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Agricultural Price Policy, Output, and Farm Profitability in India

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Abstract: The formulation of agricultural price policy is complicated by the multiplicity of functions that price performs. The objectives, thrust, and instruments of agricultural price policy in India have undergone conspicuous shifts during the past 50 years and so has the role and effectiveness of price policy as a tool to influence the agricultural economy. The country's post-reform period witnessed higher emphasis and dependence on price policy compared with previous decades, where price policy aimed only at maintaining a balance between the interests of consumers and producers. It is in this context that the paper examines the effectiveness of procurement prices in getting sufficient income to the farmers. An in-depth analysis of costs and returns was conducted for wheat and paddy, the crops offered the highest protection by the state, to get idea of the profitability of Indian agriculture and gain insights into the workings of the price policy.

Introduction:

The agricultural price policy in India is basically aimed at intervening in agricultural produce markets to influence the level of fluctuations in prices and price-spread from farm gate to the retail level (Government of India, 2010). The formulation of agricultural price policy is complicated by the multiplicity of functions that price performs. The objectives, thrust, and instruments of agricultural price policy have undergone noticeable shifts during the past 50 years. Up to the mid-1960s, when the major concern was to ensure that the gap between demand and supply of food did not result in an excessive rise in consumer prices, the main instruments of policy were controls/restrictions on food grain sales, food imports, and distribution of food grains at pre-specified prices that were normally below the market prices. After the mid-1960s, when new seed and fertilizer technology became available, price policy was assigned a positive role of augmenting the availability of food grains by increasing domestic production. The emphasis of the policy was on achieving the twin objectives of assuring remunerative prices for the farmers and providing food grains to the consumers and raw material to the industry at reasonable prices.

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Recognizing the limitation of price policy in achieving these broad objectives, India had adopted a new strategy built on a foundation of three elements: (i) the provision of an improved high-yielding technological package to farmers; (ii) the delivery of modern farm inputs and services, including credit; and (iii) the assurance of remunerative pricing and marketing environment to farmers. The policy framework was modified in 1980, with the emphasis shifting from maximizing food grain production to ensuring a diversified production pattern consistent with the overall needs of the Indian economy. To achieve the new strategic objective, three support approaches were extended to non-food grain crops: technology, inputs, and marketing. As a result, the production of non-cereal food items such as edible oilseeds, fruits, vegetables, spices, and livestock products increased. The main instruments of agricultural price policy have been: (1) assured prices to producers through the system of minimum support prices implemented through obligatory procurement, (2) inter- and intra-year price stability through open market operations, (3) maintaining buffer stocks, and (4) distributing food grains at reasonable prices through the public distribution system. This policy has been helpful in several ways. From a situation of massive shortages, India has emerged as a net exporter of food; food security has been attained at the national level. Prices of basic food items have remained relatively stable; India did not face the sharp price spikes experienced by many countries during the global food crisis (Chand 2008). The policy has had a positive effect on farm income as well, and has led to economic transformation in well-endowed, mainly irrigated, regions (Chand 2012).

This paper examines these issues empirically by doing an in-depth analysis of costs and returns in the production of wheat and paddy, the crops offered the highest protection by the state, to get some idea of the profitability of Indian agriculture and gain insights into the workings of the price policy.

The data used in the analysis were taken from reports of cultivation cost of the Directorate of Economics and Statistics,

Ministry of Agriculture, Costs and returns were calculated at the all-India level to determine emerging trends in profitability. Weights based on area and production of the respective crops were used to aggregate the data from the different states. Area-based weights were used for all the variables, except cost of production.

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FOOD POLICY REGIME AND AGRICULTURAL OUTPUT: A REVIEW

A distinct change in food policy in India appears to have taken place over time, evolving along with developments in the country's economy. Two elements may be discerned in the government's food policy: the short-term concern with demand management and the long-term objective of attaining national self-sufficiency in food grains. The short-term concern with demand management attempts to maintain an adequate supply throughout the crop year, thus focuses on inflationary pressure within the economy. In contrast, the long-term objective is concerned with the pattern and rate of growth of production of major food grains in the economy.

