

Impact of Enhanced Homestead Food Production on Nutrition – Evidence from Bangladesh



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Feed the Future Innovation Lab for Nutrition

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Outline



- Nutrition-Sensitive Agriculture
- Introduction to the enhanced homestead food production system
- Evidence of project level impact
- Evidence of national impact
- Conclusions and way forward

Wendell Berry Famously Wrote:



“...eating is an agricultural act. Eating ends the annual drama of the food economy that begins with planting and birth.”



Literature Reviews of NSA

Public Health Nutrition 7(3): 303-309

DOI: 10.1017/S124520950999

A review of the effectiveness of agriculture interventions in improving nutrition outcomes

Peter R Bert*, Julia Krasovec and Sean FitzGerald
IAIH Canada (Programme for Appropriate Technology in Health), 1 Nicholas Street, Suite 1103, Ottawa, Ontario, Canada, K1N 7B7

Printed 7 July 2009; Digital 11 December 2009

A systematic review of agricultural interventions that aim to improve nutritional status of children



by Edoardo Masset
Lawrence Haddad
Alex Cornelius
Jairo Isaza-Castro

From Agriculture to Nutrition

Pathways, Synergies and Outcomes



Additional Reviews



Impacts of agriculture on nutrition: Nature of the evidence and research gaps

Patrick Webb and Eileen Kennedy

Agriculture for improved nutrition: The current research landscape

Rachel Turner, Corinna Hawkes, Jeff Waage, Elaine Ferguson, Farhana Haseen, Hilary Homans, Julia Hussein, Deborah Johnston, Debbi Marais, Geraldine McNeill, and Bhavani Shankar

Main Conclusions from Lit Reviews



- [positive] nutrition outcomes when they involve **diverse and complementary processes**
- Future programs should be carefully monitored and rigorously evaluated to ensure that **performance can be continually tracked and improved**

- **Investing broadly in five types of capital**, especially human capital, increases the prospects for nutrition improvement
- Study designs were not suitable to assess this relationship
- The agriculture–nutrition link must be studied in a large variety of projects and settings, in order to **build a body of knowledge**

Why homestead food production?



- **Situation in Bangladesh in 1988**
 - High levels of Vitamin A deficiency and night blindness
 - Monotonous diets
 - Favorable for intensive horticulture production
 - Many households had underutilized land/space
- **Why gardening?**
 - Empowers women
 - Brings dietary diversity to the table
 - Focus on foods rich in vitamin A and other micronutrients

“Roots” of Enhanced Homestead Food Production



Years	Project name	Area	Households reached
1988 - 1990	Pilot: The vitamin A home gardening and promotion of consumption for prevention of nutritional blindness	Kaliaganj Union	150
1990 - 1993	Scale-up: The vitamin A home gardening and promotion of consumption for prevention of nutritional blindness	Panchagaor District	1,000
1993 - 2003	National Gardening and Nutrition Surveillance Project	178 Sub-districts, throughout Bangladesh	888,087

