

Gulati, Ashok; Chatterjee, Tirtha; Hussain, Siraj

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Supporting Indian farmers: Price support or direct income/investment support?

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Working Paper No. 357

**Supporting Indian Farmers:
Price Support or Direct
Income/Investment Support?**

**Ashok Gulati
Tirtha Chatterjee
Siraj Hussain**

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INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC RELATIONS

Table of Contents

List of Abbreviations	i
Acknowledgement.....	ii
Abstract.....	iii
Executive Summary	iv
1. Introduction.....	1
2. Towards Price Deficiency Payments (PDP) (Bhavantar Bhugtan Yojana (BBY)).....	4
3. Likely Impact of the BBY scheme- An analysis of major crops	6
4. What if BBY is scaled at national level?	10
5. Direct Income (Investment) Support based schemes.....	17
6. Concluding Remarks and Policy Implications	21
References.....	22
Annexure.....	23

List of Tables

Table 1: BBY scheme	4
Table 2: MSP and ASP at Rupees per Quintal announced for the covered crops	5
Table 3: Crop wise details for the BBY scheme kharif 2017-18	9
Table 4: Compensation if scheme is scaled at an all India level (only considering marketed surplus).....	16

List of Figures

Figure 1: Difference between MSP and ASP (%), and share of production actually compensated.....	10
Figure 2: Expected Increase in MSPs in 2018-19 over 2017-18 (%).....	12
Figure 3: Crop wise compensation that may be needed under two scenarios (Rs crore).....	17
Figure 4: Expenses incurred on target payments and direct input subsidies in China	20

List of Abbreviations

ASP	Average Sale Price
BBY	Bhavantar Bhugtan Yojana
CCE	Crop Cutting Experiment
CNY	Chinese Yuan
DIS	Direct Income/Investment Support
FRP	Fair and Remunerative Prices
GDP	Gross Domestic Product
GoMP	Government of Madhya Pradesh
GoI	Government of India
GoK	Government of Karnataka
GoT	Government of Telangana
GST	Goods and Services Tax
MP	Madhya Pradesh
MPWLC	MP Warehousing & Logistics Corporation
MSP	Minimum Support Price
MT	Metric Tonne
NPA	Non Performing Asset
OECD	Organisation for Economic Co-operation and Development
PDP	Price Deficiency Payment
SAP	State Advised Prices
TE	Triennium ending
USD	United States Dollars
WSI	warehouse storage incentive

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Abstract

With increasing farm distress in the wake of falling farm prices in 2017, the State Government of Madhya Pradesh (GoMP) came out with an innovative scheme called Bhavantar Bhugtan Yojana (BBY), a price deficiency payment (PDP) scheme, to support farmers. It covered eight Kharif crops in 2017-18 and promised to pay the difference between their minimum support prices (MSPs) and their market prices (averaged for MP and at least two other adjoining states). The scheme was abruptly withdrawn in March 2018 just before the commencement of rabi-marketing season. In this paper we review the scheme, the challenges it posed in its implementation during kharif 2017-18, but more importantly compute its likely costs, if it is scaled at the national level. Under the assumption of MSP being equal to 1.5 times A2+FL cost, and excluding the quantum of paddy and wheat procured at MSP and sugarcane at FRP/SAP, we find that compensation of Rs 56,518 crore will have to be made if market prices are 10 percent lower than MSP, Rs 1.13 lakh crore when market prices are 20 percent lower than MSP and Rs 1.69 lakh crore when prices are 30 percent lower than MSPs. We find that the scheme is prone to manipulation by traders and lower level mandi functionaries, and may end up helping them more than the farmers, despite best intentions of the Government.

We also highlight that MSPs based on cost plus pricing, completely ignoring the demand side, will lead to major distortions in the agri-marketing system. The resulting efficiency losses may far exceed the support that government is intending to extend to farmers. Therefore, wisdom lies in thinking rationally now, and support farmers through less distortionary policies. It may be through investing heavily in marketing infrastructure, storage and food processing, changing the APMC Act to allow direct buying from farmer producer organizations (FPOs) bypassing the archaic mandi system, or direct income (investment) support (DIS) on per hectare basis, as recently announced by Telangana and Karnataka. DIS is easier to implement, more transparent, more equitable, crop neutral, and less distortionary than the PDPs/BBY type schemes. DIS, if launched at the national level will cost Rs 1.97 lakh crore under the assumption that all farmers get Rs 10,000/ha irrespective of what crops they are growing and whom they are selling. The cost will be much lower if farmers, who have sold their paddy and wheat at MSP to government agencies and sugarcane at FRP/SAP to sugar mills, are excluded from this DIS payment. This would be on comparable basis to the costs under PDP schemes, and yet less distortionary.

Key words: *Bhavantar Bhugtan Yojana, Price Deficiency Payment, Direct Income Support, Madhya Pradesh, Telangana*

JEL Classification: *Q18, Q13, Q11.*

Authors' email: *agulati115@gmail.com; tirthac.09@gmail.com; shussain@icrier.res.in*

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Executive Summary

With prices of almost all major kharif crops falling way below announced Minimum Support Prices (MSPs) in 2017, the farming community is feeling disillusioned and stressed despite good harvest. Pulses and oilseeds were among the most adversely affected crops. There could be several reasons driving this fall in prices such as - (1) significant increase in domestic production; (2) large influx of imports; (3) uncertainty about changes in stocking limits making traders and other stakeholders hesitant about the market, and (4) turbulence in cash transactions in trading of these agro-commodities post GST and demonetization.

There have been many attempts by state governments to support farmers through various policy instruments, ranging from farm loan waivers to PDPs to direct income/investment support (DIS) on per hectare (ha) basis. PDP based scheme, Bhavantar Bhugtan Yojana (BBY), covering eight crops was implemented in kharif 2017 in MP while Telangana and Karnataka plan to implement DIS in Kharif-2018. In this paper we examine the PDP/BBY scheme of GoMP to ensure remunerative prices to farmers and then work out its potential costs, if this scheme was to be scaled up to all India level.

The BBY scheme in MP could benefit only 23 percent of production casting a shadow on how it will benefit majority of farmers if it is scaled up at all India level. Assuming that somehow a system will be erected to benefit all the production that is marketed and excluding the Government procurement of wheat and paddy at MSP and sugarcane sold to sugar mills at FRP/SAP, the financial costs of ramping up BBY/PDP at national level are staggering, ranging from Rs 56,518 crore to Rs 1.13 lakh crore to Rs 1.69 lakh crore annually, depending upon if market prices are 10 percent, 20 percent or 30 percent below MSP, respectively. But bigger costs are likely to be inflicted from massive distortions which this scheme, coupled with MSP based on 1.5 times the cost A2+FL, would bring about.

This is because the MSP formula based on just cost plus pricing, without any considerations to the demand side of the commodities and their inter-crop price parity, is likely to play havoc in the economy causing major distortions to the functioning of markets. Just to give a feel of the possible situation, MSP of paddy for 2018-19 kharif season will have to go up by 11 to 14 percent, of cotton by 19 to 28 percent, and jowar by 42 to 44 percent, if MSP pricing is based on 1.5 times the cost A2+FL. Under such a pricing structure, farmers may find it profitable to allocate more area under jowar and increasing its production significantly. In the absence of commensurate demand, market prices may fall way below the announced MSP necessitating large scale procurement at MSP or large outgo through PDP. This would not be economically very rational. Besides, the BBY is prone to manipulation by traders and several mandi level functionaries. Since the window for registration and bringing produce to the market is going to be short, it is likely to depress market prices unduly, with traders exploiting full advantage of it. The non-registered farmers, especially the small ones who generally sell their produce at farm gate level to aggregators, would be the worst victims of these low market prices as they will not get any compensation and yet they would face unduly low market prices. The resulting efficiency losses, therefore, are likely to be bigger than the support government may be intending to extend to farmers.

A better option may be to go for DIS to farmers on per hectare basis, which would be much simpler to implement, transparent, crop-neutral and without causing much distortion to the functioning of markets. This policy of DIS has been announced by Telangana and Karnataka, and one has to wait and see how it is rolled out and how much will that cost. Telangana is planning to give Rs 10,000/ha (Rs 4000/acre), per season, to farmers. Karnataka's plan is more modest and targeted to only dry land farmers.

If DIS is scaled at the national level, at Rs 10,000 per ha, and for total gross cropped area of around 1978 lakh ha, total payment will be Rs 1.97 lakh crore. At Rs 5000/ha, it will cost only half, about Rs 98.5 thousand crore. So, direct income transfer at all India level may not be cheaper but direct income transfer will not accentuate market distortions and its associated efficiency losses, and it would be much more inclusive and equitable, as well as transparent. But if one brings it on comparable basis to PDP by excluding farmers having sold their wheat and paddy to Govt. agencies, and sugarcane to sugar mills, and those growing non-MSP crops, the cost of DIS will also drop significantly and would be comparable to PDP. Where DIS scores over PDP would be that it will not damage the functioning of markets and will not create massive distortions that may take years to clean up.

Interestingly, China also implements a sort of DIS, which it calls comprehensive input subsidy scheme which gives an aggregate input support to the farmer on a per acre basis. Direct payments to grain farmers first started in 2004. In addition, two more schemes, viz. Agricultural input comprehensive subsidies and seed variety subsidies were launched in 2006. In 2015, Chinese Government combined the three schemes and implemented a pilot of the single payment scheme. In 2016, it cost the Chinese government USD 21.1 billion (roughly equal to Rs 1,36,500 crore in Indian currency). Merging all input based subsidy schemes into one lump sum payment on per ha basis shows that China is gradually moving towards Direct Income/Investment Support (DIS) or Direct Benefit Transfer (DBT).

No doubt some steps have to be taken before implementing DBT like digitization of plots, linking them with Aadhaar and bank accounts and tenancy reforms, if possible, among others. However, since it is less prone to distortion, it will be more sustainable and helpful for Indian farmers, though it is likely to cost more than PDP, if it is extended at the rate of Rs 10,000/ha (on lines of Telangana), as it will go much beyond MSP crops. Since the primary objective is to stabilize farmers' incomes, the need of the hour is to reach farmers efficiently and at an appropriate time. Therefore, raising MSPs with no supporting procurement mechanism is unlikely to mitigate farmers from the supply shocks and price risks. As discussed earlier, this will only lead to either large PDP or huge procurement costs in case of Government procurement. We believe that in due course we need to decrease the number of commodities for which MSPs are announced. One may also argue that with passage of time, MSPs have to be substituted with Direct Income/Investment Support that will be less distortionary for Indian agriculture.

