Viable Sweetpotato Technologies in Africa (VISTA) Tanzania project

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Integrated Agriculture, Nutrition Education and Marketing intervention with OFSP in Eastern and Southern Highlands Zones of Tanzania for Improved Maternal Knowledge, Food Security and Dietary Intakes

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Background and purpose

- Over a quarter of the Tanzanian population live below the basic needs poverty line.
- Thirty-three per cent of children aged 6-59 mos and 37% of women aged 15-49 years estimated to be VA deficient.
- Nutrition-sensitive agricultural development has a crucial role to play
  - Particularly for poor rural households for which farming is the main source of food and income.
- Food-based efforts are highly complementary to other approaches to tackling VAD,
  - Especially for rural communities where alternative interventions face greater difficulty to consistently reach the beneficiary population

VISTA – Tanzania project

- Implemented in the Eastern and Southern Highlands Zones of Tanzania
- From 2014-2017
- Integrated a bio-fortified OFSP, agriculture-nutrition education intervention into community-based nutrition caregiver clubs
- The aim
  - To contribute to improved dietary diversity, nutrition, food security and incomes of smallholder households with children under 5 years

Objective of current study

- Assess the impact of the VISTA-Tanzania intervention on nutrition and food security outcomes of smallholder households with children under 5 years
  - Specifically: improved
    - Production and consumption of OFSP
    - Caregiver nutrition and vitamin A knowledge
    - Caregiver health and childcare knowledge
    - Household and young child dietary diversity
    - Household and young child dietary vitamin A intake
    - Household food security

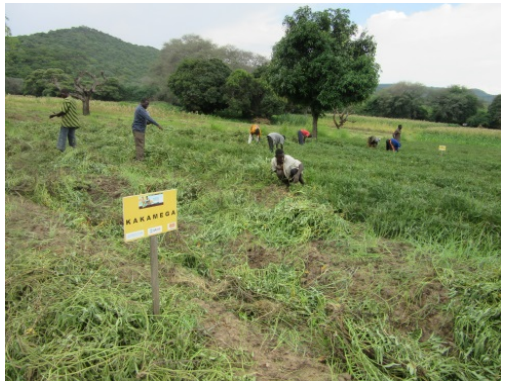
Methods

- The 24-month (June 2015-July 2017) intervention
  - Linked beneficiaries to quality OFSP planting materials
  - Received improved nutrition education and counseling
    - Community-level caregivers' nutrition group meetings
- M&E strategy of the Project designed to
  - Assess the overall effectiveness and sustainability of the OFSP delivery approach linking agriculture to nutrition behaviour change and communication (BCC) at the community level.

Methods

- Monitoring data indicated
  - A total of 140 clubs established and run by 157 trained CHWs
  - With 2,663 active members
  - 21,876 caregiver attendances
  - 1,167 club meetings
- 27,676 eligible households received OFSP planting materials (300 cuttings of 5 varieties)
  - Together with brochures containing information on OFSP production, postharvest practices and utilization

Methods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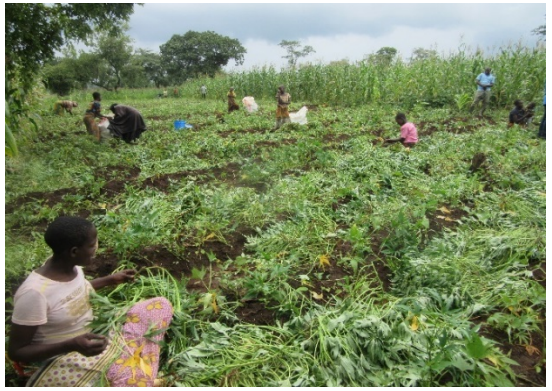

