Adaptive policy case study: agriculture price policy in India

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5.1 Introduction

Post-Independence, while Indian agriculture has struggled, it achieved a lot as well. Today, the objective of achieving food security has been combined with environment sustainability. With present-day concerns of changing climate, it has become all the more important to have policies, which not only secure the food supply, but also preserve our environment and natural resources.

This paper draws on various secondary information (published either in print or on the Internet, personal communications etc.) as well as informal consultations with agricultural experts in India on the issue of APP (Agricultural Pricing Policy). It analyses some specific policy instruments under APP from an adaptive policy perspective.

The objective of the Government’s price policy for agricultural produce is to set remunerative prices with a view to encourage higher investment and production. Theoretically, APP accounts for various economic factors, such as the rate and quality of economic growth, in identifying and promoting the optimal crop mix. This, consequently, ensured appropriate allocation of resources in the agriculture sector, capital formation, and inter-sectoral terms of trade.

APP includes the following instruments.

- MSP (minimum support price)
- Procurement prices
- Public distribution system
- Zonal restrictions

5.1.1 MSP and procurement prices

The price support policy was initiated by the Government to provide protection to agricultural producers against any sharp drop in farm prices. If there is a good harvest and market prices tend to dip, the government guarantees an MSP or floor price to farmers, which covers not only the cost of production, but also ensures a reasonable profit margin for the producers. MSP is announced each year and is fixed after taking into account the recommendations of the CACP (Commission for Agricultural Costs and Prices). Procurement prices are the prices of *kharif* and *rabi* cereals at which the grain is to be domestically procured by public agencies (for example, FCI [Food Corporation of India]) for release.
through PDS (public distribution services). Normally, the procurement price is lower than the open market price and higher than MSP.

In the case of paddy, these two official prices were being announced with small year-to-year variations till 1973/74. However, in case of wheat this system was discontinued in 1969 and then started again in 1974/75 for one year only. Due to lack of demands for increasing the MSP, in 1975/76, the present system was evolved in which only one set of prices was announced for paddy and other kharif crops. Wheat was procured for buffer stock operations.

PDS consists of a network of 350,000 fair-price shops that are monitored by state governments. Supplying basic food commodities through PDS not only serves the purpose of reaching the needy, it also acts as a control for general consumer prices. FCI is the sole repository of food grains reserved for PDS. The Corporation has functioned effectively in providing price support to farmers through its procurement scheme and in keeping a check on large price increases by providing food grains through PDS.

FCI was established in 1965 as the public-sector marketing agency responsible for implementing government price policy through procurement and public distribution operations. It was intended to secure for the government a strong position in the food-grain trade. By 1979 the corporation was operating in all states as the sole agent of the central government in food-grain procurement. FCI operates through a countrywide network with its Corporate Office in New Delhi, five Zonal Offices, 23 Regional Offices practically in all the State capitals, 168 District Offices (as on 1 January 2006) and 1452 depots (as on 1 January 2006).

5.1.2 Zonal restriction

In conditions of scarcity, a state can call for restrictions on the inter-state movement of food grains. In case of surpluses and in the presence of an effective buffer stock of food grains, these restrictions may, as and when warranted by the situation, be gradually relaxed. Steps in this direction were taken during 1968 when a bigger northern food zone was constituted and the movement of gram and barley was made free throughout the country. Movement restrictions on maize, bajra, and jowar were also lifted from Punjab, Haryana, and Rajasthan. Restrictions were further relaxed in 1969 when the Northern Wheat Zone was enlarged so as to cover practically the whole of North India.

In this chapter, the MSP instrument of the APP is discussed from an adaptive policy perspective. As MSP is closely linked with another APP instrument – procurement prices – comparisons between these two are inevitable.

5.2 Policy description: changes, drivers, and impacts

*Thomas Malthus* (1766–1834) argued that the number of people would increase faster than the food supply. Population would eventually reach a resource limit (overpopulation). Any further increase would result in a population crash, caused by famine, disease, or war.

The arrival of the Green Revolution in India proved otherwise. The area under food grains increased from 101 million ha in 1950/51 to 128 million ha in 1990/91; expansion of irrigated area increased from 20.9 million ha in 1950/51 to 50.2 million ha in 1995; and availability of short duration, high yielding varieties increased as well. Widespread promotion of Green Revolution technologies during the 1960s increased agricultural yields in India for some crops by introducing high-yielding varieties that depended on input such as irrigation, chemical fertilizers, and pesticides (Goldman and Smith 1995).