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1. Introduction

It is being realized that farmers are under increasing stress during last four years. First, there were two consecutive droughts (2014-15 and 2015-16) and then farm prices of large number of commodities ranging from pulses to oilseeds fell way below their minimum support prices (MSPs) in 2016-17 and 2017-18. No wonder, the centre and several state governments are searching for ways and means to genuinely help farmers. And when it is season of elections, this topic becomes even more urgent.

It was Prime Minister himself, who had promised to waive-off loans of Uttar Pradesh (UP) farmers, if BJP was voted to power. Subsequently, in the very first cabinet meeting of the newly elected government in UP, this promise was fulfilled. That led to increasing demand for loan waivers in several states, and in many cases (UP in April 2017, Maharashtra and Karnataka in June 2017, Punjab and Rajasthan in September 2017) these demands were accepted. The RBI Governor as well as NABARD Chairman, both came out against this wave of loan waivers saying this will destroy the credit culture in rural areas and will adversely impact loan recovery in subsequent years. But the main opposition party, Congress, has been demanding farm loan waivers at all India level, having done so in 2008-09 when they were in power at the centre.

This paper does not dwell into this type of support to farmers as we feel that loan waivers cannot solve their problems in any sustainable manner, though it may provide temporary relief to some farmers. What this paper looks at is the two other alternative modes of supporting farmers, BBY/PDP has been recently tried by GoMP in kharif 2017, and DIS as announced by the Government of Telangana (GoT) and Government of Karnataka (GoK) for the forthcoming kharif of 2018.

As pointed out above, during Kharif 2017-18, market prices of several major Kharif crops fell way below announced Minimum Support Prices. This happened despite several schemes of Government of India like procurement at MSP, Market Interventions Schemes, Price Support Scheme and Price Stabilization Fund to mitigate price risk.

So the first question to ask is: what is responsible for these lower prices in the last couple of years? And in the light of this, what is the best package for farmers that can protect their meager incomes. We dig a little deeper to understand the plausible factors driving the depression in agri-prices. First, we look at the domestic production availability of pulses and oilseeds which were the most affected crops in the last two years. Production of total pulses rose considerably from 17 and 16 Million Metric Tonnes (MMT) respectively in 2014-15 and 2015-16 respectively to 23 and 24 MMT respectively in 2016-17 and 2017-18. This is almost a 44 percent jump. Similarly, oilseed production was also higher at 31 and 30 MMT in 2016-

17 and 2017-18 respectively compared to 28 MMT and 25 MMT in 2014-15 and 2015-16, which was a 24 percent increase in production in 2016-17 over 2015-16.

Despite significantly high domestic production of pulses and oilseeds, there were no efforts to reduce the flow of imports of pulses and edible oils well in time. For example, 2016-17 saw record production of pulses (23 MMT) and record imports (6.6 MMT) at zero import duty. This is what led to a collapse in domestic market prices of pulses. Situation did not improve much in kharif 2017-18. Lower international prices acted as a catalyst leading to influx in imports. It was only in November, 2017 when import duty on yellow peas was raised from zero to 50 percent, and in December, 2017 import duties on chana and masoor were raised from zero to 30 percent. Similarly, it was only in November 2017 that import duty on crude palm oil was raised from 15 percent to 30 percent, and refined palm oil from 25 to 40 percent, and refined soya oil from 20 to 35 percent. These restrictions on imports in the form of high import duties came too late, as massive imports had already taken place by then, and as a result, farmers had to face rapidly declining prices of pulses and oilseeds. What all this implies is that the trade policies have to be effectively dovetailed with domestic MSP policy ensuring that large scale imports are not coming into country at prices way below MSP.

Another reason which seems to be driving the decline in prices is the stocking limits imposed and the uncertainty surrounding that. Traders and other stakeholders are not comfortable holding stocks because of this uncertainty of stocking limits. GST and demonetization in July 2017 and November 2016 made the situation worse for agri-trade transactions, which are generally cash based but the new rules don't permit large scale cash transactions. So traders are wary to enter markets in a big way, leaving a larger glut in the market. Against this background, in this paper we evaluate the schemes implemented to compensate the farmers for price loss when market prices dip below MSP. Bhavantar Bhugtan Yojana (BBY) was launched by GoMP in Kharif 2017. This is a PDP based scheme which covered eight Kharif crops, namely, maize, tur, urad, moong, soybean, groundnut, sesamum, and nigerseed. The difference between MSP and the Average Sale Price (ASP) is supposed to be given to the farmer, where ASP was calculated by taking the average modal prices in mandis in MP and two other reference states. We discuss the scheme in detail in Section 2.

It is interesting to note that agricultural growth has made rapid strides in MP. Gulati et al (2017) find that agriculture growth in Madhya Pradesh (MP) during the decade of 2005-06 to 2014-15 was around 9.7 percent per annum, which is the highest growth rate registered in agriculture by any major state of India over a ten year period. They find that the last five years have been even more spectacular when agricultural GDP grew at 14.2 percent per annum. The study finds that among several measures taken by the state government to make rapid strides in agriculture, three interventions stand out – road infrastructure, expanded irrigation and a strong procurement system put in place for wheat along with bonus over MSP for wheat.

Despite such high growth in agricultural production, the state has not been able to protect its farmers from price risks. In 2017-18 mandi prices of several crops have been below their respective MSPs announced by the Central Government. For example, average modal price in

Madhya Pradesh for soybean was Rs 2594 per quintal between 16th October and 31st December which was approximately 15 percent lower than the announced MSP of Rs 3050 per quintal; for urad, the prevailing mandi modal price was Rs 2601 per quintal between 16th October and 22nd December in Madhya Pradesh which was 52 percent lower than the announced MSP of Rs 5400 per quintal. And so on. What this presumably points out to is the mismatch in the outcomes of production augmenting policies and agri-marketing policies. Unprecedented increases in production led to market crash and tumbling prices as storage and processing facilities were not commensurably augmented.

We evaluate BBY in MP in terms of its impact on market arrivals, mandi prices, its coverage and reach among farmers and share of produce covered by the scheme. Our review shows that the scheme had at best limited coverage and less than a quarter of the entire produce of the state was compensated. We also study the impact of the scheme if it is launched at the national level. We compute costs for three scenarios- one, market prices are 10 percent below MSP, two, when prices are 20 percent below MSP and three, when prices are 30 percent below MSPs and find that it will cost Rs 56518 crore in the first, Rs 1.13 lakh crore in the second and Rs 1.69 lakh crore in the third scenario.

Our review shows that PDP, rather than correcting the market, might distort it further. The higher cost plus pricing (1.5 times A2+FL costs) model for MSP which ignores demand side will lead to large scale distortions in the system with high efficiency losses. In contrast, the GoT and GoK plan to launch Direct Income/Investment Support (DIS), either as input support scheme or income support on per ha basis for both the seasons of Kharif and Rabi in 2018-19.

It is interesting to note that DIS has been in practice in China which gives an aggregate input support to the farmer on a per acre basis. DIS based schemes do not distort markets as would be experienced in case of price deficiency schemes. Such a scheme will be more equitable, inclusive, will not involve unnecessary paperwork, reduce the role of intermediaries, and will not distort the market by artificially depressing prices. There are a few steps which can make it beneficial for tenant farmers also. For this the tenancy laws have to be revamped, plots have to be digitized and farmer's Aadhaar number linked for easy payment. If these steps are taken, direct benefit transfer through a DIS type scheme seems to be the way forward.

Since, the objective is to stabilize their incomes and reach them at the earliest possible time and in the most efficient manner, a DIS based approach would be more preferable. As recommended by CACP in 2014-15 Kharif report, a review of the number of crops under the commission's mandate is urgently required. Since, procurement infrastructure is not developed for most commodities other than rice and wheat, announcing high MSPs is unlikely to yield any positive impact in the current scenario. The paper recommends that in due course, like China, comprehensive DIS based schemes should replace other schemes.

The paper is organized as follows: We first describe the BBY scheme in Section 2. We discuss the coverage of the scheme in terms of farmers registered, production covered in Section 3. We also compute the total cost of the scheme if it covered all the produce of the

state. In Section 4, we discuss the cost of the scheme if it is scaled at an All India level. In section 5 we compare the scheme with DBTs and conclude in section 6.

2. Towards Price Deficiency Payments (PDP) (Bhavantar Bhugtan Yojana (BBY))

Bhavantar Bhugtan Yojana (BBY), introduced by GoMP in September 2017 covered eight Kharif crops (Table 1). As per the scheme, the farmer selling his produce in the notified APMC yard will be directly paid the difference between the MSP and the average sale price (ASP) where ASP is the average of the prevailing modal mandi prices in MP and two other states (Table 1).

Table 1: BBY scheme

S. No.	Crop	Time period for sale under BBY	Name of two states, (other than MP) of which modal wholesale rates to be
Oilseed Crops			
1	Soybean	October 16 – December 31	Maharashtra, Rajasthan
2	Groundnut	October 16 – December 15	Gujarat, Rajasthan
3	Sesamum	October 16 – December 15	Odisha, Chhattisgarh
4	Ramtil	October 16 – December 15	West Bengal, Rajasthan
Food Crops			
5	Maize	October 16 – January 31	Karnataka, Maharashtra
Pulses			
6	Moong	October 16 – December 15	Rajasthan, Maharashtra
7	Urad	October 16 – December 15	Rajasthan, Uttar Pradesh
8	Tur	February 01 – April 30	Maharashtra, Gujarat

Source: Government of Madhya Pradesh

The scheme also includes a warehouse storage incentive (WSI) for a registered farmer who does not sell his produce during the notified period and instead decides to keep his produce in a registered warehouse. The warehouse has to be registered with MP Warehousing & Logistics Corporation (MPWLC). The WSI has been declared at the rate of Rs 9.90 per quintal per month. Since the time window available to the farmers for the BBY scheme is limited and the farmers might want to hold their stock during the initial months in anticipation of better prices later, this initiative, if efficiently implemented, will somewhat shield farmers from lower prices.

Determination of Average Sale Price- ASP was calculated for the specified crops in the following manner- (1) Weighted Modal wholesale price for the crops in the APMCs of Madhya Pradesh are collected from the *agmarknet* portal. (2) Weighted Modal wholesale prices of the same crops as appeared in *agmarknet* portal for other two states and (3) ASP is average of the above three modal (wholesale) prices. MSP and the announced ASP for the selected crops during the different time periods during the BBY scheme are given in Table 2.

