INDIAN JOURNAL OF AGRICULTURAL ECONOMICS

PRICE POLICY FOR AGRICULTURAL DEVELOPMENT WITH SPECIAL REFERENCE TO FOODGRAIN PRODUCTION IN INDIA

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The objectives of a price policy with regard to foodgrains have often been described as the maintenance of levels of prices which are fair to the producer as well as to the consumer and the avoidance of undue fluctuations in prices over time or space. The policy to be adopted does not follow from the accepted belief that the price-incentive may contribute to a larger production of foodgrains in the country. An overwhelming majority of the producers are small farmers who have a small marketable surplus. Many of them have again to buy from the market later in the season. Besides they usually sell in the immediate post-harvest season so that they do not get much advantage from the high prices that usually characterize the eight or nine other months of the year. Their production plans are not based on the expectation of high market prices. It is the larger producers, numerically much smaller, who are influenced by the price factor. Price expectation undoubtedly influences their marketing operations. But the evidence available in this respect does not indicate the necessity of relatively high prices for increasing production. In fact, the general trend has been in the opposite direction. For instance, the relationship between the purchasing power of farmers' net yield per acre of rice, wheat, maize and *jowar* and the acreages under these crops indicate a very small change in the acreage on account of the changes in the purchasing power of net returns.[1]

TABLE I—RELATIONSHIP BETWEEN THE PURCHASING POWER OF NET RETURNS PER ACRE OF RICE, WHEAT, MAIZE AND JOWAR AND THE ACREAGE SOWN TO THEM IN THE FOLLOWING YEARS* (1920-21 TO 1943-44).

Commodities	States	When Purchasing Power was 90 per cent of Normal	When Purchasing Power was 110 per cent of Normal
		Percentage of Acreage to Normal	
Rice	Assam	102	99
	West Bengal	102	98
	Madras	101	99
Wheat	Punjab	99	102
	Uttar Pradesh	100	100
	Madhya Pradesh	98	101
Jowar	Bombay	99	100
	U.P.	101	99
	Madras	101	100
Maize	Uttar Pradesh	99	99
	Punjab	99	102

*The relationship has been calculated by the Least Squares Method.

1. The purchasing power of net returns of the commodities are calculated on the basis of harvest time prices and yield per acre as reported in the Agricultural Statistics of India.

In Table I, an attempt has been made to study the correlation between the purchasing power of net yield and acreage by using the figures of purchasing power of the net yield of the year and the figures of the acreage sown for the following year. From the calculations, it appears that the acreage per cent in almost all the States under study were nearly 100 when the purchasing power of net returns per acre was 10 per cent below or 10 per cent above the normals. For instance, when the purchasing power of net yield per acre of rice was 10 per cent above normal the acreages sown were 1 per cent below normal in Assam, 2 per cent in West Bengal and 1 per cent in Madras. When the purchasing power of net return per acre was 10 per cent below normal, the acreages sown were above normal to the extent of 2 per cent in Assam, 2 per cent in West Bengal and 1 per cent in Madras. This shows that the acreages under rice were very little influenced by changes in the purchasing power of net returns per acre. In the case of wheat, when the purchasing power of net returns was 10 per cent above normal, the acreages sown were equal to normal in Uttar Pradesh, 1 per cent above normal in Madhya Pradesh and 2 per cent above normal in Punjab. When the purchasing power of net returns was 10 per cent below normal, the acreages sown were equal to normal in Uttar Pradesh, 2 per cent below normal in Madhya Pradesh and 1 per cent below normal in Punjab. This indicates that the response of acreages to price changes is higher in Madhya Pradesh and Punjab than in Uttar Pradesh. It may be due to the fact that in Punjab and Madhya Pradesh landholdings are larger than those in Uttar Pradesh and in some cases wheat is produced for the market and not for domestic consumption alone.

