

Homestead Food Production Improves Household Food and Nutrition Security

Malnutrition is a serious problem among women and children in Bangladesh. Nutrition is an important input for reaching the Millennium Development Goals (MDGs); it is a key MDG indicator of poverty and hunger, directly contributes to health and education MDGs, and can accelerate improvements in non-nutrition development objectives.¹ In order for Bangladesh to make progress towards reaching the MDG efforts are required to address the problem of undernutrition. One way to address the problem of malnutrition is making foods available at the household-level through food-based programs. This bulletin reports on the successful expansion of HKI's home gardening program with a poultry production component and how that increased household food security and income.

The prevalence of malnutrition in rural Bangladesh is among the highest in the world. Data from 2003 of the Nutritional Surveillance Project (NSP) of Helen Keller International (HKI) and the Institute of Public Health Nutrition (IPHN) of the Government of Bangladesh show that 48% of children under 5 years are underweight and 38% of mothers have chronic energy deficiency, indicating a 'serious' or 'critical' food security problem.² In addition, micronutrient malnutrition affects more than 50% of children and women of reproductive age in rural Bangladesh.^{3,4} Micronutrient malnutrition has serious implications for the health, productivity and development of the country because micronutrients are essential for growth, protection from infections, cognitive function and for performing physical work.

Nutrition and the MDGs

In September 2000, world leaders adopted the United Nations Millennium Declaration, committing their nations to stronger global efforts for poverty reduction, universal education, women's empowerment, health, environmental sustainability and development partnership. The Declaration has eight specific goals,

...Undernutrition contributes to dysfunctional societies with individuals too weak, too vulnerable to disease, and too lacking in physical energy to carry out the extraordinarily laborious tasks of escaping the poverty trap. Malnutrition and hunger feed directly into ill health and poverty. Lack of nutrition means children cannot concentrate adequately in schools, compromising the efforts to achieve universal education...

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referred to as the Millennium Development Goals (MDGs). These goals reflect the international community's recognition of and commitment to a broader development agenda.

Nutritional status is now one of the indicators of the Millennium Development Goals. And, it is much more than an outcome of poverty reduction efforts. It is a key input into attaining them. Poverty reduction strategies that place a high priority on attaining improvements in nutritional status will enable improvements in labor productivity to be played out throughout the lifecycle; will weaken the intergenerational transmission of poverty, and will inevitably

enhance the focus of poverty reduction onto women and children. Nutritional status is also a key input to other MDGs. Improved nutritional status increases the educability of children, leads to a focus on gender equity, reduces the risk of child mortality, improves maternal health, and improves ability to combat disease. In sum, nutritional status can be considered a foundation for the attainment of the MDGs.⁵

Several strategies are necessary for addressing the problem of malnutrition. One such strategy is food-based programs to improve access and availability of plant and animal foods at the household level. There is growing evidence that food-based strategies, including homestead food production, have an impact on vitamin A deficiency and other micronutrients.^{6,7} Such strategies also increase household food security. By increasing the variety of fruits and vegetables available for consumption and additional eggs, meat, liver, fish or milk, the diversity of the diet is increased; this has been shown to have positive impacts on nutritional status.⁸

One of the main reasons why malnutrition is prevalent in Bangladesh is because households lack the resources to grow or purchase sufficient nutritious food and thus their diet is deficient in both energy and (micro)nutrients. HKI/Bangladesh has been working through its home gardening and nutrition education programs to increase year-round availability and consumption of micronutrient rich foods since 1990. A description of this project can be found elsewhere.⁹ In 2002 a pilot project was initiated with the overall objective of also increasing production and consumption of animal foods in order to further improve household food and nutrition security. This bulletin describes findings from this pilot project.

Description of the Pilot Project

The pilot project was conducted in collaboration with two non-governmental organization (NGO) partners of HKI - Social Development Committee (SDC) and Gono Kallayan Sangstha (GKS) working in Faridpur and Sirajgonj Districts of Northwest Bangladesh. A total of 600 households (300 per district) that were already participating in homestead gardening, were randomly selected for the pilot.

Each NGO was supported to establish 15 village model farms (VMF). Interested village nursery owners became village model farmers who provided

training, demonstration and other support services to household food producers. The program promoted household egg production by introducing improved breeds of birds that can produce more eggs, and by ensuring these birds are vaccinated and provided with adequate housing and feed. The program also provided access to improved varieties of grass and deworming tablets for cows to improve milk production, and introduced fast growing fish cultivars and plant sources of fish feed to increase fish production.

HKI staff provided training to NGO partners on poultry production and nutrition education and also assisted NGO staff during training of VMF owners and households. The NGO partners were responsible for conducting field level training, carrying out regular field visits and providing assistance for day-to-day activities. With technical assistance from HKI, they were also responsible for organizing and implementing a nutrition education component in conjunction with the homestead food production activities.