Table 2: MSP and ASP at Rupees per Quintal announced for the covered crops

Crop	MSP	16 Oct-31 Oct 2017		01 Nov- 30 Nov 2017		01 Dec to 31 Dec 2017	
		ASP	Difference	ASP	Difference	ASP	Difference
Maize	1425	1190	235	1110	315	1127	298
Soybean	3050	2580	470	2640	410	2829	221
Moong	5575	4120	1455	4120	1455	4522	1053
Urad	5400	3000	2400	3070	2330	3291	2109
Groundnut	4450	3720	730	3570	880	3605	845

Source: State Government of Madhya Pradesh

This price deficiency payment mechanism comes into action only if ASP is below MSP. No payments are to be done in case ASP is at par or more than MSP. The price deficiency payment would be made to the farmer's bank account for the quantity traded in the APMC which is up to the maximum limit of his expected production. The expected production is calculated on the basis of sown area given by farmer at the time of registration (verified by the revenue department) and average productivity of the district of that crop. The average productivity of a crop was calculated for best three years out of 5 preceding years as per Crop Cutting Experiments (CCEs) carried out by the Revenue Department. In any agro-climatic zone, best figure of a district compared to others in that agro-climatic zone were considered as average productivity for all other districts falling in the same agro-climatic zone.

The payments in the farmers bank accounts through Direct Benefit Transfer would be done by headquarter APMC after verification and confirmation by a committee headed by the District Collector as per following formula:-

- If the **sale price of the produce at the APMC \geq MSP, no benefit would be paid**
- If $ASP < \text{the sale price of agriculture produce at the APMC} < MSP$, **benefit = MSP - sale price of the farmer.**
- If the sale price of agriculture produce sold in the APMC $< ASP < MSP$, **benefit = MSP - ASP.**

Registration of farmers and payment mechanism-To get benefit of the scheme, a farmer has to register on the BBY portal specifically developed for this purpose within the stipulated time at registration centers run by 3,500 PACS and 257 APMCs. The farmers were required to compulsorily furnish Aadhaar Number, Bank account details and mobile number on portal at the time of registration. Every farmer was allotted a unique registration number (URN). Farmers were also informed of the URN through SMS on their registered mobile number. The registration data pertaining to sown area is to be verified by the revenue officials in the field. It is mandatory for farmers to trade agriculture produce in the notified APMC campus within the time period declared for sale. The payment of BBY is to be done directly into beneficiary farmers bank accounts.

The APMCs are supposed to carry out the sale of the crop produce as per their rules. The farmers have to provide the URN generated during registration on BBY portal after the auction of produce in APMC. Nominated officials of APMC have to record the URN along with quantity of sale and rate of sale on Agreement Slip, Weight Slip and Payment slip after the completion of the auction. APMCs are directed to upload details of the agriculture produce, its daily arrival and rate on the *agmarknet* portal of Government of India after closure of the auction process every day by 6.00 pm. The entries of Agreement Slip, Weight Slip and Payment slip are to be then uploaded against the URN of the farmers on the Bhavantar Bhugtan Yojana (BBY) portal. It has been directed to upload details of registered farmers' transactions only after the payment by the licensee trader to the farmer has been made. The sale carried out using Trade Receipt (where the whole stock is not brought in the APMC yard and the auction happens only on the basis of sample) was not considered valid for the purpose of Bhavantar Bhugtan Yojana (BBY) scheme. The amount payable to a farmer is to be transferred to his/her bank account registered on BBY portal at the time of registration.

3. Likely Impact of the BBY scheme- An analysis of major crops

The scheme covered eight Kharif crops, maize, urad, moong, tur, soybean, groundnut, sesamum and nigerseed. In all, 21 lakh farmers registered under the scheme. Out of the total 97 lakh Hectares of area under these eight crops in MP, 43 lakh ha (45 percent) was registered under the scheme in Kharif 2017. The cost incurred by the state Government to compensate the registered produce (including tur) is expected to be around Rs 1944 crore¹. In this section, we analyse the impact of the scheme by comparing production, market arrivals and prices of commodities covered under the BBY scheme on a crop by crop basis (Table 3). We also compare data on production, market arrivals and mandi prices for the previous five years for each crop in this section. This gives us a better understanding of the impact of the scheme launched in 2017-18 vis-a-vis earlier years. Detailed Tables for each crop are given in Annexure Tables 1 to 8.

Maize- 2.99 lakh maize farmers registered with the scheme. They form approximately 14 percent of the total farmers registered under the scheme. Overall 13.17 lakh ha was the total cropped area under maize in MP. Out of which only 4.41 lakh ha (33 percent) was registered under the scheme. Total production of maize was recorded at 49.1 lakh MT and out of which 5.5 lakh MT was the mandi arrivals. Therefore only 11.1 percent of the total produce was compensated. Annexure Table 1 shows that average mandi modal prices in MP are lower than that recorded in Karnataka and Maharashtra. Total compensation made under BBY was Rs 154 crore. However, total value of compensation would have been Rs 1388 crore, if entire produce was compensated (Table-3).

Urad- In total, 6.15 lakh urad farmers registered with the scheme. They form 28 percent of the total farmers registered under the scheme. Overall 17.89 lakh ha was the total cropped

¹ This includes the expected compensation for tur

area under urad. Out of which 11.98 lakh ha (67 percent) was registered under the scheme. Total urad production was recorded as 17.71 lakh MT. But only 5.69 lakh MT of market arrivals was registered and compensated under the scheme, i.e., 32.1 percent of the total produce in the state was compensated. Annexure Table 2 shows that the fall in prices was the maximum for urad. Highest increase in both production and mandi arrivals (95 percent and 650 percent) was seen in 2014-15 but unlike 2017-18, prices rose during that period. Thus, under BBY, only 32 percent of urad production was compensated. The total compensation would have been Rs 4037 crore, if entire production was compensated for the price difference (Table-3).

Moong- Only 13,700 farmers registered for the scheme in Kharif 2017. They form approximately 1 percent of the total number of farmers who registered for the scheme. Out of 2.28 lakh ha of area under moong, only 0.13 lakh ha (6 percent) was registered for the scheme. Total moong production was 1.6 lakh MT in Kharif 2017-18. Annexure Table 3 shows that production, market arrivals and mandi prices fell in MP this year by 45 percent, 50 percent and 14 percent respectively compared to 2016-17. Only 1.3 percent of the total production was compensated by the scheme. Total compensation paid was only Rs 3 crore. This shows extremely poor coverage of the scheme, which may be due to various factors. Further, if the scheme was fully inclusive and if entire production was brought to the mandis, the total compensation would have been Rs 216 crore instead of a meagre amount of Rs 3 crore actually paid (Table-3).

Soybean- Soybean is one of the most dominant kharif crops of MP. In total, 10.59 lakh soybean farmers registered with the scheme. They form 48 percent of the total farmers registered under the scheme. Overall 50 lakh ha was the total cropped area under soybean, but only 25 lakh ha (50 percent) was registered under the scheme. Out of total soybean production of 69.4 lakh MT, only 12.84 lakh MT of produce (18.5 percent) was compensated by the scheme despite the fact that modal price in MP was 2594/quintal vis-à-vis an MSP of Rs 3050/quintal (Annexure Table 4). Market prices of soybean in both Maharashtra and Rajasthan were a tad higher compared to that in MP. Total compensation actually made was Rs 471 crore, while it would have been Rs 2547 crore if entire produce was brought under the scheme (Table-3).

Groundnut- Overall 42,000 farmers registered for the scheme, which forms approximately 2 percent of the total farmers registered under the scheme. Out of 2.18 lakh ha of area under groundnut in Kharif 2017-18, only 0.46 lakh ha was registered. Total groundnut production recorded was 3.46 lakh MT. An amount of Rs 11 crore was paid as compensation which was for just 4 percent of total groundnut production in the state. Had the entire produce been compensated, the total compensation would have been Rs 283 crore (Table-3). Annexure Table 5 shows that total production fell in MP compared to that last year. Prices in Madhya Pradesh fell by 18 percent this year compared to that of last year. Mandi prices in MP were 17 percent and 5 percent lower respectively compared to the two reference states of Gujarat and Rajasthan.

Tur, Sesamum and Nigerseed- We discuss tur, sesamum and nigerseed together since no payment have been done against these crops. For sesamum and nigerseed, the average sale price was higher than MSP and data for tur is not available yet as the scheme was to start from 1st of February, 2018.

In case of **tur**, 1.13 lakh farmers registered for tur under the scheme. This forms approximately 5 percent of the total farmers who registered under the scheme. Out of total cropped area of 6.5 lakh ha under tur, only 1 lakh ha was registered. Annexure Table- 8 shows that production is expected to rise in 2017-18 compared to that of the previous year.

Sesamum- For sesamum, 41,900 farmers registered under the BBY scheme, which formed 2 percent of the total farmers registered under the scheme. The total cropped area was 4 lakh ha, out of which only 0.4 Lakh ha was registered. Only 0.4 percent of the total production of sesamum in MP was registered under the scheme. Annexure Table 6 shows that production in MP fell by 2 percent in 2017-18 while there was an enormous increase in market arrivals by 822 percent. Prices increased by 17 percent in 2017-18 compared to previous year. While there was no data available for sesamum prices in Odisha, prices in mandis of Chhattisgarh show that they were lower than MP by 4 percent in 2017-18.

Nigerseed- In case of Niger seed, 3505 farmers registered who form less than 1 percent of the total farmers registered under the scheme. The total cropped area was 0.6 lakh ha, out of which 0.04 lakh ha was registered under the scheme. Annexure Table 7 shows that production in MP fell by 7 percent in 2017-18 while market arrivals were lower by 16 percent in 2017-18 compared to 2016-17. Prices have been declining in the last two years. No compensation was made for nigerseed as prices were higher than that of MSP announced. Only 0.1 percent of the produce was registered under the scheme.

Total Cost incurred - According to the GoMP, total expected expenditure incurred under the BBY scheme during the entire phase was Rs 1944 crore. This includes compensation for soybean, groundnut, maize, moong, urad and expected compensations for tur in February, 2018. We compute the cost of the scheme if the entire produce was registered and brought to the market for sale. The expenses equal the product of the difference between the ASP and the MSP and production registered under the scheme. Table 3 shows that the total cost of compensation would have been Rs 8478 crore, and not Rs 1944 crore, if the Government had compensated entire production which was sold at the price lower than the MSP.

