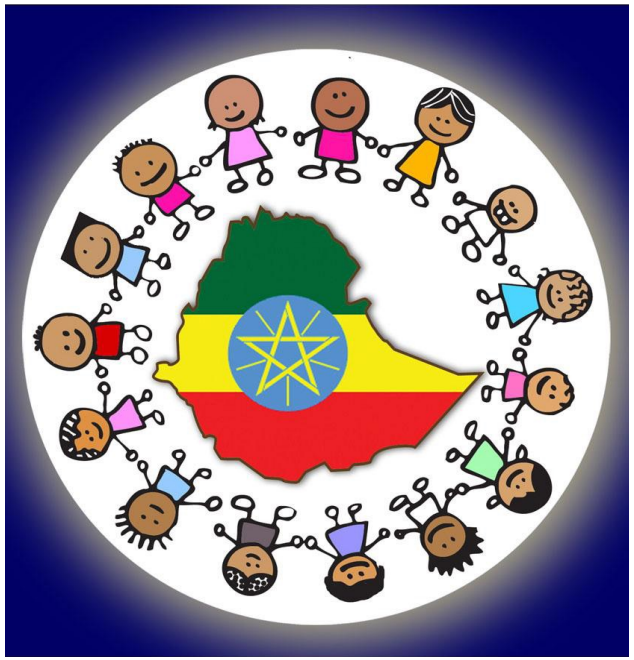
Yekokeb Berhan Program for Highly Vulnerable Children

Impact of Permagardening Intervention on Household Vegetable Consumption and Income



Medhnait Wube, PhD candidate, MPH, BSC,RN

Equity Now! Symposium taking place at the Southern, Sun Elangeni and Maharani Hotel,63 Snell Parade, Durban, South Africa, July15-16/2016.

Presentation outline

- Background
- Purposes of the Study
- Methodology
- Primary Outcomes & Measurements
- Impact Evaluation Results
- Conclusion and recommendation
- Limitations

Background

- USAID/Ethiopia's Yekokeb Berhan for Highly Vulnerable Children program promotes household vegetable gardening to improve vegetable consumption and household income. Broadly, the program's goal is to reduce vulnerability and increase resiliency of highly vulnerable children (HVC) and their households.

- Yekokeb Berhan utilizes an innovative vegetable gardening – permagardening – approach to promote production and consumption of varieties of vegetables and fruits in vulnerable households.

The purpose and objectives

- The purpose of this evaluation study is to determine the impact of Yekokeb Berhan's permagardening intervention on the level of vegetable consumption (variety and frequency), economic status, child nutritional status and caregivers' willingness to continue practicing vegetable gardening among households caring for HVC.

The purpose and objectives

Specifically, this study is planned to answer three main research questions.

- Has permagarden intervention resulted in the increased vegetable consumption among HVC households?
- Has permagarden intervention resulted in improved household income among HVC households?
- Has permagarden intervention has improved the attitude beneficiaries towards vegetable consumption?
- Has permagarden intervention increased the skill and willingness to engage in home vegetable gardening in the future among HVC households?

Methodology

- The evaluation study conducted in 7 Yekokeb Berhan program woredas , where the Yekokeb Berhan program is operating
- The study was based on a quasi-experimental design and post-intervention cross-sectional survey.
- Employed quantitative &qualitative mixed methods
- **Sample size determination**: two-samples comparison of percentages is used to calculate the required sample size.
- **Qualitative :** participants for the IDIs were selected through purposive sampling

Methodology

Study households sample selection techniques:

- Intervention households: selected randomly proportionate to the sizes of households in respective woredas using list of caregivers targeted for permagarden interventions as the sampling frame.

- Control households: randomly drawn from the list of Care givers/ Guardians who are enrolled in Yekokeb Berhan program, but not targeted for Permagarden.

- Quantitative study covered 884 households of HVCs (427 interventions and 457 controls).

- For qualitative study 4 caregivers selected for case studies from caregivers targeted for permagarden interventions.

- In addition, 14 Implementing staffs & community volunteers selected for IDI.

Data Analysis

Quantitative data:

- SPSS 20 statistical packages were used for the data management and descriptive analysis, and STATA 12 for PSM analysis.
- Average effect of the intervention was assessed using paired two independent sample t-tests of mean differences in primary outcomes between the two groups.

Qualitative Data:

- IDI transcriptions were organized by major topics and specific questions.
- Concepts and ideas were coded, categorized and salient themes identified and analyzed.

Finding on Impact of Perma-garden Intervention on Household Vegetable Consumption and Income

- 884 households participated in the study (427 intervention and 457 control).

