



A Nutrition-Sensitive Agriculture Project Improved Household and Child Dietary Diversity and Increased Consumption of Animal Source Foods

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24-28 June 2019

Agriculture, Nutrition and Health Academy | Hyderabad, India



ETHIOPIA CONTEXT

Multi-Sectoral Nutrition Commitments:

- National Nutrition Plan II
- Seqota Declaration
- Nutrition Sensitive Agriculture (NSA) strategy

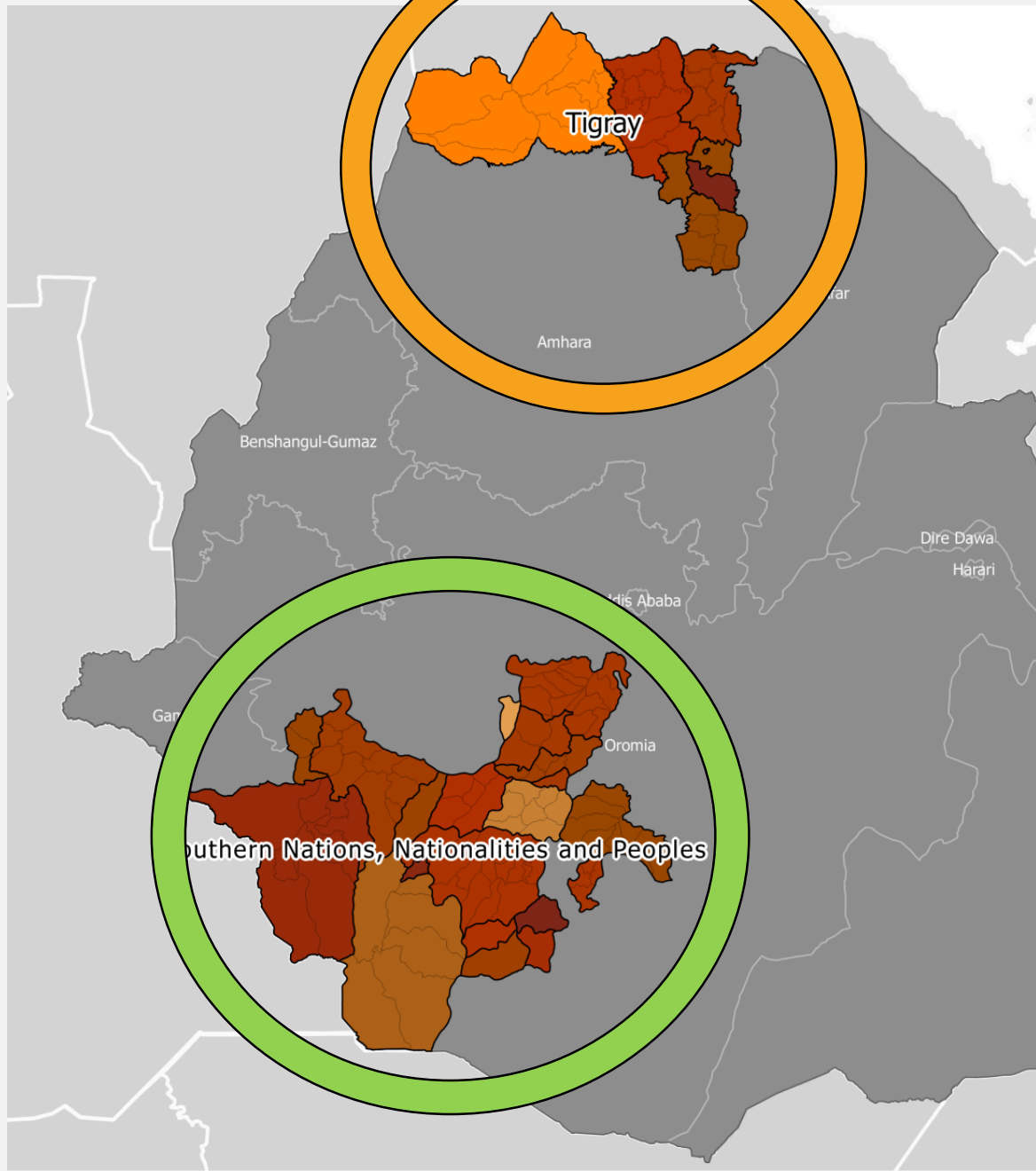
Malnutrition for total population:

- Undernourished: 32%
- Micronutrient deficiencies: Fe, Zn, Vit A

Child malnutrition:

- Cu5 stunting: 38%
- Cu5 underweight: 25%
- Cu5 deaths attributed to malnutrition: ~50%





CIP
INTERNATIONAL
POTATO CENTER

A CGIAR RESEARCH CENTER

Tigray Region

Southern Nations, Nationalities,
and Peoples Region (SNNPR)



Irish Aid
Government of Ireland
Rialtas na hÉireann



University of Wisconsin

WHY BIOFORTIFIED ORANGE FLESHED SWEET POTATOES (OFSP)?

Nutrition benefits

- Low cost Food-based approach
- Micronutrients
- Roots and leaves

Agronomic benefits

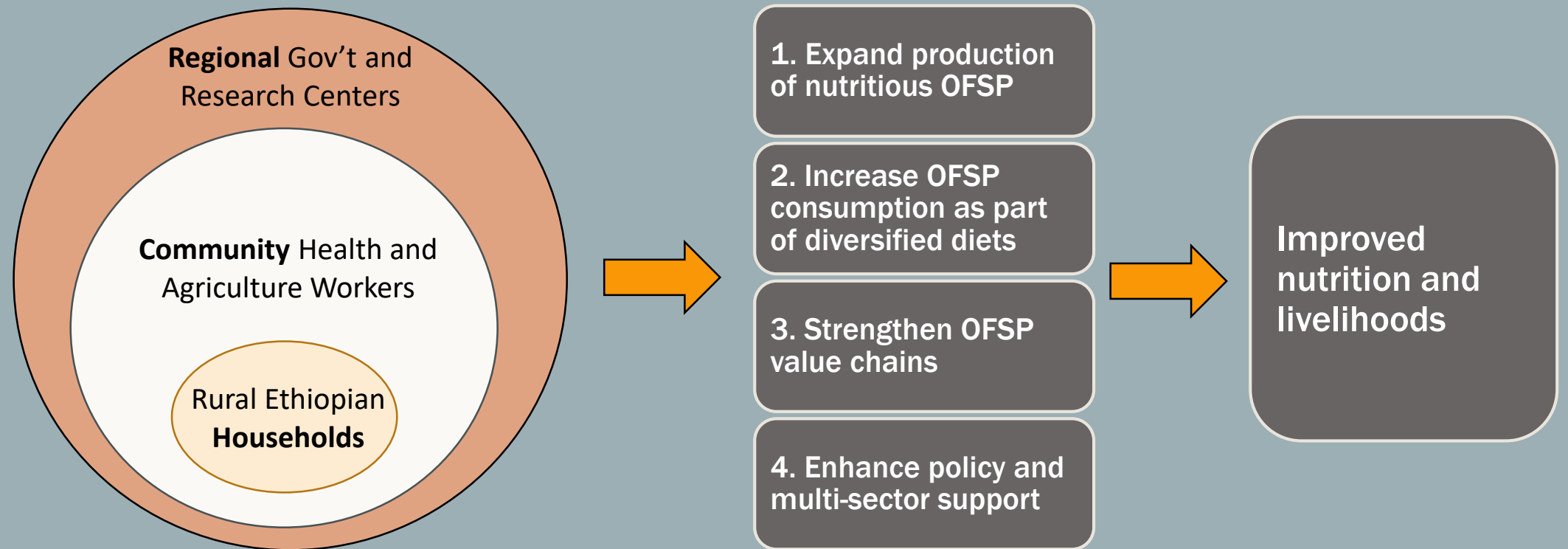
- Shorter growing season
- Climate reliance crop
- Higher yield per hectare than most grains
- Diversified cropping systems

Low et al, 2007; Mmasa and Msuya, 2012.