Thus, the value of compensation actually paid by the GoMP was less than 25 percent of the total compensation that would have been paid if the scheme covered all the produce marketed below MSP. It is clear that a large number of farmers did not register themselves on the portal and they therefore had to sell their produce at prices which were lower than that of the announced MSPs. Figure 1 below presents the percentage of the produce covered and compensation made together. It shows that despite high differences between ASP and MSP, only a small share of the total produce was registered and hence compensated under the scheme. For example, despite ASPs being 42 percent lower than that of the announced MSP,

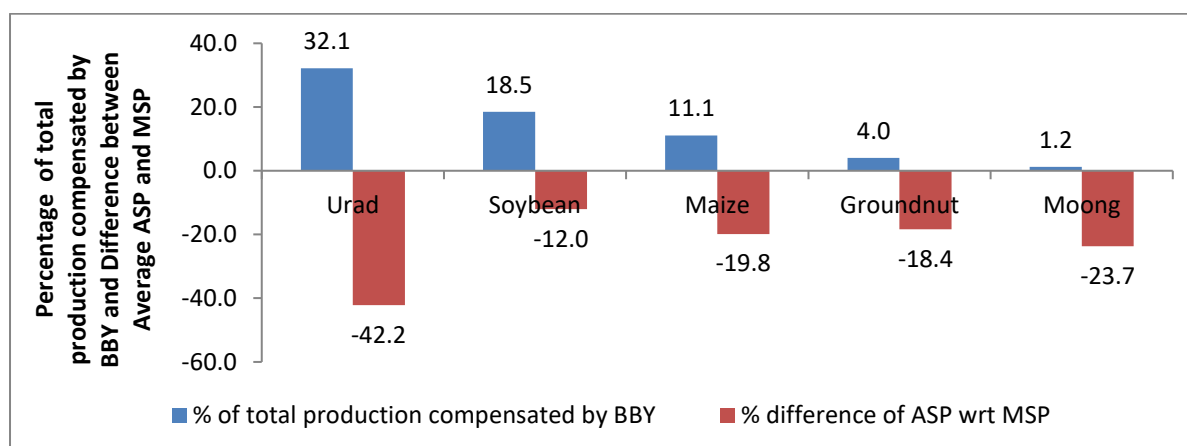
only 32 percent of the total urad produced was compensated. We find that difference between MSP and ASP for soybean was 12 percent but only 18.5 percent was compensated.

Table 3: Crop wise details for the BBY scheme kharif 2017-18

crops	Maize	Urad	Moong	Tur	Soybean	Groundnut	Sesamum	Nigerseed
Production (Lakh MT)	49.1	17.71	1.6	8	69.4	3.46	2	0.25
Registered Production (lakh MT)	13.89	8.1	0.09	1.38	38.91	0.87	0.38	0.02
Registered market arrivals (Lakh MT)	5.45	5.69	0.02	NA	12.84	0.14	0.001	0.001
Mandi Prices in MP (Rs/ quintal)	1090	2582	3594		2594			
No. of registered farmers (Lakhs)	2.99	6.15	0.14	1.13	10.59	0.43	0.42	0.04
Total cropped area (Lakh ha)	13.17	17.89	2.28	6.47	50.1	2.18	4.24	0.61
Registered area (Lakh ha)	4.41	11.98	0.13	1.17	24.86	0.46	0.38	0.04
Compensation actually paid (Rs crore)	154	1297	3	NA	471	11	0	0
Compensation that would have been paid if entire produce was to be covered under BBY (Rs crore)	1388	4037	216	NA	2547	283	0	0
Total compensation that could have been paid for all crops	Rs 8470 crore							

Source: Authors' computation based on data from agmarknet portal (accessed on 13th February, 2018), DES and State Government of Madhya Pradesh

Figure 1: Difference between MSP and ASP (%), and share of production actually compensated



Source: Compiled by authors based on information obtained from GoMP.

What all this indicates is that the BBY scheme for kharif 2017-18 had a very limited reach. Given that the features of the scheme are extremely attractive and farmers are assured that they will receive the announced MSP irrespective of the prevailing mandi prices, it was expected that all produce in the state would be registered under the scheme. But obviously that did not happen. This low level of participation only goes to show that there are several obstacles which might have come on the way of a farmer registering himself. For example, extensive paper work was required on the part of the farmer in terms of registration, submission of documents etc. All these are mandatory for him to avail the benefits of the scheme. It must have been difficult, confusing, time consuming and expensive for the farmer. At the time of sowing, the small and marginal farmers would have found it too cumbersome to register. Also, the short time window of the scheme might not have given him enough time to register himself.

It is also conceivable that market prices were more depressed than the counterfactual scenario with no scheme in place. This could have been because of the small window when it was mandatory for all the produce to be sold in the mandis and also because of manipulative practices of traders and lower level bureaucracy. Therefore, it is plausible that losses borne by the farmer who did not register for the scheme were more than the counterfactual scenario because of both depressed prices and lack of compensation.

4. What if BBY is scaled at national level?

The 3 year action agenda formulated by Niti Aayog in August 2017 recommends price deficiency payment (PDP) to mitigate price risk². It suggests that PDP schemes will be beneficial as it would not require procurement and therefore prevent accumulation of unwanted stocks. If the scheme is scaled at an all India level, it will cover all crops which are

² <http://niti.gov.in/writereaddata/files/coop/IndiaActionPlan.pdf> (Page 28)

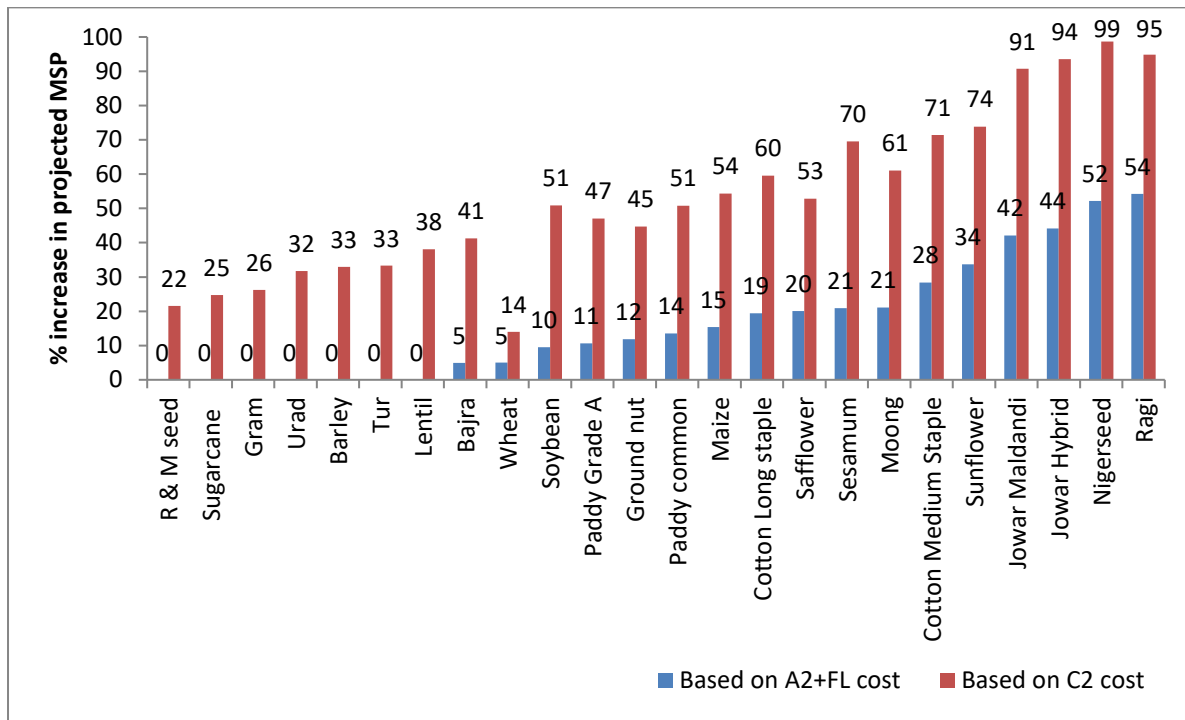
brought to the mandi for sale and do not receive MSPs announced by the Central Government. In this section, we estimate the cost which the exchequer will have to bear if the scheme is launched at the national level. Two possible scenarios can be expected- First, half-baked implementation of the scheme. Here, the scheme will not cost a lot, on papers, one can say that the scheme was offered but nothing much will change on ground. However, this will also not address the farm distress. Second, where the scheme is well targeted and efficiently implemented. The costs computed here are for the second scenario. These costs can be assumed to be somewhat conservative as they are based on previous years' marketed surplus estimates. However with implementation of BBY for a narrow period of say 2-3 months, market arrivals are likely to increase more than usual, and therefore the market prices may get depressed even further. Traders are likely to take full advantage of that situation, widening the gap between market prices and MSP. Thus, in reality, if the scheme is fully implemented, it won't be a surprise if the costs even cross the estimates being presented here.

Our study includes all crops for which MSPs are announced by the Government of India. They are paddy, wheat, jowar, bajra, barley, ragi among cereals, gram, masur, tur, moong and urad among pulses and groundnut, soybean, sesamum, nigerseed, sunflower, rape and mustard seed and safflower among oilseeds. Besides these, we also have cash crops like cotton (kapas). Our current estimates of costs have been computed by multiplying net available quantity with the price difference between projected MSP and projected sale prices. The steps used to compute the projected MSPs, net availability and compensation under the BBY scheme are reported in detail in Annexure Table 9.

We first project MSP for 2018-19. The A2+FL costs published by Commission for Agricultural Costs and Prices for Kharif crops are collected from Kharif reports for marketing year 2017-18. For Rabi crops, same are taken from Rabi reports for marketing year 2018-19. We first project A2+FL costs for 2018-19 by increasing the A2+FL costs for 2017-18 by 5 percent. We believe that this will cover annual increase in cost of inputs like seed, diesel, pesticides, labour etc. As announced by Finance Minister in his budget speech on 1st February 2018, the projected MSPs for 2018-19 are calculated by increasing the projected A2+FL costs by 50 percent. The MSP projections and the difference between the projected MSP for 2018-19 and actual MSP for 2017-18 are given in Annexure Table 10.

The expected increase in MSPs in 2018-19 over 2017-18 is given in Figure 2. Along with A2+FL costs, we also present MSPs projected on the basis of C2 cost plus pricing in Figure 2. We find that this A2+FL cost plus pricing of MSPs will mean that present MSPs will have to raised by more than 40 percent for jowar, nigerseed and ragi, between 15 and 35 percent for maize, cotton, safflower, sesamum, moong, and sunflower and between 10 to 15 percent for paddy, groundnut and soybean.