The main findings of the evaluation study summarized as follows:

- 95% of participants in the intervention group reported their family **consumed vegetables** in the past one week, compared 79% in the control group(mean difference 16.4%, P<0.01).
- There is a significant difference in the **frequency of vegetable consumption** between intervention and control groups, in which 83 % of intervention groups reported consumed vegetable twice and more in a week, compared to 59% control groups (mean difference 27.2%, P<0.01).

Finding on Impact of Perma-garden Intervention on Household Vegetable Consumption and Income

- 804 households participated in the study (427 intervention and 457 control).

The main findings of the evaluation study summarized as follows:

- 95% of participants in the intervention group reported their family **consumed vegetables** in the past one week, compared 79% in the control group(mean difference 16.4%, P<0.01).
- There is a significant difference in the **frequency of vegetable consumption** between intervention and control groups, in which 83 % of intervention groups reported consumed vegetable twice and more in a week, compared to 59% control groups (mean difference 27.2%, P<0.01).

Finding on Impact of Perma-garden Intervention on Household Vegetable Consumption and Income

- 804 households participated in the study (427 intervention and 457 control).

The main findings of the evaluation study summarized as follows:

- 95% of participants in the intervention group reported their family **consumed vegetables** in the past one week, compared 79% in the control group(mean difference 16.4%, P<0.01).
- There is a significant difference in the **frequency of vegetable consumption** between intervention and control groups, in which 83 % of intervention groups reported consumed vegetable twice and more in a week, compared to 59% control groups (mean difference 27.2%, P<0.01).

Finding on Impact of Perma-garden Intervention on Household Vegetable Consumption and Income

- The **diversity of vegetables** consumed by a household measured by reported number of different vegetable groups consumed within 24 hours in the household

- **Forty seven** percent of intervention and 37% of control groups consumed more than one type of vegetable in the last 24 hours preceding the interview, with mean difference 9.3% ($P<0.05$).

- Intervention group had higher mean **monthly reported household income** (478 Birr/USD 22.62) than control group (416 Birr/USD 19.69), and $P<0.01$.

- Nearly all of the respondents (97%) in the intervention group and 76% in the control group reported their **intention** to grow vegetables in the future. The difference is statistically significant ($p<0.01$).

Finding on Impact of Perma-garden Intervention on Household Vegetable Consumption and Income

- The reported diarrhea incidence in the past one month among under age 5 children was higher in the control (32.4%) than intervention groups (13.3%), with mean difference 19% ($P<0.01$).

- Malnutrition was lower in the intervention than in the control groups. About 22% and 28% of children under age 5, in the intervention and control groups respectively, were wasted (weight-for-height below -2 SD); and 9% and 18% were severely wasted, respectively.

- Twenty four percent of children in the intervention and 34% of children in the control group were underweight, while 13% and 21% were, respectively, severely underweight.

Finding on Impact of Perma-garden Intervention on Household Vegetable Consumption and Income

When probed to estimate how likely they would translate their intention into practice, less than half (48%) of the control group reported 'very likely' compared to 85% in the intervention group, the difference is statistically significant ($p<0.01$).

Conclusion and recommendation

- The results of this study confirmed that the permagardening initiative had positive and significant effects on the intervention than the control groups with respect to household vegetable consumption, both in terms of diversity and frequency, and improving children's health and nutrition status and boosting monthly household income. In the long-term, vegetable gardening and subsequent consumption by households may help boost micro-nutrient intake among children under age 5.

Limitation:

- The impact evaluation was based on post-intervention cross-sectional data thus it was difficult to prove that the control and intervention groups had the same vegetable production and consumption practice prior to the intervention.

- The covariates controlled for estimation PSM were limited to some socio-demographic background characteristics of caregivers. It would have been essential to collect data on other key control variables such as land size of participants that may affect self-selection and the intervention outcomes. In addition, most outcome measurements relied on respondents' self-reports about their vegetable gardening practices and household vegetable consumption

Acknowledgement

- This assessment was made possible by the generous support of the American people through the United States Agency for International Development (USAID), Cooperative Agreement Number AID - 663 - A - 11 - 00005.
- Yekokeb Berhan program team is grateful to the staff of implementing partners (REST, ADA, TSDA, and ANPPCAN) and community volunteers, for their insightful feedback, commitment and dedication in the overall coordination of data collection activities at grassroots level. We also take this opportunity to extend our special thanks to our colleagues at Pact and Child Fund for their technical input and support. We would also like to extend our deep appreciation to the FHI 360 Country Office as well as regional teams that led the evaluation and preparation of this report.

Thanks