CHAPTER 27

# MSP and Farmers' Income

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Income from agricultural activities is determined by several factors. The prominent factors are levels of productivity, technology used in production, types of commodities grown and prices of inputs and output. With the beginning of economic reforms in early 1990s, policy focus shifted towards agricultural prices to achieve the goal of growth in output and farmers' income. Further, agrarian distress emerged as a serious issue in the post-liberalisation period which has been largely attributed to poor market, price crashes and low and un-remunerative prices. Farmers from several parts of the country are seeking direct intervention by the government to ensure remunerative prices for farm produce. There is even a suggestion to declare purchase of farm produce below the MSP (minimum support price) as illegal! There are several reasons for the shift in focus on agricultural prices and farmers' demand for government intervention in establishing prices of agricultural produce. Some of these are:

- Large price spread between farm gate and retail prices due to excessive number of intermediaries. Marketing channels are fragmented and do not show integration seen in non-agricultural commodities.
- Gluts and shortages are hitting frequently resulting in price crashes and spikes. Prices are turning highly volatile. Unlike a business firm,

farmers do not follow income smoothening—saving a part of income when prices are high to be used when prices are low—and require a smooth flow of income.

- Agriculture is getting increasingly commercialised. Area under commercial crops is increasing; the share of purchased inputs in total inputs is rising and the share of hired labour in total labour is also on the rise. This shift from subsistence to commercial agriculture necessitates some sort of price insurance for farm produce to check losses.
- Farmers' reliance on loans to meet production and consumption expenditure is rising which requires stable and adequate income to repay the loans.
- Farmers' needs and aspirations are rising like the other sections of the society whose per capita income is rising by more than 6 per cent a year. Growth in farm income is not even half of it and agricultural households are meeting the gap between income and household expenditure with borrowings—in a large number of states, loan is much higher than the cost of input and hired labour. In Punjab, it is higher than even the value of crop output. There is no escape from debt without substantial increase in income.
- Rural non-farming jobs and sources of income are not expanding at a fast rate.
- Technology progress shows stagnation in many crops/states due to which reliance on prices as a source of increase in income is rising.
- Conduct and performance of agricultural markets is showing deterioration because the hold of traders and middlemen on the market is rising. Farmers have lost confidence in the institution of market and look at the government to pay them fair prices for their produce.
- Trade liberalisation has increased transmission of volatility in international prices to domestic prices.
- The system of minimum support price (MSP) implemented through the system of public procurement has remained biased towards paddy, wheat and cotton and shown little change during the last

fifty years. Even in the case of rice and wheat, there are many incidents of farmers getting lower prices than the MSP in some states, where either procurement is weak or missing.

- Prices are also found to be the main driver of growth in Indian agriculture. Historical data shows agricultural growth accelerates with the increase in terms of trade (ToT) for agriculture (real prices of farm produce) and it decelerates when ToT declines (Chand and Parappurathu 2012).
- The effect of technology, extension and non-price factors in raising farm income is diminishing, resulting in increased reliance on prices as a source of growth in production and income.

## Prices and Farmers' Income

According to the Central Statistics Office data in National Accounts Statistics, cost of inputs including depreciation and wage bill constitutes around 40 per cent of the value of total output of agriculture sector at aggregate level. These shares imply that a one per cent increase in output prices realised by farmers results in 1.66 per cent increase in the income of farmers from agricultural production. This shows that output prices have a very strong effect on farmers' income.

The model prepared by me envisaged 17 per cent increase in price realisation by farmers to achieve the goal of doubling the farmers' income by the year 2022-23. The other changes suggested for doubling the farmers' income are growth in productivity, increase in crop intensity, expansion in irrigation, shift in area towards high-value crops and improvement in resource use efficiency.

