

Ensuring MSP to Farmers Are Deficiency Payment an Option?

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In the wake of the central government's minimum support prices hike for kharif 2018–19, the state government in Madhya Pradesh implemented a variant of the deficiency payments system called the Bhavantar Bhugtan Yojana for compensating the farmers when market prices fell below MSP. Besides the problems of long delays in payments to farmers, large transaction costs that farmers incurred due to multiple registrations, and the disposal of inferior quality produce by farmers, a major limitation of BBY is that it is a counter-cyclical payment, insulating farmers from the market by ignoring the demand side completely. A differentiated MSP based on quality and dovetailing with electronic National Agriculture Market may help address some of these problems. A carefully designed price deficiency payment system with partial procurement and dovetailing with e-NAM and other ways of ensuring MSP to farmers, such as direct payments and participation of private sector, are also discussed.

The union government has recently hiked the minimum support prices (MSP) of 14 commodities for the 2018–19 kharif season. The prime objective of this hike is to ensure higher incomes to farmers, if not doubling the same. This is one of the several steps in that direction. This is also in accordance with the commitment made in the union budget for 2018–19, of raising MSPs to the level of 150% of the cost of production. The hike in MSPs is quite large. The median hike is about 25% and the increase ranges from 4% for *arhar* and *urad* to 52% for *ragi*. The large scale of increase can be judged from the fact that the median increase during the last four years has only been 3%–4%. This massive hike in MSP is expected to yield a handsome return of more than 50% over the cost of production to farmers. The return is estimated to be as high as 97% for *bajra* and 60%–65% for *urad* and *arhar*! The announcement of MSPs is only an important first step in meeting the objective. The more crucial step is ensuring that the farmers get the MSP.¹

What are the possible ways of ensuring that the farmers get the (announced) MSP? Some of the options being considered by the government, in consultation with the NITI Aayog, are public procurement (or the market assurance scheme), price deficiency payments and involvement of the private sector. Public procurement has been undertaken for the last five decades for two crops, rice and wheat, and its effects are well-documented. The price deficiency payment system (PDPS) is relatively new in India. This has been implemented under the name Bhavantar Bhugtan Yojana (BBY) in Madhya Pradesh (MP) on a pilot basis in the 2017–18 kharif season. This system is being considered as an important alternative to physical procurement. We undertake a detailed review of this scheme and examine the possibility of scaling it up to the national level. We also assess possible alternatives such as direct payments and participation of private sector for ensuring MSP to farmers.

Bhavantar Bhugtan Yojana

A PDPS called the BBY was launched in MP during the kharif season of 2017–18 with the main objective of compensating farmers when market prices fall below the MSP. Eight crops—soybean, groundnut, sesame, niger seed, maize, moong, urad, and tur—were covered under the scheme in the kharif season. In the rabi season of 2017–18, its benefits have been extended to garlic and onion.

Although all the key stakeholders in the agri-marketing system, that is, farmers, traders, and government are intended to be the beneficiaries of the BBY, the relative distribution of

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benefits is unclear at present. There are several issues that need to be addressed before any attempt to scale up the BBY is undertaken at the all-India level. Some of the important issues include delay in receiving payments by farmers, complex and lengthy procedures, lack of quality control, and potential risk of price manipulation mainly by traders.

In this paper, we have examined some of these issues in detail. We have collected primary information on various aspects of the BBY through focus group discussions (FGDs) from the farmers, traders and functionaries at various *mandis*. Soybean, urad and maize are the crops covered, since these are the crops that largely benefited under the BBY. The following markets are covered in our study: Chawani Mandi, Indore district; Ujjain Mandi, Ujjain; Gunj Bhasoda Mandi, Bidisha; Gunna Mandi, Gunna; Bhopal Mandi, Bhopal; Jabalpur Mandi, Jabalpur; Chapara Mandi, Seoni; and Seoni Mandi, Seoni. These are the markets that witnessed large arrivals of the three key commodities chosen for our study. We have supplemented this information with secondary data from Agricultural Marketing Information Network (AGMARKNET) on prices and arrivals of key commodities.

There are two components in the BBY—deficiency payments and storage subsidy. Under the first component, a farmer is entitled to deficiency payments if the produce is sold at the Agricultural Produce Market Committee (APMC) market yard at a price lower than the MSP during the notified selling period. Alternately, the farmer can choose to sell when the price is higher, for which a storage subsidy is provided under the second component of the BBY. During our interactions with farmers, we hardly found any farmers availing the benefit of storage subsidy. Therefore, we confine our present analysis to the deficiency payments component.

