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Problems of Rural Development

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Bangladesh is handicapped by very unfavourable natural conditions, inter alia extreme floods and droughts, an unfavourable pattern of farm sizes and the consequences of rising oil prices. For these reasons agricultural production lagged behind the planned targets in the first two years of the First Five Year Plan (1973–78). In the third year of the Plan the situation seems to have somewhat changed for the better. If this is not only due to accidental factors like favourable weather conditions but also a consequence of the present Government's serious efforts, there may be a glimmer of hope for the country.

Bangladesh is still a predominantly agricultural country. Roughly 90 p.c. of the total population, which according to the census of February 1974, amounts to 71.3 mn, live in rural areas. Some 74 p.c. are directly dependent on agriculture for their livelihood. Depending on the climatic and other conditions affecting the crop, 55 to 58 p.c. of gross national product are accounted for by agriculture.

Agricultural Problems of the Young Nation

When former East Pakistan became the independent People's Republic of Bangladesh in December 1971 after a bloody war against the Pakistani military, the economic conditions inherited by the young state were most unfavourable. First and foremost, Bangladesh is handicapped by extremely unfavourable natural conditions. With a total geographical area of roughly 35 mn acres, Bangladesh is situated in the delta of the estuary of the three great river systems of Brahmaputra-Jamuna, Ganges-Padma and Meghna. The area from which these three river systems are fed covers 375 mn acres of which only 29 mn acres, or 7.5 p.c., lie within the boundaries of Bangladesh. More than 80 p.c. of the annual precipitation, which amounts to 1.800 mm, falls in the monsoon period from May to October. During this time some 33 p.c. of the total cultivated area is flooded three feet or more in a normal year while in the remaining half of the year the country is suffering from pronounced drought. Therefore, water control, i.e. protection against extreme floods and against the huge tides raised by cyclones (the last one, in 1970, causing roughly half a million deaths) as well as the creation of irrigation facilities on the uplands, which can be cultivated without irrigation only during the monsoon

period while under irrigation they can yield up to three crops per year, are of the utmost importance for the agriculture of Bangladesh. If the flooded lands can at all be cultivated during the monsoon period, they only permit the cultivation of deep water rice, giving very low and insecure yields.

Another basic handicap of the agriculture of Bangladesh lies in its unfavourable pattern of farm sizes. Approximately 78 p.c. of all farms are of less than 5 acres and cover as much as 43 p.c. of the total farm area. Only 0.4 p.c. of the farms, accounting for 5 p.c. of the farm area, are of 25 acres and above. Thus, most farmers are so poor that they can just manage to eke out their bare existence, always menaced by the prospect of crop failures through heavy floods. Only the few larger farmers can afford to make investments in yield-boosting inputs like fertilizer, improved seed, etc., and to bear the risk of a loss of these investments (in case of unfavourable weather conditions). The basis for large scale adoption of new technologies is thus very weak.

In the past, the development of agriculture of former East Pakistan was rather unsatisfactory. In the sixties, agricultural production grew at a bare 2.5 p.c. while the population showed an annual increase of 3 p.c. As a result, the supply situation deteriorated in spite of increasing food imports. While in the first half of the sixties the average quantity of food imports had amounted to 850,000 ts, in the second half it had risen to 1.1 mn ts. After agricultural production had suffered from the hostilities preceding the independence of Bangladesh, 2.5 mn ts of foodgrain had to be imported in 1972 and 1973. The amount of

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rice available per capita and day which had amounted to 15 ounces in 1969/70 had fallen to 13 ounces in 1972/73.

One of the major damages was caused by the loss of cattle during the conflict. It is estimated that the total number of cattle diminished from roughly 21 mn to 18 mn. The number of draft animals, on whom agriculture is highly dependent for traction, is not sufficient to cultivate all lands in the short period available for cultivation under double or triple cropping.

The Role of Agriculture in the First Five Year Plan (1973-78)

In the face of the situation described above, it was only logical for the Government of Bangladesh to give agriculture a high priority in the framework of the First Five Year Plan (1973-78)¹. About one fourth of plan expenditure was to be spent in the agricultural sector. Self-sufficiency in foodgrains and the creation of productive employment opportunities for the mass of the rural underemployed were amongst the plan objectives accorded the highest priority.

