

Wheat and Rice Sector Reform Options

Indian policymakers are considering a range of policy options to strengthen the performance of the wheat and rice sectors and control budgetary costs. The introduction of the targeted public distribution system (TPDS) in the mid-1990s, as well as the recent trend toward smaller increases in minimum support prices (MSPs) for wheat and rice, have been aimed at reducing the government stock surplus, better targeting of food subsidies to the poor, and correcting price distortions. However, subsidy costs remain high and food grain policies are essentially the same as during the Green Revolution period, when more extensive government intervention was justified by concern with large cereal deficits, the need to protect poor consumers, and the need to promote the adoption of new technology by producers.

There is growing recognition that the policy framework that may have served India well in the past must be reformed to be consistent with changing consumer demand and an increasingly market-oriented economy, to more efficiently meet the needs of low-income consumers, and to provide an environment for stronger public and private investment in the farm sector. India's 10th Five Year Plan, the Government's current official planning document, identifies a number of food-policy issues, including MSP reform, decentralization of the PDS, and the introduction of food stamps as policy goals (Government of India, Planning Commission, 2002). Recent studies have also made the case for changes in food grain policy (Government of India, Ministry of Consumer Affairs, Food, and Public Distribution, 2002; Chand, 2003), but it has proven difficult to achieve consensus on reform and it is unclear which reforms will eventually be implemented (table 3).

In this section, we describe and analyze several of the major policy options available to the Indian Government, specifically: (1) the ongoing process of decentralizing government procurement and distribution by making the States responsible for grain purchasing and distribution, (2) the implications of reducing wheat and rice MSPs, and (3) the possible implications of shifting to a U.S.-style producer deficiency-payment program as a means of providing producer support. These policy scenarios are analyzed using a spatial model of India's wheat and rice sectors that accounts for differences in supply, demand, and prices across India's various States, as well as the logistical costs involved in transport, handling, and storage across the States. The analytical framework is described in appendix 1, along with model data and elasticities. More detailed results are reported in Jha and Srinivasan (2006).

Some issues faced by policymakers and noted in studies of India's wheat and rice policy, particularly alternative approaches to assuring domestic price stability and the efficient distribution of food, were not analyzed for this study (table 3). Approaches to price stability were examined in an earlier study using a different analytical framework (Jha and Srinivasan, 1999). The results of that study indicated that buffer stocks are a relatively high-cost option for achieving a given level of price stability compared with international trade, conducted by either the private sector or the Government, under a system of variable levies. Study of the cost and effectiveness of food distribution under the TPDS awaits the availability of household survey data from the 2004/05 round of India's National Sample Survey.

Improving the Efficiency of Government Food Grain Operations

Containing the cost of wheat and rice procurement, distribution, and storage operations by the Food Corporation of India (FCI) has become a key government priority. One option for containing costs is to decentralize responsibility for purchasing the wheat and rice needed for distribution and welfare programs in the various States, instead of having the FCI meet all of these needs with centrally procured grain. Most of the major food-deficit States are located a long distance from the major surplus areas of Punjab, Haryana, and western Uttar Pradesh in northern India, while the major deficit regions are Maharashtra and Gujarat in western India, Bihar, and Orissa in the east, and Kerala in the far south (fig. 11). As a result, movement of grain to deficit States involves high costs of transport, storage, and pilferage and also puts

Table 3

Selected recommendations of recent Indian food grain policy studies

Issues	Report of the High Level Committee on Long-Term Grain Policy ¹	National Center for Agricultural Economics and Policy Research ²
Minimum support prices (MSPs)	<ol style="list-style-type: none"> MSPs based on costs of production, including cost of family labor, owned capital, and rental value of farm land. Allow open-ended purchase of all grain offered at MSPs. 	<ol style="list-style-type: none"> Base MSPs on market clearing prices in normal market conditions. Continue procurement but pursue other options, including deficiency payments to reach all regions.
Procurement	Decentralize to the States with central Government covering costs.	
Price stabilization	Use variable import tariff and export tax policy.	Use buffer stocks.
Public food distribution	<ol style="list-style-type: none"> Discontinue corruption-prone TPDS. Return to universal PDS with single issue price. Provide additional subsidy to poor consumers, administered by States. 	
Food Corporation of India	FCI is needed, but reduce scope to improve efficiency.	Limit role of Government to "genuine needs."
Role of private trade	Legal reforms needed to enable increased role for private trade.	Private trade driven away by government procurement and price interventions.
Long term	Exploit production potential in western and eastern India.	Need technical revolution to reduce costs of production.