The BBY is a deficiency payment system under which a payment, amounting to the difference between the MSP and the market price, is made directly to the farmer whenever a farmer is forced to sell at a price lower than the MSP. Implementation of the BBY involves several players: farmer, trader/commission agent, mandi board functionaries, department of revenue, state treasury and bank.

The process starts with the notification of the crops eligible for the scheme and announcement of the period stipulated for availing the benefits. Upon this, the farmer is required to register on the BBY portal and provide details, including total land, land sown under different crops, bank account number, Aadhaar card number, etc.² The farmer is provided with a unique identification number (UIN). The farmer can then proceed to make the sale. It is mandatory to sell the produce only at the APMC market yards during the specified period of time. At the time of sale, the farmer is provided with a gate entry slip, contract slip, weighing slip detailing the weight of the produce, and a payment slip giving details of quantity sold and price received for each crop. The farmer needs to submit all these details along with the UIN to the mandi board for updation of information over the BBY portal. There is a limit on the maximum quantity (sold) of a crop for which a farmer can get the deficiency payment. This upper limit depends on the sowing area reported by the farmer, and the average yield of the crop at the district level determined by the department of

agriculture of the state. For example, if a farmer has sown the crop over an area of 100 acres and obtained a yield of 50 kilogram (kg) per acre, then his production is 5,000 kg. However, if the average yield of the district is only 25 kg, then his eligible production for deficiency payment under the BBY is deemed to be only 2,500 kg. This eligible production is multiplied by the difference between the MSP and the sale/modal price to compute the deficiency payment to be made to the farmer.

After selling the crop, the farmer will need to wait for about a month and half, if not more, to receive the payment because of the various steps involved in calculating the eligible benefit. The calculation of modal price is the first important step. At the end of each day, the quantum of arrival, minimum price, maximum price and modal price of the day at each mandi is sent to the state capital (Bhopal) by the respective mandi boards. At the end of the month, a weighted average of the daily modal price is calculated, the weights being the corresponding market arrivals. This weighted average represents the “modal price” for the month.

Farmers’ eligible payments are calculated by multiplying the eligible quantity (sold) of the farmer by the difference between MSP and sale/modal price (whichever is higher). For example, let the MSP be ₹3,000 and the average modal price be ₹2,500. Suppose the farmer is able to sell at a price of ₹2,800, which is higher than the modal price. Then the deficiency payment to the farmer under the BBY is calculated using the following formula:

$$\text{Deficiency payment} = \text{eligible quantity} \times (\text{MSP} - \text{sale price}) = \text{eligible quantity} \times 200$$

Suppose the farmer sells at a price lower than modal price, say at ₹2,000, then eligible payment for the farmer is calculated using the following formula:

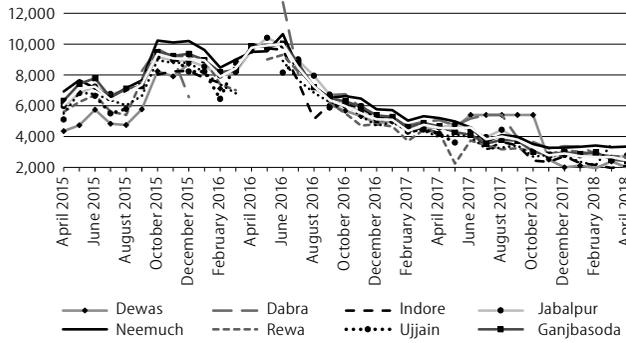
$$\text{Deficiency payment} = \text{eligible quantity} \times (\text{MSP} - \text{modal price}) = \text{eligible quantity} \times 500$$

After approval of these payments by an authorised committee chaired by the district collector, the list of farmers, along with approved deficiency payment, is sent to the state treasury. The state treasury then authorises the banks, which in turn, make payments to the farmers through national electronic funds transfer (NEFT) or real-time gross settlement (RTGS).

Major Problems with Bhavantar Bhugtan Yojana

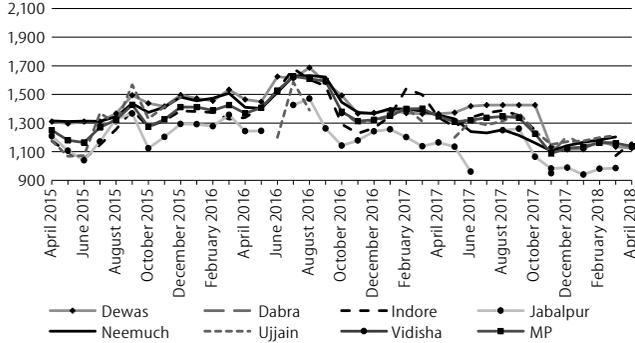
- (i) Under the present system, it takes a minimum of 45 days for the farmer to receive payment for his sale. This is because the process of fixing modal price can start only after the completion of the month, since the modal price is the monthly average price. This delay is quite large and is strongly disapproved by the farmers. Many farmers have opined that they would rather prefer a lower but a quicker payment. One possible solution is to have a weekly/fortnightly modal price instead of the monthly modal price. This could reduce the delay substantially.
- (ii) Restriction of benefits to only notified crops implies that the farmers growing crops not covered either by the BBY or the procurement system are excluded from any kind of support. Also, there is only a limited period of sale for each designated

