There are also huge regional and state wise disparities in the current system which need to be assessed and analysed.

In 2005, a careful evaluation of the PDS by NCAER concluded that, considering all the inefficiencies of the PDS, the Indian government spends Rs 3.65 to transfer Re 1 of real benefits to the poor. About 57 per cent of subsidised grains do not reach the target group, of which a little over 36 per cent is siphoned off the supply chain. Implementation of the PDS is plagued by large errors of exclusion and inclusion and ghost cards. The PDS is a less efficient mode of income transfer. The economic costs of grains are higher than the market prices in most states. Only 23 per cent of sample fair price shops (FPSs) are viable. The rest survive on leakages and diversions of subsidised grains.

After the Bali meeting, India had three options: continue with the current system but try to reduce leakages through e-monitoring, undertake comprehensive reforms by shifting entirely to direct benefit transfers (DBTs) and shrink the FCI into a tiny buffer stock-holding agency, or effect partial reforms by introducing DBTs in major urban areas and allowing private traders to purchase and supply grain to the FCI for the remaining requirements. The panel has opted for partial reform but has gone further by suggesting revisions to the NFSA.

The report makes five sensible and practical suggestions.

First, get the FCI out of the business of procurement in grain-surplus states like Punjab, Haryana, Madhya Pradesh, Chhattisgarh, Andhra Pradesh, and Odisha, and shift its focus to eastern Uttar Pradesh, Bihar, Assam, and West Bengal. The FCI can

¹³ Organization for Economic Co-operation and Development (OECD) and the Indian Council for Research on International Economic Relations (ICRIER) report in [the Agricultural Policies in India 2018 study](#) .

purchase grain above its NFSA needs from surplus states, but the actual purchasing should be handled by the states themselves.

Second, the report pushes for a national warehousing system under a PPP model to reduce wasteful storage and transport costs. Farmers can deposit their produce at these warehouses and receive up to 80 per cent of the MSP value of this produce from banks — and then sell it later at market prices. This will be a major improvement as it would reduce storage costs and wastage.

Third, the panel suggests that state bonuses – which are given on top of the centrally announced MSP's be the responsibility of the states and levies which states use to finance these bonuses be made uniform at 3 per cent. This would help avoid the costs of huge bonuses paid by the states and financed by the levies they charge the FCI to procure from their farmers.

Fourth, the panel moots shifting to cash payments for inputs like fertilizers and rationalising the price of urea so that the appropriate – nitrogen, phosphate, potassium (NPK) mix, which has been distorted by urea pricing, is reversed. Smuggling to neighbouring countries and other distortions caused by urea pricing would also be removed. Huge productive investments in the fertiliser sector are needed but have been held back by the absurd pricing system, which has made India even more dependent on fertiliser imports.

Fifth, the panel suggests amending the NFSA and reducing the subsidised population to 40 per cent instead of the current 67 per cent. It also suggests BPL consumers get more subsidised grain — 7 kg vs 5 kg — but that the issue price be linked to MSPs, except for the very poor. Further, in cities that have a population of more than one million, fair price shops should be replaced by DBTs.

If implemented, these recommendations would provide more food for the poorest population, reduce FCI costs, bring private trade back into the system and give poor urban consumers greater choice in their food basket. It will hurt labour unions that are gaming the FCI system and states that use bonuses as a political handout, which they get the Centre to pay for through levies. This would hugely reduce the massive leakages and corruption in the food chain. If India can implement these reforms in the coming years, it would also avoid unnecessary battles at the WTO. It's time to begin reforming a system that may have served us well 50 years ago but is now benefiting a few at a huge cost.

To modernise the system, India must make some choices. One option is to keep the current state-run system, in which the government buys grain at the MSP, stores and transports it to FPSs and then sells it at a subsidised price to ration cardholders, but find ways to mitigate leakages and corruption. A second option is to shift entirely to direct benefit transfers (DBT) and get the government completely out of the grain trade but keep a strategic buffer or pay private wholesalers to do so on behalf of the government. A third option is to do a partial reform – first, shift urban areas to DBT, pay private wholesalers to deliver grain to FPSs at a pre-specified price, but provide cheap grain to beneficiaries.

A committee of secretaries chaired by Nandan Nilekani, ex-chairman/then chairman of the Unique Identification Authority of India, was established to investigate how best to increase transparency and efficiency in the PDS and reduce these errors. But none of its recommendations have been implemented. Nevertheless, there are reports that the system has improved in many places for a variety of reasons. In Chhattisgarh, for example, the introduction of universal coverage instead of the targeted system increased the stake of the wider grain consumers in the system. Some studies have suggested that the system has improved because of greater monitoring and awareness.

