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Vol XXI
No. 1

ISSN 0019-5014

JANUARY-
MARCH
1966

INDIAN JOURNAL OF AGRICULTURAL ECONOMICS



INDIAN SOCIETY OF
AGRICULTURAL ECONOMICS,
BOMBAY

ACHIEVING FOOD GOALS : A FRAMEWORK FOR POLICY FORMULATION

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The basic objective of this paper is to examine the general framework of food policy in relation to agricultural development and its limitation to achieve the immediate food goals of the nation. "Goals" as used here are considered to include the amounts of food commodities desired to be produced in order to meet the minimum nutritional requirements of the population. Since the achievement of commodity goals are subject in no small measure to weather and other uncontrollable causes, it is intended largely to confine our consideration here to policy needs for achieving the acreage and number of goals which are a derivative of commodity needs under the assumption of normal yields with given technology and natural conditions.

The motivation for any economic and social policy is the desire for change from an existing unsatisfactory situation to a situation that constitutes an improvement. The underlying problems for which solutions are required are evident from a comparison of the present and a more desirable situation. The framework of any policy formulation is considered to be based on analysis which presents an understanding of the nature of the present situation and of the ideal which is desired. Viewed in this light, the major problems arise as discrepancies between the two circumstances.

The economic system under which a particular policy operates is supposed to guide three functions : the allocation of resources in production, the functional distribution of incomes to resource owners and the division of the supply of final products among consumers. Inherent in them are the inter-dependent relationship between the theory of value and the theory of distribution. Any specific economic policy formulation presupposes an analytical separation of the two. Unfortunately, Indian policy formulation, particularly in agricultural sector, has not taken recognition of this fact. And hence, the entire framework for our policy formulation is very weak.

One of the major objectives of food production policy in India is to attain self-sufficiency within the shortest possible time and for all time to come. If this objective has to be achieved, attempts need to be made on formulating the resource-use policies which would create a strong production base. This will have bearing not only on raising the agricultural production but by implication on increasing the level of agricultural development. Surprisingly enough, the available literature on policy does not indicate if strong policy attempts have ever been made in this direction. Several machineries have been set up in recent years to achieve one objective or another. But the terms and definitions of various policies to meet certain objectives are difficult to be related to analytical framework. For example, in formulating the strategy for agricultural production for the Fourth Five-Year Plan, the new policies suggested are :¹

1. Agricultural Production in the Fourth Five-Year Plan, Strategy and Programme, Department of Agriculture, Ministry of Food and Agriculture, Government of India, August, 1965, pp. 3-4.

(a) to apply scientific techniques and knowledge of agricultural production at all stages, particularly in the fields;

(b) to select a few areas with assured rainfall and irrigation for concentrated application of package of practices based on improved varieties of seeds responsive to heavy doses of fertilizers and availability of inputs and to fix special targets of production of foodgrains for such areas, the area proposed being 32.5 million acres and the additional yield expected in 1970-71 being 25.5 million tonnes;

(c) to achieve higher production of subsidiary foods both through intensive production programmes and overall development; and

(d) to base the implementation of important projects under the Plan, on "schedules of operations" specifying the responsibilities and roles of the Central and State Governments and other agencies so that programmes may be operated in the light of a clearly defined understanding between the Centre and the States.

It is difficult to discover whether these new policies are based on the identification of weaknesses in the past policies. The steps taken in a new policy formulation are not directly related to the analysis of past policies. And therefore, it leaves very little opportunity to analytically examine the implications of a particular policy and to suggest new direction for future policy. The policy decisions are mainly taken on the basis of political considerations with almost complete disregard of economic criteria. If the policies are formulated under economic framework, the decisions will be guided by objective conclusions derived from the analysis of resource-use efficiency in different food crops within and between the regions.