### Remunerative Prices for Farm Produce and MSP

Price realisation for farm produce depends mainly on factors associated with demand and supply and nature of markets. The best way for any economy to ensure remunerative prices to farmers is to create a competitive market environment, modern infrastructure, efficient value chains and logistics, temporal and spatial integration of prices, facilitating trading environment and institutional mechanisms to equip farmers to participate in the market with strength. Creating these conditions requires a lot of public investments, periodic changes in regulatory environment and takes time. The process of market modernisation and creation of competitive marketing environment has been slow in India due to the dominance of traditional supply chain, reluctance of states to adopt progressive market regulations and resource constraints. This has necessitated direct intervention by the government in market and prices to protect farmers against low prices and price fluctuations. Even if a country has an efficient system of market, government intervention may be required during the time of glut and price crashes.

Recognising these factors, the Government of India started the system of minimum support prices way back in 1966-67 when the country got an opportunity to raise agri-food production by embracing green revolution technology. MSP was initially started with wheat followed by paddy and gradually expanded to cover twenty-five crops. These crops include wheat, paddy, maize, *bajra*, sorghum, *ragi*, gram, *moong*, *urad*, *arhar*, *masur* (lentil), groundnut, sunflower seed, safflower seed, sesame, soya bean, niger seed, rapeseed/mustard, *toria*, safflower, cotton, jute, copra, de-husked coconut and sugarcane.

These crops cover 84 per cent of the gross cropped area in the country. Close to 5 per cent of the gross cropped area is under fodder crops which have a very small fraction for sale. Therefore, ensuring the MSP for the above twenty-five crops will benefit almost all farmers as many of the farmers growing like horticultural crops also grow the MSP crops.

In reality, MSP has been backed by public procurement on behalf of central government only for three crops, namely, wheat, paddy and cotton. No effective mechanism was put in place to ensure coverage for the additional crops brought under the ambit of MSP. As a result, effectiveness of MSP for farmers remained restricted to rice, wheat and cotton, that too in the states and markets where public agencies procured the produce.

In recent years, MSP coverage has been expanded to some more crops under the Price Support Scheme of the Ministry of Agriculture. Quantity procured under the MSP operations for various crops is shown in Table 1. The table also shows states benefiting from direct price intervention by the government.

**Table 1: Status of Procurement of Different Crops by Public Agencies**
**Unit: Quantity in Thousand Tonne**

| Crop | Year | Production | Marketed Surplus Ratio % | Marketed Surplus Quantity | Procurement | Procurement as % of Marketable Surplus | Major States where Procured |
|---|---|---|---|---|---|---|---|
| Wheat | 2016-17 | 98,510 | 73.8 | 72,681 | 22,927 | 31.54 | Punjab, Uttar Pradesh, Haryana, Rajasthan, Uttarakhand, Chandigarh, Madhya Pradesh |
| Paddy | 2016-17 | 1,09,700 | 84.4 | 92,532 | 33,544 | 36.25 | Punjab, Haryana, Uttar Pradesh, Andhra Pradesh, Telangana, Madhya Pradesh, Odisha, Tamil Nadu, West Bengal, Chhattisgarh, Uttarakhand |
| Coarse Grains | 2016-17 | 43,770 | 69.2 | 30,289 | 260 | 0.86 | Haryana, Karnataka, Madhya Pradesh, Maharashtra |
| *Kapas* | 2014-15 | 32,577 | 98.8 | 32,183 | 4,174.0 | 12.97 | Gujarat, Maharashtra, Madhya Pradesh, Andhra Pradesh, Odisha, Telangana |
| Raw Jute | 2016-17 | 10,432 | 98.59 | 10,285 | 18.9 | 0.18 | West Bengal, Andhra Pradesh, Bihar, Assam |
| Soya bean | 2016-17 | 13,159 | 71.00 | 9,343 | 0.2 | ng | Maharashtra |
| Groundnut | 2016-17 | 7,460 | 91.63 | 6,836 | 71.6 | 1.05 | Gujarat |
| Mustard Seed | 2014-15 | 6,282 | 90.94 | 5,713 | 1.72 | 0.03 | Rajasthan |
| Sunflower Seed | 2016-17 | 251 | 89.14 | 224 | 4.95 | 2.21 | Odisha, Haryana |
| Copra | 2016-17 | 14,075 | 100 | 14,075 | 4.50 | 0.03 | Tamil Nadu, Andhra Pradesh, Karnataka |
| Pulses-Total | 2016-17 | 23,130 | 88.14 | 20,387 | 1,474 | 7.23 | NA |
| *Moong* | 2016-17 | 2,170 | 90.65 | 1,967 | 220 | 11.18 | NA |
| *Urad* | 2016-17 | 2,830 | 85.56 | 2,421 | 89 | 3.66 | NA |
| *Tur* | 2016-17 | 4,870 | 88.21 | 4,296 | 1,166 | 27.14 | NA |