Figure 1: Monthly Average Prices: Black Gram



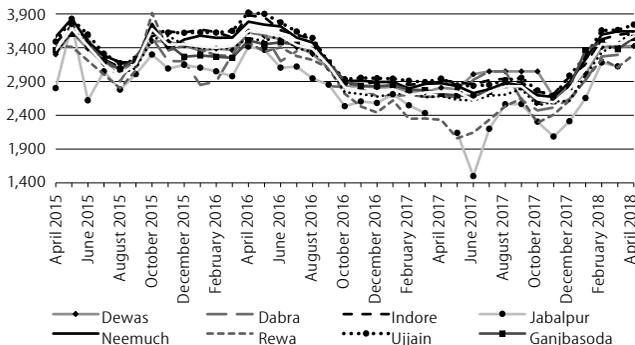
Source: AGMARKNET data.

Figure 2: Monthly Average Prices: Maize



Source: AGMARKNET data.

Figure 3: Monthly Average Prices: Soybeans



Source: AGMARKNET data.

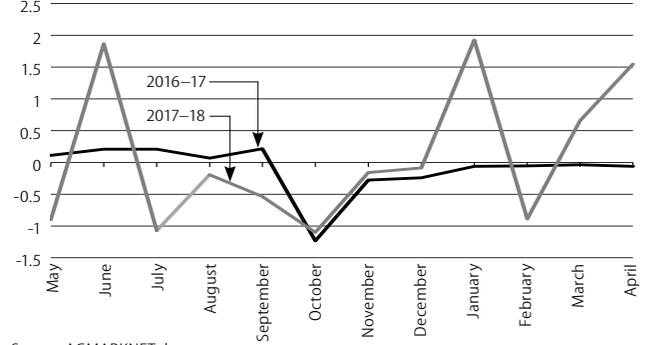
crop in the scheme and the farmers cannot avail the benefit beyond this period.

(iii) Since there are large intra-district variations in yield, farmers in high-yield regions of the district lose out because average yield at the district level is used in payment computations. Yield at the panchayat level is now available and can be used for benefit calculations, as is currently being done under the Pradhan Mantri Fasal Bima Yojana (PMFBY).

(iv) Farmers need to register for each crop separately to avail the benefit of the BBY. One major problem due to multiple registrations is the mismatch between farmer's reported area under each crop and the total land area of the farmer. Single registration will help the farmer to have a single unique registration number and get his land details verified easily.

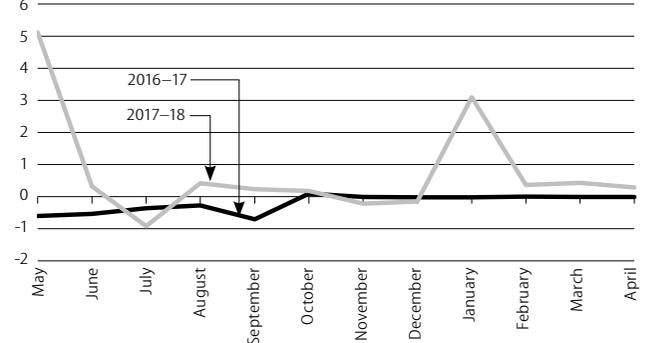
(v) Another related problem is the mismatch between farmer's reported area under a particular crop and that reported by the revenue department/patwari. One solution could be to make an immediate interim payment based on the minimum of the

Figure 4: Elasticity: Black Gram



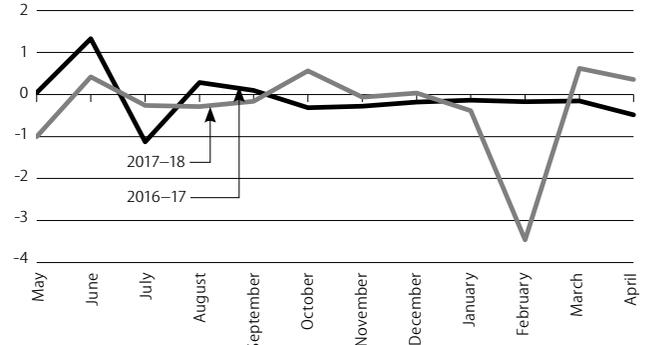
Source: AGMARKNET data.

