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The U.S. Government's Global Hunger & Food Security Initiative



# Impacts of Improved Bean Varieties Yields on Guatemalan Households



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Legume Innovation Lab

Feed the Future Innovation  
Lab for Collaborative  
Research on Grain Legumes



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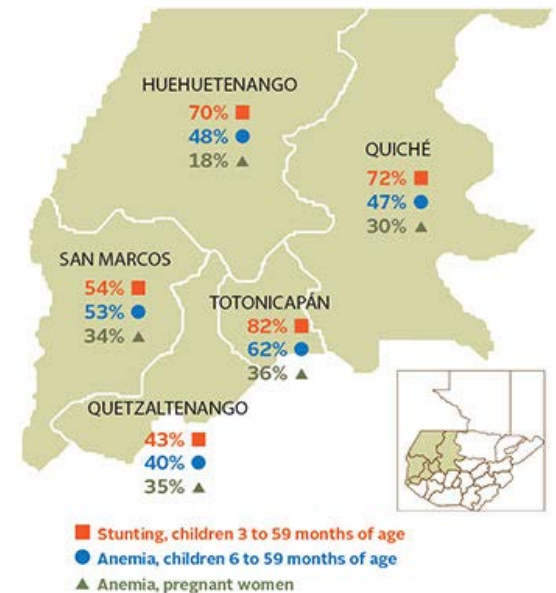
# MASFRIJOL TARGET AREA

April 2014 to March 2018

❖ 200 communities in five departments

❖ 25,000 households with improved bean seed varieties to increase productivity

❖ 12,000 households with nutrition education to increase bean consumption



# KEY ELEMENTS OF THE INTERVENTION

- ❖ Dissemination of four improved bean varieties
- ❖ Educational and technical assistance on crop management
- ❖ Nutrition education
- ❖ Local partnerships and staff cross-training (MASFRIJOL and partners such as MAGA, MESPAS, CRS, AGEXPORT and Save the Children)
- ❖ Targeted community intervention (700 Households) for close monitoring

## ARE PARTICIPANTS EATING MORE BEANS?



Using various data collection tools and techniques, MASFRIJOL monitored the outcomes and impacts of coupling distribution of improved bean seed with crop management technical assistance and nutrition education



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*Feed the Future Innovation Lab for Collaborative Research on Grain Legumes*

# MONITORING AND EVALUATION TOOLS

- Community needs assessments through focus groups and individual interviews (2014)
- Seed distribution data collection (on going since 2014)
- Harvest data collection (on going since 2014)
- Anthropometric measurements (1/16-6/17)
- Household Bean Consumption data collection(1/16-6/17)
- Diet Diversity data collection survey (1/16-6/17)
- Most Significant Change Technique (2017)

# THE MOST SIGNIFICANT CHANGE TECHNIQUE

- ❖ The MSCT offers a qualitative approach that does not use indicators.
- ❖ It works best when it complements other methods rather as stand alone.





# MSC HIGHLIGHTS

- Developed by Rick Davies in 1993
- The MSC technique is a form of participatory monitoring and evaluation
- Originated in the monitoring of aid projects throughout the developing world.
- MSC focuses on monitoring intermediate outcomes and impacts
- The process involves the collection of significant change (SC) stories from those most directly involved, such as participants and field staff.
- The focus is on the human impact of the intervention

# HARVEST DATA RESULTS

- N=1,155 MASFRIJOL participants
- farmer-reported harvest data collected show, on average, a 50% increase in yields (from 474 kg/ha to 711.5 kg/ha) from planting improved bean seed varieties versus locally obtained seed.





# HOUSEHOLD BEAN CONSUMPTION

HH recorded amount and frequency of beans cooked each day of the week

## Before MASFRIJOL

- Forms distributed = **822** Recovered = **772**
- On average, HH cooked beans **1.5 times/week**

## After MASFRIJOL

- Forms distributed = **772** Recovered **571**
- On average , HH cooked beans **2.8 times/week**