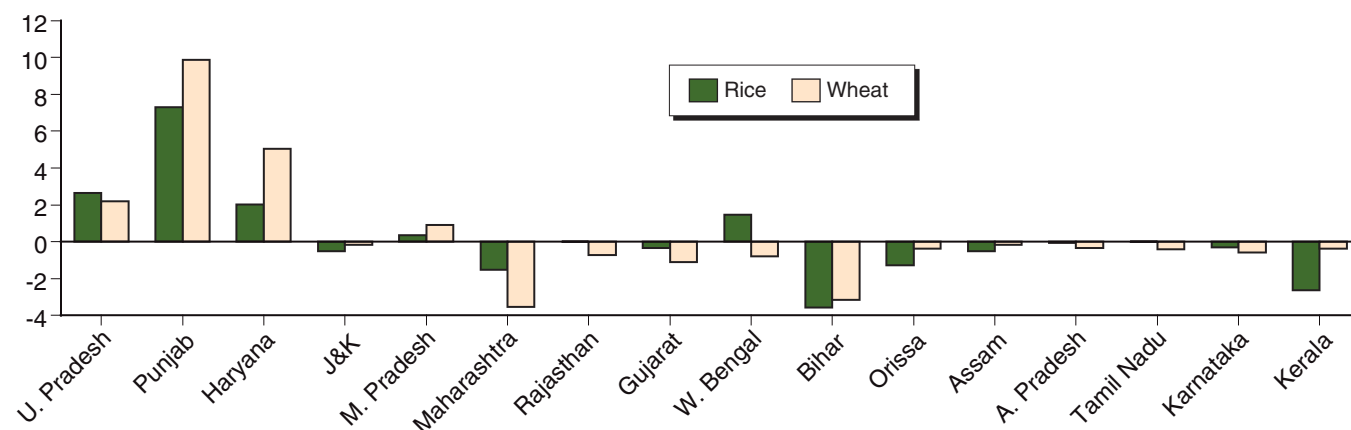
¹Government of India, Ministry of Consumer Affairs, Food, and Public Distribution, 2002.

²Chand, 2003.

Figure 11

Regional wheat and rice surpluses and deficits in India, 1999/2000

Million tons



Sources: Government of India, Ministry of Consumer Affairs, Food, and Public Distribution, 2002.

enormous pressure on limited rail freight capacity. It is anticipated that decentralized procurement will provide a greater role for State governments and private traders and reduce these logistical costs.

With decentralized procurement, both surplus and deficit States could commercially purchase wheat and rice from local private traders (or, in some cases, government agencies) at market prices, and distribute the grain through the TPDS and welfare programs. Private traders, in this scenario, are able to buy, sell, and transport grain without any regulatory impediment, such as quantitative restrictions or taxes that could restrict interstate movements. State governments would receive a subsidy from the central government to cover the difference between the purchase price plus costs of distribution and the distribution price. The amounts claimed by the States would be controlled by the Indian central government based on cost norms, with incentives for States to be efficient.

With this approach, the FCI would remain responsible for price support operations necessary to ensure the MSP in surplus States, holding only the grain needed to meet buffer stock targets. The existing approach of procuring rice in surplus States using levies calculated to meet distribution needs in deficit areas is inconsistent with decentralized procurement. As a result, complete decentralization will entail elimination of the rice levy. Deficit States will purchase milled rice at market prices to meet distribution needs, while price support operations in surplus areas would be conducted by procurement, then custom milling, of unmilled rice (paddy).

The analysis of the shift to decentralized procurement, including elimination of the rice levy, indicates that decentralization will have negligible impacts on wheat supply, demand, and prices (table 4). Impacts on the rice market would be somewhat larger than for wheat, mostly because of the increase in rice prices stemming from the removal of the rice levy, but are still estimated to be relatively small. Average producer rice prices would rise about 2 percent, and consumer prices about 1 percent. Overall rice consumption rises somewhat, despite higher average consumer prices, because the impact

of higher prices and somewhat lower open-market consumption in deficit States is offset by lower prices and higher consumption in surplus States, together with steady availability of subsidized grain.

The impacts of decentralization on central government operations and costs would be more significant, with about a 29-percent decline in procurement, an end to central grain supply to distribution programs, and somewhat lower government wheat and rice stocks. Government costs would drop more than 20 percent, as the increased costs incurred by States in meeting distribution needs through open-market purchases are offset by lower central procurement and stockholding costs. Given the weak condition of most State government finances, it is likely that the central government would have to compensate the States for any increase in States' costs due to decentralization.

Table 4

Impacts of decentralization of procurement and targeted public distribution system (TPDS)¹

Variable	Wheat	Rice	Total/ average
<i>Percent change</i>			
Production	0.0	0.1	0.1
Consumption	0.1	0.4	0.3
Producer price	0.0	1.9	1.1
Consumer price	0.0	0.9	0.5
Procurement	-15.7	-38.1	-28.9
Central TPDS requirement	-100.0	-100.0	-100.0
Stocks	-0.6	-1.6	-1.1
Government costs	-12.3	-26.0	-21.2
Net TPDS costs	19.4	75.7	61.2
Procurement costs	-15.7	-37.4	-29.9
Storage costs	0.0	-1.6	-0.8

¹Percentage change from before decentralization based on current policy.