Figure 2: Expected Increase in MSPs in 2018-19 over 2017-18 (%)



Note- Sorted in ascending order of A2+FL costs Source: Authors' calculations

It must be noted that cost plus pricing which completely ignores demand side will lead to major distortions in the system. For example, we find that jowar prices need to go up by 42 to 44 percent according to the proposed 50 percent margin over projected A2+FL costs. Therefore, relative to other crops, farmers will find it more attractive to increase area under jowar and its production will increase. Higher supply without any commensurate change on the demand side cannot sustain high MSP, and the market prices will go way below that MSP, thus requiring either large scale procurement by the government at MSP or huge price deficiency payments. Similarly, higher cotton and paddy MSPs will have a negative impact on their competitiveness in global markets adversely impacting India's exports of these commodities. This in turn will cause a glut in domestic markets, necessitating massive procurement operations or large scale price deficiency payments. That's why the Terms of Reference of Commission for Agricultural Costs and Prices (CACP) requires it to consider several factors before recommending MSPs like demand and supply, prices in domestic and international markets, cost of production, inter crop price parity, terms of trade and its impact on inflation and downstream industries. Therefore, only cost plus pricing (1.5 times the cost A2+FL), which ignores the demand side completely will lead to large scale distortions in the system with high efficiency losses. It is, thus, not an economically rationale decision. We discuss the plausible impact of enhanced MSPs on paddy in Box-1.

Box 1- Impact of enhanced MSPs on paddy

1. Enhanced MSPs for paddy will make it relatively more attractive for farmers which is likely to lead to an increase in area sown. This will increase supply and along with unchanged demand will ultimately lead to a glut in the system. To ensure that farmers receive the enhanced MSP, the Government has to increase procurement which will prove to be a burden on the exchequer. **Therefore, the first conceivable impact of enhanced MSP is increase in production and procurement and therefore higher Government expenses.**
2. **Negative impact on diversification related initiatives-** Increase in MSP of paddy will be most effective in states like Punjab, Haryana and other states where procurement mechanism is well established. This will lead to a setback on all diversification related initiatives. Farmers will find it relatively unattractive to diversify and produce crops which have lower MSPs and no assured procurement.
3. **Over use of already depleting ground water** - Higher paddy production will put more pressure on ground water use. Punjab, which is already in the middle of crisis because of depleting groundwater, will be further incentivised to use its ground water resources for growing more paddy.
4. **On export competitiveness-** Saini and Gulati (2017) found that India has a comparative advantage in common rice export compared to its international competition from Thailand. However with increase in MSPs, India is likely to lose this competitiveness in the global market which will imply a decline in exports.

For some crops like wheat, barley, tur, urad, gram, lentil and rape mustard seed and sugarcane, we find that current MSPs are already on the higher side and projected MSPs based on cost plus pricing are lower than the currently announced MSPs. For all these commodities except wheat, we assume that the prevailing MSPs will remain same in 2018-19. This is because MSPs for these crops have been substantially raised in the last four years (Annexure Table 10) and mandi prices are lower than the announced MSPs for these crops (except sugarcane which is purchased by sugar mills at FRP or SAP). For wheat, we assume that the projected MSPs will be 5 percent higher than the prevailing MSP because wheat is a major crops and if paddy MSP is raised in Kharif 2018 by 10 to 15 percent, we feel that the Government will be under tremendous pressure and it may have to raise MSP of wheat by at least 5 percent even though it is already higher than 50 percent over A2+FL. Annexure Table 9 reports the final projected MSPs used for the analysis.

Since large scale procurement at MSP is generally limited to paddy and wheat (though procurement of pulses, cotton and some oilseeds is taken up sporadically), for all other commodities, we assume that the entire marketable surplus would be the net availability. The analysis has been done using data on net availability for 2017-18. Given that the entire price

difference between MSP and mandi sale price will be compensated under a PDP type scheme, it is likely that marketable surplus will be higher than that used in the analysis and almost entire produce may be brought by the farmers to the market. So, as discussed earlier, the current analysis may be seen as a conservative estimate of the total cost incurred by the exchequer for the scheme.

Net availability for paddy is calculated by deducting procurement, basmati rice production and export from marketable surplus. Average of Marketed Surplus Ratio (MSR) for TE-2014-15³ has been used to compute marketable surplus for 2017-18. For wheat, we deduct the procurement for 2017-18 from the marketed surplus while for other commodities, net availability is assumed to be equal to the marketed surplus. The calculation for net availability for all crops is given in Annexure Tables 12. Net availability of rice and cotton are converted to paddy and kapas using the formula given in Annexure Table 9 as MSPs are announced for paddy and kapas (raw cotton with seed).

Three scenarios have been constructed for calculation of total compensation-

- a. When average sale prices are 10 percent below projected MSP for 2018-19
- b. When average sale prices are 20 percent below projected MSP for 2018-19
- c. When average sale prices are 30 percent below projected MSP for 2018-19

We compute the difference between the MSPs and the average sale prices in the three scenarios. This will be the compensation for each quintal of the produce brought to the market. As reported in Table-4, we find that in the first scenario, when mandi prices are assumed to be 10 percent lower than MSP, the total cost which the centre will have to bear will be Rs 56,518 crore while in the second scenario, when the MSP has been assumed to be 20 percent lower, the total cost will touch Rs1,13,035 crore. In the third scenario, when market prices are assumed to be 30 percent lower than MSPs, the costs are Rs1,69,553 crore.

The highest compensation will be for paddy (25.5 percent), wheat (13.5 percent) and kapas (15.9 percent). Figure 3 gives the crop wise compensation.

Our analysis does not include sugarcane since Fair and Remunerative Prices (FRP) or State Advised Prices (SAP) is actually paid by sugar mills and not by the Government. Government of India (GOI) fixes FRP of sugarcane, based on the recommendations of the Commission (CACP). Some states like UP announce SAP which is higher than the recommended FRPs. Sugar mills have to bear the burden whenever sugar prices plummet. They have to pay the announced FRP/SAP for the sugarcane they buy from the farmers and in return realize low prices for sugar. Therefore, the sugar mills are compelled by the State Governments to subsidize the farmers leading to huge sugar cane arrears. This makes them sick and loss making. Rangarajan Committee report on the Regulation of Sugar Sector in

³ 2014-15 is the latest year for which MSR are available

India (2012) recommended that 75 percent of the revenue generated from sugar (ex-mill value of sugar) must be paid to the farmer for the sugarcane supplied and suggested that states must do away with SAPs as they are distortionary. Logically, the state governments must bear the burden and create a price stabilization fund and allocate funds from its budget for payment to farmers in years when sugar prices fall. In years of depressed sugar prices, this fund could be used to fulfill the gap between what mill owners can pay to farmers and the FRP or SAP. This is akin to a Price Deficiency Payment scheme.

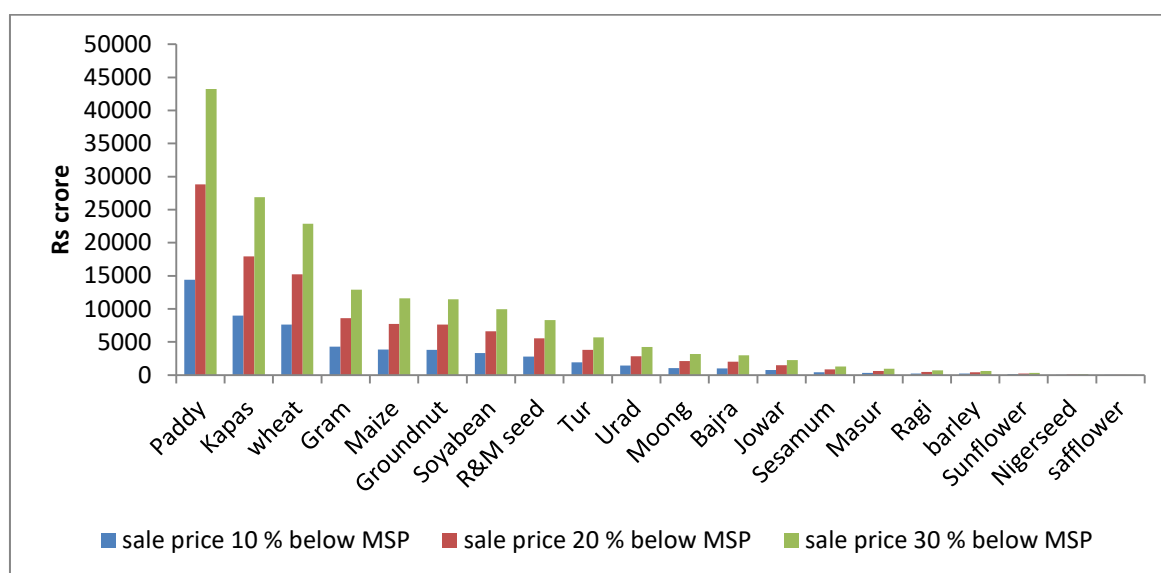
In case the state Governments decide to pay the price differences to sugarcane farmers, the total cost of the scheme will be even higher and rise to Rs 65,525 crore in case prices are 10 percent below the projected MSPs and Rs 1,31,050 crore when sale prices are 20 percent below projected MSPs and Rs 1,96,575 crore when prices are 30 percent lower than MSP/FRP/SAP

Table 4: Compensation if scheme is scaled at an all India level (only considering marketed surplus)