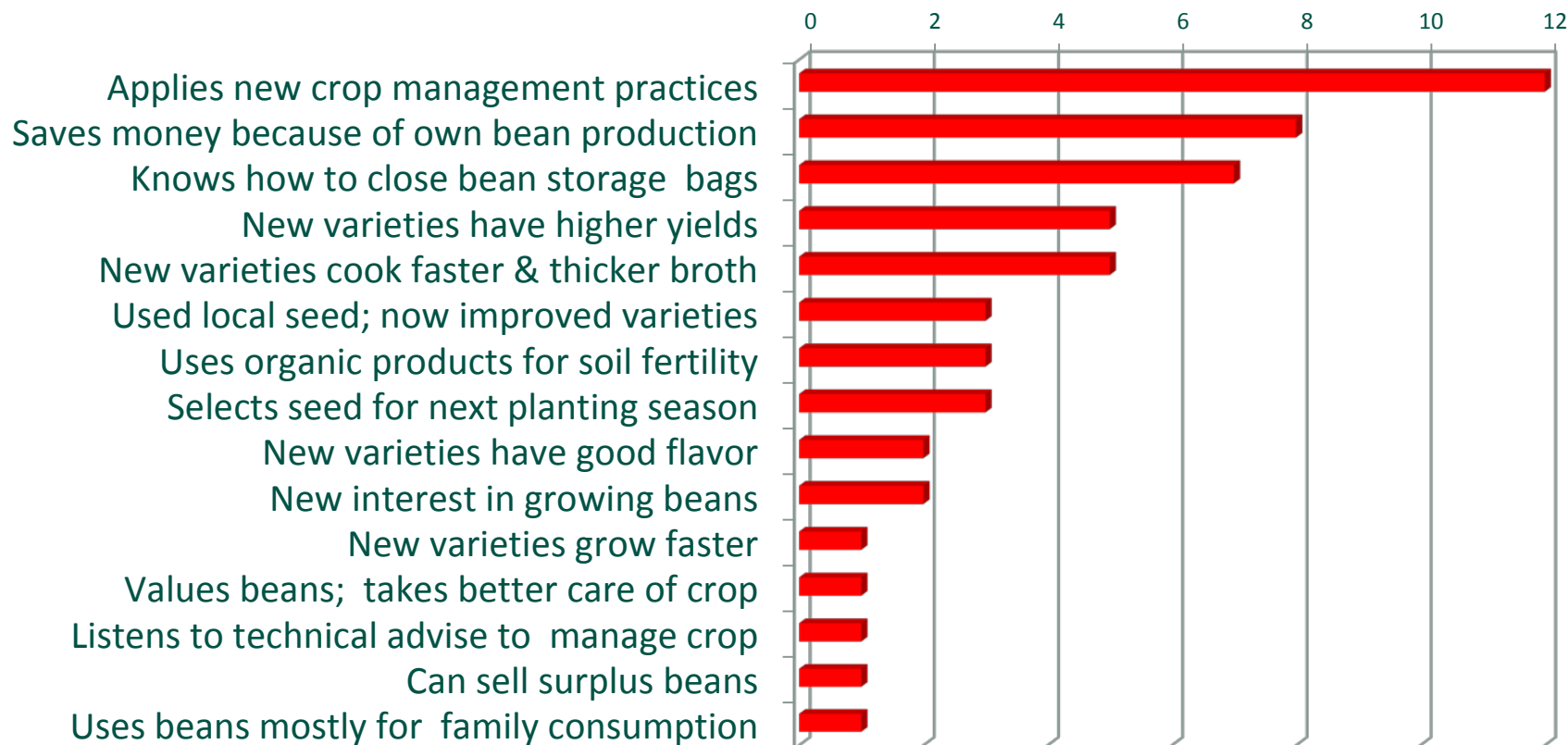
# DIET DIVERSITY SURVEY FINDINGS

- Representative sample of 767 women in 93 communities
- Used FAO Women's Dietary Diversity (WDD) 2011 form
- RESULTS: The baseline 4.59 food groups consumed depicts a lack of dietary diversity . The post dietary WDD score was 5.24
- Consumption of pulses and beans increased 22% post intervention