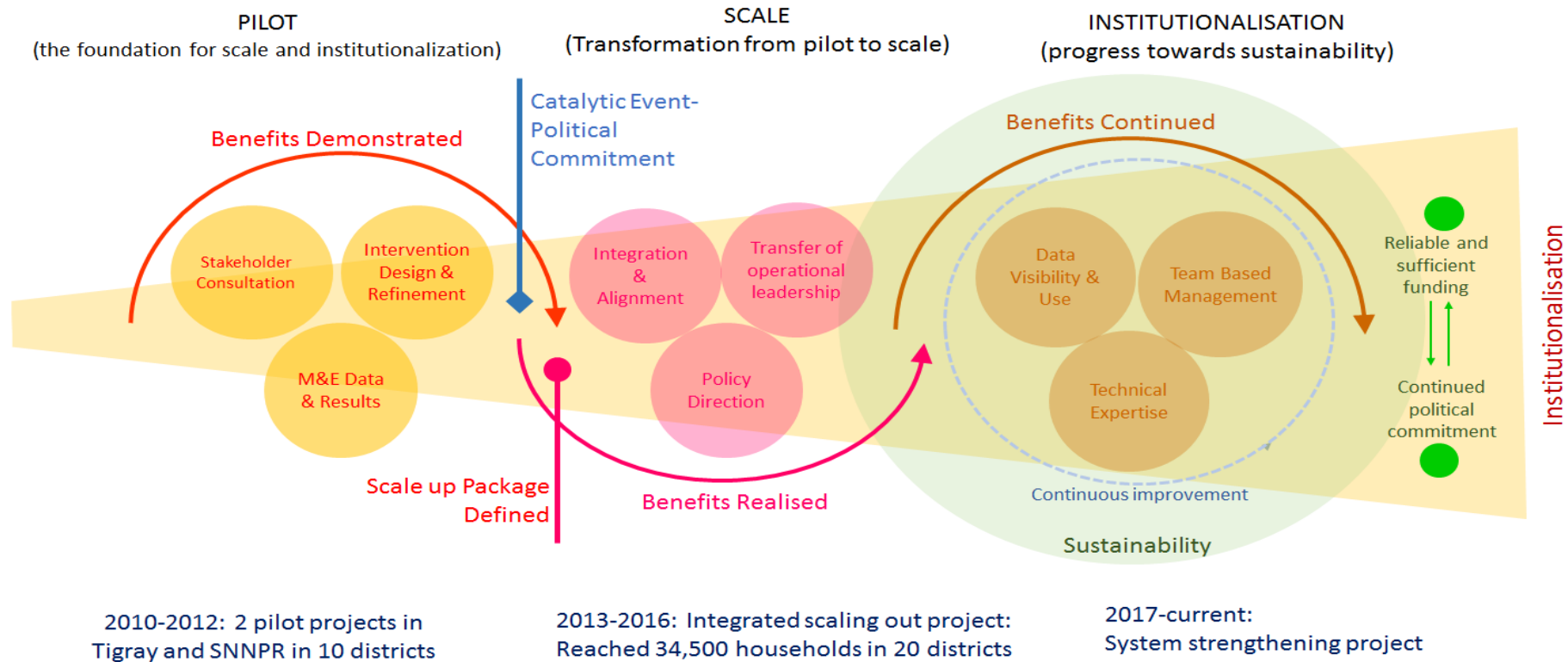


PROJECT GOAL AND OBJECTIVES

Goal: Through multi-sectoral collaborations, improve nutrition and food security of households by increasing production and consumption of orange fleshed sweet potato (OFSP) as part of diversified diets



