

FINAL TECHNICAL REPORT / RAPPORT TECHNIQUE FINAL

ANNEX 7 - POLICY BRIEF

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IDRC Grant / Subvention du CRDI: 107982-001-Scale Up of Homestead Food Production for Improved Nutrition in Cambodia (CIFSRF Phase 2)



Policy Brief

Family Farms for the Future



Foreign Affairs, Trade and
Development Canada

Affaires étrangères, Commerce
et Développement Canada



IDRC | CRDI

International Development Research Centre
Centre de recherches pour le développement international

Canada



THE CHALLENGE

Cambodia has made remarkable improvements in national food security over the past decade. However, food insecurity at the household level remains high. Approximately 18% of households are still living below the poverty line (<1.90USD/day), with a greater number of rural households impacted (21%). The rate of stunting is among the highest in the region at 32%. Among women of reproductive age, chronic malnutrition and anemia are high, at 14% and 45% respectively. The Cambodian diet, which consists mainly of rice, provides sufficient energy but lacks protein and micronutrients.

Most rural Cambodian households engage in subsistence agriculture; however, poor land utilization, dependence on rain-fed agriculture and lack of agro-processing infrastructures result in seasonal food shortages and persistence food insecurity. To combat these issues, Helen Keller International (HKI), in collaboration with government and local NGOs, has implemented an Enhanced Homestead Food Production (EHFP) model in Cambodia. HKI's EHFP program promotes year-round environmentally sustainable food production by providing vulnerable women farmers and their families with initial inputs and technical training on improved agriculture practices in concert with nutrition, hygiene, gender and marketing training.

FAMILY FARMS FOR THE FUTURE

Because the efficacy of EHFP in improving food security and nutritional status in Cambodia had yet to be fully evaluated, HKI in collaboration with FIA and UBC conducted a cluster randomized controlled trial (RCT) called Fish on Farms (FoF) in 2012-2014, to assess the impact of two different models of EHFP (gardens only and gardens + small-scale polyculture) at improving food security, nutrition, and women's empowerment in Cambodia. After completion of the 22-month intervention period, several outcomes were measured, including food production, income, food security, dietary diversity, biochemical and dietary intake. For the intervention groups, improvements were found on several outcomes compared to controls.

Through renewed funding from IDRC and GAC, FF4F project was established to address gaps identified by the FoF trial and enhance existing knowledge, policies, and programs. In FF4F, EHFP was scaled up to 4,600 households across four diverse provinces (Kampot, Kampong Cham, Prey Veng and Phnom Penh) from 2015-2018. Women head of households self-selected to participate in the project. The project supported basic EHFP in all households, with poultry and fish production support also offered to interested households. The project also provided linkages to micro-credit service provider to help women have a greater financial stake in EHFP leading.

Together with the Cambodian Ministry of Fisheries (FiA) we expanded the number of fish hatcheries and refined aquaculture protocols to improve fish production. HKI's gender transformative approach called Nurturing Connections was also used to address inequities and mitigate any additional burden on women due to EHFP. We conducted market analysis and marketing training to ensure that women produce vegetables when the market needs are highest and examining supply and value chains to ensure farmers receive the best price possible for their EHFP products.

POLICY IMPLICATIONS

Integrated Homestead Food Production model increases food availability, dietary diversity, food security and income among small holder's farmers

Although the current national strategy highlights the importance of integrated interventions to improve food security and nutrition, it does not provide a concrete example of a successful model. We demonstrated that FF4F's integrated HFP model increases food production, dietary diversity, food security and income among small holder farmers. We found significant differences in agriculture production and prevalence of inadequacy for key micronutrients between households that received the EHFP intervention (regardless of model) versus the control group.

Specifically, of producing households in each category, on average, households in the EHFP group produced significantly more fruit (507 kg vs. 306 kg), large fish (23 kg vs. 15 kg), eggs (117 units vs. 99 units), and live birds (99 units vs. 89 units) than the control group. When HFP production was compared between groups and across months, EHFP households produced significantly more vegetables in May (37.8 kg for EHFP vs. 19.4 kg for control; $p < 0.05$) and June (35.7 kg for EHFP vs. 13.8 kg for control; $p < 0.05$); more fruit in July through Dec ($p < 0.05$); more small and large fish throughout the year (May - Dec; $p < 0.05$), and live poultry birds in May through to July ($p < 0.05$). The percentage of households with cultivated gardens increased from 61% at baseline to 96% by end-line, and the majority have adopted improved gardening practices, including water and soil conservation, and appropriate fertilizer use.

For food intake, we observed a statistically significant reduction in the prevalence of inadequate intake of zinc, thiamin, riboflavin, and vitamin A in women and children in the EHFP group compared to control, during both the lean (May) and peak (December) agricultural seasons. These findings suggest that the FF4F program helped farming households cope with the seasonality of agriculture production with greater HFP outputs (particularly vegetables) and food intake observed during the lean season but not during the rainy, harvest season, when food is more plentiful.

Household food security was measured using questions adapted from FANTA's household food insecurity access scale (HFIAS), a survey tool that captures both the occurrence and frequency of food insecurity episodes within the past 30 days. The mean (SD) HFIAS score of this sample was 4.08 (3.872) at baseline and decreased to 1.25 (2.464) by end-line. The prevalence of food insecurity decreased significantly such that almost 75% of surveyed households were food secure by end-line.

FF4F has increased the gross incomes of participating households by an average of \$285USD/year, providing a 10-year NMB of \$477USD per household when compared to existing homestead production methods in place (base case).

Policy Implications: This integrated FF4F model should be included in multi-sectoral food security and nutrition policy as a cost-effective means to improve dietary diversity and food security.

Poly-culture of small and large fish in small holder households as a means to improve food security and nutrition

Mixing species of small and large aquaculture in the same small household pond was found to be an excellent source of household nutrition from small fish and income from larger ones. We demonstrated that with minimum input, rural households with existing pond could be motivated to raise small and large fish for household consumption and sale. We found over 80% of households with fishponds constructed their ponds in accordance to technical guidelines. To date, FF4F households have contributed an estimated 28,000 kg of fish to the local food supply.

We demonstrated that higher amount of both small and large fish produced by intervention households, and across almost all seasons. When HFP production was compared between groups (intervention versus control) and across months, EHFP households produced significantly more small and large fish throughout the year (May - Dec; $p < 0.05$), and live poultry birds in May through to July ($p < 0.05$).

Policy Implications: Poly-culture of large and small fish in small scale household ponds should be incorporated in FIA's national strategy as a means to improve food security and nutrition among small holder farmers.

Improving women's empowerment as a key component of improving food security and nutrition status.

Women are crucial actors in breaking the poverty cycle and influencing the health of the entire household. By empowering women to take ownership of the farms, HFP generates opportunities for women to improve their livelihoods and directly oversee household finances to benefit their family's wellbeing. FF4F saw the percentage of women who were the primary decision makers regarding food crop farming choices increase by 10%. At end-line, 79% of women were the primary decision-makers regarding major household expenditures. FF4F also included the implementation of a Cambodia-specific version of HKI's Nurturing Connections gender transformative approach, including organized husband-wife workshops on power relations, domestic violence, asset control and other gender-related issues, reaching a total of 2,878 men and 3,934 women. Through a combination of income generated from FF4F and participation of women and men in gender sessions, women participating in the project had greater decision-making power, especially in terms of decision making on what and when to produce, and what to spend income on, thereby slowly dismantling underlying gender inequities.

Policy Implications: Gender and women's empowerment should be more strongly considered in multi-sectoral programs.