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Cost Effectiveness of Targetted Food Programs in Bangladesh: A Selective Review

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Introduction

Although Bangladesh is about to attain self sufficiency in the production of foodgrain, nearly half of the country's population cannot afford an adequate diet. As in many other less developed countries, average per capita food consumption in Bangladesh seriously conceals the nature and magnitude of undernutrition. According to the 1998-99 Household Expenditure Survey Report (BBS 1991), average per capita daily calorie intake in Bangaldesh is 2215 kcals which is slightly higher than the minimum requirement of 2122 kcals per capita per day (set for Bangladesh). Yet the same report reveals that 48 per cent of rural and 44 per cent of urban people, in Bangladesh are absolutely poor when poverty is measured in terms of calorie intake less than 2122 kcals per capita per day.

Having accounted for the standard mix of foods eaten by the poor, the marginal propensity to consume food and the possible degree of imperfections in targeting, International Food Policy Research Institute (IFPRT) estimates the magnitude of resources required to fill the calorie gap in Bangladesh to the tune of $ 2.6 billion which is 10% higher than the annual government revenue. Thus deployment of such a huge resource to tackle the poverty and undernutrition problem is beyond the capacity of the national government, especially out of its own resources.

The normal process of economic growth offers only a partial and indirect solution to the problem of poverty and undernutrition. But that too is a slow process and the widespread manifestation of hunger and poverty in a country like Bangladesh has required and will continue to require appropriately targeted safety net programs to provide relief from hunger of the poor.

An overview of Food Programe in Bangladesh

The history of food intervention programs in Bangladesh can be traced back as early as in 1943. Since then, many alternative programs have been designed and operated to improve access to and consumption of certain specified items of food by different target groups of people under the common Public Food Distribution System (PFDS). Public food distribution expanded rapidly since the liberation of Bangladesh in 1971. The highest distribution in recent past was 2.94 million tons in 1998-99 to compensate the heavy loss of crops due to flood of 1998. In 2000-2001, total foodgrain distribution through PFDS was 2.45 million metric tons which represented about 13 per cent of all foodgrains consumed in the country.

The PFDS operates through a number of channels, each directed to serve specified target group of people. In 2001, there were as many as 14 distribution channels of which 9 were monetized and, 5 were non monetized channels (Ahmed 2002). The monetized channels included: Statutory Rationing (SR) covering the government employees in six urban areas; Palli (Rural) Rationing (PR) covering the low-income rural households; Essential Priorities (EP) serving the armed forces, and other forces; Other Priorities (OP) covering government employees outside SR areas; Large Employers (LE) covering industrial labourers working in their firms; Flour Mills (FM) for crushing wheat and facilitating marketing of flour; Open Market Sale (OMS) aiming to stabilize market price; Marketing Operation (MO) and Free Sale (FS) for sale of grains to all people. The nonmonetized channels included: Food for Work (FFW) providing grains in exchange for labour in rural public works; Vulnerable Group Development (VGD) providing grains to distressed women; Test Relief (TR) and Gratuitous Relief (GR) providing free grains in emergencies, and Cluster Village (CV) distributing grains to the rehabilitated landless rural households.

Among the above mentioned channels, FFW was the largest of all the monetized and non monetized channels accounting for 20 per cent of all foods distributed through PFDS in 2000-2001 (Table 1). This was closely followed by the monetized PR channel which accounted for 19.5 per cent of the total PFDS offtake in the same year.

As the structure of the PFDS indicates, some of the channels deliberately did not aim to serve the poor and undernourished people. Questions have also been raised as

to how much success has been achieved by the programs which were designed to improve food consumption and nutritional status of the undernourished people. It is alleged that the major shares of the benefits of these programs have accrued to the well-to-do sections of people. In the recent past most serious allegations were raised in respect of performance of the PR program. This program was initiated in 1989 by replacing a relatively less effective Modified Rationing (MR) program. The PR was designed to distribute subsidized foodgrains to the rural poor. In the year 2000-2001 alone, the government incurred a budgetary subsidy of Tk. 2.15 billion for running the program. The program performance was however assessed to be poor. Ahmed (2002) has shown that the PR program effectively benefited about 31 per cent of target population representing only 1.8 per cent of the rural population. In view of the poor performance of the programe, the government suspended it In December 2001 and ultimately abolished it in 2002.

Table 1. Distribution of foodgrains by Channels and share of Channels in the Public Food Distribution System (2000-2001)

Channels	Quantity of food grains distributed ('000 metric tons)			Shares of all foodgrains
	Rice	Wheat	All Grains	in PFDS (per cent)
Palli rationing	478	0	478	19.3
Flour mill	0	345	345	14.1
Statutory rationig	55	205	260	10.6
Other priorities	90	144	234	9.6
Essential priorities	84	55	439	6.7
Open market sale	80	13	93	3.8
Large employers	7	34	41	1.7
Free sales	6	0	6	0.2
Marketing Operations	0	0	6	0.0
Total monetized	**800**	**796**	**1596**	**65.2**

Channels	Quantity of food grains distributed ('000 metric tons)			Shares of all foodgrains
	Rice	Wheat	All Grains	in PFDS (per cent)
Food for work	58	429	487	19.9
Vulnerable group dev.	116	133	249	10.2
Test relief	51	23	74	3.0
Gratuitous relief	19	13	32	1.3
Cluster village	5	6	11	0.4
Total nonmonetized	**249**	**604**	**853**	**34.8**
Total	**1049**	**1400**	**2449**	**100.0**

Source: World Food Programme: "Bangladesh Foodgrain Forecast (April)". Dhaka 2002 (mimeo.).