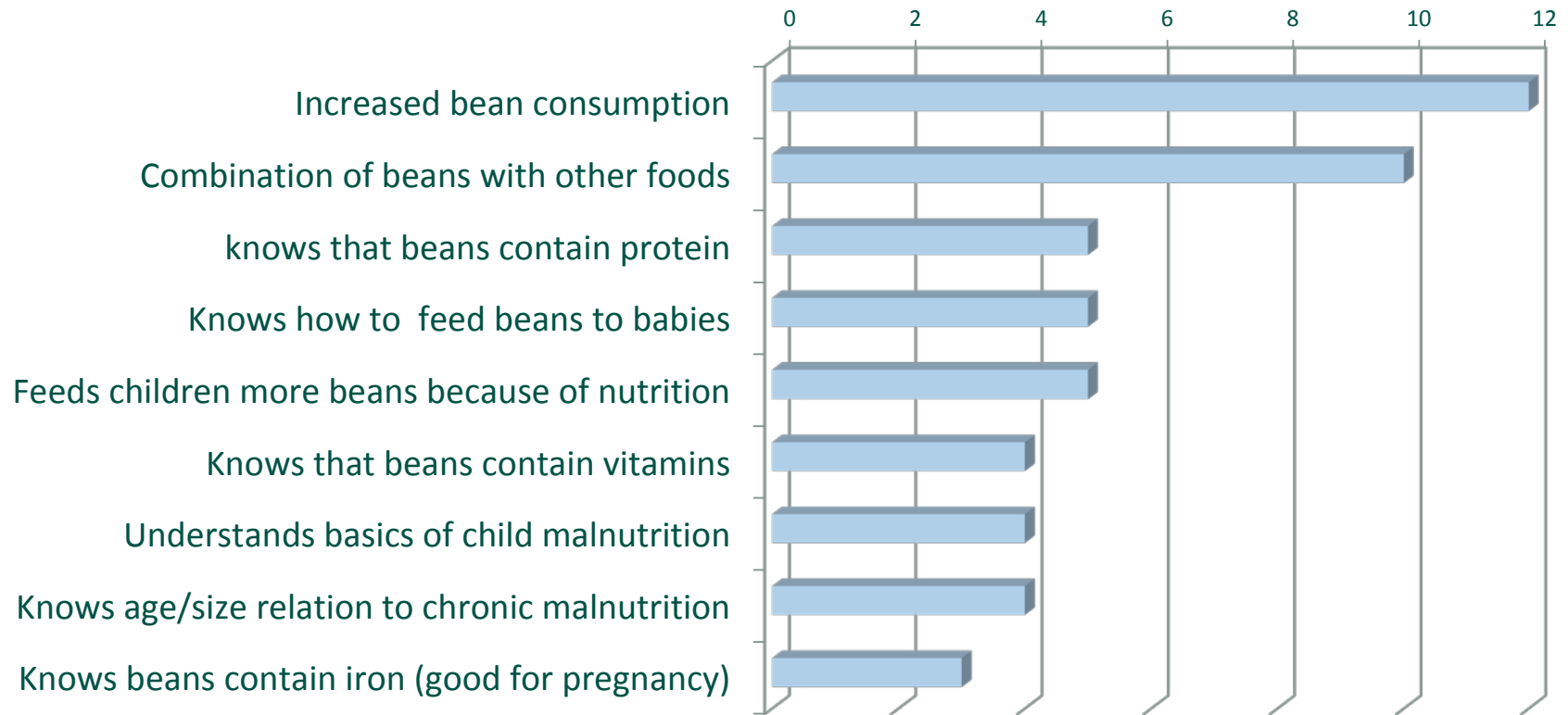
# MSC DATA COLLECTION

- ❑ 12 women and 7 men (who had participated in MASFRIJOL) were interviewed in 16 communities across five departments in the Western Highlands of Guatemala
- ❑ MASFRIJOL field technicians recruited participants for interviews conducted at their homes by an external team
- ❑ Women were primarily young mothers (age range: 28-35 years old)
- ❑ All 12 women were involved in nutrition education and 5 of them also managed a bean crop
- ❑ Men were only involved in crop production.
- ❑ Men's age ranged between 45 and 65 years old

# THE MOST SIGNIFICANT CHANGE (PRODUCTION)



# THE MOST SIGNIFICANT CHANGE (NUTRITION)



# IMPACTS ON KNOWLEDGE

- ✓ Beans contain protein to benefit brain
- ✓ Beans contain vitamins
- ✓ Beans contain iron (good for pregnancy)
- ✓ How to measure their bean consumption
- ✓ How to combine beans with other foods
- ✓ More ways of preparing beans to feed children

- ✓ How to feed beans to baby
- ✓ Recognize signs of child malnutrition
- ✓ Identify child age to height relationship to chronic malnutrition





# ATTITUDES

- ✓ Value good flavor of improved bean varieties
- ✓ Value beans for their nutritional contribution
- ✓ Perceive improved bean varieties to be of “better quality”
- ✓ Appreciate improved bean varieties because they are fast cooking and have a thick broth
- ✓ Show satisfaction and awareness about other ways of preparing beans for their entire family



# HOUSEHOLD PRACTICES

- ✓ Consume more beans than before
- ✓ Feed children more beans because they learned that beans are nutritious
- ✓ Combine beans with other foods



# BEFORE AND AFTER...

- ❑ BEFORE, they consider beans just another food in their kitchen... NOW they see that beans have a nutritional benefit for the family and value them more
- ❑ BEFORE they avoided feeding beans to children because they believed beans made them sick. NOW they know beans are valuable. They even mentioned that beans have iron and protein, which is good for all family members

# BEFORE AND AFTER...

- ❑ BEFORE they believed pregnant women should avoid eating beans. NOW they recognize beans are good and that it is important that pregnant women eat them
- ❑ BEFORE... women assumed small stature was the norm and did not pay attention to it. NOW they know how to identify a child who is malnourished. Some specifically mentioned that children should measure 70 cm. at 1 year of age. This knowledge has raised awareness and concern about this topic

# CONCLUSIONS

- ❖ Increased yields, when combined with nutrition education, did improve bean consumption
- ❖ Targeted nutrition education messages positively affected participants' knowledge, attitudes and practices regarding the value of producing and consuming beans using improved varieties
- ❖ Increased awareness and interest is evident in the communities about why small children and pregnant women should eating more beans



# QUESTIONS?