The main aim of the food policy until the mid-1960s (since independence) had been to ensure that the gap between food demand and supply did not result in an excessive rise in consumer prices. As with the pre-independence period, the emphasis continued to be on food imports, price controls, and food rationing. During the early 1960s, the government launched the intensive agriculture district program (IADP) and intensive agriculture area program (IAAP) in selected districts; both were aimed at increasing food production. By the mid-1960s, India's food grain imports had reached 16 percent of its total food grain needs. Imports of this magnitude were beyond the country's purchasing power. Food grains, mainly wheat, were imported at concessional prices from the USA under Public Law 480.

Furthermore, the country experienced an unprecedented severe drought for two consecutive years, which worsened the situation. Food grain production in 1965–66 declined by over 17 million tons, which was 19 percent less than the previous year's production. Though production improved marginally in 1966–67, it remained 10.90 percent below the average figure for the three years prior to the first year of drought. Food grain prices recorded their highest rate of increase since 1950.

Trend of Cost of Cultivation:

The previous section clearly highlighted that the lacklustre growth performance of most crops during the post-reform period coincided with the dilution of elaborative support mechanism that had been built up in stages since the independence. With subsidies slashed and the state agencies becoming redundant in distributing inputs, the post-reform period witnessed a slowdown in the use of primary agricultural inputs. On the other hand, the

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reduction of public investments in irrigation, research, extension, and other related infrastructure resulted in major setbacks in technology development, dissemination, and adoption. Agricultural growth has recovered since 2004–05 as a result of the government's renewed policy thrust through various development programs that were put in place.

Since the government has put in place non-price interventions to make farming profitable enough, the withdrawal of such mechanism may adversely affect farm profitability. Moreover, going by simple economic logic, nobody would invest money in a venture that does not provide reasonable remuneration. In this context, an analysis was done on the trend in paid-out cost of cultivation and total cost of cultivation and production in real terms, of wheat and paddy under different policy regimes, covering the period 1981–82 to 2009–10.

The total cost of cultivation of wheat and paddy were high during the post-reform period compared with that in the 1980s. The average real paid-out cost of cultivation (A2) of these crops during the post-reform period increased from INR 444 to INR 527 for wheat and INR 479 to INR 597 for paddy in absolute terms, registering an annual growth of 2 percent and 2.5 percent, respectively, which is much higher than in the previous decade. With the freeing of controls, the role played by market forces in this unprecedented increase in input costs has become clearly identifiable. The higher growth in paid-out cost (which can be taken as proxy indicator for variable cost of cultivation) compared with total cost of cultivation during the post-reform period also establishes the fact that it is the cost of variable inputs that have pushed the estimated total costs of cultivation. The growth rates in the real cost of production (CoP), which was negative during the pre-reform period despite a robust gain in yields, registered a positive growth during the post-reform period on account of decline in productivity growth that coincided with the reduction of public investments in agriculture.

The deceleration in growth of agricultural productivity during the post-reform period put pressure on the production of wheat and paddy and forced the government to take measures to reverse such trends. Since then conscious efforts have been made to raise investment in agriculture. As a result, the share of public investment returned to its 1980s level by the end of 2008–09. The period since mid-2000s has witnessed also the launch of various agricultural developmental plans to revive agricultural growth. These efforts paid dividends—the production of major crops and livestock products has recovered in recent years. The increase in productivity growth during the recovery phase has drastically decreased the real cost of

