



Speaker Summary Note

Session: Learning from Program Interventions

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History and Coverage of HKI's Homestead Food Production Model

HKI works within many different sectors to implement proven health and nutrition interventions to save the sight and lives of the most vulnerable members of society. Our nutrition work within the agricultural sector first started in Bangladesh over 20 years ago when HKI designed, tested and scaled up an innovative home gardening model which had the objective of increasing the production and consumption of micronutrient rich vegetables and fruits to address deficiencies in Vitamin A and iron especially in young children and women. This program model was subsequently improved by the incorporation of animal-source foods as an additional source of micronutrients, and became referred to as HKI's 'homestead food production' (HFP) model. Over time, the HFP model was adapted and expanded within Bangladesh as well as to Nepal, Cambodia, and the Philippines. Since HKI first launched HFP, over 5 million people (representing about 950,000 families) have been directly reached in these four countries via our partnerships with national governments and the more than 200 local non-government organizations (NGOs) through which the program is delivered. Many millions more have indirectly benefitted from spillover effects arising from the surplus of nutritious foods entering the local marketplace.

Description of Model

Based on a 3-year project cycle, HKI provides technical assistance to government field workers and staff of local NGOs to introduce poor rural and peri-urban gardeners (primarily women) to environmentally sound techniques to increase year-round production of foods rich in micronutrients. Our intent is to build local technical capacity within communities and of the service providers assisting them. A primary focus is to reach women small-holder gardeners to achieve not just nutritional improvements but also to strengthen their livelihood opportunities and capabilities through improved access to markets, agriculture services, and health and nutrition services. 'Village model farms' (VMF) are established, using existing structures and activities to the extent possible. Around each VMF, up to 2-3 groups are formed comprising about twenty farmers, mostly women. Through the VMF, members of these groups are provided with production inputs including seeds, seedlings, saplings, improved animal breeds, and feed and medicine for poultry and livestock, together with training in improved cultivation techniques. Nutrition education is integrated into the agricultural program activities to encourage women to adopt optimal dietary practices utilizing the foods they produce. Surplus production can be sold to increase income, particularly under the control of women, which can be used to purchase other nutritious foods or family necessities.

Measured Results

Evaluation results¹ have shown that HKI's HFP programs increase year-round production of nutritious crops and animal based foods, improve dietary diversity, and increase income (especially under control of women), as well as increase female empowerment in family decision-making. In some countries, anemia prevalence has been decreased in target children 6-59 months and non-pregnant women, and night blindness has been reduced in children 12-59 months. Evaluations of the Bangladesh program have shown that the effects of the program survive long after HKI's 3-year cycle of support has ended.² Although more work is needed to study costs, a 2005 analysis of the home gardening component of the Bangladesh program suggests total costs for each participating family to be about US\$9 over the 3-year period. A cost-benefit analysis undertaken in 2007 showed the home gardening component to have an economic rate of return of 160%.³ In 2009 HKI's HFP program in Bangladesh was selected as one of twenty-seven case studies⁴ (out of 250 applications) to spot-light successful food security projects for "*Millions Fed: Proven Successes in Agricultural Development*," an initiative of the International Food Policy Research Institute (IFPRI) funded by the Bill and Melinda Gates Foundation.

Future Directions

Through these past evaluations, HKI has been able to identify elements of the HFP program that could be strengthened, for example, expanding objectives to include child growth and re-tooling the design of the monitoring and evaluation system. This led to the basic HFP model being enhanced to include stronger links with local health services. A more complete set of Essential Nutrition Actions has been incorporated to address not only deficiencies in micronutrients, but also sub-optimal infant and young child feeding and women's nutrition practices. These Essential Nutrition Actions are similar to the proven interventions identified by the 2008 *Lancet Nutrition Series* and the 2010 *Scaling Up Nutrition: A Framework for Action*. State-of-the-art behavior change techniques have also been incorporated to strengthen the counseling skills of local health workers involved with the program to be better able to convince mothers to adopt optimal practices. Starting in 2007, HKI and the International Food Policy Research Institute joined forces to elaborate the theoretical basis of the enhanced HFP model (EHFP) and develop a rigorous methodology to track impact on child growth and other key outcomes. This collaboration has been critical in informing the evolution of HKI's new EHFP model, including the use of *program impact pathways* on which program design, operational research, and M/E is based. Under the EHFP, the four primary pathways to achieve nutritional impact are: increased production, income, consumption and improved health. HKI is now testing the EHFP model in Asia as well as Africa where two new projects were recently launched in Burkina Faso and Tanzania.