Recent studies using the latest NSSO data have also shown that there is a positive nutrition and poverty impact through the PDS. Some pilot studies have been conducted in Delhi to compare benefits under the existing PDS with a cash transfer programme of an amount equal to the implicit food subsidy. In Madhya Pradesh, an unconditional cash transfer was provided, and the spending pattern of the households was tracked. It showed that the poor make rational choices in spending, including on food. More such pilots are needed in both urban and remote rural settings to understand better how best to provide food security to the poor.

Most countries that graduated from low-income to middle-income status shifted from 'product-based' subsidies to 'people-based' ones. This makes eminent sense. In a low-income country, when more than 50% of the population is poor, cash transfers are infeasible and subsidies on products that form the bulk of the expenditure of the poor make sense. But as countries like India move to middle-income status, and the extremely poor population drops to about 20%, DBTs are a preferred method of targeting. Mexico, where the cash transfer programmes originated, also had two separate schemes for consumers and farmers. PROGRESA, a conditional cash transfer (CCT) scheme, paid poor families but on the condition that their children attend school and are inoculated. PROCAMPO was designed to help small farmers and as a rural anti-poverty programme. Given the independently evaluated success of these schemes in helping reduce poverty, similar schemes were adopted in many Latin American countries, and have now spread to Turkey, Iran, West Asia, and Africa.

In Asia, Philippines and Indonesia have used cash transfer programmes. Mexico is now considering merging the two schemes to avoid double-dipping. It has long ago reformed and abolished CONASUPO, the equivalent of our Food Corporation of India (FCI). Direct income support to farmers has also been found to improve land titling, increase farm investment, and allow small farmers to adopt new crops and techniques more easily. Moving to 'people-based' subsidies translates to better targeting, as well as being less costly, with smaller leakages and corruption. They do not distort markets or encourage the wasteful use of scarce soil and water. New technology, wider financial access and Aadhaar help the process.

4. So, Why All the Farm Protests?

In September 2020 India passed three farm acts:

1. **The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020**

expands the scope of trade areas of farmers' produce from select areas to "any place of production, collection, aggregation".

allows electronic trading and e-commerce of scheduled farmers' produce.

prohibits state governments from levying any market fee, cess, or levy on farmers, traders, and electronic trading platforms for the trade of farmers' produce conducted in an 'outside trade area'.

2. **Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020**

provides a legal framework for farmers to enter pre-arranged contracts with buyers including mention of pricing and defines a dispute resolution mechanism, which requires farmers must go into arbitration and give up their right to go to court.

3. **Essential Commodities (Amendment) Act, 2020**

removes foodstuff such as cereals, pulses, potatoes, onions, edible oilseeds, and oils, from the list of essential commodities, removing stockholding limits on agricultural items produced by horticulture techniques except under "extraordinary circumstances", and requires that imposition of any stock limit on agricultural produce only occur if there is a steep price rise.