Historical data shows that farm harvest prices (FHP—prices during 1-2 months immediately following harvest) for various agricultural commodities often ruled below MSP in many parts of the country. This can be seen from the difference between MSP and average *mandi* prices presented in Table 2. As the incidence of shortfall between MSP and FHP spread and awareness about MSP increased, the demand to ensure MSP for various crops has become quite intense and widespread. This demand is justified for two reasons. One, MSP is notified by the government itself which in a way makes it incumbent to honour it. Second, the terms of reference considered by the CACP (Commission for Agricultural Costs and Prices) while recommending MSP provide economic and technical rationale to keep prices received by farmers above the MSP. While there is no contention about the claim of farmers to get the MSP, there is a need for clarity on mechanisms to honour or ensure the MSP, role of centre and states in ensuring price guarantee, and fiscal and market implications.

**Table 2: Deviation of Wholesale Prices in Primary Markets from MSP during Four Months Following Harvest (Crop Year 2017-18) [(WSP-MSP)/MSP*100]**

| State | *Arhar* | *Bajra* | Barley | Cotton | Gram | Groundnut | *Jowar* | Maize | *Moong* | Niger seeds | Paddy | Ragi | Rape seeds/Mustard | Safflowers | Sesame | Soya bean | Sunflower | *Urad* | Wheat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Andhra Pradesh | -26 | -1 | | 4 | 43 | -19 | 1 | -10 | -11 | 11 | 0 | 6 | 8 | | 5 | 2 | -33 | -2 | |
| Assam | 30 | | | | 50 | | | 19 | 28 | | -7 | | -9 | | 5 | | | -51 | 12 |
| Chhattisgarh | -28 | | -2 | | 34 | -12 | -3 | -14 | -31 | 1 | 3 | -10 | -7 | | -10 | -15 | | -37 | 7 |
| Gujarat | -34 | -12 | | 7 | 28 | -14 | 27 | -9 | -16 | | 5 | 13 | -9 | | 27 | -6 | | -28 | 12 |
| Haryana | -44 | -6 | 3 | 8 | 27 | -27 | 18 | -12 | -29 | | 76 | | -6 | | 5 | | -41 | | -1 |
| Jharkhand | -17 | | | | | | | 17 | -8 | | 19 | | | | | | | -12 | 26 |
| Karnataka | -26 | -9 | | 8 | 59 | -18 | 11 | -13 | -14 | 56 | 37 | 13 | 48 | -21 | 4 | -11 | 10 | -20 | 59 |
| Kerala | | | | | 76 | 90 | | | | | 30 | | | | | | | | |
| Madhya Pradesh | -38 | -21 | 1 | 0 | 35 | -23 | -16 | -20 | -30 | 13 | 35 | 13 | -11 | -30 | 13 | -11 | -30 | -46 | 3 |
| Maharashtra | -27 | 0 | | 1 | 35 | 64 | 6 | -22 | -19 | | 44 | | | -24 | 8 | -10 | -34 | -29 | 17 |
| Odisha | 14 | -10 | | 9 | 5 | 18 | 1 | -2 | 13 | 11 | 0 | 13 | 8 | | | | -30 | 16 | |
| Punjab | -55 | -10 | 18 | 13 | | -15 | | -7 | -16 | | 16 | | -4 | | | | -30 | -12 | 0 |
| Rajasthan | -29 | -19 | 5 | 10 | 26 | -15 | 5 | -12 | -19 | | 54 | | -8 | | 21 | -11 | | -32 | -1 |
| Tamil Nadu | -19 | 11 | | 11 | | 12 | -9 | -1 | -27 | | 8 | 33 | | | 16 | | -49 | -23 | |
| Telangana | -21 | -10 | | 0 | 37 | -15 | -21 | -10 | -37 | | 4 | 9 | -17 | -23 | -4 | -8 | -46 | -22 | 6 |
| Uttar Pradesh | -29 | -24 | 14 | | 50 | -20 | 1 | -18 | -13 | | 19 | | -4 | | 11 | -12 | | -28 | 2 |
| Uttarakhand | 4 | | 23 | | 35 | 2 | | -11 | | | 1 | | -9 | | | -5 | | 2 | 10 |
| West Bengal | 36 | | | | 136 | | | -5 | 45 | | 1 | | 11 | | -36 | | | 27 | 3 |

