

Targeted nutrition project at Muktagacha in Bangladesh: lessons learned

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Running head: Targeted nutrition project in Bangladesh

Abstract

Millions of people suffer and many of them die from malnutrition in developing countries. BRAC, a non-governmental organisation in Bangladesh, has made significant progress towards planning and implementing nutrition programmes. Targeted nutrition interventions incorporated into programmes aimed at poverty alleviation significantly contribute to nutritional improvement.

Bangladesh suffers from some of the worst forms of malnutrition. As indicated in the latest national nutrition survey, it is widespread and persistent mostly affecting young children and pregnant and lactating women (1). Since 1993, BRAC, a national non-governmental organisation (NGO), has been carrying out a targeted nutrition project in a *thana* (sub-district) of Bangladesh. The major components of the project are nutrition education and food supplementation to the vulnerable groups. This paper presents the project with special attention given to different aspects of targeting.

BRAC and its targeted programmes

BRAC was founded in 1972 as a response to the victims of the War of Independence. After a year BRAC realised that relief, which had been its strategy, was not a solution to people's multiple problems. They needed employment, education, social status and health care. In 1977, BRAC switched to a strategy, which served only the poor. This means that it works exclusively with and for the poor and other disadvantaged sections including the women. It was called the 'target group approach', which targets different poor groups.

Depending on the nature of intervention, the target group that BRAC serves varies. For example, the poorest remains the target of BRAC's major poverty alleviation programme called the Rural Development Programme or RDP. Similarly the 'target' for most components of the health programme are women of reproductive age and children under five years of age. Table 1 gives a summary of BRAC programmes along with the type of target group each serve. The table shows that the three projects where nutrition is the direct focus are targeted to specific groups. These are Income Generation for Vulnerable Group Development (IGVGD), iron supplementation, and food supplementation. The latter, more popularly known as the Muktagacha nutrition project, is the subject of this paper. Details on other programmes are available elsewhere (2-4).

BRAC in nutrition: the Muktagacha project

In view of the appalling nutrition situation in Bangladesh the need for a comprehensive community-based nutrition programme was apparent. The government of Bangladesh and the donors, however, felt that first they needed to ascertain the feasibility of implementing such a community-based nutrition programme. An experimental programme called for the experience and flexibility of an NGO. BRAC was requested to implement

a community-based nutrition project in 1993 with a combination of nutrition education and food supplementation to address existing food shortages and long-term behavioural changes.

Muktagacha *thana* in Mymensingh district, 110 km north of Dhaka City, was the site chosen for the implementation of the project. The distance from Dhaka was far enough to avoid urban influence and near enough to be supervised intensively. The baseline survey of 1991 recorded an estimated population of 156,542 including 5,000 children under two years of age, 20,000 women of childbearing age and 5,000 adolescent girls. Since 1991, the health interventions of BRAC¹ were already being implemented in this *thana*. Intensive nutrition interventions were added to the programme as part of the nutrition project. The Muktagacha project was an inter-sectoral project, comprised of: 1) community-based health and nutrition services; 2) adolescent education; and 3) credit, skill development and income generation through community participation.

¹BRAC offered a comprehensive and integrated package of health services with special emphasis on women and children, including:

- Maternal, ante-natal, natal and post-natal care;
- Contraception services and education;
- Immunization services;
- Micronutrient distribution (Vitamin A and Iron);
- Birth weight recording and growth monitoring (0-2 years);
- Tuberculosis detection, treatment and control;
- ARI detection, treatment and control; and
- Water and sanitation.

Goals and objectives of the Muktagacha Project

The programme aimed to reduce endemic malnutrition and consequent high mortality rates in mothers and children by improving the health and nutritional status of children, adolescent girls and pregnant women.

The specific objectives of the project were as follows:

- To determine and regularly monitor the nutritional status of children (from birth to 24 months), adolescent girls, and pregnant and lactating mothers;
- To rehabilitate the malnourished and nutritionally vulnerable children and pregnant women through short-term selective food supplementation;
- To implement an intensive education programme to attain improved feeding and food distribution practices and maternal and child care at home; and
- To establish an evaluation and monitoring system to provide continuous feedback to programme managers.