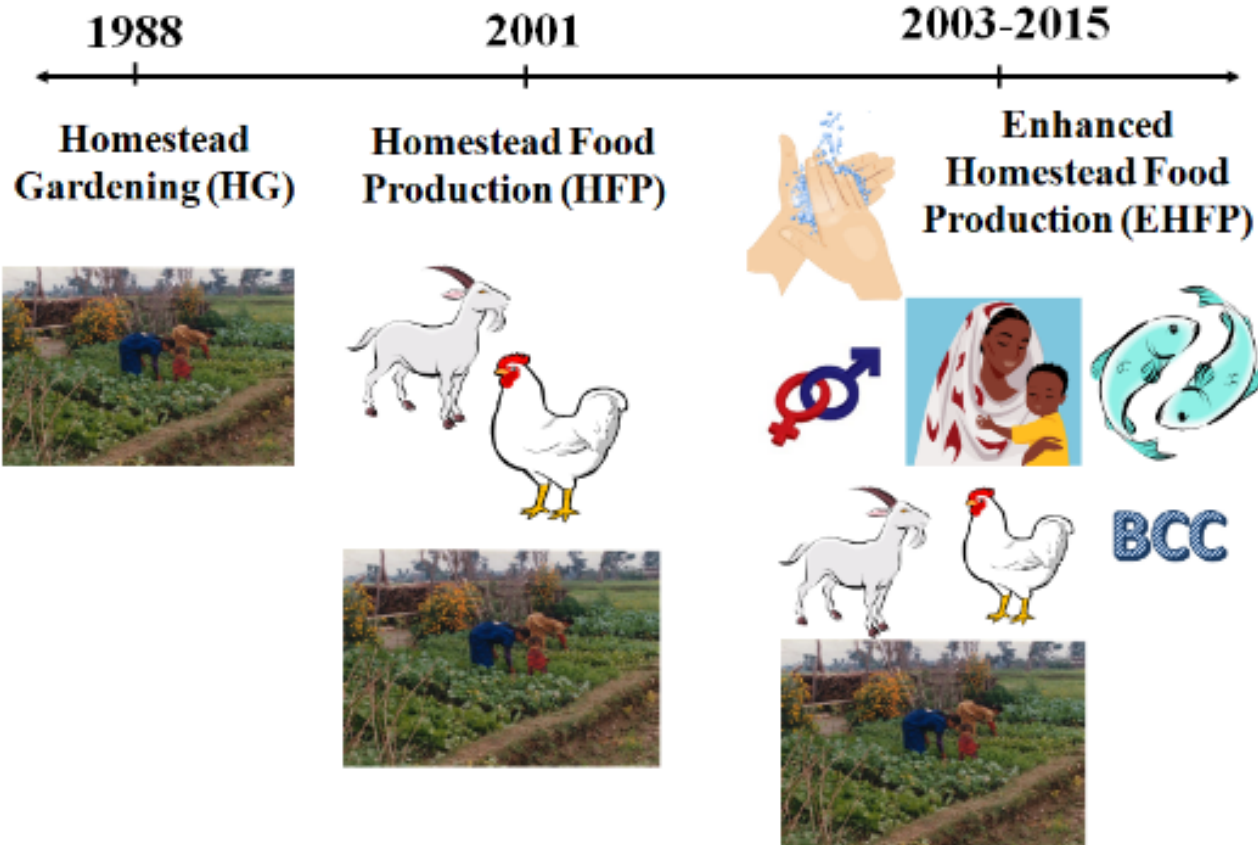
- Feasibility testing and improving model
- Over 50% of participants continued to garden according to project model 3 years later

Targeting Hard to Reach Areas



<i>Years</i>	<i>Project name</i>	<i>Area</i>	<i>HFP Beneficiary households</i>	<i>In text reference</i>
2003 - 2005	Improving nutrition and food security through homestead food production in the riverine islands and floodplains of Bangladesh	Northern Char	10,250	Char 1
2004 - 2009	Jibon-o-Jibika (Life and Livelihood)	Southern Coastal Belt	26,840	JOJ
2005 - 2007	Improving nutrition and food security through homestead food production in the riverine islands and floodplains of Bangladesh (Phase 2)	Northern Char	10,250	Char 2
2005 - 2007	Chittagong Hill Tracts Homestead Food Production Project	Chittagong Hill Tracts	10,250	CHT-HFP
2008 - 2011	Development Initiatives for Sustainable Household Activities in Riverine Islands	Northern Char	10,425	DISHARI
2008 - 2010	Reconstruction, Economic Development and Livelihoods Project	Southern Coastal Belt	20,252	REAL

Evolution of Homestead Food Production to “Enhanced”