Figure 5: Elasticity: Maize



Source: AGMARKNET data.

Figure 6: Elasticity: Soybeans



Source: AGMARKNET data.

two areas. This will help the farmer to get some immediate relief. The case can be referred to the revenue department for verification of the details and correction, if needed.

(vi) Disposal of inferior quality produce under the BBY by farmers (sometimes mixing a lot of mud) during that period is another problem. Both traders and officials from mandis have reported that many farmers brought inferior quality produce for sale, which depressed the prices in the mandis. Many farmers have also admitted during their interactions with our teams to passing off inferior quality soybeans through the BBY. There is no mechanism in the BBY to control farmers from bringing low-quality product to the mandis.

(vii) Price declines during the BBY have been reported to be a major problem by many farmers.

Price Declines

One important issue is the large decline in prices during the BBY months. There was a general dip in prices of all the three

crops studied across mandis during the BBY period from 15 October to 31 December 2017 (Figures 1–3, p 52). For example, the market price of soybeans hovered only around ₹2,400 per quintal during these months. But the price rose immediately after the BBY period and reached almost ₹3,800. There was a strong suspicion among farmers that traders and oil plants were instrumental in suppressing the price of soybeans during the BBY period. However, such price declines were not uncommon during the previous years too. Therefore, we analysed the patterns in prices and market arrivals over the last few years to see if the price declines during October to December months of 2017 were unusual. For this, we used secondary data for MP and the neighbouring states for the period from April 2015 to April 2018.

Price declines during the BBY period were associated with a sudden increase in market arrivals. It is a familiar feature of the agricultural markets that increase in market arrivals induces price declines. Are price declines in the BBY months much steeper than the normal declines (due to increase in market arrivals)? To answer this, we have computed a simple measure of inverse price elasticity, as the ratio of percentage change of price to that of arrivals for all the months during the years 2016–17 and 2017–18. If the elasticity is significantly higher during the BBY months of 2017–18, compared to that in

corresponding months of the previous year, then it can be reasonably inferred that the price declines during the BBY months were abnormal. As can be seen, the price declines during the BBY period were not abnormal (Figures 4–6, p 52). The inverse price elasticity during the BBY months, that is, October 2017 to December 2017 corresponded closely with that of the same months of the previous year. These are the peak harvesting months for all the three crops. This close correspondence across the two years shows that there is little evidence of trader collusion or artificial suppression of prices due to the BBY. It can be reasonably inferred that the farmers' apprehensions appear largely unfounded.

We have also compared price movements in MP with those in the other major states during the BBY period to identify abnormal price movements, if any in MP. The results are presented in Table 1. The results show that except in the case of urad, where substantially lower prices prevailed in MP vis-à-vis other states and also in comparison to MSP during the BBY months, the differences in the case of other two crops were only marginal. The lower prices in the case of urad are also due to a substantial increase in market arrivals during November and December months of 2017. The market arrivals in November 2017 increased to 2,71,231 tonnes from 44,339 tonnes the year before (November 2016), an increase of five times! The