Monitoring and Evaluation of the Pilot Project

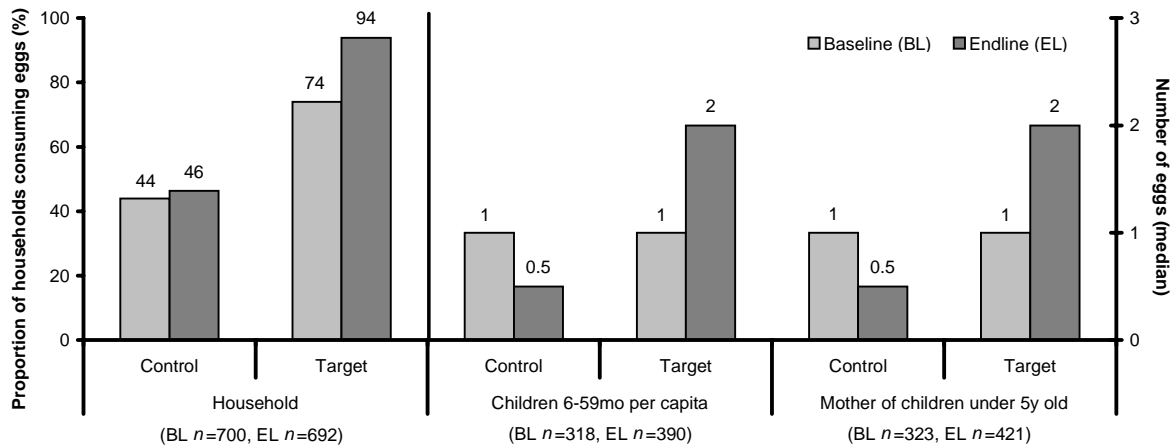
Baseline and endline surveys were conducted at project initiation (Apr-May 2002) and one year later (Mar-Apr 2003). Program monitoring was conducted at four-monthly intervals. Questionnaires were administered to VMF owners and household food producers.

Results of Pilot Project

Findings from the pilot project are promising. At endline, project beneficiaries had produced, on average, 200 eggs in the 3-month period prior to data collection while control households had only produced 21 eggs in the same time period. Increased production at the household level resulted in significant increases in consumption among all household members, including mothers and children 6-59 months of age (Figure 1). There was a 20% increase in egg consumption among households. And, overall household consumption increased from 4 eggs in the last seven days to 10 eggs. Mothers' and child consumption doubled from one to two eggs in the last seven days.

Besides being used for consumption, poultry products (eggs and meat) are used by households for sale. The proportion of target households that sold poultry

Figure 1. Consumption of eggs in the last seven days by households, by child (6-59 m) and by mother at baseline and endline.



products increased from 39% at baseline to 80% at endline. Households which sold these products were able to increase their income by more than 200% from 120 Taka to 250 Taka in a three month period (Figure 2).^a Income earned from sale of all homestead products in three months was as high as Taka 460 (31 US\$/year) among target households. This is significant in Bangladesh where the GNI per capita was US\$ 360 at the time of the study.¹⁰

The data show that the income generated from sale of poultry products is used for other important household needs such as other food items, productive assets (such as seeds, saplings, fencing, tools, etc), savings, education and clothing (Figure 3). This indicates that homestead food production is not only important for food security and nutrition but also for helping poor households meet other basic needs, thus contributing to poverty alleviation efforts.

Conclusions

These findings provide evidence that homestead food production enables households to consume micronutrient-rich non-cereal foods more frequently, to diversify their diet and thereby to increase the quality of their diet.

With technical assistance and support from homestead food production programs, households can be encouraged to produce a wide variety of fruits and vegetables throughout the year and to integrate animal husbandry into other homestead food production activities.

Integration of animal husbandry/poultry into existing home gardening programs increased consumption of eggs among children, mothers and households. Animal husbandry also provides additional income for poor women which is used for other important households expenditures, such as other foods and education.

Figure 2. Proportion of households selling poultry produce (eggs, meat) in the last three months prior to data collection and amount of money earned.

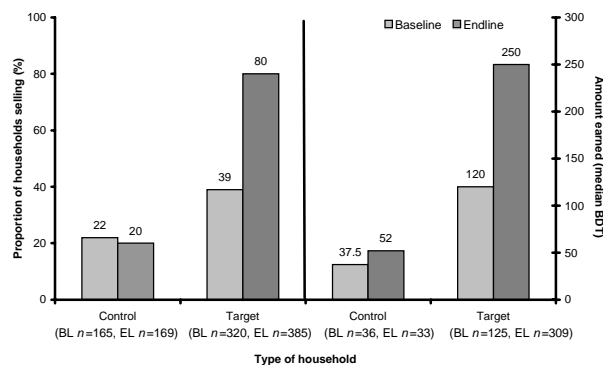
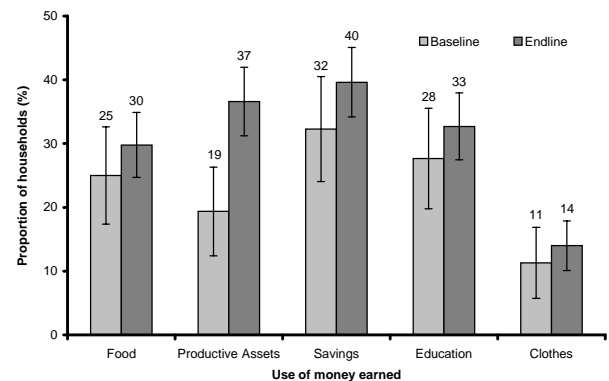


Figure 3. Use of income generated by target households from selling poultry products (BL n=124, EL n=309).



^a Average exchange rate during this period was US\$ 1 = 60 Bangladeshi Taka.

Recommendations

To be most effective in improving household food and nutrition security:

- Sustainable, low-cost, large-scale programs that increase the production and availability of micronutrient-rich foods should be continued and expanded based on successful pilot projects.
- Homestead production of animal foods through poultry raising, improved milk production and fish cultivation should be promoted, alongside homestead gardening.
- Homestead food production programs that increase the production and consumption of animal food (poultry, eggs, milk, fish, etc.) and plant foods and provide income for the household should be included in strategies to improve household food security, nutrition and livelihoods.

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