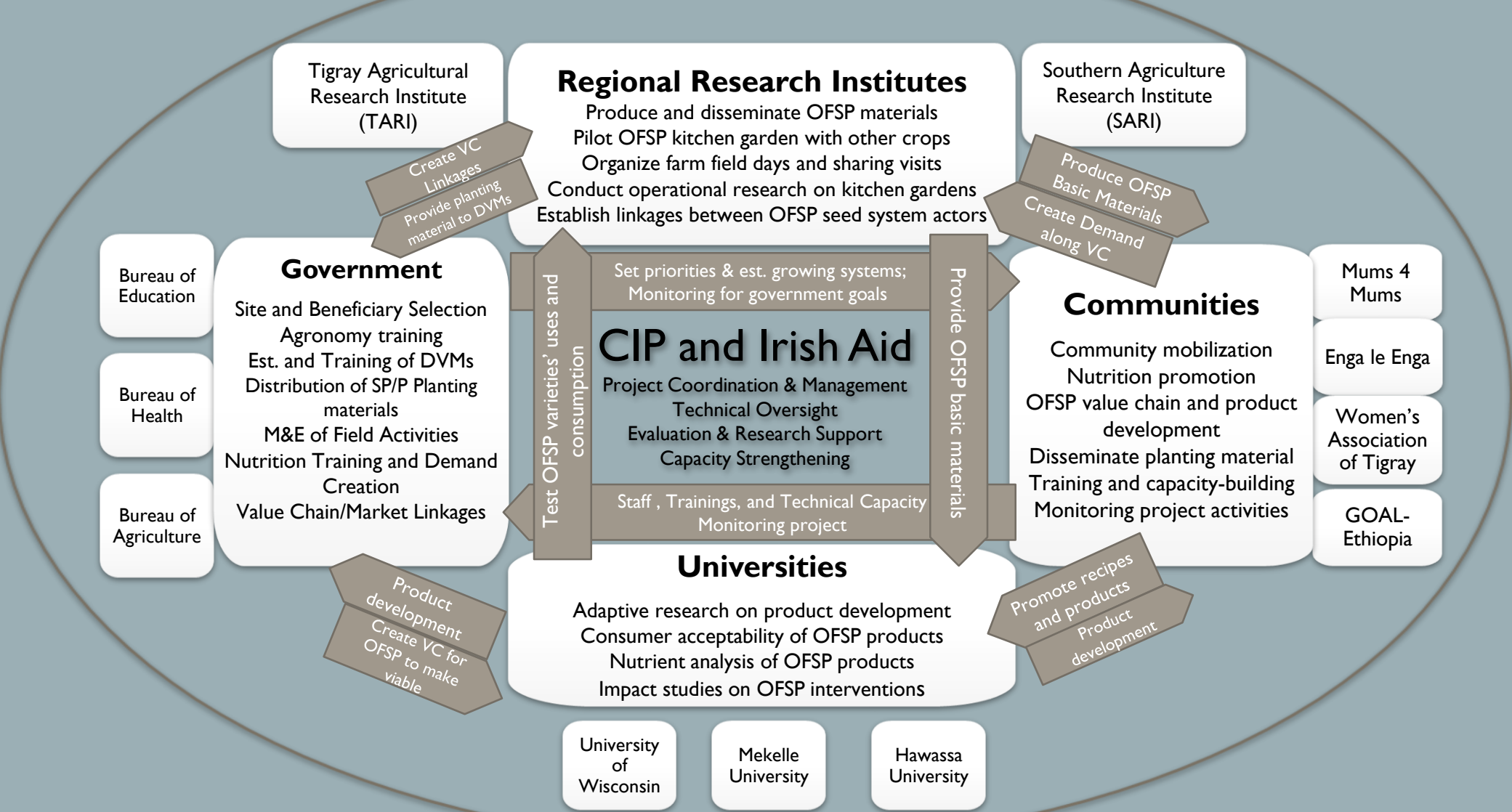
IMPLEMENTATION APPROACH FROM PILOT TO INSTITUTIONALIZATION



Project

Agri-nutrition system

MULTI-SECTORAL PARTNERSHIPS



METHODS

Study Population

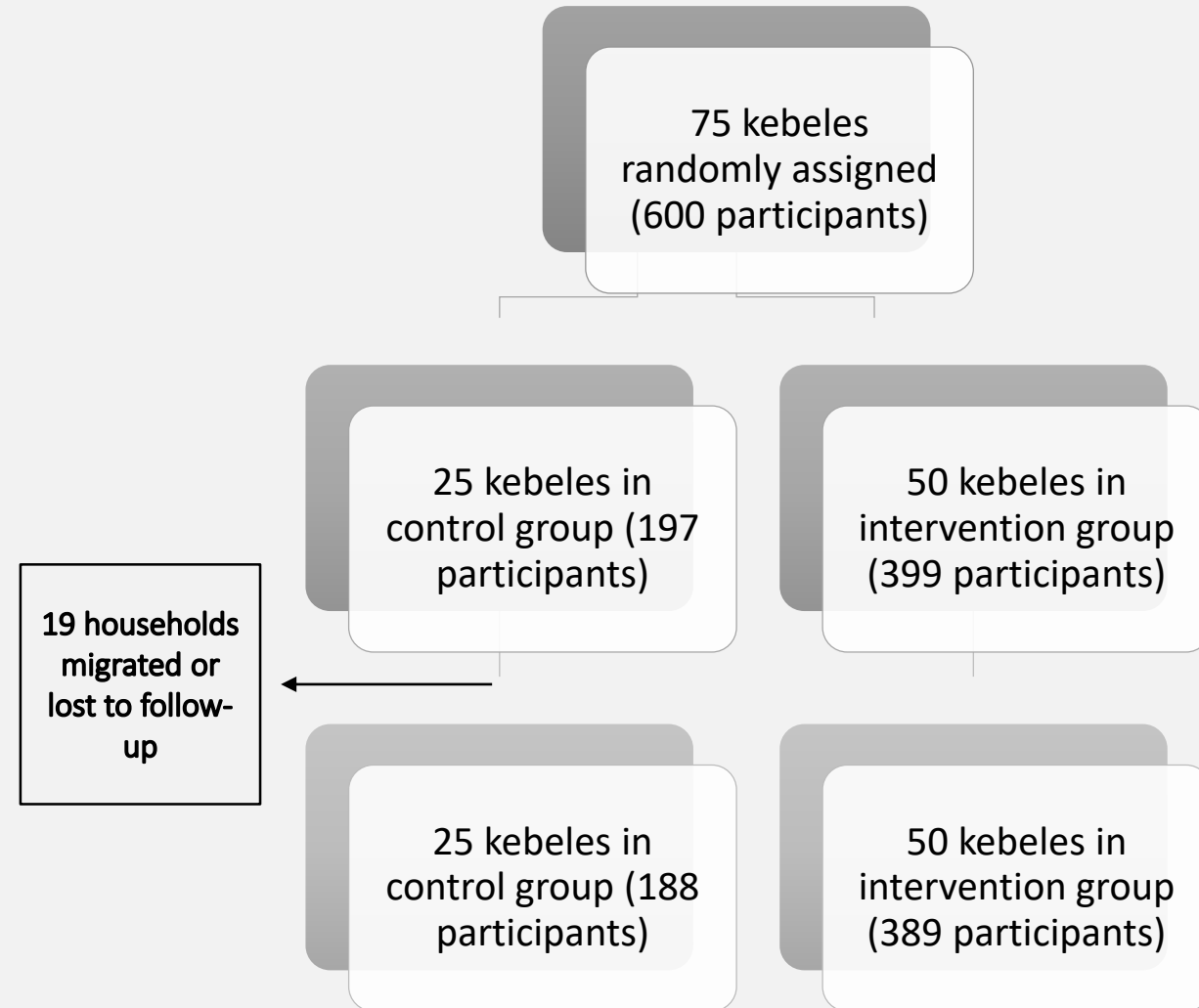
- **T₁: Treatment group.** Access to CIP Nutrition program activities. This included OFSP vines delivered at the beginning of the planting season, trainings in agronomy and nutrition, hands-on cooking workshops, capacity-building for local extension workers, school gardens, and establishment of multisector nutrition coalitions.
- **T₀: Comparison group.** This group did not have access to the CIP Nutrition project intervention package.

Data Collection

- Structured household questionnaires

Data Analysis

- Difference in means between T₁ and T₀ groups



PROJECT EFFECTS ON PARTICIPANT HOUSEHOLDS

	Baseline (n=389)		Endline (n=389)		Change	P-Value
	Mean	SD	Mean	SD		
HH dietary diversity score, mean	6.1	1.8	6.8	1.5	+0.7	<0.0001
Mean child dietary diversity score	4.2	1.8	4.8	1.4	+0.6	<0.0001
Child BMI score, mean	15.3	1.9	18.5	2.1	+3.2	<0.0001
<i>Household Food Security (in the past 30 days):</i>						
Food secure	50.4%		41.9%		-8.5%	0.019
Mild food insecurity	10.0%		19.7%		+9.7%	0.001
Severe food insecurity	39.6%		38.4%		-1.2%	0.708
% HHs with food gap in last 12 or 6 mths	81.0%		66.8%		-14.2%	<0.0001

AGRONOMY & FARMING SYSTEMS

Key Lessons

- OFSP is valued for nutrition, but not for its **economic potential**.
- Multiple **farming challenges** related to agronomy
- Women plant OFSP in their **kitchen gardens** for nutrition and sales
- **Schools** plant OFSP for feeding programs, education, & distribution

Impact

- Increased proportion of OFSP growers, from 5.5% to 87%
- 34,511 households received OFSP vines
- Over 16 million OFSP vine cuttings distributed
- More than 20 biofortified varieties of OFSP developed
- Hectares under OFSP production increased from 100 to 245 ha

school gardens

“Last year we sold around 37,000 ETB of OFSP.... Next year we’re planning to increase our sales to 200,000 ETB.”