*Source of basic data: Agmarketnet (www.agmarknet.nic.in)*

Besides central procurement at MSP, the Ministry of Agriculture provides financial support for price intervention through two other schemes, namely, Price Support Scheme for the MSP crops other than rice, wheat and cotton and Market Intervention Scheme for the non-MSP crops. Both these schemes are operated by states with sharing of cost with the centre. Similarly, some procurement of pulses is done under the Price Stabilisation Fund and Buffer Stock Scheme by the Ministry of Food, PDS and Consumers Affairs. The coverage of these schemes has remained very low but picked up after 2015-16.

### Budget Announcement on MSP

To address the problem of un-remunerative prices received by farmers and to meet their long-pending demand around the MSP, the Finance Minister made two significant announcements relating to the MSP in his budget speech on 1 February 2018. These include institutionalisation of cost concept to fix the MSP and the implementation of the MSP.

The budget fixed the MSP at least 50 per cent higher than cost A2+FL (imputed value of farmers' own family labour). Cost A2 includes costs of purchased and/or own inputs like seed, fertiliser, chemical, manure, hired and own bullock labour and machine labour, interest on working capital, irrigation expenses, depreciation and rent paid for the leased in land. It also includes costs of repair and any other miscellaneous expenses in the production of crop. A2 excludes imputed value of rent for own land. It is interesting to find likely changes in the MSP resulting from 50 per cent margin on A2+FL cost. The latest cost data available in the reports of CACP indicate that use of 1.5 times of the A2+FL cost raises MSP of twelve crops in the range of 4 to 47 per cent. The average weighted increase for the MSP notified commodities comes to 6.3 per cent.

It is also important to point out that MSP may not be restricted to 1.5 times the cost. It can be higher than that but will not be allowed to be lower. The margin given over and above the cost is determined by looking at demand and supply, international price situation and a couple of other economic factors. For instance, cost of wheat is much lower than *bajra* and barley but its MSP is much higher than the MSP of the latter. Raising A2+FL by 50 per cent implies the time spent by the farmer and his family in the crop production will be valued at a 50 per cent higher rate than the wage rate paid to hired labour.

### Ensuring MSP to Farmers

As mentioned earlier, the MSP announced for as many as twenty-one commodities remained only on paper and it was only notional. This hardly served any purpose. The budget announcement to ensure that farmers do not receive a price lower than the MSP is a historic decision of the present government. This will require putting in place some mechanism to pay MSP to farmers when price received by him/her (FHP) turns lower than the MSP. This is much more challenging than announcing a raise in the MSP.

