

Written in late 1972 or early 1973 as background and rationale for the MCC Bangladesh Agricultural Program. The program was designed to shift the agricultural emphasis away from more rice to a diet and cropping pattern that would use the full capability of the land and water resources and produce a more balanced nutritional outcome.

## NUTRITIONAL SELF-SUFFICIENCY AS A NATIONAL OBJECTIVE

The key word is nutritional. This implies a variety of foods which in combination will yield the necessary calories, protein, vitamins and minerals to promote good health. To speak of an agricultural objective which fails to meet this criteria as "self-sufficiency" is both irresponsible and dangerous since it promotes a sense of accomplishment which is illusory.

Any attempt to define nutritional requirements on a national basis creates targets for criticism which miss the real point. It is obvious that there are levels of demand which can be estimated for key commodities given certain assumptions about price and availability. There are additional assumptions from the micro or 'nutrition' approach regarding minimum requirements per person which can be extrapolated nationally. Assumptions regarding the alternative sources for different elements can yield a variety of "requirements" for different foods. The essential fact, however, is that any of these approaches would indicate that on a proportional basis rice is the least deficient item. The minimum daily rice requirement has been set at 15.5 ounces by the Bangladesh Government, yet this is double the intake of the Japanese, the wealthiest of the rice – eating nations!

The quantity of rice required to meet nutritional requirements, based on rice as the basic carbohydrate, indicates a need for less than 10,000,000 tons by 1975. This is approximately the amount grown in 1972 under crop – failure conditions!

### Rationale for a balanced diet:

The first consideration is health. Robert F. Chandler in his recent report about the 1973 boro crop found it necessary to comment on the wider range of foods available in Taiwan and added "...Some feel that the energy and industriousness of the Chinese may be due in part to the extra minerals, vitamins and proteins that they get from a highly diversified diet." Bangladesh, least of all nations, can afford a lethargic population since its future depends upon the harnessing of its only potential asset – its people.

A second consideration is foreign exchange. In 1973 we are faced with the dismal sight of hard – earned foreign exchange being spent on outrageously expensive food-grains, which may not have been required given a different agricultural philosophy. There are two aspects to this problem, the first being risk. By its nature the rice crop will always entail a high degree of risk.

It is subject to drought, flood, insect attacks and other factors. There will always be bad years and each one will be a major setback. There will also be times when surplus nations cannot or do not wish to respond as they did in 1972. There is the belief that National Policy must stress rice to be politically acceptable to the population. But this only perpetuates the cause of crisis and simply plants the roots of future problems.

A second foreign exchange aspect is the high cost of the secondary agricultural commodities which are essential and are a tremendous drain on the economy. I am thinking particularly of oilseeds and sugar. If these two products were imported at real value (and the soybean crisis in the US should give real concern about the likelihood of future gifts), they could singlehandedly absorb the total jute earnings.

### Strategy for a nutrition – oriented agricultural policy

There must first be recognition that the concept of sufficient rice first, and only then emphasis on other crops, is a fallacy that will take Bangladesh down a side road for many years. The experience of Kotwali Thana in Comilla is worthy of serious study. With the introduction of irrigation and scientific input for boro rice cultivation, other winter crops declined in direct proportion to the success of the rice. The reason is simple, the low – quality deshi crops of mustard, dal and others could not compete with the great potential of the new rice. But nobody races against a jet with an oxcart – but this is the effective current strategy. My prediction is that 5 years of a real rice push will set other crops back so far that it will take years of effort to restore them to their former position.

A strategy must be evolved which will take account of two factors. First, a long range production goal which will meet the requirements of balanced nutrition for the entire nation. A second factor is the use of the land on a year – round basis in a manner which maximizes the value of food produced on a per day per acre basis. I would guess that an agricultural policy based purely on the best economic use of land would provide a better nutritional result than the present pattern.

The real flaw in the extant agricultural system is that all choices are made on the basis of rice production. Shifting the planting of rice forward slightly (and possibly losing the low productivity aus crop) could create opportunities for much more productive Rabi crops - but decisions are not made that way because rice is an emotional product rather than an economic one.

Irrigation policy is another good example. The water requirements for rice are phenomenal, yet no effort is made to irrigate 150 or 200 acres of dry land crops instead of 40 acres of rice. The choice must be made since deep tube wells are now drilled on the basis of one per square mile, but only 7 – 8% of that area can be irrigated if the crop is rice.

A rational policy would create a set of alternatives for the farmer which will permit him to choose crops on the basis of seasons, land productivity and economics. This implies that his oilseed alternative but must be as well bred and supported as IRRI – Rice presently is. He must get access to irrigation, quality seed, fertilizer, insecticide, supplemental ploughing for his crops and a guaranteed market. The latter is the most important since a farmer can eat most of his rice crop, but he cannot use his entire oil crop, or feed-grain crop, or potato crop etc. The guarantee of an adequate market is the biggest barrier to the development of a number of potentially useful and profitable crops.

There is another group of crops which do not rely as much on market support, but require more education. These include vegetables for home consumption, and feed grains. (sorghum, corn, barley, oats, etc.) for human consumption or to encourage better poultry and cattle culture to provide eggs and meat. Vegetables are known, but education is required to extend the growing season and to teach methods of including the more nutritious ones in the diet.

### Conclusions

The only viable strategy for Bangladesh is one where rice is viewed as the major crop, but where rice must compete for land and time with other crops. Given an approach where land, water, ploughing capacity, people were all utilized in the most productive manner, there is no question that Bangladesh could feed its present 75,000,000 people, and probably double that number. A policy of rice first will not produce those results.

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