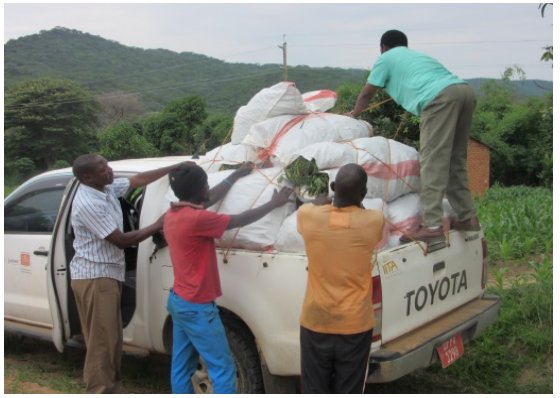
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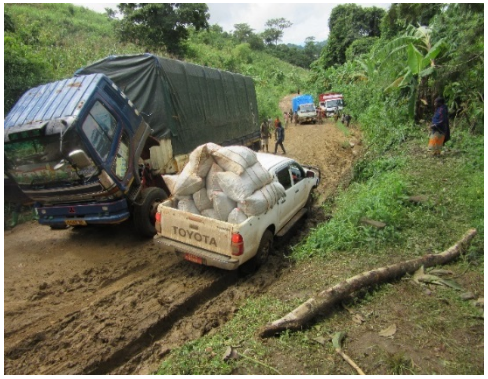
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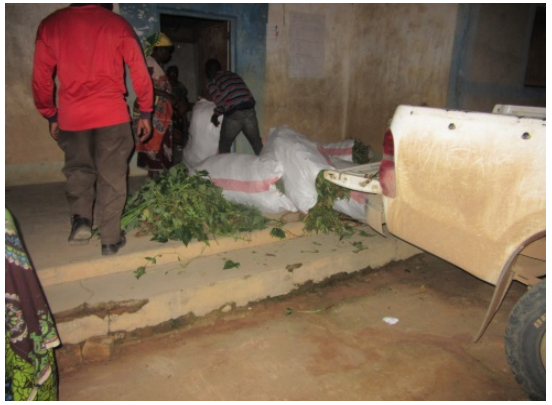

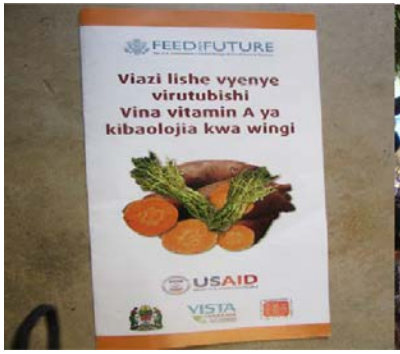
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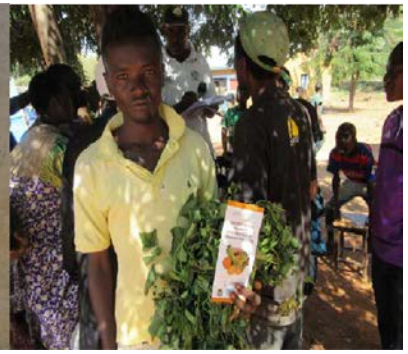

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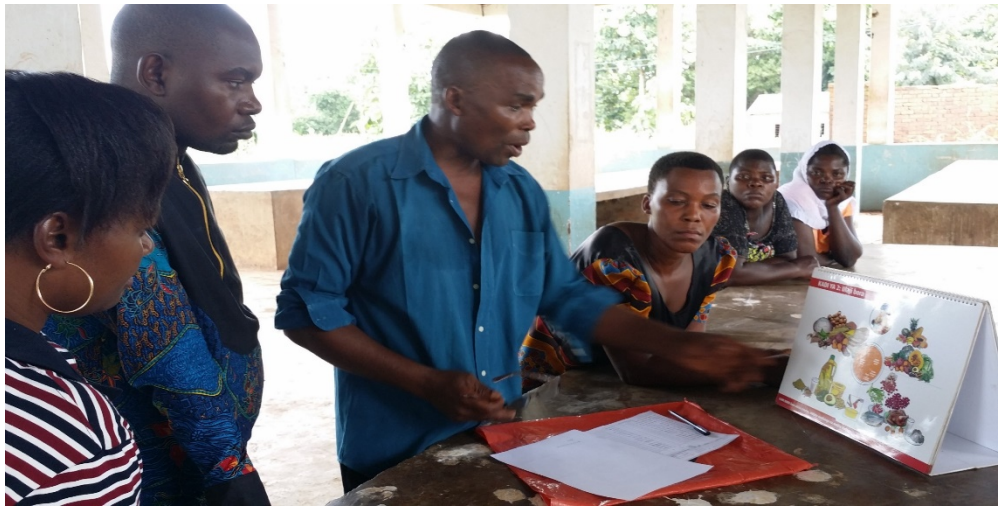