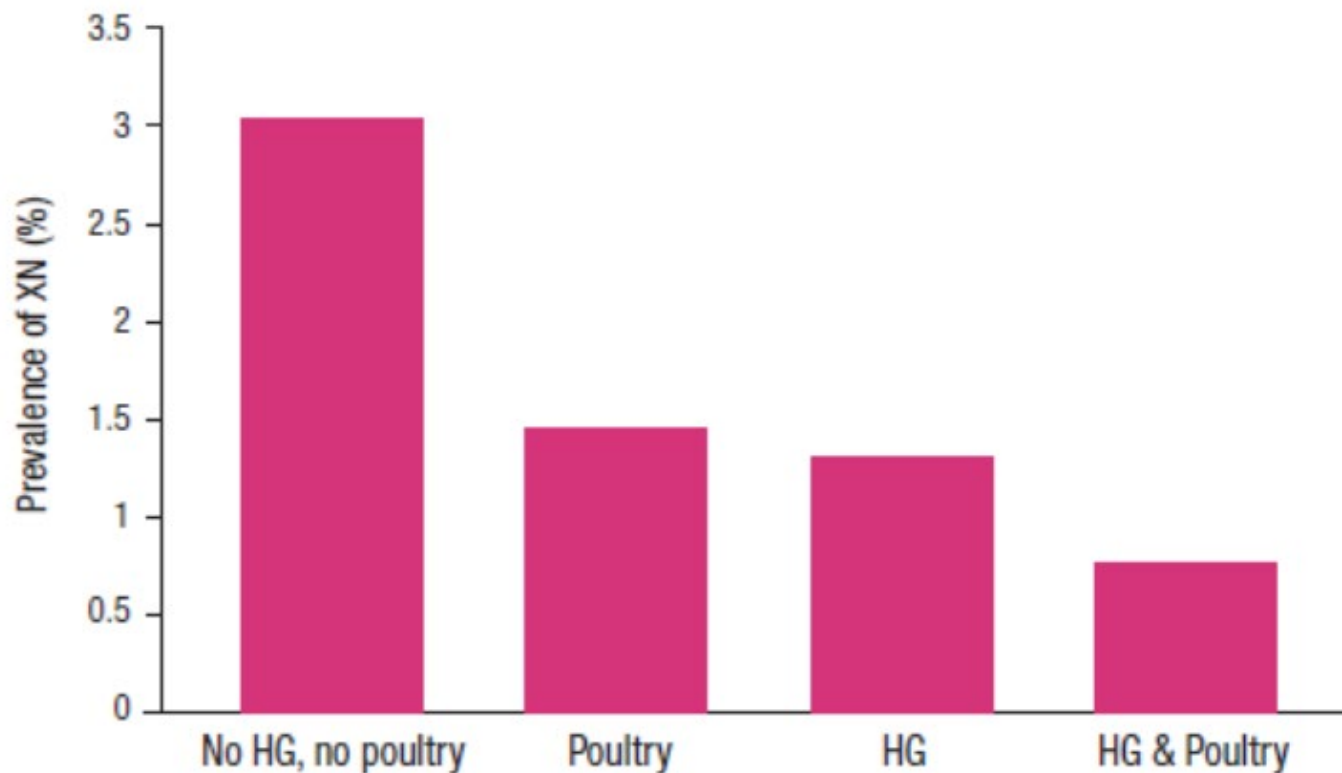


Enhanced Homestead Food Production



Win over the undernutrition by consuming diversified nutritious food

PREVALENCE OF NIGHT BLINDNESS AMONG CHILDREN AGED 12-59 MONTHS WHO HAD NOT RECEIVED A VAC



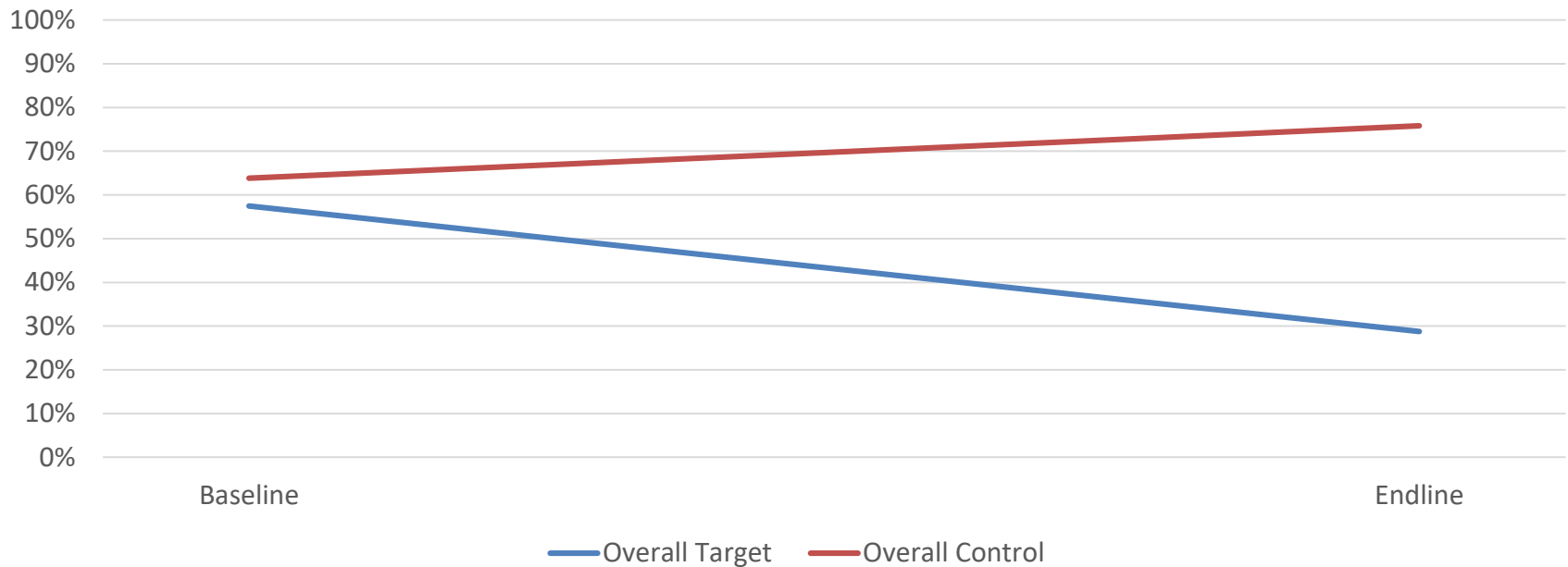
National Vitamin A Survey, Bangladesh, 1999