The increase in foodgrain production was to be achieved by an intensification of cultivation rather than by an expansion of the cultivated area. For rice, the major staple diet, the intensification was to take place by shifting production to a larger extent to seasons in which high yielding varieties can be grown, superior to local varieties under the condition that the availability of plant nutrients and water corresponds to the higher requirements of these varieties².

The First Five Year Plan, therefore, provided for an expansion of the area under irrigation. The main instrument for this was to be the exploitation of ground water resources through the installation of 19,000 deep tubewells and 15,000 shallow tubewells, to be supplemented by 44,000 low lift pumps thus using the surface water potential available outside the monsoon season as far as this seemed possible without detriment to fisheries and navigation and avoiding problems of salinity intrusion. In addition, special attention was given to the reconstruction of traditional irrigation systems.

¹ Government of the People's Republic of Bangladesh, Planning Commission, The First Five Year Plan 1973-78, Dacca 1973.

² Rice is cultivated during three different seasons. In flooded areas broadcast *a u s* rice is sown together with deep water *a m a n* rice at the beginning of the monsoon season. The *a u s* rice must be harvested before the flooding begins whereas the deep water *a m a n* can keep up with the increasing water table and will be harvested after the flooding is over. Only local varieties giving low and insecure yields can be grown under these conditions. On lands lying a bit further up, transplanted *a u s* and *a m a n* rice can be cultivated for which purpose high yielding varieties can be used. The third rice season is winter, when *b o r o* rice is grown. Cultivation of *b o r o* requires full irrigation; high yielding varieties exist giving excellent yields under sufficient fertilization.

The second pillar on which the strategy of intensification of foodgrain production was to be built was a planned increase of fertilizer application from 340,000 ts in 1973/74 to 732,000 ts in 1977/78. The participation of the masses of the rural population was to be assured within the framework of an Integrated Rural Development Programme, the major institution engaged in agricultural extension.

Institutions for Rural Development

The Integrated Rural Development Programme was set up on the basis of the experience gained by the Academy for Rural Development Comilla, during its 12-year activities in the field of agricultural extension. In 1960, the academy had started to found cooperatives in a *thana* selected as experimental region. As it was soon felt that it would hardly be possible to approach the mass of the peasants through direct extension, the system was changed to make every cooperative select one of its members to take part in training courses once a week and to impart his newly gained knowledge to the members of his cooperative as well as to feed back to the teachers of the Rural Academy all practical problems. Thus, the idea to convey extension not directly but through model farmers, which today characterizes all institutions engaged in extension in Bangladesh, was born. Later, the training of model farmers and cooperative managers was shifted down to the *thana* level by the Rural Academy, for which purpose the institution of *Thana* Training and Development Centre (TTDC) was set up. At the same time, as an institutional framework, the *Thana* Central Cooperative Association (TCCA) was created as a secondary cooperative with the primary cooperatives as their members.

In 1962 this system of extension through cooperatives was fully implemented in the first *thana* selected. Today the programme, called Integrated Rural Development Programme since 1967, extends to roughly one half of all *thanas* of Bangladesh. For its implementation, in each district a Project Officer was posted. At the same time a District Development Coordination Committee chaired by the Deputy Commissioner (Head of the District Administration) was set up to coordinate the work of all institutions on district level.

As another result of the experiment of the Academy for Rural Development Comilla, the *Thana* Irrigation Programme was started in 1966. Its purpose is to get together smallholders in irrigation cooperatives covering an area large enough to make possible the economic operation of a tubewell (for example with an irrigation capacity of 60 acres). The organisational preconditions being fulfilled, a cooperative is founded which

receives guidance and advice from the Ministry of Cooperatives and Rural Development. After examination of the technical preconditions, drilling and installation of the tubewell are taken care of by the Bangladesh Agricultural Development Corporation (BADC) which, in turn, employs Field Assistants for the supervision of the farms, does the necessary repair works and receives a small annual fee for coverage of part of its fixed costs. Operating costs, in particular fuel costs, and the costs for a pump operator must be covered by the irrigation cooperative.