¹ Bushamaka, V.N., S. de Pee, A. Talukder, L. Kiess, D. Panagides, A. Taher, and M. Bloem. 2005. "Impact of a homestead gardening program on household food security and empowerment of women in Bangladesh." *Food and Nutrition Bulletin* 26(1): 17-25. UNU; de Pee, S., A. Talukder, and M. Bloem. 2008. "Homestead Food Production for Improving Nutritional Status and Health." In *Nutrition and Health: Nutrition and Health in Developing Countries*, ed. R.D. Semba and M.W. Bloem. Totowa, NJ: Humana Press; Talukder A., L. Kiess, N. Huq, S. De Pee, I.D. Hill, M.W. Bloem. 2000. "Increasing the production and consumption of vitamin A-rich fruits and vegetables: Lessons learned in taking the Bangladesh homestead gardening programme to a national scale." *Food and Nutrition Bulletin* 21: 165-172; Bloem, M.W., N. Huq, J. Gorestein, S. Burger, T. Khan, N. Islam, E. Baker, and F. Davidson. 1996. "Production of fruits and vegetables at the homestead is an important source of vitamin A among women in rural Bangladesh." *European Journal of Clinical Nutrition* 50.

² Bushamaka, V.N., S. de Pee, A. Talukder, L. Kiess, D. Panagides, A. Taher, and M. Bloem. 2005. "Impact of a homestead gardening program on household food security and empowerment of women in Bangladesh." *Food and Nutrition Bulletin* 26(1): 17-25. UNU.

³ Berning, C., B. Corrêa, K. Sirman, and F. Sosa. 2008. Homestead Food Production in Barisal, Bangladesh. Unpublished Capstone Research Study, The Elliott School of International Affairs, The George Washington University, Washington, DC, May.

⁴ Iannotti, L., K. Cunningham, and M. Ruel. 2010. "Improving diet quality and micronutrient nutrition: Homestead food production in Bangladesh." In *Proven Successes in Agricultural Development: A Technical Compendium to Millions Fed*, Chapter 20. Washington, DC: IFPRI.

Key Lessons Learned

1. Program Design
 - EHFP program is highly adaptable to many different settings
 - From “home gardens” to “homestead food production” which includes animal source foods
 - Improved nutrition requires three critical program elements: ***Food + Care + Health***: increasing household food production is not enough to improve nutrition
 - Strong links to local health services is key; also need to consider water and sanitation inputs
2. Monitoring and Evaluation
 - Huge challenges remain to secure adequate resources for well-designed M/E systems
 - Value of *program impact pathways* as basis of program design, operational research and M/E
 - Key priority is measuring the impact of the EHFP on child nutrition, particularly child growth
3. Adapting the EHFP Model to Africa
 - How do we adapt EHFP in areas facing water scarcity?
 - Challenges related to infrastructure and human resource constraints found in some African countries
 - Fewer local NGOs through which to work (as compared to Asia); what other delivery models could work?

Remaining Challenges

1. Perception issues and whether EHFP programs will be taken seriously by national agricultural planners
2. Pervasive myth that “increased production automatically leads to improved nutrition”
3. Apart from pro-nutrition agricultural policies, need to identify other leverage points in agriculture that could lead to improved nutrition since EHFP programs are only one piece of a larger solution needed to combat food insecurity and malnutrition. In other words, “**who else**” in the agriculture sector could do “**what**” for nutrition during “**which**” critical periods of the agricultural cycle (e.g., pre-production, production, harvest, marketing...)?

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For further information, please visit our website: www.hki.org.