Talukder et.al. 2010, FACTS Reports

Improving Nutritional Status - Anemia



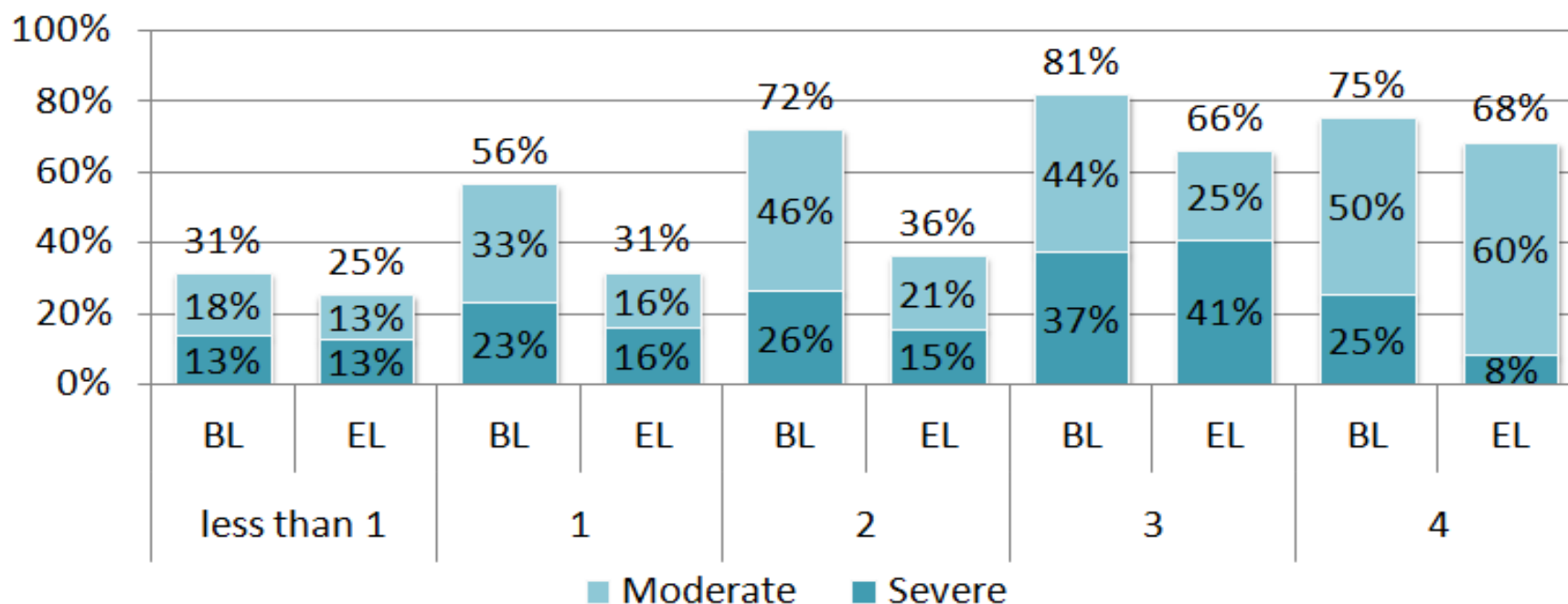
Changes in Anemia Rates - Mothers of Under 5 Children



CHT-HFP and CHAR2 (pooled results): simple control groups (2005-2007)