Project interventions

The following interventions were carried out under the project:

- Nutritional surveillance of children (aged 0-2 years), adolescent girls (aged 11-16 years) and pregnant and lactating mothers;
- Nutrition and health education for all the above target groups;
- Food supplementation for the severely malnourished and faltering as estimated through weight-for-age and body mass index; and
- Referral for those continuing in a state of faltering nutrition or presenting with secondary complications of and with malnutrition.

The targeting

Since it was females who suffered from the worst cases of malnutrition, the gender perspective was taken into account in deciding what targeting mechanism was to be used. BRAC had looked into the targeting system of the Tamil Nadu Integrated Nutrition Programme and gone through other experiences on targeting (5-7). Past experiences were carefully looked into and the targeting criteria were finalised.

The targeting mechanism

Women

Through the monthly household visits, all pregnant women of the community were identified and registered by the third month of pregnancy. During the provision of antenatal care by BRAC/government staff, the women having a BMI of less than 18.5 were screened and enrolled in the supplementation programme. The *gram* (village) committee members (GC)² distributed the supplementary food package prepared by them each day at the household level. Follow up visits by BRAC *Shasthya Karmi* (female paid health worker) provided nutrition education to women as well as to their family members. The women remained in the programme up to the sixth month after delivery and received education on nutrition needs during lactation, breastfeeding, weaning and caring practices.

Children

Each growth-monitoring centre covered 20-25 children. There were three basic criteria for children to be enrolled in the food supplementation programme:

²The women's group known as the GC is an integral part of the programme. There are 9-11 members in a GC, and their time input is voluntary. Each GC member has been chosen from BRAC's village women's credit groups.

- a. A low birth weight;
- b. Poor weight gain in children under 12 months of age. If they did not show a gain of 500 g between three successive weighing, they were enrolled in the feeding programme; and Poor monthly weight gain in children aged 12-23 months. If they failed to gain 300 g by four successive weighing (growth faltering), they were enrolled in the nutrition education programme.

Adolescent girls

Girls aged 11-18 years attending the Non-formal Primary Education (NFPE) schools run by BRAC were provided with a mid-morning snack during the school day. This was done to provide nutrition education and emphasized the extent of calorie needs of the adolescents. Besides, the girls also took their own weight and height measurements once a month and discussed the results in presence of the teacher.

Referral

The children were given food supplementation for 90 days; if their weight did not improve even after that, they were referred to the secondary and tertiary health centres. To supplement government services, BRAC

opened a 'health care centre', which catered to the needs of the risk groups.

Field implementation process

Initially, through a series of meetings between the project staff and the community, the project objectives and targeting criteria were explained and discussed. A female grassroots worker, known as the *Shastho Karmi* (SK) was in charge of 150-200 households. All SKs were compensated for their time and labour with a monthly honorarium of Taka 500 (1 US\$ = Taka 49). They visited each household once a week and recorded vital events such as marriages, pregnancies, births, deaths and migration. They helped to meet the family's contraceptive needs and were responsible for identifying and treating cases of tuberculosis and ARI (8). Through the regular household visits the SKs identified the pregnant women and children under 2 years of age and invited all of them to attend the Antenatal Care Centres (ANCC) and growth monitoring and promotion (GMP) sessions. They also invited the adolescent girls of the poor families to attend the BRAC NFPE schools where they were given supplementary foods.

At the growth monitoring and promotion sessions, organised along with the government run Expanded Programme on Immunisation (EPI) and vitamin A distribution programmes, children were weighed and mothers received growth cards marked with the child's growth pattern. The estimation of growth faltering was done on the basis of the weight taken at the GMP sessions and at ANCCs. The NFPE schoolteachers explained the significance of the growth curve to mothers and provided nutrition education on such issues as breastfeeding and introduction of supplementary foods. BRAC grassroots level employees, known as Programme Organisers (PO) supervised these activities.

Adolescent girls attending the NFPE schools helped conduct the school-based monthly GMP sessions with the help of their women teachers. There was one school in each village with an average of 28 to 33 girls. The students followed 56-66 children under two years of age, with each learner being responsible for two children. Through motivation and mobilisation of mothers, she ensured that children under her responsibility had their immunisation, vitamin A capsule, and attended in GMP sessions.

In the ANCC, all pregnant women were provided with regular antenatal services, which included weight and height measurements. Pregnant women with BMI less than 18.5 were included in the nutrition supplementation programme and provided with the daily supplement through home visits. Apart from the ANC services and food supplementation, all women attending the centre were given intensive health and nutrition education messages.