Table 1: Price Movements in Madhya Pradesh during BBY vis-à-vis Other States

	Modal Price (MSP = ₹1,425)		% Difference between Madhya Pradesh and Karnataka	% Difference between Madhya Pradesh and Maharashtra		Average Modal Price (AMP)	% Difference between AMP and MSP
	Madhya Pradesh	Karnataka		Maharashtra			
Maize							
3 October to 13 October 2017	1,174	1,232	-5	1,080	9	1,162	-18
16 October to 30 October 2017	1,154	1,256	-8	1,143	1	1,184	-17
1 November to 15 November 2017	1,083	1,177	-8	1,071	1	1,110	-22
16 November to 30 November 2017	1,072	1,169	-8	1,065	1	1,102	-23
1 December to 15 December 2017	1,075	1,175	-9	1,137	-5	1,129	-21
18 December to 30 December 2017	1,055	1,172	-10	1,149	-8	1,125	-21
1 January to 15 January 2018	1,056	1,158	-9	1,127	-6	1,114	-22
16 January to 30 January 2018	1,084	1,143	-5	1,097	-1	1,108	-22
Urad							
	Modal Price (MSP = ₹5,400)		% Difference between Madhya Pradesh and Rajasthan	% Difference between Madhya Pradesh and Uttar Pradesh		Average Modal Price (AMP)	% Difference between AMP and MSP
	Madhya Pradesh	Rajasthan		Uttar Pradesh			
3 October to 13 October 2017	2,844	3,498	-19	3,990	-29	3,855	-29
16 October to 30 October 2017	2,803	3,595	-22	3,814	-27	3,404	-37
1 November to 15 November 2017	2,453	3,241	-24	3,218	-24	2,971	-45
16 November to 30 November 2017	2,440	3,482	-30	3,511	-31	3,144	-42
1 December to 15 December 2017	2,504	3,532	-29	3,717	-33	3,251	-40
18 December to 30 December 2017	2,822	3,446	-18	3,726	-24	3,331	-38
1 January to 15 January 2018	2,897			3,762	-23	3,330	-38
16 January to 30 January 2018	2,799			3,664	-24	3,232	-40
Soybean							
	Modal Price (MSP = ₹3,050)		% Difference between Madhya Pradesh and Maharashtra	% Difference between Madhya Pradesh and Rajasthan		Average Modal Price (AMP)	% Difference between AMP and MSP
	Madhya Pradesh	Maharashtra		Rajasthan			
3 October to 13 October 2017	2,671	2,650	1	2,593	3	2,638	-14
16 October to 30 October 2017	2,575	2,544	1	2,615	-2	2,578	-15
1 November to 15 November 2017	2,487	2,461	1	2,608	-5	2,519	-17
16 November to 30 November 2017	2,690	2,721	-1	2,790	-4	2,734	-10
1 December to 15 December 2017	2,754	2,802	-2	2,854	-4	2,803	-8
18 December to 30 December 2017	2,837	2,840	0	2,885	-2	2,854	-6
1 January to 15 January 2018	3,029	2,974	2			3,002	-2
16 January to 30 January 2018	3,156	3,384	-7			3,270	7

corresponding increase in December has been from 63,233 tonnes in 2016 to 3,10,801 tonnes in 2017 (an increase of four times). Although these large market arrivals in 2017 are mainly due to much higher production, the percentage increase in arrivals in Rajasthan and Uttar Pradesh were much lower, about two to three times the arrivals in 2016. Thus, it may be reasonably inferred that the BBY played some role in inducing large quantum of arrivals in the case of urad. However, the price declines are commensurate with the increase in arrivals, as indicated already by the elasticities.

Quality Control

As has already been mentioned, disposal of inferior quality produce under the BBY by farmers, sometimes even mixing a lot of mud with soybeans, is a major problem. This is also one of the factors behind the depressed prices during the BBY period. One possible way to prevent this is through a differential MSP based on the quality of the produce, which in turn, can be linked to the market price fetched in the mandi. For example, if a farmer gets a price 10% lower than the modal price, then a corresponding reduction of 10% in the MSP can be effected. The new deficiency payment could then be the new MSP minus the modal price. Similarly, an incentive payment can be put in place for better quality product that commands a higher market price than the modal price.

This is illustrated through a hypothetical example in Table 2. Let the MSP be ₹3,500 and the modal price be ₹2,300. Thus, the farmer is eligible for a payment of ₹1,200 per quintal, which is the difference between the MSP (₹3,500) and the modal price (₹2,300). The first panel in the table refers to a case where the farmer sells at a price lower than the modal price, and the second panel refers to the case where the farmer sells at a higher price than the modal price. As can be seen from the first panel, the farmer in this case will get only ₹1,148 as the deficiency payment, as against the ₹1,200. This is because of the penalty in the form of a lowering of MSP, which is in turn, because of

Table 2: Hypothetical Example Illustrating the Use of Differentiated MSP

Differentiated MSP and BBY payment when farmer sells at market price lower than modal price			
MSP	(1)		3,500
Max price	(2)		2,400
Modal price	(3)		2,300
Price sold	(4)		2,200
Proportionate difference	(5)	(4)-(3) as proportion of (3)	-0.04348
MSP downgrade/upgrade amount	(6)	(5) multiplied by (1)	-152.174
New MSP	(7)	(1)+(6)	3,347.826
Deficiency payment		(7)-(3)	1,147.826
Differentiated MSP and BBY payment when farmer sells at market price higher than modal price			
MSP	(1)		3,500
Max price	(2)		2,400
Modal price	(3)		2,300
Price sold	(4)		2,700
Proportionate difference	(5)	(4)-(3) as proportion of (3)	0.173913
MSP downgrade/upgrade amount	(6)	(5) multiplied by (1)	608.6957
New MSP	(7)	(1)+(6)	4,108.696
Deficiency payment		(7)-(3)	1,408.696

Source: Author's calculations.

the inferior quality of the produce (produce fetching price lower than the modal price). On the other hand, superior quality produce (produce fetching price higher than the modal price) will get a deficiency payment of ₹1,409, nearly ₹201 higher than the stipulated payment of ₹1,200. Thus, a differential MSP linked to quality will ensure better quality control at the mandis and thereby address the “adverse selection” problem. Also, this will preclude the need for elaborate infrastructure for quality checking at each mandi.