The Government introduced tremendous agrarian reforms, made institutional changes, and encouraged the development of major irrigation projects. Furthermore, aggressive food-grain marketing in India began in a big way in the mid 1960s (Chand 2003a; Figure 5.1). This was meant to create a favourable, incentive-driven environment for the adoption of this new technology based on HYV (high-yielding varieties) of wheat and rice. India was then facing severe food shortage and mass hunger. The new technology provided a ray of hope to tackle the problem of food shortage and hunger.
Adoption of the new technology involved the use of non-conventional input and investments on the part of the farmers. At the same time, it was to be ensured that an increase in production benefited the consumers. The rationale of the twin policy of minimum support and procurement prices is easily understandable. The Green Revolution necessitated a stepping up of per hectare outlay but this was compensated by a much larger output of grain from each hectare of land. Larger output results in the lowering of market price. To protect enterprising farmers from possible loss, MSP was introduced. At the same time, should production be far below than expected, be it due to poor rainfall or any other reasons, market prices are bound to rise. In such an event, procurement price helps consumers access the necessary food grains through a PDS. Government supplies irrigation water, input like fertilizers and HYV seeds at a price lower than the cost of production. Even for the part of the output that would be claimed by the government in the form of procurement, the farmers would be offered a remunerative price which would be higher than its MSP but less than the current market price.

The Agricultural Prices Commission was set up in January 1965 (Figure 5.1) to advise the government on price policy of major agricultural commodities. The objective was to give due regard to the interests of the producer and the consumer, while keeping in perspective the overall needs of the economy. Since March 1985, the Commission has been known as CACP.

The Commission consists of a Chairman, a Member Secretary, two official members, and three non-official members. The non-official members are representatives of the farming community. They are usually persons with considerable field experience and an active association with the farming community.

5.3 Adaptive policy analysis

The MSP instrument of APP exhibited several features reminiscent of adaptive policies and policy-making. One of the most prominent is CACP. MSPs for major agricultural products are announced each year after taking into account the recommendations of CACP. CACP takes into account all important factors (Table 5.1) including cost of production, changes in input prices, input/output price parity,
trends in market prices, inter-crop price parity, demand and supply situation, parity between prices paid and prices received by farmers, etc. Among these factors, the cost of production is the most significant one. A meaningful support price policy should have minimum guaranteed prices, which would cover at least the reasonable cost of production in a normal agricultural season obtained from efficient farming. CACP carries out state-specific analyses for the cost of production in respect of various commodities. This is done through consultations with the state governments. After a meeting of the state Chief Ministers, the MSP/procurement prices are declared. Cost of production for the same crops varies between regions, across farms within the same region, and for different producers. This makes it difficult to have a norm for the level of costs.

In fixing the support prices, CACP relies on the cost concept, which covers all items of expenses of cultivation including the imputed value of input owned by farmers such as rental value of owned land and interest on fixed capital. Some of the important cost concepts used by CACP are the C2 and C3 costs.

C2 cost includes all actual expenses, in cash and kind, incurred during production by the actual owner, plus rent paid for leased land, plus imputed value of family labour plus interest on value of owned capital assets (excluding land), plus rental value of owned land (net of land revenue).

C3 cost is defined as the C2 cost plus 10% of C2 cost, to account for managerial remuneration to the farmer. Costs of production are calculated both, on a per quintal and per hectare basis. Since cost variations are large over states, CACP recommends that MSP should be considered on the basis of C2 cost. However, increases in MSP have been so substantial in case of paddy and wheat that in most of the states MSPs are far greater than not only the C2 cost but the C3 cost as well.

The regional segmentation of the markets resulted in a large gap between the cost of production and the MSP. Market prices were often lower than MSPs, which led to the unabated build-up of food-grain stocks with FCI. The excess stocks, which were much higher than the actual buffer requirement, led to a significant increase in the cost of carrying and also food subsidy. The Government reviewed this situation in considerable detail, ultimately resulting in modest price increases in the past five years.

Table 5.1 Adaptive policy elements in determination of MSP

<table>
<thead>
<tr>
<th>Factors related to changes in anticipated conditions</th>
<th>Demand and supply situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of production</td>
<td>A good analysis of the demand and supply situation allows for adjustments under unanticipated conditions and enables handling uncertainties in the market and production systems.</td>
</tr>
<tr>
<td>Changes in input prices</td>
<td>Effect on industrial cost structure</td>
</tr>
<tr>
<td>It has the ability to address an anticipated change in input price.</td>
<td>This could address unanticipated conditions and long-term changes.</td>
</tr>
<tr>
<td>Input/output price parity</td>
<td>Effect on cost of living</td>
</tr>
<tr>
<td>It considers some anticipated uncertainties in the prices and thus facilitates adjustment.</td>
<td>It has a potential to address unanticipated conditions in the future, which might be controlled by a group of factors.</td>
</tr>
<tr>
<td>Trends in market prices, international market price situation, inter-crop price parity, effect on general price level</td>
<td></td>
</tr>
<tr>
<td>It keeps track on the changes in the market and accordingly influences the delivery decision of the policy.</td>
<td></td>
</tr>
</tbody>
</table>

Parity between prices paid and prices received by farmers (terms of trade)

This anticipates a potential disparity and organizes this mechanism to address that.
years for the *kharif* and *rabi* crops. It is believed that the Government’s policy of not hiking the MSP of principal cereals is likely to encourage crop diversification in an indirect way.