Supplementation of food intake

Women

The GC members prepared the supplementary food with supervision from the SKs. Four *moas* (balls of flat rice, molasses and peanuts rolled together) were given to each pregnant or lactating mother every morning (Table 2). The GC member who delivered the *moas* to each woman made sure that she ate at least two in her presence.

Children

Children received a package of roasted and powdered rice and pulse with molasses and vegetable oil (Table 3). This was also prepared by the GC members under the supervision of SKs. The package was supplied to

the mother at the daily feeding centre, where she herself mixed the contents together with oil and water and fed her child. The severely malnourished received two such packages.

Adolescent girls

The adolescent girls' food included a snack of puffed rice, molasses and peanuts (Table 4). They consumed it in the school under the supervision of SKs and schoolteachers.

Efficacy and accuracy of targeting

Project reports indicate that the entire target population participated almost all the time, but according to some SKs and mothers, it was not reasonable to expect that a hundred percent of the target population received the supplement. Sometimes it was because a mother was out of the village and could not go to the centre with her child. Sometimes she sent a sibling or a grandmother and thus missed out on her own monitoring. There were a few conservative households where the workers were not permitted to enter. Such cases were frequent in the beginning of the programme but became rare afterwards. Past field experience prepared BRAC staff to anticipate that all under-two children

would not be covered, as not all mothers would be motivated enough to come for the growth monitoring. Field experience, backed by independent research, showed that about 25% of the under-two children and 10% of the pregnant women were not covered by the project. Sometimes this absence was a matter of inconvenience on the mother's part, but often it was because social or religious constraints kept a mother from going to a feeding or growth monitoring centre. Part of it could also be due to lapses in project implementation.

Measures of outcome

Monitoring results from the field showed impressive outcomes. In 1996, of the 2,354 women provided supplementary food, 83% gave birth to infants with normal birth weight (>2.5 kg). A total of 5,948 children under 2 years of age were given supplementary food, of which 40% graduated - 55% of them being girls. The results improved consistently over the years (Figure 1). The body mass index (BMI) and mid-upper-arm-circumference (MUAC) of adolescent girls clearly improved between 1993 and 1995 (Table 5). And lastly, women continued to gain their weight during pregnancy (Figure 2).

The reasons or elements of interventions that could account for the above outcomes had been identified as the following:

- carefully selected set of interventions;
- training, development and supervision of BRAC staff and community health volunteers;
- adequate targeting of beneficiaries;
- community participation and mobilization;
- an effective information and monitoring system;
- rationalization and review of strategies based on field needs; and
- multi-sectoral nature of BRAC's development activities.

Lessons learned about targeting

1. Children at the centres were healthier over time than those in other areas.
2. The high-risk group of the population is more clearly deferred and since the recovery rate of this group is faster, cases can be shown to the community as project successes.

3. A major difficulty has been the treatment and management of the cases referred to the government Thana Health Complexes (THC). The accessibility of the population, particularly of the poor and women, to THCs were limited because of lack of facilities and unfriendly attitudes of the THC staff.
4. Underweight children, who showed a gain in weight following supplementation but were still below the standard weight, exited out of the supplementation programme according to the project criteria. A continuous community-based mechanism needed to be in place to rehabilitate these children and ensured that these families were given special attention.
5. It is not yet clear whether the criteria for graduation were appropriate. The graduating criteria had been adopted from the Tamil Nadu Integrated Nutrition Programme. The project is looking into whether that criteria was appropriate for Bangladesh or needed revision based on follow-up of the graduated children and their morbidity pattern.
6. The government must be responsible for most nutritional rehabilitation in Bangladesh. An NGO by itself can only cover a very small well-

defined area. Besides, most of the NGOs in Bangladesh are dependent on foreign assistance and if the assistance is stopped, the projects would discontinue. The government, with a few modifications, has been replicating the Muktagacha pilot project model in 40 thanas throughout the country. This has been initiated under the Community Based Nutrition Component (CBNC) of Bangladesh Integrated Nutrition Project (BINP) (9).

Conclusion

A large proportion of the population in Bangladesh is still malnourished, many of them severely. The major reason for malnutrition remains poverty. Initial results from the BRAC targeted nutrition project in Muktagacha indicate sufficient weight gains in children, adolescent girls and pregnant women. The targeting was done well and leakage was found to be minimal. The government of Bangladesh, with financial support from the World Bank, has started replicating this project termed as Bangladesh Integrated Nutrition Project (BINP) in 40 *thanas* (sub-district) of the country. BRAC believes that in a society like ours, the development inputs do not reach the people it is meant for unless they are unambiguously targeted by the programmes.