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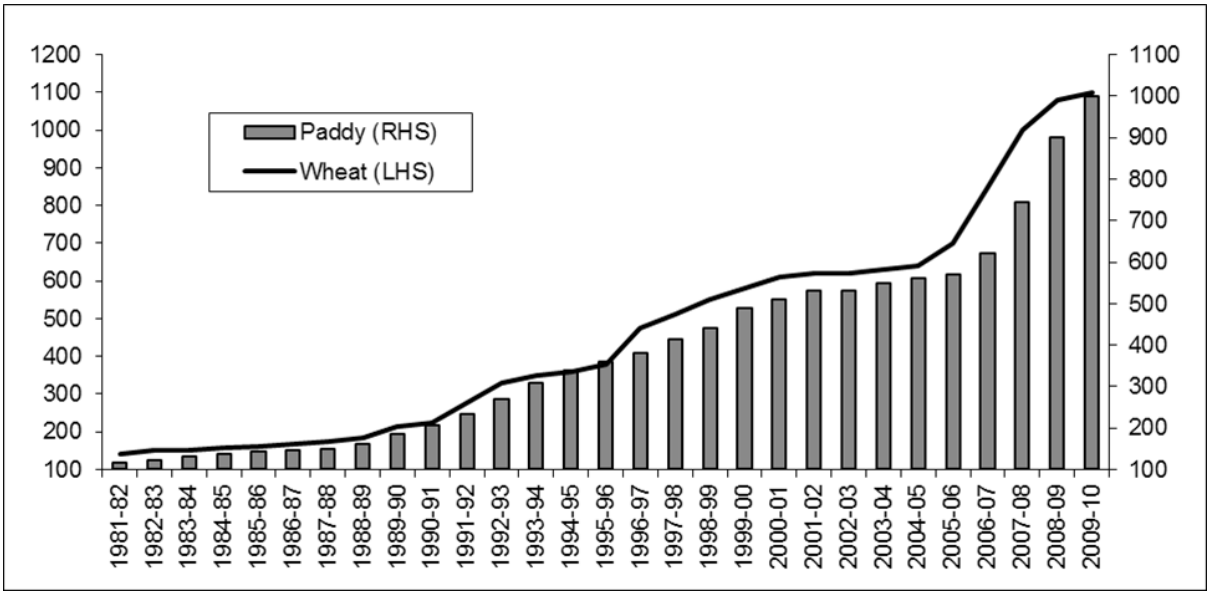
cultivation. As Table 1 shows, the real paid-out cost of wheat during the recovery phase declined in absolute value; however, in the case of paddy, it was almost stagnant. In fixing the procurement price of a particular commodity, CACP claims to rely on various criteria, ranging from production cost to the international price situation. However, the weight given to each of these criteria is not explicitly stated (Gulati 1987).

Trend in support prices for wheat and paddy (INR/quintal), 1981–82 to 2009–10



Source: CACP Reports (various issues), Ministry of Agriculture

With regard to production costs, CACP takes into account the actual paid-out cost of purchased inputs, including purchased labor and some imputed value for land and family labor (C2 cost) and some value (10% of the C2 cost) for the farmer's managerial input. The C2 cost and the value for managerial input constitute the C3 cost, which forms the basis for the CACP support-price recommendation. Figure 2 and Figure 3 show how cost of production of wheat and paddy and their MSPs moved over time.

Trend in Farm Profitability:

Farmers are interested more in the net income from the cultivation of a crop than in the price of the product they receive. CACP has the data on gross value of output (i.e., value of main product plus value of by-product) and cost of cultivation per hectare. Though it uses