The analysis will indicate the nature and magnitude of deficiency in each of the existing use of resources and expected *ideal* or *optimum* use under given technological and institutional constraints. On the basis of the derived parameters a new dimension may be given to the future policy formulation which will help in overcoming the deficiencies as well as in making resource adjustment to achieve the expected commodity goals. The optimum may be analytically stated in terms of two simple conditions. The first condition is that the value of the marginal product of a factor is equal to the price of the factor. The second condition is that the value of the marginal product of a factor should equal the marginal opportunity cost of the factor or the factor's marginal value product in its highest alternative uses.

Thus, when the new food goals are indicated they are indicated in relation to feasible production on millions of farm units. The individual cultivators operating the farms are confronted with many obstacles preventing the reaching of maximum returns from the resources they control at any one time. Fundamentally, however, most of these obstacles grow out of imperfect knowledge or uncertainty. Inaccurate expectations are largely responsible for the types of misdirection in the use of resources which result in periodic output cycles. The role of economic policy is to guide the rational allocation of resources and help the millions of farmers in overcoming inaccurate expectations. In a market economy the major inaccurate expectations are counted in terms of monetary gains or losses. And therefore, so much emphasis is put on the formulation of prices in the policy

framework. This is because, theoretically, in a freely competitive economy, it is assumed that decisions in the use of resources are strongly guided by prices (or exchange value). However, generally speaking there is not now and probably never was a freely competitive economy. To be realistic, we may recognize the fact that the responses to price are influenced by existing institutional arrangements by reason of which further administrative adjustments may be necessary, either to produce affirmative impacts or to prevent negative impacts.

It is generally accepted that agricultural production cycles result in part from the fact that there is a lag in the response of agricultural production to given price stimulation. The length of these cycles varies with different products. Price expectation may in one instance result in early production responses and in another only in long run production responses. This fact is significantly related to the problems of policy formulation on prices and their role in meeting the desired food goals. The present food goals in India are based on projections of population growth rate and the minimum nutritional requirements. The available estimates (quoted below) indicate the approximate cereals and pulses requirement by the Plan period of 1975-76.

TABLE I—AN ESTIMATE ON POPULATION AND CEREALS AND PULSES REQUIREMENTS*

| Year | Population (millions) | Cereals required (million tonnes) | Pulses required (million tonnes) |
|--------------------------|--------------------------|--------------------------------------|-------------------------------------|
| 1959-60 to 1961-62 | 438† | 58.5 | 10.5 |
| 1965-66 | 492 | 72.4 | 18.7 |
| 1970-71 | 555 | 81.6 | 21.1 |
| 1975-76 | 625 | 91.9 | 23.7 |

* Source : V. G. Panse, V. N. Amble and T. R. Abraham, "A Plan for Improvement of Nutrition of India's Population," *Indian Journal of Agricultural Economics*, Vol. XIX, No. 2, April-June, 1964, p. 15.

† Government of India : 1961 Census.

The market survey estimates suggest that approximately 12.5 per cent of the production of foodgrains is used for purposes other than food such as seed, animal feed, wastage and manufacture of non-food products. Therefore, targeted food estimates are roughly arrived at the following figures.

TABLE II—ESTIMATES ON PRODUCTION OF CEREALS AND PULSES‡

| Year | Production targeted (million tonnes) | | Additional production over previous Plan (million tonnes) | |
|--------------------------|---|--------|---|--------|
| | Cereals | Pulses | Cereals | Pulses |
| 1959-60 to 1961-62 | 66.9 | 12.0 | —8 | — |
| 1965-66 | 82.7 | 21.4 | 15.8 | 9.4 |
| 1970-71 | 93.3 | 24.1 | 10.6 | 2.7 |
| 1975-76 | 105.1 | 27.1 | 11.8 | 3.0 |

‡ Source : See Footnote to Table I.

Table II indicates that compared to the present levels of cereals and pulses production, the annual production of cereals will have to be increased by 57 per cent and that of pulses by 125 per cent by the end of 1975-76 (Fifth Five-Year Plan).