The Development of Agriculture in 1973/74 and 1974/75

In the first two years of the First Five Year Plan, agricultural production of Bangladesh clearly lagged behind the planned targets. As can be seen from the Table, the picture is less unfavourable for 1973/74. While actual production was roughly 6 p.c. below the planned target, at least the pre-war level could be reattained. The same cannot be said, however, regarding the amount of foodgrain available per capita from domestic production because of the population increase having taken place in the meantime. In 1974/75 foodgrain production was much less satisfactory, falling short of the target by 13 p.c. and decreasing in absolute terms by 3 p.c. mainly due to an extreme flood in July 1974 which destroyed part of the crop. This is excluding shortfalls of the winter crop the results of which were not known at the time of publication of the Annual Report and which were — unrealistically — assumed to come up to targets.

Production of Foodgrains in Bangladesh, Targets and Actuals, 1973/74 and 1974/75

(in mn ts)

	Bench- mark	1973/74			1974/75		
		Target	Actual	Actual as p.c. of Target	Target	Actual	Actual as p.c. of Target
Rice:							
Aus	2.888	2.797	2.800	100	3.200	2.858	89
Aman	6.465	7.257	6.698	92	7.310	6.000	82
Boro	1.864	2.441	2.220	90	2.460	2.460	100
Total	11.217	12.495	11.718	94	12.970	11.318	87
Wheat	0.090	0.090	0.090	100	0.165	0.165	100
Total food- grains	11.307	12.585	11.808	94	13.135	11.483	87

Sources: Government of the People's Republic of Bangladesh, Economic Development in 1973-74 and Annual Plan for 1974-75, Dacca 1974, p. 23; Government of the People's Republic of Bangladesh, Economic Review 1974-75, Dacca 1975, p. 30.

Assuming that 10 p.c. of the crop were used for seed or lost as wastage, which is a very conservative estimate, some 10.3 mn ts of foodgrain

can be taken to have been available for consumption. Based on the population of 71.3 mn, this amounts to 320 lb. per capita and year, which is below the nutritional minimum. Therefore, when the effects of the flood disaster of July 1974 cast their shadows, the Government of Bangladesh made provision for imports of 2.64 mn ts of foodgrains. As these arrived but with a considerable delay at the end of the fiscal year, they came too late to prevent the outbreak of a serious famine. The situation was aggravated by the fact that considerable amounts of foodgrain were smuggled out to India as a result of the price differential caused by the rapid depreciation of Bangladesh's currency.

As a closer analysis of rice production in 1974/75 shows, in the case of aman rice³ the actual crop not only fell short of the target by 1.31 mn ts or 18 p.c. but also remained below the level of the previous year by almost 700,000 ts (see Table). This is essentially due to the flood disaster which destroyed a great part of the transplanted aman rice and affected the deep water aman. However, the shortfall is also partly due to the failure to extend the area of transplanted aman rice under high yielding varieties (there are no high yielding varieties for deep water aman) to the planned extent. Out of 9.65 mn acres under transplanted aman rice, only 1.238 mn acres were accounted for by high yielding varieties.

The shortfall of the aus crop is mainly due to flood damages. 786,000 acres were completely, 1.777 mn acres were partially destroyed by the floods.

Another important factor limiting foodgrain production was the insufficient supply of fertilizer. In September 1974 one of the two fertilizer factories of Bangladesh, the Ghorasal Fertilizer Factory, stopped operating after an explosion in the control centre. Owing to the severe strain on the balance of payments, the shortfall in fertilizer production could not be balanced by a corresponding increase of imports. As a result, the distribution of Urea which had amounted to 270,000 ts in 1973 and had decreased to 271,000 ts in 1973/74, fell to 230,000 ts in 1974/75, as against a plan target of 300,000 ts. (At the same time, however, the application of triple-superphosphate showed a slight rise from 87,000 ts in 1972/73 to 108,000 ts in 1974/75 while the use of potash increased from 18,000 to 29,000 ts.) It may be mentioned that the acute shortage of fertilizer gave rise to a black market where prices twice or three times the officially fixed ones were paid. As in the case of foodgrains, the situation worsened because of

³ Government of the People's Republic of Bangladesh, Planning Commission, The First Five Year Plan 1973-78, Dacca 1973.

large-scale smuggling to India. The shortfalls in fertilizer distribution were so much more detrimental as the application of fertilizer is extremely low in Bangladesh, considering the high intensity of land use.