Over the last 10 years (Table 5.2) large increases have taken place in the MSPs of paddy and wheat, creating large gaps between the cost of production and MSPs. This has led to the regional segmentation of the markets. Market prices were often lower than MSPs, which led to the unabated build-up of food-grain stocks with the FCI. The excess stocks, which were much higher than the actual buffer requirement, led to the significant increase in the cost of carrying and also food subsidy.

The Government reviewed this situation in considerable detail, ultimately resulting in modest price increases in the past five years for the kharif and rabi crops. It is believed that the Government’s policy of not hiking the MSP of principal cereals is likely to encourage crop diversification in an indirect way.

25 agricultural commodities are currently covered under the mandate given to CACP for advising the government with regard to the price policy. CACP follows a definite process to arrive at recommendations regarding MSPs. The sequence of the process is as below.

1. The Commission identifies the main issues of relevance for the ensuing season (short, medium, or long turn).

2. The Commission sends a questionnaire to Central Ministries, State Governments, and other organizations related to trade, industry, processors, and farmers, both in the cooperative and the private sector. Furthermore, it seeks their views on certain issues and factual information on related variables.

3. The Commission holds separate discussions with the State Governments, Central Ministries/Departments, and other organizations. The Commission also interacts with research and academic institutions and keeps track of relevant studies and their findings.

4. The Commission visits certain areas to make on-the-spot observations and obtain feedback from local-level organizations and farmers.

While India’s food-grain policy provided clear benefits to farmers investing in the Green Revolution production package, it also contributed towards the increase of staple grains, thus enhancing the adaptive capacity of poor farmers. On the other hand, it also led to a number of side effects (increased

### Table 5.2 Minimum support /procurement price of wheat and paddy

<table>
<thead>
<tr>
<th>Crop year</th>
<th>Wheat</th>
<th>Paddy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MSP</td>
<td>Per cent change</td>
</tr>
<tr>
<td>1994/95</td>
<td>360</td>
<td>2.9</td>
</tr>
<tr>
<td>1995/96</td>
<td>380</td>
<td>5.6</td>
</tr>
<tr>
<td>1996/97</td>
<td>475</td>
<td>25.0</td>
</tr>
<tr>
<td>1997/98</td>
<td>510</td>
<td>7.4</td>
</tr>
<tr>
<td>1998/99</td>
<td>550</td>
<td>7.8</td>
</tr>
<tr>
<td>1999/2000</td>
<td>580</td>
<td>5.5</td>
</tr>
<tr>
<td>2000/01</td>
<td>610</td>
<td>5.2</td>
</tr>
<tr>
<td>2001/02</td>
<td>620</td>
<td>1.6</td>
</tr>
<tr>
<td>2002/03</td>
<td>620$</td>
<td>–</td>
</tr>
<tr>
<td>2003/04</td>
<td>630</td>
<td>1.6</td>
</tr>
<tr>
<td>2004/05</td>
<td>640</td>
<td>1.6</td>
</tr>
<tr>
<td>2005/06</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

* Effective 1997–98, MSP is fixed for two varieties of paddy, common and Grade A.

$ One time special drought relief of Rs 20/- per quintal for rice and Rs 10 per quintal for wheat was given over and above the MSP.

Source MoF (2005)
water and energy demand, environmental degradation, mono cropping, etc.), which, in the long term, posed a threat to Indian agriculture, increasing the number of uncertainties faced by poor farmers.

There should not be one agricultural produce price policy for the whole country but different policies based on the ecological needs and situation of the area, say experts. Where subsidies are concerned, the pricing policies for fertilizers, water, and power should have a long-term sustainability dimension. It should not be based on immediate socio-economic, technological, and political concerns (Deshpande and Raveendra 2002). A more pertinent problem relates to the effectiveness of the implementation of an MSP policy. The context of price policy has changed substantially over the years, as has its direction and effectiveness as a tool to influence the agricultural economy. In the wake of liberalization, MSP assumes a significant role in the form of state intervention in the agricultural product market as well as a component of a safeguard measure. Therefore, it becomes necessary to see the effectiveness of MSP as a tool to encourage the adoption of technology in the present context, capital formation, as well as to ascertain and document the producers’ responses to this scheme of price intervention at the micro level.