In considering ways and means of meeting these targets and the desired policy formulation, in particular the price policy, the analysis is required to indicate the nature of relationship between prices and the use of resources in various types of food production.

One of the weaknesses in existing price fixation in India arises from the fact that there has not been much analytical studies to show the response of food production to price stimuli. The policy of price support for certain foodgrains being followed since 1962 has no analytical base. It was just through trial and error method based on political judgment that the support prices were fixed first for wheat and subsequently for paddy, jowar, bajra, maize and gram. In August, 1964, an *ad hoc* committee on prices was appointed under the Chairmanship of Shri L. K. Jha and in view of the ideas expressed by political leaders and Government officials, suitable producers' prices were announced for standard varieties of coarse paddy in different States. For other foodgrains, *viz.*, wheat, jowar, bajra, maize and gram, the State Governments were authorized to announce the producers' prices within specified ranges. It is said that the main purpose of announcing the producers' prices is that the farmer should be guaranteed a reasonable price which would act as an incentive to greater production and which would protect him against the possibility of an undue decline in prices in the wake of higher production.² How the suitable producers' prices have been arrived at is subject to question.

It should be obvious to know with the help of decision-making studies in the farm sector that the farmers' production decisions are influenced not by how much minimum prices they would receive but by expectation of the highest prices that alternative products will yield. As such, the fixation of minimum prices does very little to determine the investment pattern as well as resource allocation between given alternatives. This also does not help in reducing the farmers' speculative losses.

There may be large variation in the objectives of the price policy. At some points, prices may be used as goals which various planned programmes were supposed to achieve. At other points, prices may be manipulated to direct consumption and production. At times, particularly during the nation's war situation, prices may be used as both means and ends at the same time. Assuming the last situation as it prevails at the present moment, we would be tempted to put strong emphasis on fixation of ceiling prices for all the food commodities. In order to serve the interests of both the consumers and the producers, even if administrative machinery involves higher cost, it does not matter. Because the food commodities and their varieties would guide the balanced allocation of resources between products. The fixation of levels will be determined by the need for a particular product. If the response for each product is analysed

2. Agricultural Development—Problems and Perspective, Department of Agriculture, Ministry of Food and Agriculture, Government of India, April, 1965, p. 54.

systematically, the scope for further policy formulation will be most revealing. However, two operations which may be used to complement administered price ceilings will be : (a) the maintenance of supplemental payments in the nature of subsidies at some point between extractive production and consumption; and (b) the maintenance of price floors announced for stipulated future periods of operation. The use of subsidies in the maintenance of price ceilings lower than price levels which otherwise would prevail will work as a curb for inflation which is also one of the prime needs to influence the rate of growth in agriculture. This kind of policy announced much in advance of the crop planning period could result in a marked improvement in the utilization of the resources. Forward prices can provide the necessary bench-marks to permit the attainment of an allocation of resources among alternative products on each farm which could closely approximate the most profitable for the farmer and the best allocation from the point of view of the community. Investments in capital assets yielding relatively certain profits of the prospective year would undoubtedly be encouraged.

Subsidies may be used effectively as a device to adjust the returns to producers without altering price relationships or price levels to the consumer. If administered so as to provide for ready adjustment of disparities in returns to producers of various food commodities, it is expected that a great deal can be accomplished to offset the bad effect of fixed ceiling prices or of other institutional maladjustments.

A planned application of ceilings, subsidies and floors, in combination, and sometimes pegged prices, announced for an advance period, is a form of policy which appears most expedient at this time of food crisis in India. Forward pricing by individual commodities admits of the selective stimulation of production and of making the commodity yardstick effective whereas any given set of historic price relationships may result in a disproportionate stimulus to the production of some commodities. Thus, the policy implication is that price programmes having the most favourable effect on resource efficiency will be based more closely on production and marketing criteria, and on anticipated market conditions, than on historic bases.