It appears that an effective and viable targeted food program is yet to be designed for the rural poor in Bangladesh. After the abolition of the PR programs, the government has been in search of alternative programs that would be capable of delivering maximum possible benefits to the poor at the least possible cost.

Cost Effectiveness of Selected Programs

The Working Group on Targeted Food Intervention' chaired by the IFPRI reviewed a number of alternative programs which could act as substitutes of PR program. While some of the programs are already in operation, FFW, for example, others such as Rural Maintenance Program (RMP) are new alternatives. While FFW distributes wheat as wage payment to workers in labour intensive public works programs, RMP - jointly operated by CARE and the Ministry of Relief - makes payment in cash for maintenance of rural roads and other infrastructures by employing mainly the destitute rural women. The VGD program selects beneficiaries through a committee of knowledgeable local officials. The VGD staff physically distribute free wheat to the beneficiaries who are identified by cards issued against them.

The performances of a number of selected programmes are evaluated using the cost-effectiveness criteria. The results of Table 2 indicate the cost of supplying Taka 1 of income to a low income household by alternative means. It appears that among the existing programs AMP is the most cost-effective in delivering income to the vulnerable households. RMP is the cash for work program which delivers Taka 1 of income to the targeted household only at a cost of Taka 1.2. The ration channel operates with high rate of system leakage and involves the high cost of commodity handling. This type of program requires as high as Taka 6.50 to Taka 360 to transfer Taka 1 to the target beneficiaries.

The FFW, like the ration channel, involves commodity handling. But because of relatively lower system leakage, it costs Taka 1.80 to 2.40 to deliver Taka 1 to the targeted households. The potential programs such as 'food stamp' and 'cash transfer' also appear as intermediate performers requiring Taka 1.7 and Taka 1.3 respectively to deliver Taka 1 of income to the targeted households.

Table 2. Cost Effectiveness of Alternative Targeted Food Interventions In Bangladesh

Program	Cost of supplying Taka 1 of income to a vulnerable household
Existing	6.6 - 360
Ration channels	1.8 - 2.4
Food for work	1.4 - 1.5
Vulnerable group development	1.4 - 1.5
Rural maintenance program	1.2 -
Potential	
Food stamp	1.7
Cash transfer	1.4

Notes: Cost includes the Taka 1 income transfer plus cost of administration and leakage.

Grains are valued at the landed cost of imported wheat rather than at the government ration price.

Source: IFPRI 2004. Options for targeting Food Interventions in Bangladesh. Washington D.C.

It may be mentioned that food stamp is a potential program and has not yet been tested in the context of Bangladesh. As is well known, identification of target population and successful implementation of the program require high administrative skills. However, extrapolating from the experiences around the world, Reutlinger argued that "with all the imperfections, there is still good evidence that from a nutritional point of view the food stamp programme is more cost-effective than an equivalent income transfer" (1977, p. 723).

Conclusion

The foregoing review of food programs and their relative cost effectiveness performance provide the policy makers of Bangladesh .With a number of options having various fiscal and nutritional consequences. The analysis provided by the 'Working Group' suggests that the newly Introduced PIMP is the most cost effective of all the programs while FFW and VGD are the Intermediate performers. In view of the better performance of the RMP, the group recommends replication of the program to a sizeable extent.

It should be remembered that RMP is a newly introduced program and large scale operation of it has not been tested. It is also a cash for work program as opposed the FFW which distributes food directly in exchange for rural development works. In line with the Ricardian wage, good concept it can be argued that FFW, by raising the level of real income, will raise the demand for energy or calorie. The process will allow food to gain its intended character as an input of energy to help raise production (Shah 1980).

The other aspect of effectiveness relates to actual consumption of food and nutrient by the poor as an outcome of the program. While payment in the form of food is likely to contribute directly to consumption of food and nutrient, cash payment contributes to food/nutrient consumption through marginal propensity to consume (MPC) food.

If the MPC of food of "food for" program is larger than that of the "cash for" program, the cost-effectiveness comparison presented above may not be valid and

from nutritional point of view, food based programs may be considered more effective than cash based programs. Available evidence, from the USA indicates that one dollar of foodstamp generates more food expenditure than one dollar of cash transfer (Buseet al. 1990). In the context of Bangladesh, Ahmed (2003) reports that among the VGD households, delivery of 100 Taka worth of wheat generates a greater increase in food consumption than does an additional 100 Taka of cash Income. There is also the question of food preference related to cash transfer as people, even of the low income strata, are found to substitute high-cost for low-cost sources of calorie in purchasing food out of their incremental income (Talukder and Quilkey 2001).

Thus, even with a lower level of effectiveness from fiscal point of view, food based program may turn out to be more effective from nutritional point of view. A useful aspect of cost effectiveness analysis would, therefore, be to determine the effectiveness of delivery of units of nutrient rather than units of money to the target households.

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