There are two possible ways to ensure price guarantee to farmers. These are: (a) physical procurement of concerned crops by public agencies as and when the FHP falls below the MSP and (b) paying the difference between the MSP and the price received by the farmer into the farmers' accounts directly based on their record of market transactions. The first mechanism involves a large cost as it involves physical procurement, handling, storage, transportation and disposal of produce. The cost is estimated to be about 15 per cent of MSP. If these operations are not undertaken efficiently and in a professional way, the cost can be quite high. This mechanism also requires provision for working capital of the order of value of marketed surplus estimated to be procured to keep the MSP above the FHP. The positive aspect of this mechanism is that after procurement of a certain fraction of produce, the market price is likely to move up as private trade involved in the business will not leave everything to be purchased by the government. Thus, the obligation for procurement gets restricted.

The system of Price Deficiency Payment is very simple, involves less cost (less than 2 per cent of MSP) and is easy to operate. It also doesn't require working capital. But in this mechanism, deficiency payment may be required for a much larger percentage of marketed surplus. There is an apprehension that traders may have the tendency to keep the prices lower than their normal level as farmers are to be compensated for lower price by the government. The second apprehension is collusion between farmers and traders to extract more money from the government.

A pilot done by the state of Madhya Pradesh (MP) to pay MSP to farmers through the system of PDP (Price Deficiency Payment) or BBY (Bhavantar Bhugtan Yojana) for eight crops of *kharif* 2017-18 season provides useful insights into the working of Price Deficiency Payment systems. Price data for *kharif* crops in *mandi*s of Madhya Pradesh reveals no price distortion due to the implementation of the system of PDP as the ratio of farm harvest prices in MP relative to neighbouring states did not show significant deviation from the previous year for major crops. The scheme also resulted in sizeable increase in market arrival of the crops covered under BBY, thus linking producers to a formal marketing system.

## MSP and Farmers' Income

Whatever the method used to ensure MSP, it will result in a significant increase in income of the farmers. An indication of this is available from the increase in price realisation by farmers due to the implementation of the MSP. The estimate of this increase at state level is presented in Table 2 and for the country as a whole presented in Table 3. The country-level estimate is derived by taking weighted average of the state-level price deviations using production in a state as weight. The table reveals that if *arhar* farmers were able to sell their produce at the MSP during the year 2017-18, they would have realised 27.5 per cent higher price compared to the prices received by them. This, in turn, would have raised their income from this crop by about 44 per cent. Similarly, the increase in income from *bajra* turned out to be 25.5 per cent. The increase in income for the crops where MSP is already implemented is close to zero.

The second source of increase in farmers' income due to implementation of budget announcement on MSP is due to a new cost norm for the MSP. This involves an average increase of 6.3 per cent in the existing MSP for the year 2017-18. Taking into account the price elasticity of farmers' income, a 6.3 per cent increase in prices results in 10 per cent increase in income from the MSP notified crops.

The combined effect of the two changes in the MSP on farmers' income comes out to be quite large. This will be a significant source of realising the goal of doubling farmers' income by the year 2022.

**Table 3: Increase in Price Realisation by Farmers if Crop was Sold at MSP during 2017-18 Crop Season**

| Crop | Increase in FHP Corresponding to MSP Percentage |
|---|---|
| *Arhar* | 27.55 |
| *Bajra* | 15.97 |
| Barley | 0.00 |
| Cotton | 0.00 |
| Gram | 0.00 |
| Groundnut | 13.44 |
| *Jowar* | 2.11 |
| Maize | 13.43 |
| *Moong* | 19.51 |
| Niger seeds | 0.00 |
| Paddy | 0.41 |
| Ragi | 0.01 |
| Rape seed/Mustard | 6.82 |
| Sesame | 10.29 |
| Soya bean | 10.79 |
| Sunflower | 17.44 |
| *Urad* | 28.34 |
| Wheat | 0.22 |

## Role of Competitive and Efficient Market

While it is desirable to intervene in the markets when they fail to deliver remunerative prices to producers, excessive intervention in prices can have serious implications for the functioning of markets, fiscal resources, and import and export. It is important to mention that the best prices for farm produce can be realised from a competitive market. This requires regulatory reforms, institutional changes and development of appropriate infrastructure to promote evolution of agricultural market system.