Crops	availability (Lakh tonnes) (TE-2016-17)	MSP (2017-18) in Rs/tonne	Projected MSP (2018- 19) (Rs/tonne)	ASP 1= prices 10 %lower than MSP	ASP 2= prices 20% lower than MSP	ASP3= prices 30% lower than MSP	MSP- asp1	MSP- asp2	MSP- aps3	compensati on1 (Rs crore)	compensati on2 (Rs crore)	Compensa tion3 (Rs crore)	Share in total Cost (%)
Paddy	819	15500	17590	15833	14074	12315	1759	3519	5278	14413	28827	43240	25.5
wheat	418	17350	18220	16396	14574	12752	1822	3644	5465	7617	15235	22852	13.5
Jowar	30	17000	24510	22056	19606	17155	2451	4901	7352	746	1492	2239	1.3
Bajra	67	14250	14950	13452	11957	10463	1495	2989	4484	998	1996	2994	1.8
Maize	235	14250	16440	14799	13154	11510	1644	3289	4933	3858	7716	11574	6.8
barley	15	14100	14100	12690	11280	9870	1410	2820	4230	211	422	633	0.4
Ragi	8	19000	29310	26380	23449	20518	2931	5862	8793	232	464	697	0.4
Gram	98	44000	44000	39600	35200	30800	4400	8800	13200	4304	8607	12911	7.6
Masur	7	42500	42500	38250	34000	29750	4250	8500	12750	309	618	927	0.5
Tur	35	54500	54500	49050	43600	38150	5450	10900	16350	1895	3791	5686	3.4
Urad	26	54000	54000	48600	43200	37800	5400	10800	16200	1419	2838	4256	2.5
Moong	16	55750	67500	60754	54004	47253	6750	13501	20251	1051	2102	3153	1.9
Groundnut	77	44500	49750	44779	39803	34828	4975	9951	14926	3821	7642	11462	6.8
Sesamum	7	53000	64060	57650	51244	44839	6406	12811	19217	422	843	1265	0.7
Nigerseed	1	40500	61610	55453	49291	43130	6161	12323	18484	41	83	124	0.1
Soybean	99	30500	33410	30065	26725	23384	3341	6681	10022	3317	6635	9952	5.9
Sunflower	2	41000	54830	49343	43861	38378	5483	10965	16448	107	213	320	0.2
R&M seed	69	40000	40000	36000	32000	28000	4000	8000	12000	2773	5546	8319	4.9
safflower	0.3	41000	49220	44297	39375	34453	4922	9844	14766	14	27	41	0.02
Kapas	174	40200	51600	46437	41278	36118	5160	10319	15479	8970	17939	26909	15.9
Total Compensation required (Rs crore)										56,518	1,13,035	1,69,553	

Source: Author's calculations

Figure 3: Crop wise compensation that may be needed under two scenarios (Rs crore)



Source: Authors' computation (sorted in descending order)

To summarize, we find that the scheme may turn out to be a financial burden for the exchequer, will be messy to implement, and will distort the markets. It can adversely impact exports of some commodities (most notably rice and cotton, including yarn and fabrics), will also be regressive towards diversification, especially in Punjab region, leading to faster depletion of groundwater.

5. Direct Income (Investment) Support based schemes

Given the distortions that PDP schemes can create, we discuss here an alternate scheme which is based on Direct Income (Investment) Support (DIS). The State Government of Telangana and Karnataka plan to launch such a scheme for both the seasons of Kharif and Rabi in 2018-19. The State Government of Telangana has announced that the proposed scheme, called Direct Investment Support (Rythu Bandhu) will support investment at Rs 4000 per acre (about Rs 10,000/ha) per farmer, per season, for purchase of inputs like (1) Seeds, (2) Fertilizers, (3) Pesticides & (4) Other investments in the field operations, of farmers' choice, for the crop season. Broadly, it is supposed to take care of the initial investment needs of every farmer.

If the farmer cultivates the land during both seasons, he is eligible for Rs 8000 per acre (about Rs 20,000/ha). Prior to the implementation of the scheme in Kharif-2018, the revenue department of GoT has updated data on land records by conducting the Land Records Updation Program (LRUP). The data collected from the LRUP will be used for the implementation of the DIS. The amount will be paid to the farmers account, before beginning of the season, i.e., in the month of May for Kharif and October in Rabi season. Bank account number, IFSC code, Aadhaar numbers of individual farmers have being collected during the Survey carried out across the state by the State Government. The required budget has been calculated based on area under each crop. It has been decided that the amount will be

disbursed in the form of Order Cheques. It shall be the obligation of the bank to confirm the identity of the farmer before disbursement of funds to him. These cheques will be payable at par in all the branches of the designated bank in the state. To prevent confusion and chaos among farmers, it has been decided by the GoT that the process of distribution of cheques to farmers will start in the months of April and May.

The National Informatics Center (NIC) of the state of Telangana has been designated as the nodal agency for the development of MIS portal for the scheme. The cheques will be handed over to the farmers in the villages during the meeting of Gram Sabhas. It has been decided that the benefit under the scheme will be given to the extent of agriculture land fit for cultivation only. From survey conducted by State Government of Telangana, 14.2 million acres was found to be suitable for the scheme. The projected budget for the Kharif-2018 season is Rs 5685 crore⁴ and state will have to spend around Rs 3130 crore in the rabi season⁵. It will be ensured that the NIC portal has the facility of updating the daily cheque disbursements.

The State Government of Telangana has also decided to establish a new corporation called Telangana Rashtra Rythu Samanvaya Samithi which would plan for the welfare of the farming community by increasing production and productivity of various crops and ensuring better prices to farmers. The authorized share capital shall be a minimum of Rs 200 crore with Rs 20 crore share of Rs 10 each. The objective of the corporation is to ensure MSP/remunerative prices to farmers by intervening as and when necessary, to take up post-harvest interventions, to aim at export of produce, to promote grading, processing and value addition, to organize FPOs and to help in market led extension services. To ensure accuracy of the disbursement of cheques, audit will be conducted. The teams will verify the cheques and other relevant documents and audit will take place in accordance with the norms prescribed by RBI/NABARD/CAG. The banks are obliged to furnish the evidence of transactions whenever sought by the Government. There will also be a suitable monitoring and grievance redressal mechanism established by the district collectors at mandal and every complaint has to be responded within 30 days.

We find that there are certain shortcomings in the scheme which have to be addressed to ensure its success. For example, the design of the scheme requires distribution of cheques among the farmers. This is likely to make the scheme messy and chaotic since very large number of cheques will have to be written, issued and distributed by state Government officials. This will also increase work load of banks. A simpler and more efficient way would be to directly transfer the amount to the bank accounts of the farmers. Along with this there are a few other steps which have to be taken for the scheme to be a success like plots have to be digitized and linked to Aadhar numbers and bank accounts of farmers to avoid duplication in payments.

⁴ State Government of Telangana

⁵ <http://www.financialexpress.com/economy/farm-subsidies-in-cash-telangana-to-give-rs-8000acre/1021043/>

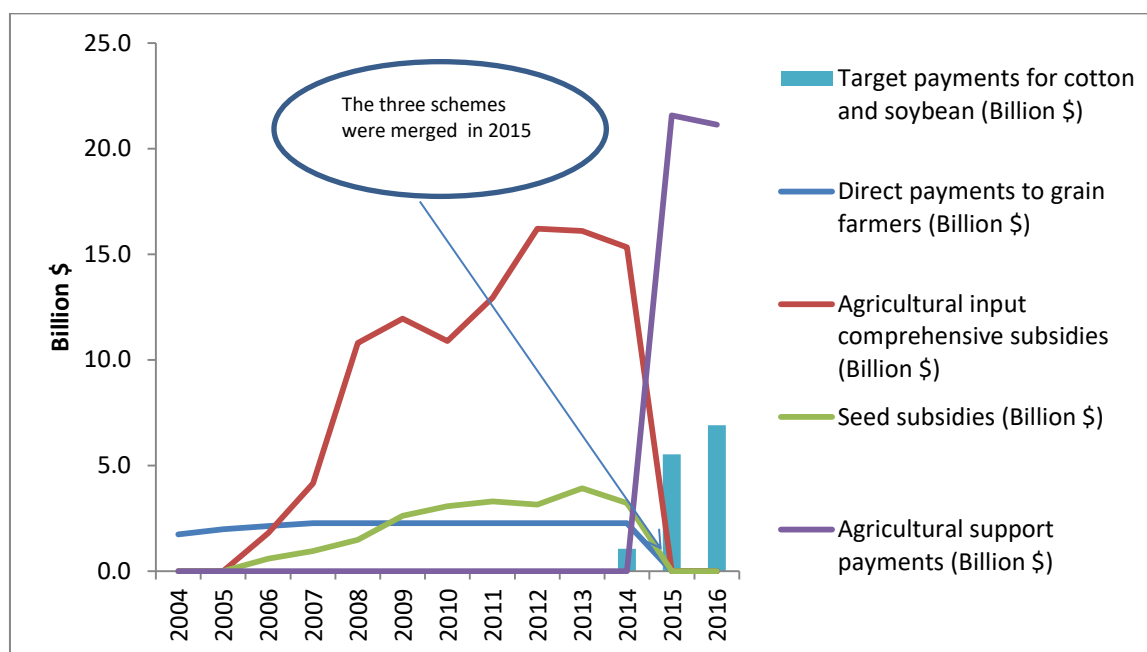
On similar lines, State Government of Karnataka also plans to implement DBT of Rs 5000 Rs per ha for dry land farmers in Kharif 2018. Details of the scheme are still awaited.

It is interesting to note that Direct Income transfer has been in practice in China since 2004. China gives an aggregate input support to the farmer on a per acre basis. In addition to direct payments, two more schemes, viz. agricultural input comprehensive subsidies and seed variety subsidies were launched in 2006 which also were based on the principles of Direct Income Support and were paid on the basis of area under cultivation.

In 2015, Chinese Government combined the three above mentioned area based payments (direct payments for grain producers, comprehensive subsidy on agricultural inputs and seed variety subsidy) and implemented a pilot of the single payment scheme called “agricultural support and protection subsidy”. Funds are allocated to protect arable land fertility and to preserve grain production capacity, support large scale production within so-called “new-style” farms who rent land from neighbours, family farms, cooperative farms and farms run by agribusiness companies through developing credit programs and support services. The government decided to extend this single payment scheme to the whole country in 2016. At CNY 140.5 billion (USD 21.1 billion) in 2016, this scheme remains the most important budgetary support program for Chinese agriculture (OECD, 2017). Figure 4 gives the expense incurred on the scheme since 2004.

They also have a price deficiency scheme which is called “Target Price Payments” since 2014. Against this scheme, direct payments were made to producers of cotton and soybean in order to “compensate farmers for the difference between a target price fixed by the government in advance and a lower price in the actual market”. However, as Figure 4 shows, it only covers two crops, soybean and cotton, and total expenses are approximately one-third of the expenses incurred in the “agricultural support and protection subsidy”. It is interesting to observe that China had maize also under this PDP scheme earlier, but given that it causes lot of distortions, it has moved it out of this scheme. The lessons from Chinese experience are twofold: (1) put all input support in one lump sum support on per hectare basis; and (2) keep PDP to minimal, say one or two crops. Else, the market distortions and the consequent efficiency losses may outweigh the support government wants to extend to farmers.

