



## Homestead Food Production and Its Impact on the Prevalence of Anemia Among Non-pregnant Women and Children in Asia (Bangladesh, Nepal and Cambodia)

Aminuzzaman Talukder<sup>1,4</sup>, Gudrun Stallkamp<sup>5</sup>, Gopi Sapkota<sup>3</sup>, Hou Kr-oen<sup>1</sup>, Rejwanul Karim<sup>2</sup>, Chantell Witten<sup>2</sup>, Nancy Haselow<sup>4</sup>, Saskia de Pee<sup>4,7</sup>, Regina Moench-Pfanner<sup>4</sup> and Martin W Bloem<sup>6</sup>

Helen Keller International, Cambodia<sup>1</sup>, Helen Keller International, Bangladesh<sup>2</sup>, Helen Keller International, Nepal<sup>3</sup>, Helen Keller International, Asia-Pacific Regional Office<sup>4</sup>, Concern International, Dublin, Ireland<sup>5</sup>, The Global Alliance for Improved Nutrition, Geneva, Switzerland<sup>6</sup>, World Food Programme, Rome, Italy<sup>7</sup>



### Abstract

Studies assessed the impact of HKI's homestead food production program (HFPP), including production of animal source foods, on anemia among women and children in Bangladesh, Nepal and Cambodia. Per group and per country, data of ~600 non-pregnant women and ~550 children 6-59 mo were analyzed. It was found that the consumption of micronutrient rich foods from plant and animal sources increased and that anemia prevalence had decreased over the 3-4 year period among non-pregnant women of target as compared to control households in Bangladesh and Nepal.

### Introduction

- The prevalence of micronutrient deficiencies, including anemia, among women and children underfive is very high in Bangladesh, Nepal and Cambodia.
- Homestead food production program (HFPP) with a nutrition education component increases the availability and consumption of plant and animal source foods by women and children, thus increases their micronutrient (MN) intake.

### Objective

- Assess the impact of HFPP on anemia, as indicator of micronutrient status, among women and children of participating households in Bangladesh, Nepal and Cambodia.

### Methods

- Cross-sectional data were collected from program households participating in the HFPP of Helen Keller International and from control (non-program) households in three countries.
- Data were collected at baseline (BL, 2002) and end line (EL, 2006) after 3-4 years of intervention. Capillary hemoglobin (Hb) was measured using HemoCue device (Angelholm, Sweden).
- Anemia was defined as Hb <120g/L (non-pregnant women) or Hb <110g/L (children 6-59 mo). Per group and per country, data of ~600 non-pregnant women and ~550 children 6-59 mo were analyzed.

### Key Results

- Figures 1 and 2 show a very high prevalence of anemia among non-pregnant women and under five children in the three countries (40-60%).
- Among target women in Nepal and Bangladesh, anemia prevalence declined by 26% ( $p=0.009$ ) and by 12% ( $p=0.075$ ), respectively, whereas it remained unchanged among control women in both countries (figure 1). In Cambodia, there was a non-significant reduction among control women only.

- Among children underfive, in Nepal, anemia prevalence among target children showed a non-significant decrease of 11.5% ( $P=0.209$ ) and it remained unchanged in the controls. In Bangladesh, it decreased by 29.3% ( $P<0.001$ ) among target and by 24.4% among control children ( $P<0.001$ ). In Cambodia, there was virtually no change of anemia levels among target and control children.

Figure 1: Anemia prevalence among non-pregnant women from program and control households in Bangladesh, Cambodia and Nepal at BL and EL.

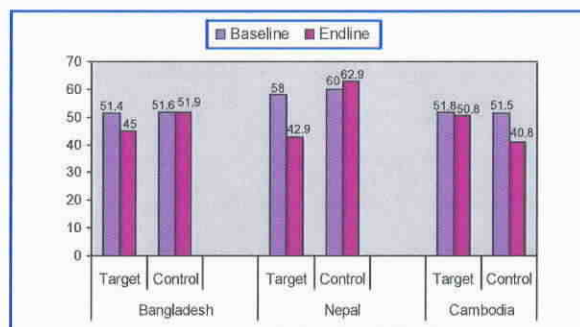
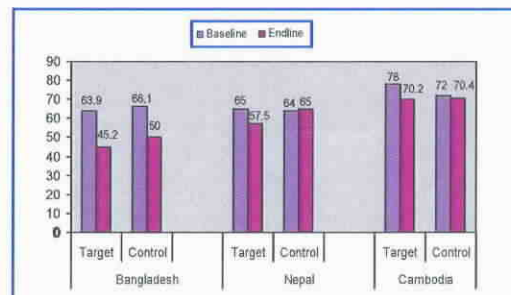


Figure 2: Anemia prevalence among children aged 6-59 mo from program and control households in Bangladesh, Cambodia and Nepal at BL and EL.



### Conclusions

- HFPP was found to contribute somewhat to reducing anemia. This was particularly observed among non-pregnant women in Bangladesh and Nepal.
- A reduction in anemia levels due to an increased consumption of animal and plant source foods is a marker for a reduction of other micronutrient deficiencies, such as vitamin A and zinc.
- The HFPP results are encouraging, but for a maximum impact on micronutrient deficiencies, HFPP should be implemented together with other programs for combating micronutrient deficiencies such as home-fortification and supplementation.
- HFPP is also a strategy for reducing poverty, increasing food security, diversifying the diet, and women's empowerment, and needs to be expanded to other countries.

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