### Reforms in Agricultural Market

Marketing and internal trade in agricultural commodities is governed by two regulations: (i) APMC Act and (ii) Essential Commodities Act (ECA).

Though many states have amended their APMC Acts as suggested in the Model APMC Act (2003), implementation has remained very poor, patchy and diluted. Private investments in agricultural marketing have not seen the kind of growth that was expected and which should be commensurate with commercialisation and diversification of agriculture in the country.

Almost all agricultural commodities like cereals, pulses, edible oilseeds, oilcakes, edible oils, raw cotton, sugar and *gur*, jute are included in the list of essential commodities and a very large number of control orders have been put into force by the central government and state governments under the ECA. As a result, modern private capital did not enter into agricultural marketing. ECA should be revoked with assurance that it will be invoked only if the price situation turns serious.

The Ministry of Agriculture, GoI, has now prepared a new Model Act named as Agricultural Produce and Livestock Marketing (APLM) Act, 2017 and urged states and UTs to adopt the same. Adoption of the new Act involves many reforms required to create a competitive environment in the market. This will help in keeping the prices received by farmers above the MSP in most cases and thus reduce the need for intervention for price support. The existing APMC Act has almost prevented the modern private capital from entering into agricultural production, marketing, storage, processing and value chain development. A strong initiative like the GST is needed to take states on board to implement the New Model APLM Act with urgency.

## eNAM

eNAM (electronic trading platform for National Agriculture Market) is a very innovative and strong initiative of the central government to transform marketing infrastructure and bring transparency, competition and integration in agricultural markets across the country. The scheme entails setting up of a common e-platform in 585 selected wholesale regulated markets across the country to provide seamless connectivity. The central government is providing the software to the states along with Rs 75 lakh per *mandi* for setting up the hardware and related equipment/infrastructure. eNAM was launched by Prime Minister Narendra Modi on 14 April 2016. As many as twenty-five crops including wheat, maize, pulses, oilseeds, potatoes, onions and spices have been included for trading on the platform. eNAM is similar to the ReMS electronic platform and online auction.

Integration with the e-platform requires states/UTs to undertake three reforms namely:

- A single licence to be valid across the state
- Single-point levy of market fee
- Provision for electronic auction as a mode for price discovery

Thus, the adoption of eNAM will prompt the states to undertake important reforms in agricultural markets. This initiative can prove to be a game changer for India's farmers and agriculture sector, if it is implemented in true spirit. It can offer large direct and indirect benefits to the sector and the economy. The direct benefits include: (a) improvement in competitiveness and efficiency in agri-markets, (b) elimination of traders' cartels and price manipulations by local trading groups and (c) lower price spread between producers and consumers as well as surplus and deficit states. Producers will get better price realisation, while consumers can expect benefit from the lower price spread.

The success of eNAM in improving competitiveness and integrating pan-India markets will require assaying facilities created in various markets to ascertain quality traits as quality variations are quite large in agricultural commodities. Also, each *mandi* will require forwarding agents to handle the produce for buyers from outside the *mandi*.

The full benefit from linking agricultural markets in the country and putting them on electronic platform will come when a single trading licence is valid across the country and when a farmer gets the option to sell her/his produce in any market throughout the country. An in-depth study of Karnataka experience (by Aggarwal et al 2017) discusses various difficulties in the implementation of eNAM type of model and underlines the need for new infrastructure and institutional reforms to establish the legal framework to support a new architecture for agricultural transactions in the country.

## Institutional Mechanisms

Indian agriculture is dominated by small holders who suffer from scale disadvantages and low bargaining power. Experience in the case of milk producers' cooperatives in many states shows that marketing and other constraints faced by small-scale producers can be overcome through an innovative marketing model like producers' organisations.