Figure 4: Expenses incurred on target payments and direct input subsidies in China



Source: OECD database

So, in the Indian case, if the Direct Income Support scheme is scaled at the national level, say at Rs 10,000 per ha, and payments are based on gross cropped area which was 1978 lakh ha in TE- 2014-15, the total payment will be Rs 1.97 lakh crore. If the DIS is only Rs 5000/ha, which seems doable, the cost of the scheme will be just below Rs 1 lakh crore. Thus, the scheme by itself may not be much cheaper but DIS based schemes are less prone to market distortions compared to BBY scheme. It is crop neutral as it does not incentivize producers to produce any particular crop. It involves lower intervention from market participants at the lowest level and thus the benefits can be directly targeted to the real beneficiaries i.e. the farmers rather than the middlemen who might extract most of the deal in case of the price deficiency scheme.

It must be noted that the objective of all these schemes, whether they are PDP based, DBT based or loan waivers, is to stabilize income of farmers. The idea is to reach farmers quickly and efficiently. As discussed earlier, in terms of penetration and reach, even BBY scheme undertaken by MP was not very successful. The scheme could not reach even 25 percent of the total produce. Only 32 percent of urad production was compensated, when ASP was 42 percent below the announced MSPs, mandi prices even lower than the ASPs. Therefore, both these schemes which target both positive and negative supply shocks in the market have been found to be relatively unsuccessful in terms of reach and timely intervention and farmers have not benefitted from either of these schemes.

Majority of farmers who are small and marginal do not bring their produce directly to the market. It is the traders who bring the produce and all the price compensation which the farmers get are therefore indirect. The easiest and most direct and fastest way to reach the farmer is through Direct Benefit Transfer related schemes. This will work irrespective of the

shocks that the farmer receives, be it supply or price. As discussed earlier, there are steps which have to be taken to make it fool proof like digitization of plots, linking it with Aadhar numbers and bank accounts to avoid duplication of farmer identities. We believe that once these reforms are undertaken, DIS related schemes should be a substitute of PDP based schemes and procurement at MSPs. Rather, we should reduce the number of crops for which MSPs are announced. This limited set of commodities should be those for which procurement machinery is robust and efficient.

6. Concluding Remarks and Policy Implications

So where does one go from here? Our analysis in preceding sections reveals that it is very difficult to reach the farmers, especially small ones through PDP type schemes. Needless to say, if reaching them is difficult through such a scheme, the increasing farm distress cannot be mitigated, at least in the short run. And even if systems are erected to reach large number of farmers, PDP based on the difference between MSP that is 1.5 times cost A2+FL, and market prices, will lead to several major market distortions. This would cause damage on several fronts ranging from exports to faster depletion of groundwater. The other alternative policy of giving DIS on per ha basis seems better, simple to implement, more transparent and inclusive. India can learn from other countries experiences also and move towards DIS type schemes and avoid PDP.

Either of the schemes, PDP or DIS, is not going to be cheap. But given the level of farm distress and urgency to alleviate it as soon as possible, and in a more inclusive manner, DIS seems a better option.

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Annexure

Annexure Table 1: Maize

16 oct-31stJan		Levels						Growth rates (%)				
		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2013-14	2014-15	2015-16	2016-17	2017-18
Production (Lakh MT)	MP	15.1	15.3	21.3	25.8	31.7	37.4	1	39	21	23	18
Market Arrivals (Lakh MT)	MP	2.2	1.8	6.18	13.7	5.8	10.51	-18	243	122	-58	81
Mandi Prices (Rs/quintal)	MP	1246	1232	1165	1331	1306	1090	-1	-5	14	-2	-17
Mandi Prices (Rs/quintal)	Kar	1302	1172	1103	1384	1424	1204	-10	-6	25	3	-15
Mandi Prices (Rs/quintal)	Maha	1265	1369	1151	1466	1255	1130	8	-16	27	-14	-10
Diff in prices wrt MP(%)	Kar							-5	-5	4	9	10
Diff in prices wrt MP(%)	Maha							11	-1	10	-4	4
MSP (Rs per quintal)		1310	1310	1310	1325	1365	1425	0	0	1	3	4

Source: Authors' calculations (MP-Madhya Pradesh, Kar- Karnataka, Maha- Maharashtra, Diff-difference, wrt-with respect to)

Annexure Table 2: Urad

16 oct-22 nd Dec		Levels						Growth rates (%)				
		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2013-14	2014-15	2015-16	2016-17	2017-18
Production (Lakh MT)	MP	3.9	2.2	4.3	5.2	7.9	13.9	-44	95	21	52	76
Market Arrivals (Lakh MT)	MP	3.4	3.8	4.2	3.3	10.1	6.3	12	11	-21	206	-38
Mandi Prices (Rs/quintal)	MP	2934	3612	6322	7171	3958	2582	23	75	13	-45	-35
Mandi Prices (Rs/quintal)	Raj	3164	3905	6863	7944	4523	3357	23	76	16	-43	-26
Mandi Prices (Rs/quintal)	UP	4052	5018	7141	9819	5738	4509	24	42	38	-42	-21
Diff in prices wrt MP(%)	Raj							8	9	11	14	30
Diff in prices wrt MP(%)	UP							39	13	37	45	75
MSP (Rs per quintal)		4300	4300	4350	4625	5000	5400	0	1	6	8	8

Source: Authors' calculations (MP-Madhya Pradesh, Raj- Rajasthan, UP-Uttar Pradesh , Diff-difference, wrt-with respect to)

Annexure Table 3: Moong

16 oct-15 Dec		Levels						YOY Growth rates (%)				
		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2013-14	2014-15	2015-16	2016-17	2017-18
Production (Lakh MT)	MP	0.4	0.4	0.7	0.8	2.9	1.6	0	75	14	263	-52
Market Arrivals (Lakh MT)	MP	0	0	0.2	0.1	0.2	0.1			-50	100	-50
Mandi Prices (Rs/quintal)	MP	4204	3824	6091	6524	4184	3594	-9	59	7	-36	-14
Mandi Prices (Rs/quintal)	Raj	5085	4928	6708	6945	4317	4299	-3	36	4	-38	0
Mandi Prices (Rs/quintal)	Maha	4718	5394	7267	7729	4662	4160	14	35	6	-40	-11
Diff in prices wrt MP((%)	Raj							29	10	6	3	20
Diff in prices wrt MP((%)	Maha							41	19	18	11	16
MSP (Rs per quintal)		4400	4500	4600	4850	5225	5575	2	2	5	8	7

Source: Authors' calculations (MP-Madhya Pradesh, Raj-Rajasthan, Maha- Maharashtra, Diff-difference, wrt-with respect to)

Annexure Table 4: Soybean

16 oct-31 Dec		Levels						YOY Growth rates (%)				
		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2013-14	2014-15	2015-16	2016-17	2017-18
Production (Lakh MT)	MP	78	52.4	63.5	49.1	70.8	69.4	-33	21	-23	44	-2
Market Arrivals (Lakh MT)	MP	30.2	19.1	27.4	9.6	12.6	18.8	-37	43	-65	31	49
Mandi Prices (Rs/quintal)	MP	3062.7	3398.29	6736	3386.8	2771.1	2594.2	11	98	-50	-18	-6
Mandi Prices (Rs/quintal)	Maha	3055.4	3308.6	3156.2	3542.3	2676.3	2649.6	8	-5	12	-24	-1
Mandi Prices (Rs/quintal)	Raj	3090.5	3498.6	3142.5	3524	2896.7	2710.8	13	-10	12	-18	-6
Diff in prices wrt MP((%)	Maha							-3	5	5	-3	2
Diff in prices wrt MP((%)	Raj							3	4	4	5	4
MSP (Rs per quintal)		2200	2500	2500	2600	2775	3050	14	0	4	7	10

Source: Authors' calculations(MP-Madhya Pradesh, Maha- Maharashtra, Raj- Rajasthan , Diff-difference, wrt-with respect to)

Annexure Table 5: Groundnut

16 oct-15 Dec	Levels							YOY Growth rates (%)				
		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2013-14	2014-15	2015-16	2016-17	2017-18
Production (Lakh MT)	MP	3.117	3.242	3.7	3.315	3.84	3.46	4	14	-10	16	-10
Market Arrivals (Lakh MT)16 oct-15 Dec	MP	0.065	0.035	0.165	0.093	0.099	0.307	-46	371	-44	6	210
Mandi Prices (Rs/quintal)	MP	4574	3199	3560	3606	4013	3290	-30	11	1	11	-18
Mandi Prices (Rs/quintal)	Guj	4920	3345	3688	3892	3938	3851	-32	10	6	1	-2
Mandi Prices (Rs/quintal)	Raj	4659	3392	3422	3925	3793	3469	-27	1	15	-3	-9
Diff in prices wrt MP((%)	Guj							5	4	8	-2	17
Diff in prices wrt MP((%)	Raj							6	-4	9	-5	5
MSP (Rs per quintal)		3700	4000	4000	4030	4220	4450	8	0	1	5	5

Source: Authors' calculations(MP-Madhya Pradesh, Guj- Gujarat, Raj-Rajasthan , Diff-difference, wrt-with respect to)

Annexure Table 6: Sesamum

16 oct-15 Dec	Levels							YOY Growth rates (%)				
		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2013-14	2014-15	2015-16	2016-17	2017-18
Production (Lakh MT)	MP	1.6	1.4	1.9	1.8	1.9	1.9	-11	33	-3	8	-2
Market Arrivals (Lakh MT)16 oct-15 Dec	MP	0.032	0.013	0.218	0.28	0.027	0.249	-59	1577	28	-90	822
Mandi Prices (Rs/quintal)	MP	8224	11933	8499	5802	5704	6674	45	-29	-32	-2	17
Mandi Prices (Rs/quintal)	Odi	3840	no data	7800	no data	no data	no data	no data	no data	no data	no data	no data
Mandi Prices (Rs/quintal)	Chhat	3800	4300	4171	4640	4800	5000	13	-3	11	3	4
Diff in prices wrt MP((%)	Odi							no data	no data	no data	no data	no data
Diff in prices wrt MP((%)	Chhatt							-64	-51	-20	-16	-25
MSP (Rs per quintal)		4200	4500	4600	4700	5000	5300	7	2	2	6	6

Source: Authors' calculations(MP-Madhya Pradesh, Odi- Odisha, Chhat- Chhattisgarh , Diff-difference, wrt-with respect to)