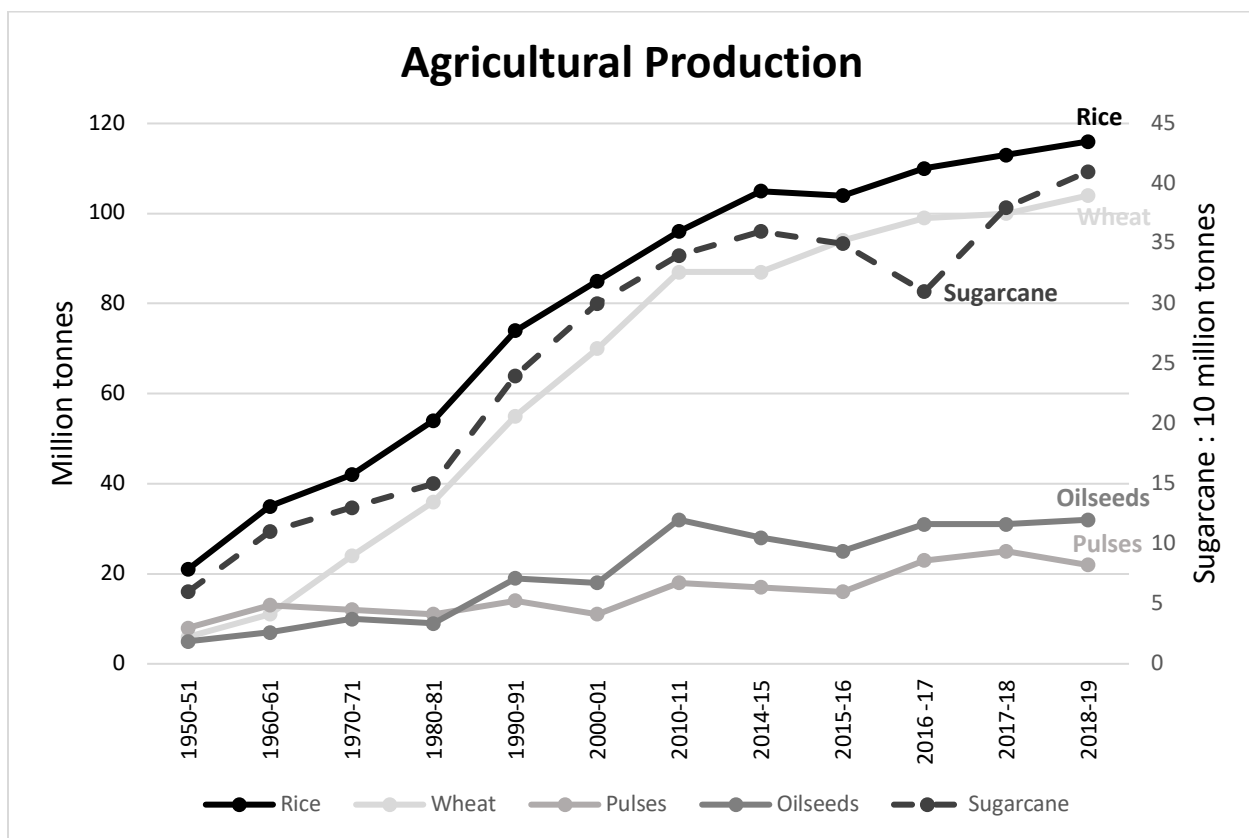
One major worry of farmers in Punjab, Haryana and Western UP where the wheat-rice-sugar combo prevails is that the eventual intent is to abolish government markets where they get assured prices. The bigger worry of farmers — especially larger farmers with surpluses — is that the lucrative MSP system and Food Corporation of India (FCI) procurement will be reduced. Although MSP is not mentioned, the removal of cereals, pulses, potato, onions, edible oilseeds, and oils from the essential commodities act sends a signal that the MSP system may eventually be weakened or even removed entirely. A second big concern of the farmers is that a dispute resolution mechanism has been established under the second Act that removes their right to go to court. That this is done at the behest of corporate interests. The third worry more from state government's is that the laws proscribe to states without adequate consultation with them.

Even though the farm Bills do not mention MSP, this has become the main bone of contention. The most vocal opposition has come from Punjab and Haryana, where FCI procurement is highest and the mandi system is most prevalent. Gol has not only been forced to declare that it does not intend to change the MSP system, but it has also raised MSP for rabi crops — wheat to Rs 1,975 per quintal, barley to Rs 1,600, gram to Rs 5,100, mustard and rapeseed to Rs 4,650, lentils to Rs 5,100 and sunflower to Rs 5,327. Of these, the big-ticket item is wheat, MSP of which has been increased from \$250 to \$260 a tonne, well above the international price of \$175 in August 2020 (Figure

3). At these prices, India can't afford to even export the surplus grain procured as it would entail a huge loss. FCI stocks of wheat and rice are at their all-time highs. They peaked in June for wheat and in April for rice. In 2016, FCI stocks in the central pool in those months were 32.64 million tonnes (mt) for wheat and 22.16 mt for rice. By 2018, they had risen to 43.57 mt for wheat and 24.87 mt for rice.

By 2020, despite Covid-19, they ballooned to 55.83 Mt for wheat and 32.24 Mt for rice. This helps explain why the focus of the agitations is not just the change in the APMC Act but is also , to preserve this inefficient procurement system that is hugely lucrative to a few states. It ensures that India keeps producing larger and larger quantities of wheat, rice, and sugarcane, even in water-scarce areas like Punjab and Haryana, using up large quantities of scarce groundwater, encouraged by free electricity to pump water and assured procurement. India's food demand patterns have changed — away from basic cereals to vegetables, fruit and lentils, and more land needs to be freed up for these. But this will not happen if Government keeps buying all the cereal surpluses at above 'world' prices and provide huge support to sugarcane farmers – especially in Western UP.

Figure 5: Trends in Production of Major Crops in India 1950-51 to 2018-19



Source: Ministry of Agriculture & Farmer's Welfare, Govt. of India, Statistics At A Glance 2019

5. Conclusion: A Second Green Revolution

The 1991 reforms left out the farm sector. Agriculture remained shackled by a maze of controls and subsidies. Unlike South Korea, China, Thailand and, lately, Vietnam and Bangladesh, India was unable to move people out of farming to better-paid jobs in manufacturing. As a result, the share of agriculture in output has fallen to 15% of GDP. But over 42% of the workforce still toils away on the farm. The average farm size in India is about one hectare, and 86% of farms are under two hectares, with limited surplus to sell. But even those that do, get squeezed by a controlled marketing system, where traders often form cartels to squeeze farmers and ensure price information is not transparent. High mandi licence fees, an important source of revenue to state governments, also restrict the entry of new traders and keeps competition low.