Source: Jha and Srinivasan, 2006.

Table 5

Consumption impacts of decentralization of procurement and targeted public distribution system¹

Population group ²	Wheat	Rice	Total
<i>Percent change</i>			
Rural	0.11	0.52	0.33
Poor	0.09	0.50	0.33
Middle	0.12	0.59	0.37
Rich	0.13	0.10	0.11
Urban	0.11	0.33	0.22
Poor	0.10	0.47	0.29
Middle	0.13	0.22	0.18
Rich	0.00	0.41	0.20

¹Percentage change from before decentralization based on current policy.

²Expenditure classes are based on monthly per capita expenditure classifications from the National Sample Survey: poor (rupees 0-340/month), middle (rupees 340-775), and rich (rupees 775+)

Source: Jha and Srinivasan, 2006.

The analysis also estimates the impacts of decentralization at the State level and for rural and urban consumers by income class. Despite some variation by State, the overall impacts of decentralization appear to be positive for rural and urban consumers across income groups (table 5). In India, where policymakers are sensitive to economic policy changes that would particularly affect the cost of basic foods and the welfare of low-income consumers, positive impacts across income groups increase the feasibility and sustainability of a policy change.

The results suggest that the process of decentralization of procurement is likely to have negligible impacts on wheat or rice trade, at least with the existing tariff structure. However, with States responsible for meeting their own distribution needs, deficit States in peninsular India with proximity to ports may be more likely than the FCI currently is to resort to imports—as opposed to domestic purchases from surplus areas of northern India—in the event that tariffs are reduced.

Producer Price Policy Reform

The emergence of large food-grain surpluses during the late 1990s was largely due to the failure of price policy to successfully adapt to a new environment that included changes in consumer demand, slowed growth in food-grain yields, and more open-border policies. In this context, the “cost of production plus” formula for producer support resulted in minimum support prices (MSPs) that were out of line with domestic and world market conditions, declining consumption, and burgeoning food subsidies.

A recent study of the economywide impacts of increasing the wheat and rice MSPs when they are above market-clearing levels highlights the limitations of the producer price policies pursued during the late 1990s (Parikh et al., 2003). The study found that boosting wheat and rice MSPs above market-clearing levels leads not only to lower total consumption, but also to lower agricultural investment that ultimately offsets any short-term price-induced gains in output. With higher MSPs, public investment falls as budget-constrained government expenditure is shifted from investments to current subsidies. And, although higher MSPs may boost private investment in wheat and rice production by some households, overall private investment in agriculture falls because many low-income households—which typically spend a large share of income on food staples—must shift expenditure from investment to consumption. Analysis of distributional impacts found that 80 percent of rural consumers and all urban consumers are ultimately worse off when MSPs are set above market-clearing levels.

Reform of minimum support price policy. Since 2001, although there has been no explicit change in MSP policy, MSPs for wheat and rice have trended downward in real terms and relative to most other crops. Since

Table 6

Impacts of procurement and targeted public distribution system (TPDS) decentralization and reducing wheat and rice minimum support prices (MSPs)¹

Variable	10-percent MSP reduction			20-percent MSP reduction		
	Wheat	Rice	Total/ average	Wheat	Rice	Total/ average
	<i>Percent change</i>					
Production	-0.8	-0.3	-0.5	-1.5	-0.6	-1.0
Consumption	6.1	9.9	8.2	12.0	16.4	14.4
Producer price	-8.2	-4.7	-6.2	-16.2	-9.3	-12.3
Consumer price	-8.2	-5.7	-6.7	-16.3	-10.2	-12.8
Procurement	-46.5	-74.9	-63.3	-77.0	-100.0	-90.6
Central TPDS requirement	-100.0	-100.0	-100.0	-100.0	-100.0	-100.0
Stocks	-36.9	-60.1	-48.9	-72.9	-100.0	-86.9
Government costs	-46.2	-64.6	-58.2	-76.1	-88.2	-84.0
Net TPDS costs	0.0	54.9	40.6	-19.4	38.8	23.7
Procurement costs	-50.2	-76.6	-67.5	-80.2	-100.0	-93.1
Storage costs	-37.1	-60.0	-49.0	-72.4	-100.0	-86.7

¹Percentage change from before decentralization and MSP reduction based on current policy.

Source: Jha and Srinivasan, 2006.