To encourage farmers to join hands in various farm activities, farmers' producers organisations are recognised under the Companies Act as farmers' producers companies (FPC). This year's budget has extended some exemption on the income earned by FPCs. SFAC (Small Farmers' Agribusiness Consortium) and NABARD (National Bank for Agriculture and Rural Development) are entrusted with the task of formation of FPCs in the country. Some of the FPCs are performing very well and have significantly raised income of their members. However, such success stories are very limited. As per the information put on SFAC website, it has promoted 739 FPOs (farmer producer organisations) and other agencies have promoted 339 FPOs in the country. This is small given the number of farmers (12 crore) and villages (more than 5 lakh) in our country.

There is a need to enhance role and funding of SFAC in building and promoting FPOs and FPC. Both SFAC and NABARD should be given some target for creating effective FPOs/FPC.

### Investments in Processing and Storage

A large variation is observed in prices of perishables between neighbouring states in a short span of time. This is amply exemplified by prices of tomato in recent months (Table 4).

**Table 4: Month-to-month and State-to-state Variation in Tomato Prices. Rs/quintal**

| State | May-17 | Jun-17 |
|---|---|---|
| Gujarat | 974 | 1662 |
| Rajasthan | 375 | 699 |
| MP | 598 | 922 |
| Chhattisgarh | 831 | 1771 |
| West Bengal | 1235 | 2606 |
| Odisha | 1774 | 2195 |
| AP | 551 | 1745 |
| Kerala | 1518 | 2554 |

*Source: Agmarknet*

Wholesale prices of tomato in Rajasthan *mandi*s were less than half of the price in neighbouring Gujarat. Such patterns are also seen in western, southern and eastern states. If the markets across the states are integrated, it will lift low prices and moderate high prices. The table also shows that within one month, from May to June, tomato prices increased by 70 per cent to 215 per cent in various states. Carrying a part of supply of tomato from peak month to lean month will bring low and high prices to equilibrium and reduce price volatility in the interest of consumers as well as producers. These unusually large spatial and temporal variations raise several questions. Why did traders from other states not buy tomato selling at throwaway prices in their contiguous states? Why could the produce not be stored for one to two months to earn a large net profit? This spatial and temporal integration in prices requires free unhindered sale–purchase by traders/farmers across states and suitable storage facility. Technology can also play an important role in price stabilisation by extending the shelf life of crops like tomato. Diverting a part of the supply for processing when prices turn low is a win-win situation for processors as well as producers.

## Conclusion

Government intervention in the agricultural market is essential to ensure remunerative prices for farmers. This involves both direct price intervention and indirect intervention in terms of regulation, infrastructure and institutional mechanisms. The budget for the year 2018-19 has made two significant announcements for ensuring remunerative prices for farmers. These include keeping the MSP at least 50 per cent higher than the cost of production, including family labour and ensuring implementation of the MSP. Implementation of these two measures will result in significant increase in prices received by farmers and their income from twenty-four crops covered under the MSP.

While government intervention in prices is critical, the government cannot buy every commodity everywhere. Competitive and efficient market system is the ultimate mechanism for ensuring remunerative prices for farmers and keeping a check on inefficient price spread between producers and consumers. Despite a lot of emphasis by a large number of experts and committees set up by the central and state governments, required reforms in agricultural markets have not been undertaken. More recently, the central government has launched eNAM and urged states to adopt model APLM Act (2017). However, the states are not taking adequate action to change market regulation to bring reforms in the system of agricultural marketing. The sufferers are farmers and also consumers. The failure of competitive market is forcing farmers to ask for a higher MSP and including more crops under MSP coverage.

To sum up, government intervention in the form of MSP is needed to guard against prices falling below some threshold level, however, market reforms, alternative institutional mechanisms like FPO and modern market infrastructure are needed for ensuring remunerative prices and raising farmers' income on sustained basis.

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