In order to select a certain level of forward prices which could protect the interests of the producer, stimulate and promote balanced production and facilitate economic development in the agricultural sector, certain policy criteria have to be taken into account. It has often been stressed that the criteria for fixation of foodgrains prices should not only be related to their cost of production but should also allow a normal margin of profit to the growers. Now the question can be as to which cost of production should be taken into policy consideration. Because in India, the farm management studies³ have revealed that about half of the holdings studied are those on which cost of production is higher than the average cost and any price determined with reference to the average cost would be inadequate, though it could be argued that inefficiently run farms, which are hard to locate without any analysis, cannot be taken as the basis for determining price levels. Of course, whatever criteria are followed there will be some limitations. But in comparative terms, cost of production for a particular crop on the pre-

3. Studies in the Economics of Farm Management, 1954-57, Directorate of Economics and Statistics, Government of India.

dominant type of farms in a region can be considered to be more realistic. A price so fixed would provide a greater measure of incentive to the large number of growers in the region. The margin of profit for each product can be determined according to the relative importance of the product.

In addition to price fixation, the other framework of major policy formulation relates to the controlling of some of the scarce input factors which guide the production decisions among firms of a given region. Here the major question is that with a shortage of food and a shortage of the factors of production, which farm firms should have first choice of the factors of production that are available? From the point of view of objective welfare criteria, the empirical analysis should first classify the farms according to certain observed efficiency norms and thereby the first choice should go to the farms where the output per unit of input of the scarce items is the greatest. It does not seem to be generally agreed as to what groups of farms fulfil this requirement. On the basis of available farm management studies in India it can be safely argued that it is on the smaller, under-improved, unorganized and not highly commercialised farms that the possible rate of output expansion is relatively greater than on the larger, well improved and highly commercialised farms. The scope for intensity and care with which some of the higher yielding new strategic inputs can be used is relatively greater on smaller farms. These include better seeds, fertilizers, insecticides, improved implements, etc. Significant adjustment in use will result from allocation of available supplies to major use-categories. For example, production can be determined materially by withholding fertilizers from use on food crops likely to be produced in abundance and permitting their use on crops in need of being increased. Well in advance of the crop plan, producers on a given category of farms may be asked to indicate their plan of operation for the next year and to give information which will indicate whether certain of their resources are fully utilized and whether they are in a position to utilize certain scarce resources which may be made available to them through the efforts of the Block Development Department in each district. In the course of the input supply programme the farmers' groups with which lies the greatest opportunity to effect food production increase have to be found out. Unless it is done, the scope of any policy to give the direction for resource-use will remain very limited. Of course, this kind of programme would involve wide administrative machinery. But the proper reorganization of existing Block staff can very well meet this requirement. This will also create an empirical base for analysing the scope of policy in relation to general agricultural development at a lower unit. If any policy has to be meaningful for the farm people, the policy implementation should be taken care of at the lower planning units. If the appraisal of resource potentiality for food production at these units is correct, the problem to fix up food targets at the aggregative levels tends to become much easier.

The theory of general equilibrium suggests that in a competitive equilibrium, a specified amount of any input factor should make approximately same marginal contribution regardless of where it is employed (If mobility is imperfect, factor prices may differ greatly from one area to another). In terms of the theory of economic growth the wider the gap in the contribution of various factor inputs between regions, the lower the rate of economic development will be.⁴ In other words,

4. W. A. Lewis : The Theory of Economic Growth, 1956.

one of the policy objectives in a developing country like India should be to influence the use of scarce resources in various regions in such a way that the marginal contribution from each of them may be equal in all the producing regions. But unfortunately, the information on production coefficients are very meagre and as a result the basis for policy formulation is too weak. But not having the detailed input-output coefficients which would permit the determination of the marginal productivities for the factors employed in the different agricultural areas of the country, other measures must be used in determining whether there is a major departure from an equilibrium position in the allocation of resources and if so, the degree of this departure. Two such measures may prove to be useful, both as separate indicators and when used jointly. One is the average value product per farm acre. The other is the relative combination of resources in food production in the various geographical areas, with resources being divided into land, labour and working capital. Both measures are, however, subject to certain limitations.