Dovetailing with e-NAM and Partial Procurement

These are complementary measures that could help arrest the price declines during the BBY operation. Electronic National Agriculture Market (e-NAM) is an electronic network of mandis across the country to enable better price discovery and transparent sale transactions. Dovetailing the BBY with e-NAM could help farmers discover the best price. This could, in turn, help reduce the fiscal costs of the BBY by reducing the gap between the MSP and the price received by the farmer. Similarly a small quantum of procurement (maybe 10%) at MSP will help lift up the market price, prevent price crash (as happened in the case of soybeans) and also help in minimising government payouts under the BBY.

Economic Effects of Bhavantar Bhugtan Yojana

The BBY is basically a PDPs in which the farmer is free to sell in the open market and if the market price falls below the MSP, government steps in and makes a deficiency payment that is equal to the difference between the MSP and the market price. As this system does not involve any public procurement, the costs on account of procurement, storage and distribution are avoided. Also, the system retains the incentive effects of MSP. However, one difficulty is to devise an effective way of operationalising the system. For example, a record of the quantity and price of each sale needs to be maintained. Although theoretically the farmer is free to sell anywhere from a village market to a local trader to a city wholesaler, it becomes practically impossible to collect and collate this data for millions of farmers. Therefore, it becomes necessary to restrict sale to some designated location, say a local APMC mandi. This largely restricts the utility of the scheme. Also, since the deficiency payments are based on the difference between MSP and monthly modal price, the payments will be different for different farmers—larger for farmers who sold at lower price and vice versa. This has two adverse effects: first, the farmer will have little incentive to look for the best possible price in the market since, in any case, they will be compensated for the difference (moral hazard problem). The second is that the farmers may try to dispose of the inferior produce through the BBY (adverse selection problem). Such produce, which will otherwise fetch a low price or may even remain unsold in the absence of the BBY, will be able to fetch a full MSP under the BBY.

The BBY influences production by reducing price variability and risk. Since the BBY payments are linked to market prices, they influence production decisions. For example, when the market price of a crop decreases, decline in producer revenues

arising out of these price changes are partly offset by the BBY payments. This reduces the risk associated with price variability. The major limitation of the BBY is that it is a countercyclical payment, that is, the farmer gets a higher payment when market price is low and vice versa. This insulates farmers from the market and does not help in market development or in improving the market price. This implies that government intervention in the market needs to be continual. This is likely to increase fiscal costs of the programme in a major way. Since the demand side is completely ignored (because of the assured price), the farmer is unlikely to adjust supply in accordance with demand. This may result in frequent instances of supply outstripping demand, which can create problems for finding market outlets.

The evidence from our study confirms many of these issues discussed above. However, most of these problems are not insurmountable. A BBY with differentiated MSP based on quality will help in addressing the adverse selection problem. Similarly, dovetailing the BBY with e-NAM to help farmers discover the best price will help address the moral hazard problem.

Alternate Ways of Ensuring MSP

Public procurement or market assurance scheme: This is the most effective way of ensuring remunerative price to farmers. The MSP and public procurement have helped the country attain self-sufficiency during the early years of green revolution. However, our recent record of MSP operations, which depends crucially on effective procurement, inspires little confidence. This is mainly because of a lack of coherence in food and price policy for a long time. The issues of remunerative price to farmers and efficient foodgrain management are inextricably linked. Agricultural price policy, procurement by the Food Corporation of India (FCI) and distribution through public distribution system (PDS) are all integral components of this policy matrix. To devise an effective policy framework, a comprehensive approach encompassing all these subsystems is needed.

Up to the early 1990s, the country had a dual pricing system: MSP and procurement prices. The MSP was a floor price announced before the sowing season and was mainly based on the cost of production among other factors. On the other hand, the procurement price was mainly for acquiring grain for building up the stocks—buffer and operational stocks for the PDS and other welfare programmes. Procurement price is announced before the harvest season and is not related to production costs but to factors such as prevailing prices, existing government stocks among others. Since the early 1990s, the procurement price was gradually abolished and presently MSP serves as the de facto procurement price. This has led to a continually increasing MSP, because of the rising costs of production. Since MSP is also the de facto procurement price, this led to an increase in government procurement, which resulted in episodes of frequent build-up of huge stocks. Consequently, these accumulated stocks (with the government) put an upward pressure on the market prices since the supply in the market goes down. This resulted in episodes of food inflation in some years. The resulting gap between the PDS price and the market price led to large-scale diversion of grain and leakages.