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Table 1. Examples of targeted programmes of BRAC

Name of programme	Target group	Focus
Income Generation for Vulnerable Group Development Programme (IGVGDP)	Poorest / destitute women (bottom 10% of the population in socio-economic scale)	Income generation, Livestock, Nutrition
Rural Development Programme (RDP)	Poor (owning less than 50 decimals of land)	Income, Employment, Institution building
Reproductive Health and Disease Control Programme (RHDC)	Women (15-49 yr.), children (0-6 yr.) and individuals with tuberculosis	Reproductive health, Immunisation, ARI, TB
Iron Supplementation Programme	Women of reproductive age including pregnant women and children attending non-formal (NFPE) school.	Iron and folic acid
Non-formal Primary Education Project (NFPE)	Children from poor families	Primary education
Muktagacha Nutrition Project	Malnourished children, adolescents, and pregnant women .	Nutrition education, Food supplementation

Table 2. Nutritional composition of the food supplied to women.

Food ingredient	Amount (g)	Energy (kcal)	Protein (g)	Calcium (mg)	Iron (mg)
Flat rice	50	162	3.75	3	3
Molasses	100	394	-	10	-
Peanuts	50	280	12.00	3	1
Total	200	836	15.75	16	4

Table 3. Nutritional composition of the food supplied to children under two.

Food ingredient	Amount (g)	Energy (kcal)	Protein (g)	Calcium (mg)	Iron (mg)
Rice	25	87	1.75	3.75	1.5
Pulse	10	34	2.50	1.5	0.6
Molasses	10	39	-	1.0	-
Oil	5 (ml)	40	-	-	-
Total	45	200	4.25	6.25	2.1

Table 4. Nutritional composition of food given to adolescent girls.

Food ingredients	Amount (g)	Energy (kcal)	Protein (g)	Calcium (mg)	Iron (mg)
Puffed rice	50	163	3.75	3	3
Molasses	50	197	-	5	-
Peanuts	50	280	12.00	3	1
Total	150	640	15.75	11	4

Table 5. Mean (and standard deviation) of MUAC and BMI of adolescent girls receiving food supplementation.

Type of measurement	1993	1994	1995
MUAC	20.67±1.97	21.77±2.26	22.81±1.81
BMI	16.31±1.80	16.42±1.84	17.19±1.77

Figure 1. Percent of children gained 500 g or more after 90 days of supplementation by year

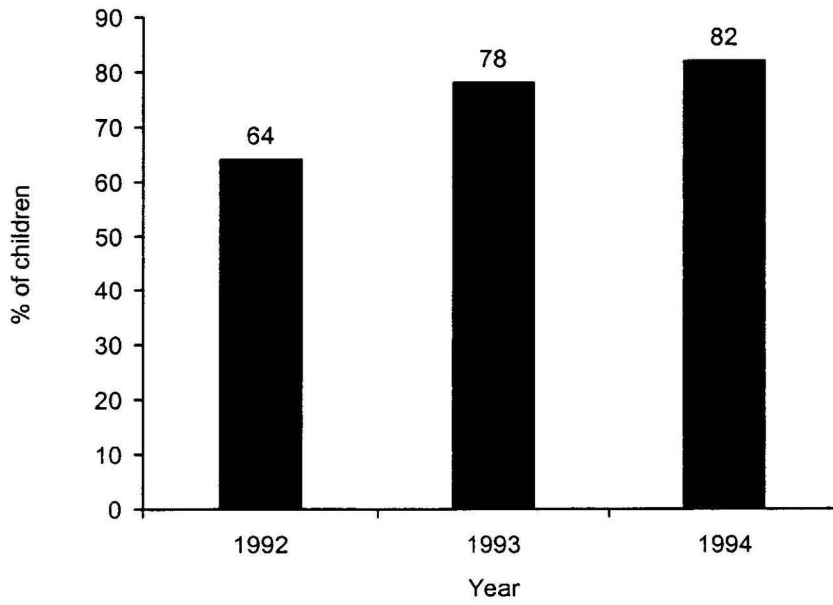


Figure 2. Weight gain of supplemented women by month of pregnancy