In the field of irrigation, too, plan targets could not be met. In 1973/74 the actual installation of low lift pumps, somewhat exceeded the target of 35,000, but the installation of deep tubewells and shallow tubewells, to the tune of 1,532 and 1,652, respectively, fell far below the targets fixed in the Annual Development Plan (2,900 and 3,000). In 1974/75 no further low lift pumps were added; the installation of 2,000 deep tubewells and 1,000 shallow tubewells remained far below the plan targets of 2,600 and 2,000, respectively. In June 1974 out of 3,300 deep tubewells only 660 and out of 3,650 shallow tubewells only 1,600 were in operation. It should be added that these figures refer solely to the public sector programmes carried out by the Bangladesh Agricultural Development Corporation (BADC). In addition, the private sector was expected to set up 15,000 shallow tubewells during the First Five Year Plan. Out of the 3,000 shallow tubewells expected for 1974/75 only 1,800 could be installed, there again revealing a serious shortfall in plan implementation.

The first two years of the Five Year Plan have clearly revealed the close connection between agricultural production, the balance of payments, and prices. The year 1973/74 witnessed a considerable increase in the prices of imported rice, wheat, cotton and other products, a development partly induced by the pronounced rise in oil prices. To finance the projected import volume, in 1973/74 Bangladesh would have had to spend foreign exchange about 80 p.c. in excess of the projections based on 1972/73 prices. Due to the shortage of foreign exchange, import quantities had to be drastically reduced, by 27 p.c. in the case of foodgrain, 63 p.c. in the case of crude oil and 28 p.c. in the case of raw cotton. In spite of these cuts, actual import expenditure still exceeded the plan target by approximately 9 p.c.

In 1974/75 the balance of payments was seriously strained by the necessity of importing a particularly great amount of foodgrain owing to the flood-induced crop failure, and a larger amount of fertilizer following the disruption of production of the Ghorasal Fertilizer Factory. While total imports increased from 7.3 bn Taka to 9.7 bn Taka, as a consequence of these factors imports of machinery and equipment had to remain practically unchanged at a level of 1.2 bn Taka.

The unsatisfactory development of agricultural production, in conjunction with a large-scale deficit financing to which the Government resorted

in 1973/74, the influence of the world prices and the smuggling of goods to India had a profoundly inflationary effect on domestic prices. The price of rice soared from 3.9 Taka per kg in June 1974 to 8 Taka in January 1975, and according to in-official reports even 10 to 12 Taka are said to have been paid in Dacca. The general cost of living index for Dacca rose by no less than 110 p.c. from July 1973 to January 1975.

A Glimmer of Hope?

After the developments of 1973/74 and 1974/75, in the third year of the Five Year Plan there are signs that the situation has somewhat changed for the better. The supply of goods, in particular of rice and other basic food items, is larger now than before. As a consequence, there has been a pronounced fall in prices. The price of rice is back again to approximately 4 Taka. After the rate of inflation had been roughly 80 p.c. in 1974 and went down to 10 p.c. in 1975, today there is a downward trend even in absolute prices, at least for the basic food items.

This improvement seems to be largely due to more favourable and more balanced weather conditions making possible a record rice crop of 12 mn ts. Another factor explaining the improved supply situation is the unwarranted effect resulting from the delay of a large part of food-grain imports which had been ordered after the floods of July 1974 but arrived as late as in the second quarter of 1975, resulting in relatively abundant inventories at the beginning of 1975/76.

Last but indeed not least, the change in the internal political and economic climate of Bangladesh should be mentioned. After the rapid decline of the authority of the Government of Sheikh Mujibur Rahman in the first half of 1975, with all its committants in the field of discipline, law and order, the present Government seems to be making serious efforts to get the situation back to normal disciplined work conditions, at the same time giving more room to private initiative. The borders to India are largely under control and smuggling has ceased, also in this way improving the supply condition. While during the time of the "open border" considerable amounts of raw jute had been smuggled out to India, markedly restricting Bangladesh's exports, the Bengalee Jute Industry can again fall back on a more abundant supply of raw jute.

For a foreign observer, it is difficult to say whether the recent improvements are only of short term effect or whether they can be expected to last. To the extent that they are really not solely due to accidental factors like favourable weather conditions, there is, perhaps, a glimmer of hope.