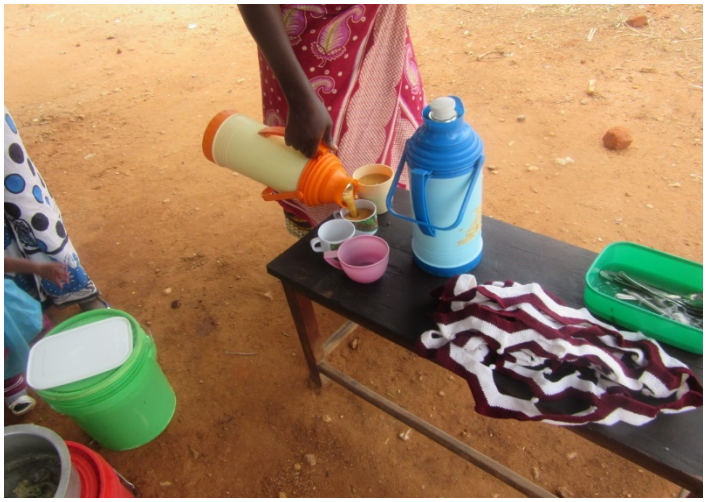

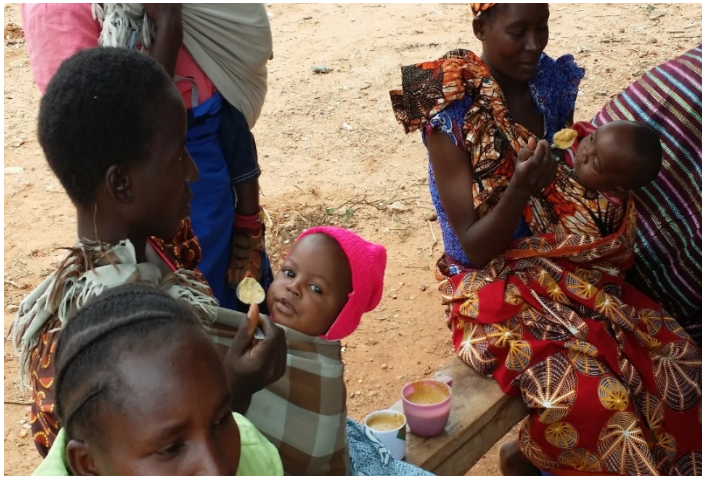

Methods

















Methods

- Two cross-sectional surveys
  - 549 mother-child (6-59 mos) pairs at baseline (Nov 2015)
  - 547 mother-child pairs at endline (October 2017)
  - Examined the effect of the intervention on beneficiary households
- Indices were developed to assess
  - Household wealth index
  - Caregiver's knowledge on
    - VA and nutrition
    - Health seeking behavior and childcare practices
  - Frequency of consumption of VA-rich foods (7-day FFQ)
  - Household and young child dietary diversity (24-hr recall)