On-farm food environment

Markets

Incomes

Women's empowerment

Nutrition knowledge and behaviors

Policies and partnerships

NUTRITION AND DIETARY PATTERNS

Key Lessons

- Food behaviors and customs **differ by region**; reported changes also differed
- Communities like the **dissemination strategies** (e.g., practical demonstrations, discussion groups, training HEWs, women's groups)
- Communities could talk about benefits of not just OFSP, but **dietary diversity** broadly

Impact

- HH dietary diversity scores increased from 6.1 to 6.8

“Before our children had diarrhea problems. But now their immunity is strengthened.”

7 days, from 5% to 49%

- More children consumed ASFs in last 24 hours, from 4.5% to 18.2%

On-farm food environment

Markets

Incomes

Women's empowerment

Nutrition knowledge and behaviors

Policies and partnerships

PARTNERSHIPS AND POLICY SUPPORT FOR NUTRITION-SENSITIVE AGRICULTURE

Key Lessons

- Greatest strength was “**synergy of activities across sectors**”
- School children served as entry points for positive attitude shifts of parents in relation to OFSP promotion
- *Segmentation of target population in program design is important in such a way that the poor are targeted for nutrition and resourced farmers to kick-start the market*
- OFSP – puree is a key product to enhance commercialization as a raw material to different value addition activities
- FTCs as demonstration and training sites

“We have learned a lesson from this project. If we have good collaboration, good integration, we can be more successful even with few resources.” BoA Director

- 4 national stakeholder meetings
- 8 regional policy
- 2 new policies promoting OFSP

On-farm food environment

Markets

Incomes

Women's empowerment

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WHAT KINDS OF CHANGE OCCURRED?

Evidence: Significant change

Evidence: Change, but not significant

Evidence: no change

National/regional Policies

Conduct OFSP sensitization workshops at regional level

Identify OFSP as part of extension/strategic crop by government (NNP, NSAS, P/SP strategic documents),

Increase OFSP availability in local and regional markets

Productive OFSP value chains

Multi-sector task force

Strengthen village-level task force committees

Raise awareness about nutrition as a priority

Enhance nutrition advocacy and coordination

Improved cross-sector coordination

FTCs, ATVET and School gardens

Deliver quality OFSP vines to community

Incorporate OFSP into 4 ATVET collages curriculum, FTC demonstration and school garden

Increase OFSP demand

Improved OFSP access in community

Household

Increase number of DVMs and access to quality OFSP vines

Deliver quality agronomy trainings

Expand OFSP production

Increased HH incomes

Individual

Capacity-building trainings on nutrition and agronomy

Changes in knowledge, attitudes, and practices

Improve target hhs OFSP consumption

Improved Target HH dietary intake patterns

Participation in program

Nutrition and food security status

Change Pathway



HOW CAN **OFSP** SYSTEMS STRENGTHENING APPROACHES ACCELERATE NUTRITION PROGRESS?

1. **Lead collaboratively:** Ensure all sectors and representatives from most affected populations are involved in food security and nutrition program design
2. **Local ownership:** Plan the roles each sector will play in delivering programs and achieving impact
3. **Focus on strengths:** Determine when to work multi-sectorally, rather than as single sectors
4. **Rights-based advocacy:** Ensure efforts support human rights and social equity
5. **Trust with Local Institutions:** Ensure activities align and are integrated with agriculture and food governance systems, rather than disrupt them
6. **Accountability:** Continually assess systems strengthening needs, including accountability in policy-making processes
7. **Sustainability:** Secure new forms of funding and technical assistance to support effective coordination



ACKNOWLEDGEMENTS

- Study was made possible with the financial support of Irish Aid.
- Institutional Review Board Approval 2013 – 0529 from the University of Wisconsin Health Sciences IRB



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