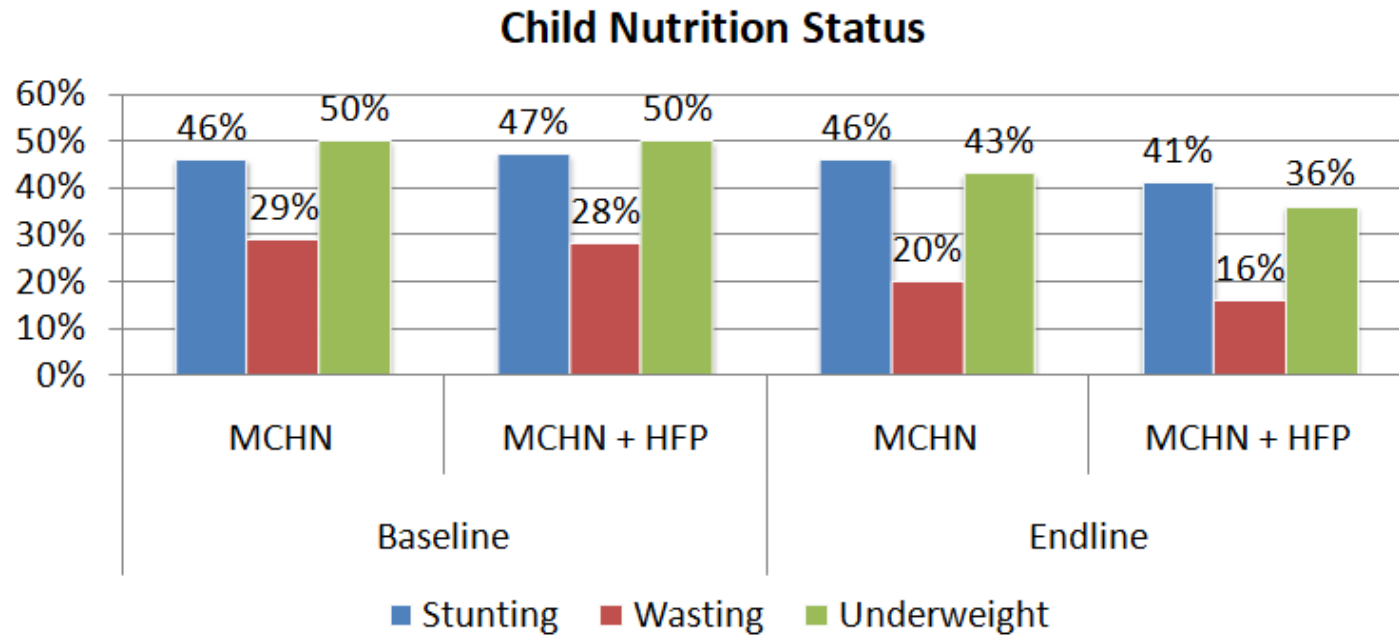
Improving Nutritional Status - Stunting

Proportion of children stunted by age



Making Markets Work for Women: Baseline, Endline

Improving Nutritional Status Jibon-O-Jibika (2004-2009)