The coverage of commodities under public procurement in India is rather limited. Out of 25 commodities for which MSPs are annually announced, at present only rice and wheat are procured on a continuous basis, that too from only few states. Sugar, pulses and cotton have some mechanisms in place but have proven largely inadequate with frequent gyrations in prices. Even with this limited coverage, there are frequent instances of stock build-ups and consequent lack of storage space. Procurement, storage and distribution require a large space for physical storage and concomitant marketing infrastructure. The fiscal costs of procuring, storing and distributing even two grains—rice and wheat—have proven to be quite formidable! In such a scenario, is it possible to undertake procurement of such large number of commodities for which MSP has been hiked? With a similar hike anticipated for rabi crops, the task appears near impossible!

Direct payments: Direct payments are more in the nature of income support, unlike procurement or the PDSs. Under this system, a payment is made directly to the farmers based on historical area, yield and price of a crop (or few crops) registered by the farmer (Sekhar and Bhatt 2012). The farmer is not required to actually produce the crop(s). He is simply paid a lump sum amount and he is free to produce crops of his choice. This system is expected to affect the supply and demand in a minimal way. Many countries, such as the United States (US) and China have adopted this system.

The programme is broadly as follows. A payment rate is fixed by the government for various crops, similar to MSP. Few eligible crops may be notified in each region, based on the cropping pattern of the region. The farmer may then select a set of crops, based on their cropping history, and a base year of their choice (in the last five years). A payment, which is a product of the fixed payment rate and production of the crop in the base year, may be made to the farmer every year.

Direct payment for the crop = (payment rate × production of the crop in the base year)

This payment is made to the farmer, irrespective of whether the farmer actually produces the crop in the current year or not. In fact, the farmer may be allowed to grow any other crop that they deem profitable. In this way, direct payments can be viewed as a sort of universal basic income (UBI) to the farmers, subject to the crops and base year chosen. With flexibility to grow other crops, farmers are not restricted to growing only those crops for which they are receiving direct payments. They can receive a payment for wheat, but in any given year grow soybeans on the land for which they are receiving wheat payments. Thus, farmers' cropping decisions will be based only on expected market price and variable costs of production. The cropping pattern under direct payments is unlikely to be distorted in favour of few crops, unlike in case of MSP or PDS (Gulati et al 2018).³

The positive effect of direct payments is to increase farm income and land values. Direct payments also increase producer wealth and facilitate additional investment (Westcott

et al 2002; Westcott and Young 2004). Direct payments increase the creditworthiness of farmers by lowering the risk of default. Reduction in risk of default can lead to lower interest rates facilitating an increase in investment. For some farmers, increased liquidity provided by the payments may also reduce the need for obtaining loans for short-term operations or for longer term investments. Although there are opportunity costs associated with self-financing, those opportunity costs would be lower than the commercial cost of credit. All these factors could reduce farmer's risk aversion (Chavas and Holt 1990). In this way, direct payments can lead to higher crop production. If production from slightly distant past is taken as base production, it should have minimal effect on current production.

Private sector participation: One of the major arguments against public procurement is the reported inefficiency of the procurement agencies and leakages from the PDS (GoI 2015). The High Level Committee to suggest ways of revamping the FCI has recommended the following: outsourcing of the FCI stocking operations to other agencies, including the private sector; augmenting storage capacity and modernising the stocking systems; building modern mechanised silos, containerised movement of grains and grain trains; end-to-end computerisation of the entire food management system, starting from procurement from farmers, to stocking, movement and finally distribution through targeted public distribution system (TPDS); and devising a transparent liquidation policy that can kick in when stocks rise way above the buffer norms (GoI 2015). Most of these recommendations can be better implemented only with the active participation of the private sector. For example, building modern silos and computerisation of the entire operations can be handled better by the private sector.

The involvement of private sector need not be limited to storage and distribution activities. A larger gamut of operations can be envisaged for effective involvement of the private sector. The main challenge to public sector's ability to deliver desirable outcomes arises from technical and managerial shortcomings. Leveraging the technical and managerial capabilities of the private sector in combination with public funding could be the way forward.