5.4 Lessons learned

CACP was set up and it was assigned the task of announcing the minimum support and procurement prices for the main agricultural crops, including food grains. CACP recommendations on MSPs are based on a well-defined process (discussed earlier) considering a variety of important factors. CACP’s consultation process with the stakeholders increases the chance of the success of the MSP policy. Thus CACP strengthens the adaptive nature of the MSP policy.

With the advent of the new agricultural strategy, relatively greater outlay of resources was required on the part of the farmers. Farmers with bigger-sized holdings were fortunate enough to reap the advantage of the agricultural strategy. The success of the new agricultural strategy has led to excess food-grain production, which in turn expedites the fall of food-grain price, which in some cases, even fell below the level of the procurement price. It is unfortunate that in such a situation instead of purchasing the grains at MSP, the government opted to buy grains at procurement prices that were higher than the market price as well as the MSP. This led to the subsidized price of the publicly distributed grains.

With the advent of the World Trade Organization, the policy of subsidizing publicly distributed grains took a backseat. As an outcome of that, we have arrived at the present scenario, where the government has a food grains stock of 40 million tonnes. The storage cost of maintaining these stocks is at least Rs 5000 crore per annum, while the off take from the public distribution system is hardly 10% to 15% of the total stocks. Consumers cannot afford the price at which grains are being sold through the PDS and subsidy is out.

MSP has been highly favourable to rice and wheat production and has resulted in the shift of good quality land and resources to these crops, away from pulses, oilseeds, and coarse grains. Lack of crop diversification and heavy dependence on a few major cereal varieties has led to a significant loss in crop biodiversity. Inadequate extension and training, inefficient regulation of water quality and input pricing, and subsidy policies that made modern input too cheap and encouraged excessive application, have, collectively, created negative environmental impacts (Hazell 2003).

References

Chand R. 2003a
*Reorienting State Intervention in Food Grain Markets in India to Improve Food Security, Regional Equity and Efficiency*
New Delhi: Institute of Economic Growth

Chand R. 2003b
*India's National Agricultural Policy: a critique*
New Delhi: Institute of Economic Growth
Deshpande R S and Raveendra Naika T. 2002
*Impact of Minimum Support Prices on Agricultural Economy: a study in Karnataka*
Bangalore: Institute for Social and Economic Change

Goldman A and Smith J. 1995
*Agricultural Transformations in India and Northern Nigeria: exploring the nature of Green revolutions*
*World Development* **23**: 243–263

Hazell P. 2003
*The Green Revolution*
In *Oxford Encyclopaedia of Economic History*, edited by J Mokyr
Oxford: Oxford University Press

MoF (Ministry of Finance). 2005
*Economic Survey 2004/05*
New Delhi: Economic Division, MoF, Government of India

*State of Environment: Punjab, 2005*

**Bibliography**

Bhalla G S (ed.). 1994
*Economic Liberalisation and Indian Agriculture*
New Delhi: Institute for Studies in Industrial Development

Commission for Agricultural Costs and Prices (CACP). 1997
*Report on Price Policy for Rabi Crops 1996/97*
New Delhi: Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India

Fisher T, Mahajan V, and Singha A. 1997
*The Forgotten Sector – non-farm Employment and Enterprises in Rural India*
London: Intermediate Technology Publications

Gandhi V P. 1997
*Social Policy in Indian Development*
[Prepared for the UNRISD project on Social Policy in a Development Context, in the UNRISD programme on Social Policy and Development]
Geneva: United Nations Research Institute for Social Development

Gill M S. 1997
*Economic growth and social progress*
[The 20th convocation address at the CCSHAU, Hisar, Haryana]
*University News*, **35**(23), June 9

Kohli D S and Singh N. 1997
*The Green Revolution in Punjab, India: the economics of technological change*
[Presented in the conference on ‘Agriculture of the Punjab’ at The Southern Asian Institute, Columbia University, 1 April 1995]

Nadkarni M V. 1988
*Crisis of increasing costs in agriculture: is there a way out?*
*Economic and Political Weekly*, **23**(39): A114–A119

Rai P S. 2004
*Punjab’s water dispute*
Details available at <http://www.witness84.com/water>, last accessed on 27 November 2005

Designing policies in a world of uncertainty, change, and surprise
Sharma N. 1998
**Death trap**
*Indian Express* (23 July 1998)

Sharma R K. 1998
*Hi-Tech Agriculture in Punjab – performance and prospects*
Delhi: AERC, University of Delhi

Swaminathan M. 2000
*Weakening Welfare: the public distribution of food in India*
New Delhi: Leftword Books

World Bank. 2003
*India – sustaining reform, reducing poverty*
New Delhi: Oxford University Press