In the case of *jowar* and maize, the variation in the purchasing power of net yield per acre did not have much effect on the acreages sown. When the purchasing power of net yield per acre of *jowar* was 10 per cent above normal, the acreages sown were below normal by 1 per cent in Uttar Pradesh and equal to normal in Bombay and Madras. When the purchasing power of net returns per acre was 10 per cent below normal, the acreages sown were below normal, by 1 per cent in Bombay and above normal by 1 per cent in the States of Madras and Uttar Pradesh. Similarly, when the purchasing power of net yield per acre of maize was 10 per cent above normal, the acreages sown were 1 per cent below normal in Uttar Pradesh and 2 per cent above normal in Punjab. When the purchasing power of net returns was 10 per cent below normal, the acreages sown were 1 per cent below normal both in Uttar Pradesh and Punjab.

Thus Table I indicates that the farmer's response to price changes was visible only in case of wheat in the States of Madhya Pradesh and Punjab and in case of maize in the State of Punjab only. On the whole it is only in Punjab that the farmer's response to price changes is visible. But this response is not marked one. This will be evident from Table II which indicates the correlation coefficients between price and area.

Table II shows that the correlation between price and production is not significant. Absence of a marked correlation between trends in foodgrains production and their prices has also been noticed during the two Plan periods.

Many reasons have been advanced for the small impact of prices on agricultural production. Firstly, as prices rise cost of production of almost all agricultural products increases. As has been observed by Shri Sivaswamy, the cost of bullock rose from Rs. 50 to Rs. 250 between 1939 and 1947; prices of straw, cottonseeds, oilcakes, bran and other cattle feeds as well as manures have all in-

TABLE II—CORRELATION COEFFICIENTS BETWEEN PURCHASING POWER OF NET YIELD PER ACRE AND THE AREA SOWN OF RICE, WHEAT, MAIZE AND JOWAR IN DIFFERENT STATES IN INDIA* (1921 TO 1943-44).

States	Rice	Wheat	Maize	Jowar
Assam	—0.3398			
West Bengal	—0.5101			
Madras	—0.3821			—0.0732
Punjab		+0.6120	+0.3446	
Uttar Pradesh		+0.1612	+0.0752	—0.2932
Madhya Pradesh		+0.4757		
Bombay				+0.2014

* Calculated by the Least Squares Method,

$$r = Exy - \frac{Ex. \, Ey}{N}$$

creased similarly.[2] Similarly, Dr. I. G. Acharya and Shri T. R. Sundaram report that as prices spiralled up, the cost of production of almost all agricultural products recorded an increase. Between 1940-41 and 1944-45 the average cost of production of *jowar* increased by 360 per cent, of *bajra* by 284 per cent and of wheat by 136 per cent.[3]

Secondly, the working of price mechanism has great limitations in a backward economy like that of India. Agriculture in India is essentially a way of life rather than a business. In such circumstances the producers of foodgrains are not likely to be affected by price changes. Only those who sell in the market have to reckon with such changes. Further, in any period of economic expansion, the response of technological and other factors is possible only if the region is technologically developed or has the ready potential capacity to do so. In an advanced economy where factors of production are more mobile, efficient and elastic, the rate of transformation is much more rapid because of trained and intelligent personnel, skilled labour and availability of resources. In a subsistence and backward economy like India, such transfer is not easily possible in a short period.

Thirdly, the mobility of factors of production in the rural economy is exceedingly small. Foodgrain production shows a remarkable degree of inflexibility in the face of severe price fluctuations, because production of foodgrains is not merely the functions of the inputs of the factors of production but also of climatic conditions, rainfall, pests, diseases, etc. Further, production in agriculture takes time. The price stimulus must persist for a sufficiently long period to achieve a significant response of supply. As observed by Gibs, "the farmers have to face a two-fold uncertainty, the technical uncertainty regarding yield and the economic uncertainty about the price that he might receive for his products, as relationship between input and output is not known before the harvest."[4] Further, the conservative nature of the farmer does not allow for

2. Sivaswami, "Indian Agriculture—Problems and Programmes," *Pacific Affairs*, December, 1950.

3. I. G. Acharya and T. R. Sundaram, "Production and Price Trends," *Indian Journal of Agricultural Economics*, March, 1954, p. 56.

4. B. D. Gibs., "Agriculture and Price Mechanism," Oxford Studies in Price-Mechanism, 1951, p. 175.

changing production to variations in prices. The farmers live in an economy which is generally not market-oriented.