Annexure Table 7: Nigerseed

16 oct-15 Dec		Levels						YOY Growth rates (%)				
		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2013-14	2014-15	2015-16	2016-17	2017-18
Production (Lakh MT)	MP	0.298	0.275	0.16	0.23	0.27	0.25	-8	-42	44	17	-7
Market Arrivals (Lakh MT)	MP	0.001	0.0017	0.0077	0.0062	0.0032	0.0027	75	340	-19	-48	-16
Mandi Prices (Rs/quintal)	MP	3514	4256	4884	6190	5276	4484	21	15	27	-15	-15
Mandi Prices (Rs/quintal)	WB	No	No	No	No	No	No	No	No	No	No	No
Mandi Prices (Rs/quintal)	Raj	No	No	No	No	No	No	No	No	No	No	No
Diff in prices wrt MP(%)	WB							No	No	No	No	No
Diff in prices wrt MP(%)	Raj							No	No	No	No	No
MSP (Rs per quintal)		3500	3500	3600	3650	3825	4050	0	3	1	5	6

Source: Authors' calculations (MP-Madhya Pradesh, WB- West Bengal, Raj- Rajasthan , Diff-difference, wrt-with respect to)

Annexure Table 8: Tur/ Arhar

Feb 1- April 30		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2013-14	2014-15	2015-16	2016-17	2017-18
Production (Lakh MT)	MP	3.51	3.32	5.11	6.24	7.8	8.06	-5	54	22	25	3
Mandi Prices (Rs/quintal)	MP	0.51	0.27	0.94	0.98	1.83		-47	248	4	87	no data
Mandi Prices (Rs/quintal)	MP	3486	3501	4762	6498	4005		0	36	36	-38	no data
Mandi Prices (Rs/quintal)	Mah	4068	4156	5593	7857	4202		2	35	40	-47	no data
Mandi Prices (Rs/quintal)	Guj	3922	3743	5444	7182	4095		-5	45	32	-43	no data
Diff in prices wrt MP(%)	Mah							19	17	21	5	no data
Diff in prices wrt MP(%)	Guj							7	14	11	2	no
MSP (Rs per quintal)		3850	4300	4350	4625	5050	5450	12	1	6	9	8

Source: Authors' calculations(MP-Madhya Pradesh, Guj- Gujarat, Mah- Maharashtra , Diff-difference, wrt-with respect to)

Annexure Table 9: Steps to calculate the BBY compensation

STEP-A- Calculate projected MSPs for 2018-19

1. We calculate projected A2+FL cost by increasing the current A2+FL cost by 5%. The Kharif A2+FL costs are for marketing season 2017-18 and Rabi A2+FL costs are for marketing season 2018-19. These are compiled from Rabi and Kharif reports published by CACP
2. We then raise the projected A2+FL costs by 50% to get the projected MSPs for 2018-19
3. We deduct the projected MSPs from the past MSPs and for the crops for which the difference is negative,
 - a. For wheat we raise the present MSP by 5% to get the projected MSP as we feel that if paddy MSP is raised for kharif crops in 2018 as mentioned above, the same for wheat for Rabi 2018-19 will also have to be raised by at least 5%
 - b. For other crops, we keep the MSP same

STEP -B- Calculate net availability

1. We first compute marketed surplus for 2017-18 for all the commodities. Marketed Surplus has been computed using Marketed Surplus Ratio for TE-2014-15 since that is the last year of data availability. Data on Marketed Surplus Ratio has been compiled from Agricultural Statistics At a Glance, published by Department of Agriculture, Cooperation and Farmers Welfare, Govt. of India.
2. For rice and wheat, we deduct procurement for 2017-18
3. We deduct basmati rice production and export. The deducted basmati production has been assumed to be 85 lakh tonnes. ⁶
4. For wheat, net availability = production – procurement
5. For other commodities, net availability = marketed surplus
6. Net availability of Rice is converted to paddy by the following formula- $(100/67 \times \text{net availability of rice})$.
7. Net availability of cotton is converted to kapas using the formula- $(100/33 \times \text{net availability of cotton})$

⁶ This is based on data for 2014 (Source: <http://www.airea.net/page/60/statistical-data/state-wise-basmati-rice-production>) and basmati rice production for 2017-18 (Source: <http://www.tribuneindia.com/news/business/basmati-exporters-reap-rich-dividends/490976.html>).

STEP -C- Calculate compensation for three scenarios

1. First scenario is when the prices are 10 percent below MSP.
2. Second scenario is when prices are 20 percent below MSP.
3. Third scenario is when prices are 30 percent below MSP.
4. We compute the difference between the prices computed in the previous steps with that of the projected MSP.
5. The difference in the three prices is multiplied by net availability computed in STEP- B.
6. The sum of the total compensation for all crops is equal to PDP compensation.

Annexure Table 10: MSP projections for 2018-19

MSP projection [1]	A2+FL (2017-18) (Rs/q) [2]	MSP (2017-18) (Rs/q) [3]	Projected A2+FL (5 % high) (Rs/q) [4]	Projected MSP (50 % higher than projected A2+FL) (Rs/q) [5]	col [5]-col [3] (Rs/q) [6]	Projected MSP if A2+FL<MSP (5% rise over current MSP for wheat, unchanged for others) (Rs/q) [7]	Projected MSP (Rs/q) [8]	Projected MSP- old MSP (Rs/q) [9]	% increase in MSP [10]
Paddy common	1117	1550	1172	1759	209		1759	209	14
Paddy Grade A	1117	1590	1172	1759	169		1759	169	11
Wheat	817	1735	857	1286	-449	1822	1822	87	5
Jowar Hybrid	1556	1700	1633	2450	750		2451	751	44
Jowar Maldandi	1556	1725	1633	2450	725		2451	726	42
Bajra	949	1425	996	1494	69		1495	70	5
Maize	1044	1425	1096	1644	219		1644	219	15
Ragi	1861	1900	1954	2931	1031		2931	1031	54
Tur	3318	5450	3483	5225	-225	5450	5450	0	0
Moong	4286	5575	4500	6750	1175		6750	1175	21
Urad	3265	5400	3428	5142	-258	5400	5400	0	0
Ground nut	3159	4450	3316	4975	525		4975	525	12
Soybean	2121	3050	2227	3340	290		3341	291	10
Sunflower	3481	4100	3655	5482	1382		5483	1383	34
Cotton Medium Staple	3276	4020	3439	5159	1139		5160	1140	28
Cotton Long staple	3276	4320	3439	5159	839		5160	840	19
Barley	845	1410	887	1330	-80	1410	1410	0	0
Gram	2461	4400	2584	3876	-524	4400	4400	0	0
Lentil	2366	4250	2484	3726	-524	4250	4250	0	0
Rapeseed & Mustard	2123	4000	2229	3343	-657	4000	4000	0	0
Safflower	3125	4100	3281	4921	821		4922	822	20
Sesamum	4067	5300	4270	6405	1105		6406	1106	21
Nigerseed	3912	4050	4107	6161	2111		6161	2111	52
Sugarcane	145	255	152	228	-27	255	255	0	0

Source: Authors' calculations

Annexure Table 11: MSPs for last five years

crop	MSPs announced (Rs/quintal)					YOY Growth Rates (%)			
	2017-18	2016-17	2015-16	2014-15	2013-14	2017-18	2016-17	2015-16	2014-13
Paddy common	1550	1470	1410	1360	1310	5	4	4	4
Paddy Grade A	1590	1510	1450	1400	1345	5	4	4	4
Jowar Hybrid	1700	1625	1570	1530	1500	5	4	3	2
Jowar Maldandi	1725	1650	1590	1550	NA	5	4	3	NA
Bajra	1425	1330	1275	1250	1250	7	4	2	0
Maize	1425	1365	1325	1310	1310	4	3	1	0
Ragi	1900	1725	1650	1550	1500	10	5	6	3
Tur (Arhar)	5450	5050	4625	4350	4300	8	9	6	1
Moong	5575	5225	4850	4600	4500	7	8	5	2
Urad	5400	5000	4625	4350	4300	8	8	6	1
Groundnut-in-shell	4450	4220	4030	4000	4000	5	5	1	0
Soyabean	3050	2775	2600	2500	2500	10	7	4	0
Sunflower Seed	4100	3950	3800	3750	3700	4	4	1	1
Sesamum	5300	5000	4700	4600	4500	6	6	2	2
Nigerseed	4050	3825	3650	3600	3500	6	5	1	3
Cotton medium staple	4020	3860	3800	3750	3700	4	2	1	1
cotton long staple	4320	4160	4100	4050	4000	4	1	1	1
wheat	1735	1625	1525	1450	1400	7	7	5	4
barley	1410	1325	1225	1150	1100	6	8	7	5
gram	4400	4000	3425	3175	3100	10	17	8	2
masur	4250	3950	3325	3075	2950	8	19	8	4
R&M seed	4000	3700	3350	3100	3050	8	10	8	2
safflower	4100	4000	3300	3050	3000	3	21	8	2
Sugarcane		255	230	230	220		11	0	5

Source: Authors' calculations

Annexure Table 12: net availability of commodities

crops	Production 2017-18 (lakh tonnes)	Marketed Surplus Ratio (MSR)	Marketed Surplus (lakh tonnes)	Procurement (lakh tonnes)	Basmati Production (lakh tones)	net availability (lakh tonnes)
Rice	1110	82.6	917	283	85	549
Wheat	971	74.8	726	308	0	418
Jowar	47	65.3	30	0	0	30
Bajra	93	72.1	67	0	0	67
Maize	271	86.5	235	0	0	235
barley	20	75.2	15	0	0	15
Ragi	20	40.4	8	0	0	8
Gram	111	88.1	98	0	0	98
Masur	8	91.1	7	0	0	7
Tur	40	86.5	35	0	0	35
Urad	32	81.3	26	0	0	26
Moong	17	89.5	16	0	0	16
Groundnut	82	93.5	77	0	0	77
Sesamum	7	91.9	7	0	0	7
Nigerseed	1	92.0	1	0	0	1
Soyabean	114	87.2	99	0	0	99
Sunflower	2	84.6	2	0	0	2
Rapeseed/Mustard	75	91.9	69	0	0	69
Safflower	0.4	67.0	0	0	0	0.3
Cotton	58	99.5	57	0	0	57
Sugarcane	3532	100.0	3532	0	0	3532

Source: Authors' calculations (Net availability of rice and cotton have been converted to paddy and kapas in Table 4)

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- Physical and Social Infrastructure including Telecom, Transport Energy and Health
- Asian Economic Integration with focus on South Asia
- Skill Development, Entrepreneurship and Jobs

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