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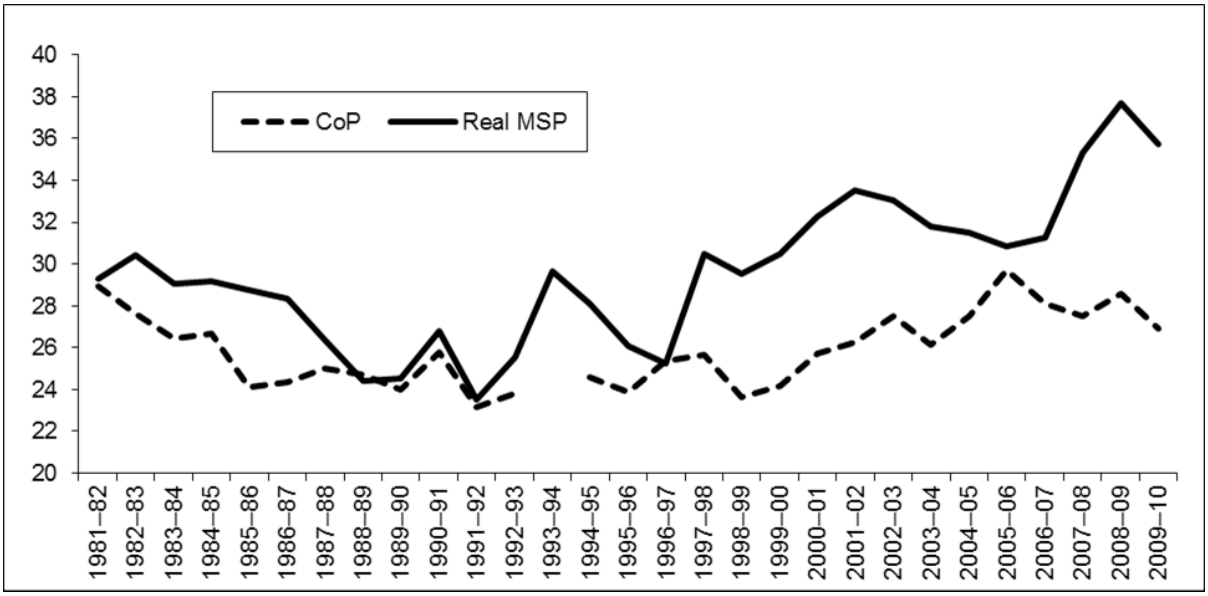
eight different concepts of costs, this study preferred to use the C2 cost concept to calculate net farm income. The difference between gross value of output and C2 cost provides a measure for net farm income. Similarly, to calculate farm business income, the study used the A2 cost concept.

The profitability of wheat cultivation in real terms had improved during the period 1981–82 and 2009–10 (Table 5). However, while net farm income increased from INR 148/ha to INR 326/ha, it fluctuated heavily. For instance, the pre-reform period (1981–82 to 1992–93), witnessed a robust growth in income, which increased from INR 148/ha to INR 261/ha, registering an annual growth rate of 5.29 percent. Elaborated supportive mechanism along with substantial increases in MSPs by the government contributed positively to agricultural growth during the period.

Trend in minimum support prices (MSPs) and cost of production (CoP) of wheat (INR/quintal, in real terms), 1981/82–2009/10



Source: Computed from CACP data

Conclusion:

India's emphasis and reliance on price policy during its post-reform period and the relative exclusion of non-price interventions in the form of public investment shifted the earlier policy regime of "low input low output price" to a regime of "high input high output

prices." The analysis shows that as part of the reform strategy, the government not only slashed the subsidies on major inputs to discourage environmentally unsustainable practices but also absolved itself of the responsibility to produce or procure and distribute these inputs at farm gates. Subsequently, yield levels went down, resulting in rising costs of cultivation. With the freeing of controls, the role played by market forces has become clearly identifiable in the unprecedented increase in variable costs. Taken together, these changes perceptibly slowed down the performance of the agriculture sector in the post-reform period.

Increases in production cost, along with the desire to link domestic prices with international prices in order to integrate the domestic economy with the global economy, necessitated higher support prices. The trend analysis of MSPs clearly shows this phenomenon. However, the MSP announcement alone does not guarantee that market prices would not fall below it. An effective procurement mechanism is needed to help ensure that prices would not fall below the floor set by the government. This is clearly evident in the comparison of MSPs and prices received by farmers. Moreover, experience shows that institutional intervention in ensuring the guaranteed price is effective only in regions and crops where government or public sector agencies procure the produce in a big way.

The trend analysis of MSPs also suggests that, under a liberalized market regime, there should be flexibility in the intervention price and prices should be allowed to move up and down in response to changes in the market conditions. The way MSPs had been used over a period of time suggests that the change would be unacceptable to farmers' lobbies.

Agricultural price policy has been largely successful in playing a major role in providing reasonable margin levels over production costs to farmers of both wheat and paddy. Nonetheless, the margin over total cost and variable cost had declined in the post-reform period in both crops. The net income in real terms had declined also, leading to distress among farmers. The decline in profitability has discouraged farmers from increasing their spending on yield-augmenting technology, resulting in poor yield growth rates and in a decline in production growth rates.

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