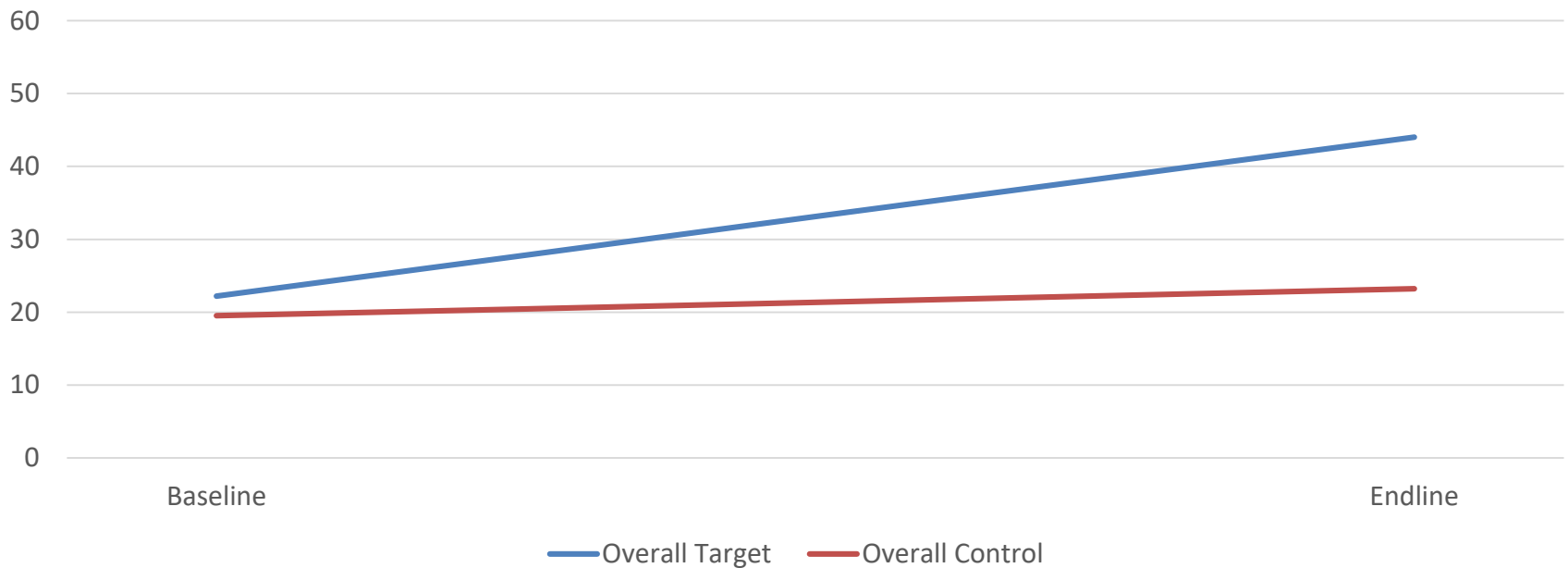


Jibon-O-Jibika: Simple control group

Increased Dietary Diversity

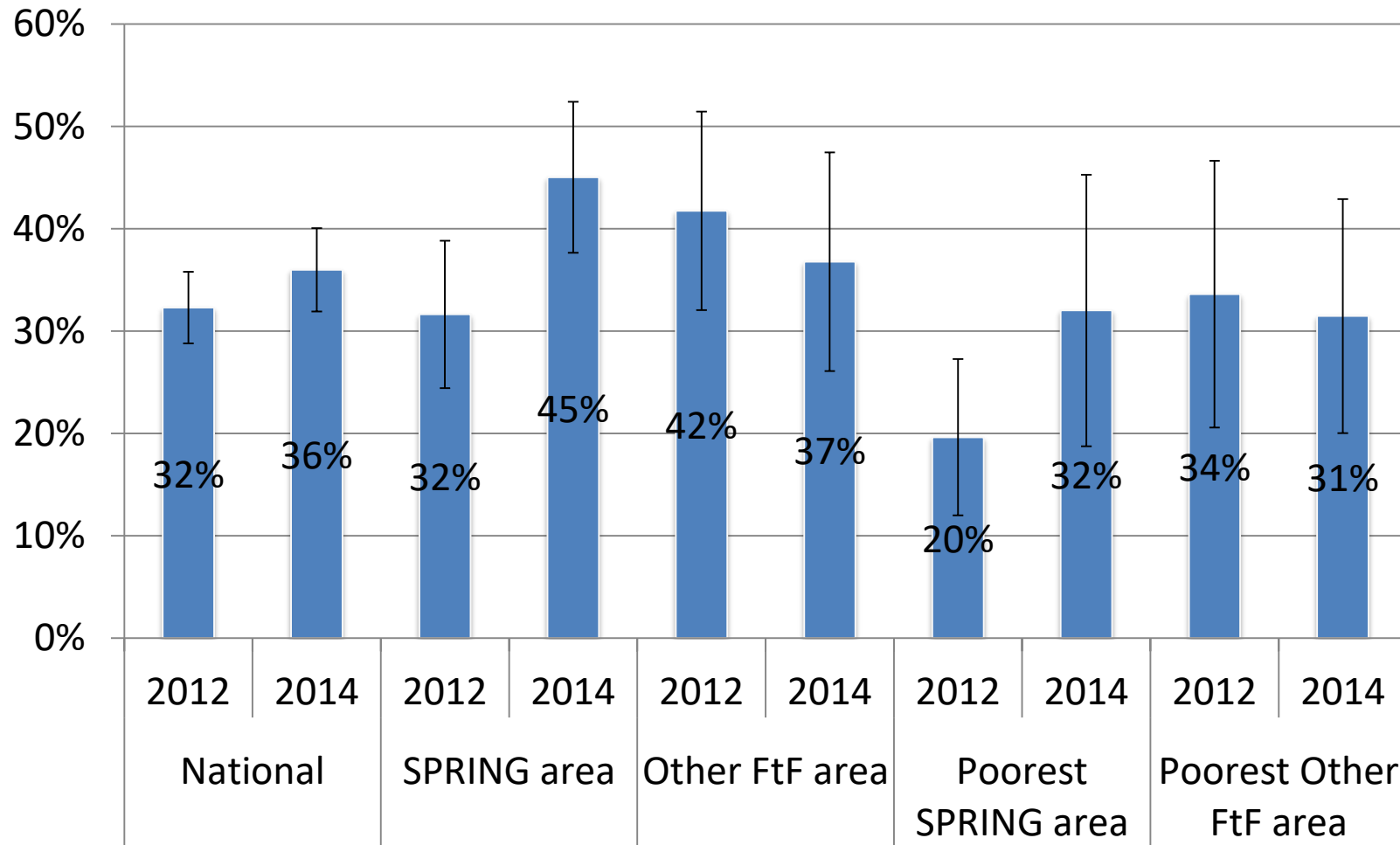


Changes in Food Frequency Scores - Mothers of children < 5 years



CHT-HFP and CHAR2 (pooled results): Simple control group (2005-2007)