A recent initiative of the Union Ministry of Agriculture and Farmers' Welfare (MoA&FW) merits a mention here (GoI 2018). Under this programme under the Rashtriya Krishi Vikas Yojana (RKVY) Remunerative Approaches for Agriculture and Allied Sector Rejuvenation (RAFTAAR), integrated agricultural development projects are envisaged across a wide spectrum of agriculture and allied sectors. Corporates are invited to design projects with the following key interventions: mobilising farmers into producer groups and registering them in an appropriate legal form or creating informal groups as may be appropriate to the area; technology infusion; value addition; marketing; and overall project management. Complete flexibility in design is ensured to the corporates, but an integrated value chain approach needs to be embedded, covering all aspects from production to marketing. Each project is required to target at least 500 farmers, spread over the project life. Projects can span

two–three years. Corporates will be responsible for delivering all the interventions of the project through a single window.

Differentiated policies based on commodity specificity:

There is a need to classify commodities according to their nature and devise policies appropriately. The commodities may be broadly classified as follows (Mittal et al 2018): (i) commodities required for the PDS (rice and wheat); (ii) commodities with surplus production but not necessary for the PDS (maize, coarse cereals); (iii) commodities with deficit production but adequate import sources in the world market (edible oils); (iv) commodities with deficit production but inadequate availability in the global markets (pulses); and (v) perishable commodities (fruits, vegetables, eggs, fish and mutton). For each group, a different price and trade policy will be needed.

For the first group, limited public procurement is appropriate. For the second group, a PDS, dovetailed with e-NAM, may be appropriate. For the third group, PDS along with liberal import policy may be needed. For the fourth and fifth groups, a comprehensive policy encompassing production planning, technology adoption, value addition and marketing is needed. Participation of private sector will also be most useful in the case of fourth and fifth groups.

Summary and Conclusions

Deficiency payment is an interesting policy instrument to compensate farmers for price declines when market prices crash way below the MSP and the state does not possess the necessary capacity for procurement. The Government of Madhya Pradesh implemented this novel scheme on a pilot basis in the kharif season of 2017–18. The scheme has certainly helped the farmers. However, there are several problems in implementation of the scheme. Our analysis of the problems and challenges shows that there exists a significant scope for improvement of the programme for better results and wider outreach. The following need to be addressed on a priority basis:

- (i) The long delay in making payment to the farmer needs to be reduced. One possible solution is to have a weekly/fortnightly modal price instead of the current practice of a monthly modal price.
- (ii) Restriction of benefits to few crops excludes many farmers. The choice of crops may be broadened. Also the narrow window of bringing produce to APMC is leading to large quantum of arrivals and consequent price crash. The window may need to be widened too.
- (iii) Difficulties in registration need to be resolved; the current system of registration for each crop needs to be replaced with a single registration with a permanent registration number combined with minimal updating in each crop season.
- (iv) Awareness needs to be improved about yield and price calculations through awareness campaigns. This is needed to clarify the procedures followed and address the prevailing apprehensions among farmers about the scheme.
- (v) Quality assurance through differential MSP is needed to deter farmers from disposing off the inferior quality produce under the BBY.

(vi) Under the current system, there is no incentive for the farmer to find the best market price (because MSP is assured). In fact, there are perverse incentives to dispose of inferior quality produce under the BNY, as was witnessed in the case of soybeans in MP. A differential MSP based on quality and dovetailing with e-NAM is perhaps needed to address this.

(vii) Alternate mechanisms to ensure MSP to farmers, such as direct payments, partial procurement, participation of the private sector, etc, need to be explored too.

(viii) Considering the effects of procurement, PDPS, direct payments and participation of private sector, a judicious mix of policy is desirable.

– Direct payments may be needed in the case of commodities which are not central to PDS and for which public

procurement is difficult and market demand is inadequate, that is, coarse grains.

– For commodities like pulses for which there are periodic gluts in production with adequate market demand, PDPS with limited procurement may be appropriate. Limited procurement will help in raising the market price in years of glut, which in turn, will help to limit the fiscal costs of the PDPS. A carefully designed PDPS, with partial procurement and dovetailing with e-NAM is probably the direction to proceed in the case of such commodities.

– For all the commodities central to PDS and National Food Security Act, effective procurement is essential with outsourcing of storage activities to the private sector to limit fiscal costs and to ensure product quality.

NOTES

- 1 As per the *Situation Assessment Survey 2014*, the percentage of farmers availing MSP is less than 10% for all the crops except paddy (14%) and sugar cane (31%).
- 2 The reported area under different crops by the farmer is subject to verification by the department of revenue.
- 3 A variant of direct payments has been introduced recently the Government of Telangana to cover cost of production. Under this scheme, the government makes a payment of ₹4,000 per acre per season to all the farmers. The total cost of the scheme will be about ₹8,730 crore for one year.

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