India has been a global laggard in shifting to cash transfer programmes — direct benefit transfers (DBTs) — both on the consumer and producer side. It has introduced DBT for a few items like kerosene and gas, but has kept an inefficient, costly, and corruption-ridden food subsidy system in place. And on the production side, there is an equally wasteful input subsidy system for farmers, credit, fertiliser, pesticide, and electricity subsidies that hurts agricultural productivity, benefits mostly larger farmers, and accelerates soil degradation. To supply the wasteful food subsidy system, India has also interfered with farm prices through minimum support prices (MSPs) and import and export controls, thereby hurting rather than helping farmers. It is now procuring and storing huge quantities of unused grain when the country should be shifting its cropping pattern towards lentils, vegetables, fruit, and proteins. India is now spending close to 3% of GDP on various subsidy schemes.

Some Indian states have pioneered farm support schemes. Telangana's Rythu Bandhu scheme supports farmers to grow two crops a year with Rs 4,000 per acre. But there is no independent evaluation of the scheme so far. Orissa is launching Krushak Assistance for Livelihood and Income Augmentation (KALIA) and provides support to small and marginal farmers as well as landless labour. PM-KISAN targets some 120 million small and marginal farmers who have less than 2 hectares (about 5 acres) of landholding with a payment of Rs 6,000 a year as minimum income support — costing about 0.4% of GDP. One criticism of PM-KISAN is that it leaves out the landless. But instead of making the farmer scheme more complicated, it is best to strengthen the MGNREGA to help landless labour.

Expand PM-Kisan and MGNREGA and reduce input subsidies – such as free electricity and wasteful fertiliser subsidies that disproportionately benefit the larger farms. The shift to PM-Kisan – which is a broader production-based subsidy could also be used to reduce MSPs for specific commodities. This shift could be designed to be Budget neutral. It would enhance productivity – as farmers would be able to take greater risks in their crop-mix and would increase rural demand and thereby help recovery.

It would put more income in the hands of farmers and landless labour, boost rural demand and give farmers greater choice in cropping patterns. It would also ensure that less paddy and sugarcane are grown especially in parts of the country where water is scarce. Groundwater depletion would be curtailed, and land productivity would increase.

What India needs is a second green revolution. One of India's most respected agricultural expert's SS Jhoh has been arguing for this for the last 30 years. His two seminal reports (Jhoh 1986 and Jhoh 2002) laid out the case for such a revolution – but have largely been ignored. He argued against the Swaminathan Committee formula of fixing MSP at 50% above the cost of production.¹⁴ Instead, he argued to encourage farmers – especially in Punjab and Haryana – to shift their crop production away from wheat and rice to fruits, vegetables, pulses and oilseeds whose demand has been growing. Shifting Punjab and Haryana from the paddy-wheat cycle will also allow other states to increase their production of these items and increase incomes.

He argues that free electricity is destroying the water table, farmers should instead have the income support to pay for the electricity. Heavy fertilizer and pesticide use combined with a lowered water table have created a deadly cancer crisis in Punjab. And burning stubble to get in an early rice crop has contributed to massive air pollution in the Yamuna-Gangetic plain and affected most major cities in Northern India including the capital New Delhi. India's heavy reliance on underground water – mainly through free electricity – has been in sharp contrast to China's strategy of water use in agriculture as brought out in Lele (2020).¹⁵ Average farm size in China is even smaller than in India but yet have much higher levels of productivity.

One way to do this is to set up a system of incentives towards these crops and away from wheat and rice whose production could be allowed to decline. Instead of increasing MSPs under pressure, GoI could increase payments under PM KISAN and an expanded MGNREGA. It should also improve the farm price information systems through mobile telephony and vital infrastructure for the food supply chain.

But ultimately the bulk of India's population dependent on farming who make up 42% of the population are caught in a low productivity trap in agriculture. 55% of these don't even own land and work as laborers. A few have benefitted hugely from free electricity, no income tax, cheap fertilizer, assured MSPs in government mandis but India's farming is in trouble. While the COVID pandemic did not have a huge impact on agriculture, it needed a reset even before the pandemic struck. And the farm protests – the biggest in India's history – in response to laws hurriedly passed through parliament during the pandemic have exposed the vulnerability and fragility of India's farmers.

¹⁴ Jhoh is reported to have said, "Either the Swaminathan Committee did not have an economist on it, or if they had one, he wasn't a very good one".

¹⁵ FEATURED ARTICLE Growing water scarcities: Responses of India and China Uma Lele, AAEA Wiley, 28 December 2020 DOI: 10.1002/aepp.13146

Their solutions lie in a second green revolution on the farm and for a vast majority – more employment in the non-farm sector.

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