Lastly, the imperfect marketing conditions, the weak bargaining position of the farmer and the intervention of middlemen which rob him of the benefit of the price rise—all these act as disincentive to increase production. Elements of monopsony or oligopsony cause distortions in prices received by the agriculturists. Buyers of agricultural produce are the ubiquitous village money-lenders who dictate or fix the price before-hand at the time of making loans. Thus any favourable price movement is hardly passed on to the farmer. Hence, there is scarcely any incentive for the farmers to respond to price rises to increase yields.

In Indian agriculture price scarcely influences production, but production influences prices to a great extent. For instance the relationship between production of rice, wheat, *jowar* and maize and purchasing power of farmer's net returns per acre of these grains in different States indicate greater returns with larger crops and smaller returns with smaller crops (Table III).

TABLE III—CORRELATION COEFFICIENTS BETWEEN PRODUCTION AND PURCHASING POWER OF NET RETURNS PER ACRE OF RICE, WHEAT, JOWAR AND MAIZE IN DIFFERENT STATES* (1920-21 TO 1943-44)

States	Rice	Wheat	*Jowar*	Maize
Assam	+0.2651			
West Bengal	+0.6026			
Madras	+0.5638		+0.4876	
Uttar Pradesh		+0.4238	+0.2465	+0.3115
Madhya Pradesh		+0.4271		
Punjab		+0.3681		—0.1236
Bombay			+0.3325	

*The relationship has been calculated by the Least Squares Method.

The table indicates that the correlation between production and purchasing power of net returns per acre is significant for all the grains except in the case of maize in Punjab. They indicate an association of definite and positive gain with larger crops. Thus a large crop seems to be in the economic interest of the producer as well as of the country.

The above analysis reveals that there are limitations to the working of the price mechanism in India so far as foodgrains production is concerned. As such it may not be wrong to presume that the more successful the country is in keeping the agricultural prices somewhat depressed in relation to prices of other commodities (this does not mean freezing farm prices at a low level), the greater will be the potentiality for its economic growth. Unfortunately, such a policy may not be politically acceptable under the present circumstances. The utmost that can be done is to see that agricultural prices do not go above their level of parity with the prices of other groups of commodities. For operational purposes, the objective may be defined in terms of a possible range of variation between, say, 90 and 100 per cent of parity.[5] In the present context, the desirability of

5. J. P. Bhattacharjee, "Agricultural Pricing Policy," in Problems in the Third Plan—A Critical Miscellany, issued by Government of India, New Delhi, 1961, p. 152.

relatively low levels of agricultural prices is far greater because agricultural commodities account for nearly half of the total weightage in the Index Number of Wholesale Prices. Besides, food items account for between two-thirds and four-fifths of the total consumer expenditure of most groups of the population. Thus in the context of the inflationary pressure likely to prevail during the Third Plan, an attempt should be made to keep prices as low as possible and reduce the average prices below their present level in the immediate future. It may be remembered in this connection that the benefits of relatively high agricultural prices are generally reaped by a relatively small group of farmers who usually have large surplus produce to sell. The bulk of the small farmers sell only a small part of their produce and that too usually at relatively low prices prevailing in the harvest season.

Thus the broad objectives of a price policy for increased foodgrain production appear to be as follows:

(1) Maintenance of general price stability in the face of an increasing public outlay to bring about economic development.

(2) Maintenance of parity between foodgrain and non-foodgrain prices and between agricultural and non-agricultural prices in the interests of the vital agricultural output programme.

(3) Maintenance of desirable price ratios between the various agricultural crops themselves.

(4) Smoothing of cyclical fluctuations of prices and reduction of seasonal fluctuations in agricultural prices to the minimum.

Attempts may be made to stabilize prices through buffer stocks, open market operations and guarantee of floors in order to cushion the farmer from seasonal squalls. Cyclical fluctuations may be overcome by guaranteed prices, guaranteed incomes or guaranteed markets. The necessary incentives to larger production have to be preserved. It is, therefore, suggested that Government may set up and promote the necessary co-operative and state agencies for purchase and sale of foodgrains at appropriate stages so as to strengthen its power to influence the course of prices and to prevent anti-social activities like hoarding and profiteering from getting the upper hand. In India, where the agricultural sector contains nearly 69 per cent of the population and contributes 50 per cent of the national income, a stable and substantial income to the farmer is a necessary objective of a price policy.