Because of obvious imperfections in Indian factor and product markets and lack of adequate data, it is impossible to conclusively verify the hypothesis that there are consistent regional differences in the relative combinations of resources required to produce the same level of output. And hence, the framework for any policy formulation to guide the balanced resource allocation has proved to be shaky. However, the role of price policy can be significant in effecting a distribution of resources which would more nearly equate the marginal productivities of resources in the different regions. The policy, through increased price certainty, could also reduce capital rationing and bring in more capital resources into certain of the areas involved.

The establishment of goals or allotments and more particularly the breaking down of these goals commodity-wise to local areas and to farms should in itself be the basis for policy formulation which will encourage to stimulate the maintenance of desired production levels.

Nevertheless, the psychological effect of the patriotic appeal for the "all out" war effort will, not doubt, be a large factor in stimulating production along the lines of the desired pattern. Added to this are the urgency, the pressures and counter-pressures of individuals having administrative responsibilities, the results of whose efforts are to gain greater conformation with the desired food production pattern.

Along with the steps for creating proper framework for policy formulation to achieve production goals in food commodities, it is also highly desirable to reorient the distribution policy so that the consumers in all parts of the country must be guaranteed an equitable and fair price and also assured of reasonably adequate supply of food throughout the year. For a faster economic development it is necessary to achieve these ends sooner through a policy which may prescribe appropriate measures for each State, either surplus or deficit.

If equity in the distribution of food has to be maintained throughout the year for all strata of people and if guaranteed incentive prices have to be effective in guiding the investment decisions of the cultivators, the sound measure will be to get rid of all private trading in foodgrains by withholding all sales by producers except to the Government. This will have to be related to the rigorous procure-

ment drive, the quantities of foodgrains that each producer must sell to the Government established centres out of each crop after having met the household food, feed and seed requirements. No doubt, this will be a very bold policy action and the arrangement would require detailed estimates of household requirements in respect of each producer and the enforcement of individual estimates for each crop season. It will require elaborate administrative preparation and a large staff. But this can be one of the fruitful steps in the direction towards concrete policies—the success or failure of which would depend upon the machinery set to administer it and measures taken to control the action of traders who will try their level best to get the maximum share of the produce from cultivators at the harvest time. The more the quantities procured at the harvest time the better will be the prospect to maintain the regular food supplies to consumers at assured prices throughout the year. In a country like India where major proportion of the disposable income is spent on food, any policy to economise the household food budget will be of immense help in maintaining the tempo of agricultural growth at early stages of economic development.

Thus, in order to make the national food policy more operational and effective, both at production and distribution levels, there is an urgent need to set up a separate Food Administration under the Ministry of Food and Agriculture, Government of India.

FOOD POLICY AND GROWTH OF FOODGRAIN PRODUCTION IN MADRAS STATE

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HISTORICAL PERSPECTIVE

The evolution of food policy in India could be traced back to the years of the World War II. As in many other countries food controls were instituted in India primarily as a short term measure to tide over the emergency conditions which arose during the war. The aim was to secure maximum supply, equitable distribution and proper controls of prices in relation to foodgrains available. There was a general scarcity all over; imports were practically cut and prices were rising up fantastically. The Government had to interfere and take various measures to check the prices and to ease the fear of the public. The tragedy of the Bengal Famine in 1943 further brought to light the necessity for a sound foodgrains policy.

The present study has the following points as its objectives :

- (1) To review briefly the important features of the food policy of the Government of Madras,
- (2) To study the probable impact of the various policy measures on the trends in acreage and production of foodgrains in the State.