Minimum Adequate Diet

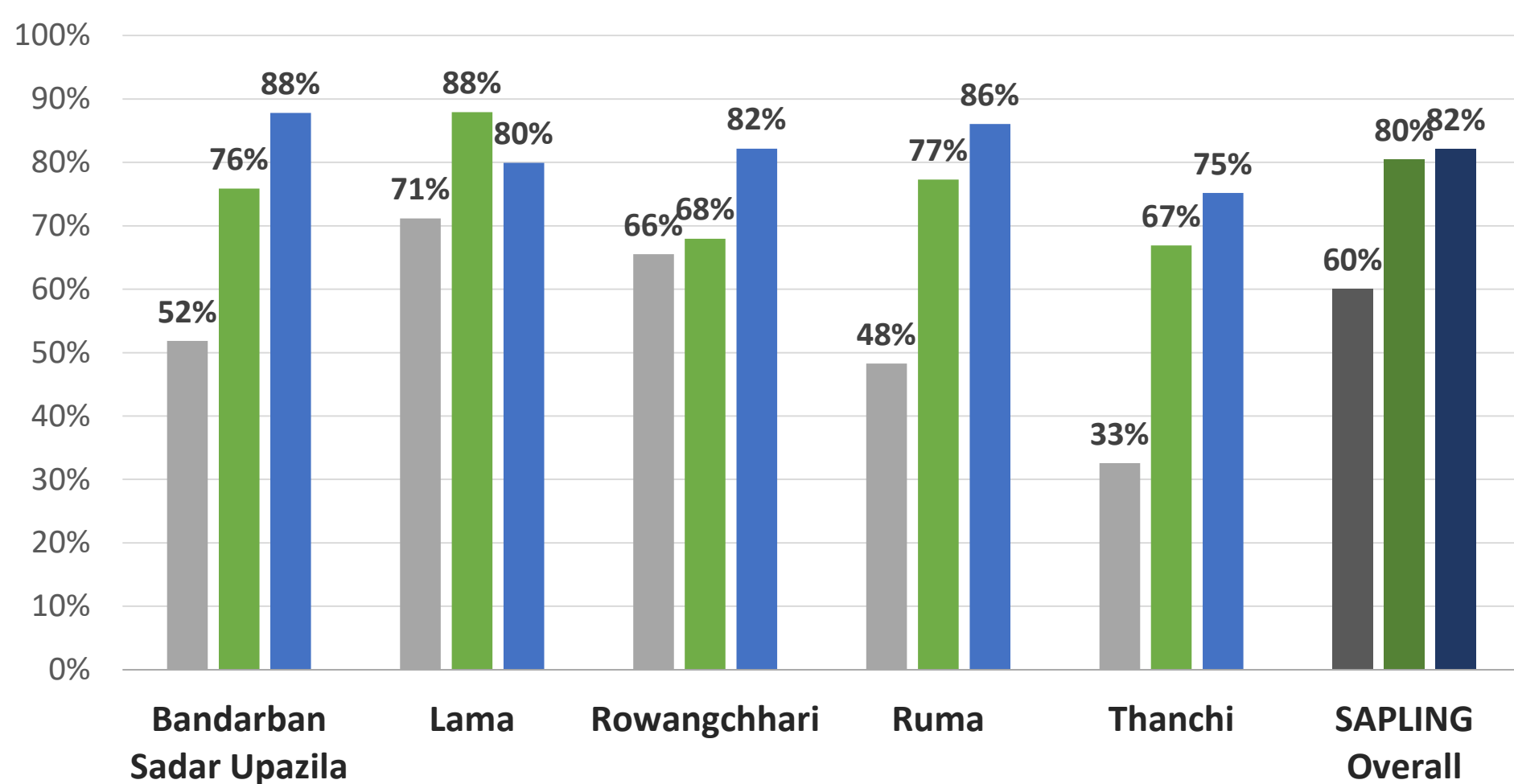


SPRING: Difference in Difference using FSNSP with USAID (2011-2017)