2001, in contrast to the late 1990s, wheat and rice MSPs have tended to be set at or very near the cost-based levels recommended by the Commission on Agricultural Costs and Prices, with little or no change imposed by policymakers.

This study examines the impacts of reductions in MSPs using scenarios that assume 10- and 20-percent real declines in both the wheat and rice MSPs, in addition to the TPDS decentralization scenario presented earlier. Although the results show declines in production of wheat and rice, production impacts are small relative to gains in consumption (table 6). The smaller price declines and larger consumption gains in the rice market are largely due to the partially offsetting impact of the removal of the rice levy that is incorporated into the scenario. With lower MSPs, wheat and rice procurement both drop significantly, resulting in similarly large declines in stocks. Government costs drop nearly 60 percent with 10-percent lower MSPs and more than 80 percent with 20-percent lower MSPs, reflecting lower procurement, storage costs, and unit subsidies.

The model results indicate that the distributional impacts of the MSP declines on wheat and rice consumption are positive, with relatively large gains in consumption by poor rural and urban consumers (table 7). In this aggregated partial-equilibrium framework, this result is indicative only of the benefits of lower prices for net buyers of rice and wheat and does not account adequately for the implications of lower prices for producers and net sellers. The general equilibrium analysis by Parikh et al., however, suggests that producers can also gain as reductions in government subsidies and in household food expenditures lead to increased public and private investment and farm productivity.

The trade implications of the scenarios analyzed are negligible given the elevated level of base period stocks. However, the adjustments to supply, demand, and stocks from the price declines analyzed clearly indicate that

Table 7

Consumption impacts of procurement and targeted public distribution system decentralization and reducing wheat and rice minimum support prices (MSPs)¹

Population group ²	10-percent MSP reduction			20-percent MSP reduction		
	Wheat	Rice	Total/average	Wheat	Rice	Total/average
<i>Percent change</i>						
Rural	7.5	12.6	10.2	14.7	20.7	17.9
Poor	7.9	15.6	12.5	15.3	25.5	21.4
Middle	7.3	12.0	9.7	14.4	19.7	17.2
Rich	7.7	6.9	7.4	15.5	11.8	13.9
Urban	2.8	6.1	4.5	5.8	10.3	8.1
Poor	5.3	8.3	6.8	10.4	13.9	12.2
Middle	1.2	5.1	3.2	2.6	8.8	5.8
Rich	0.8	1.3	1.0	2.0	2.4	2.2

¹Percentage change from before decentralization and MSP reduction based on current policy.

²Expenditure classes are based on monthly per capita expenditure classifications from the National Sample Survey: poor (rupees 0-340/month), middle (rupees 340-775), and rich (rupees 775+).

Source: Jha and Srinivasan, 2006.

imports become more likely as MSPs decline and reduced procurement lowers stock levels.

Our approach to analyzing the impacts of lower real MSPs does not deal with the issue of how MSPs are set. MSP reductions are unlikely to stem from the cost-based approach currently in use, and would likely require that recent domestic and international market price trends be given a larger weight in setting MSPs.

Because of the limitations of the two-commodity, partial equilibrium model (see appendix 1), the impacts of reduced MSPs described here are most useful for the short and medium run. The model does not account for cross-commodity developments in supply and demand or changes in input markets and technology that may alter the responsiveness of producers and consumers to changing prices in the longer term.

Deficiency payments. A deficiency payment system would allow the Indian Government to maintain a desired level of support for producers with less distortion of market prices and without incurring the costs of procuring, handling, and storing grain. With deficiency payments, farmers would receive a direct government payment covering the difference between the market price at which they sell their grain and the price level supported by the Government—such as the MSP.

We analyze the market and government cost impacts of maintaining the same level of support in the reference scenario (before decentralization or reductions in MSP) by means of farmer deficiency payments instead of by government procurement. Compared with supporting the MSP through procurement, the deficiency payment scheme provides consumers with lower prices because all grain remains in the market rather than moving into government stocks after procurement. The analysis indicates that wheat

prices would fall an average of 26 percent, and rice prices about 10 percent. Although some producers (those previously selling above the MSP) would experience somewhat lower returns despite deficiency payments, losses in producer welfare would be more than offset by large gains in consumer welfare. Government costs are also estimated to fall sharply—about 60 percent below the current system—as the cost of making deficiency payments to farmers is more than offset by the elimination of government procurement and storage costs.

The deficiency payment would, in theory, allow the Government to support producers with lower consumer and budgetary costs and less distortion of domestic markets. However, a major impediment to this approach is devising a mechanism for administering deficiency payments that reaches all producers and is not susceptible to fraud. One possibility would be to build on the relatively recent initiative to create a system of verifiable and negotiable warehouse receipts that is being promoted in some States, in part by India's rapidly expanding futures markets for farm commodities.