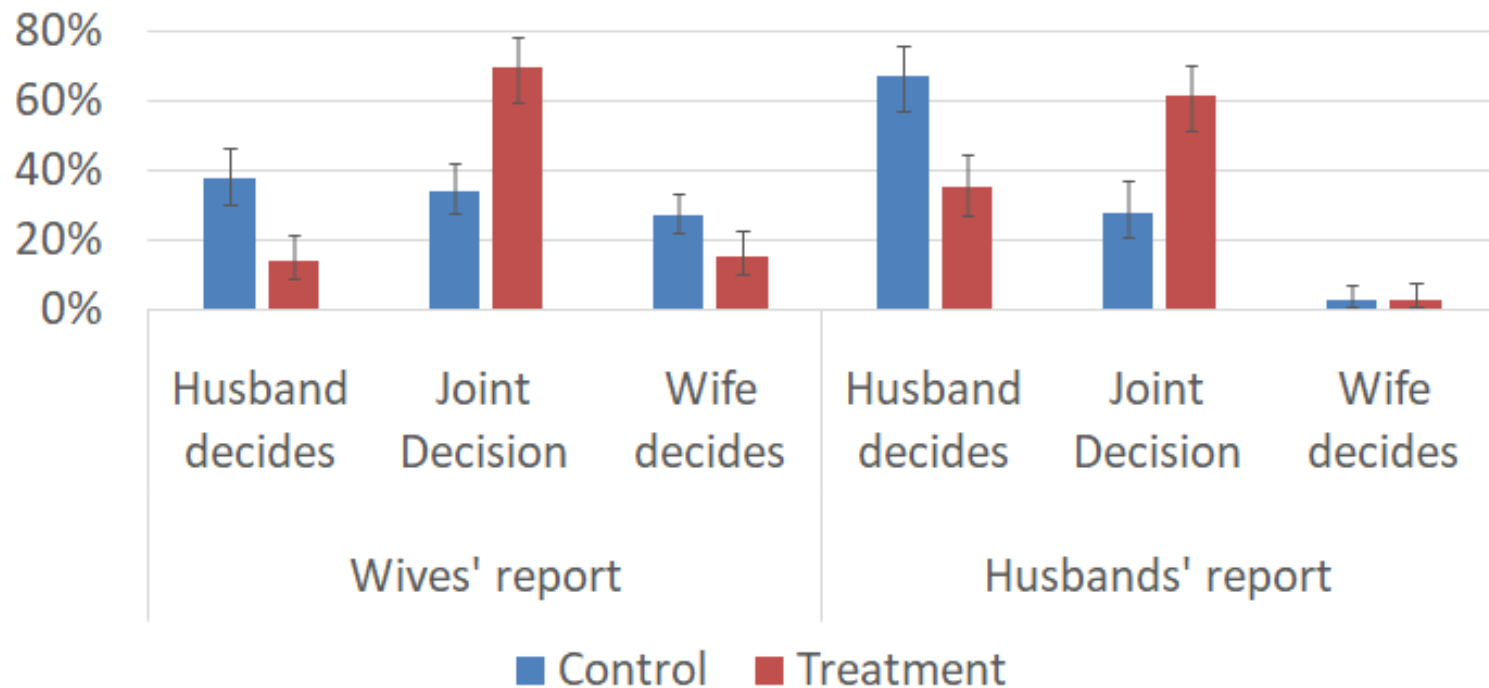
18 SAPLING- MINIMUM DIETARY DIVERSITY OF WOMEN (5 OR MORE OUT OF 10 FOOD GROUPS)



■ FY-17 ■ FY-18 ■ FY-19



Who decides on how household money is spent?



Making Markets work for Women: Matched control

What We Know



Helen Keller
INTERNATIONAL

- Homestead gardening with focus on vitamin A-rich crops can improve vitamin A status
- Animal husbandry focused projects can lead to increases in ASF consumption
- Incorporating messages and targeted sessions on gender and social inclusion can lead to increased women's empowerment and improved nutrition status for the household
- For agriculture interventions to have a positive impact on nutrition of the participating households they should invest in multiple areas of the farmers' lives, including, but not limited to, nutrition education → multi-sector approach

Next Steps



- Continued research
 - NEW rigorous trials (more summary articles than trials!)
 - Understanding of HOW the program works
 - ➔ Food and Agriculture Approaches to Addressing Malnutrition (FAARM)
 - 5-year RCT for EHFP
- Scaling elements that have passed feasibility assessments while we continue to test
 - Suchana
 - ANGeL
 - SAPLING
 - SPRING

Conclusions



- Homestead Food Production is NOT a “standalone” intervention
- Better results when include men and mothers-in-law for gender sensitive nutrition and production approaches
- Multi-sector approach to improving nutrition outcomes is critical

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THANK YOU