Results

Differences in Socio-demographic Characteristics between Baseline and Endline Participants				
	All[1] (N=1,096)	Baseline (n=549)	Endline (n=547)	P-Value[2]
Age of mother/caregiver in years – Median[IQR[3]]	31 [25 - 38]	30 [24 - 27]	32 [26 - 38]	0.001
Average age (Years) of Members >= 5 - Median[IQR[3]]	21 [11 - 33]	20 [10 - 32]	21 [11 - 35]	0.01
Head of Household Education Status				
No Schooling	87 (8.0)	57 (10.4)	30 (5.5)	
At least Primary	863 (79.1)	422 (76.9)	441 (81.4)	0.02
At least Secondary	124 (11.4)	59 (10.8)	65 (12.0)	
College or University	17 (1.6)	11 (2.0)	6 (1.1)	
Caregiver/maternal Education Status				
No Schooling	667 (15.0)	446 (19.5)	221 (10.2)	
At least Primary	3,217 (72.4)	1,566 (68.6)	1,651 (76.5)	< 0.001
At least Secondary	519 (11.7)	251 (11.0)	268 (12.4)	
College or University	38 (0.9)	20 (0.9)	18 (0.8)	

[1] – The percentages represent column percentages

[2] - Pearson's chi-squared for proportions and nonparametric equality-of-medians test for averages

[3] – Inter-Quartile Range

Results

- Data showed intervention had positive impact on
  - Production (0.8% at baseline vs. 42% at endline; P< 0.0001)
  - Consumption (0.4% vs. 46%; P< 0.0001) of OFSP

Results

There was a significant 23% (P<0.001) increase in caregiver knowledge on nutrition/VA

	All	Baseline	Endline	P-Value[2]
Vitamin A knowledge score, mean ± SD	3.13±1.18	2.78±1.10	3.42±1.16	<0.0001
Vitamin A Knowledge Score (Out of 10)				
Low (0 – 2)	314 (28.7)	214 (39.0)	100 (18.3)	< 0.001
Medium (3 – 4)	510 (46.5)	227 (41.4)	283 (51.7)	
High (5 – 10)	272 (24.8)	108 (19.7)	164 (30.0)	
Heard anything about OFSP on the radio past year?	235/940 (25.0)	101/469 (21.5)	134/471 (28.5)	0.01
Heard anything about OFSP on the TV past year?	55/935 (5.9)	11/449 (2.5)	44/486 (9.1)	< 0.001

Commonest source of VA knowledge was the health units (52%) followed by schools (27%) and community health workers (12%).

Results

The average health-seeking and childcare knowledge score of caregivers at endline improved by 28% (P<0.001

	All	Baseline	Endline	P-Value[2]
Health and childcare knowledge score	8.30±2.34	7.29±2.30	9.32±1.89	<0.0001
Low (<6)	158 (14.4)	127 (23.1)	31 (5.7)	
Moderate (6-9)	525 (47.9)	322 (58.7)	203 (37.1)	<0.0001
High (10-13)	413 (37.7)	100 (18.2)	313 (57.2)	

Results

Significant improvements in HDDS with 72% increase (P<0.0001), and young child DDS at 18% increase (P<0.01)

	All	Baseline	Endline	P-Value[2]
Household Diversity Score – Mean [SD]	5.2 [2.1]	3.9 [1.2]	6.7 [1.9]	< 0.001
Young Child Diversity Score - Mean [SD]	4.2 [1.6]	3.9 [1.4]	4.6 [1.6]	< 0.001
Household ate OFSP in the last 24 hours – n / N (%)	254/1,096 (23.2)	2/549 (0.4)	252/547 (46.1)	< 0.001
Child ate OFSP in the last 24 hours – n / N (%)	231/1,096 (21.1)	2/549 (0.4)	229/547 (41.9)	< 0.001

Results

Increased (63%, P<0.001) HH VA intake, and 29% for young child VA intake (P<0.01)

	All	Baseline	Endline	P-value[2]
Child VA intake (Overall) - Above 6	245/1096 (22.4)	88/549 (16.0)	157/547 (28.7)	< 0.001
Animal source VA intake by child - Above 4	185/1096 (16.9)	69/549 (12.6)	116/547 (21.2)	< 0.001
Caregiver VA intake (Overall)- Above 6	236/1096 (21.5)	93/549 (16.9)	143/547 (26.1)	< 0.001
Animal source VA intake by Caregiver- Above 4	174/196 (15.9)	69/549 (12.6)	105/547 (19.2)	0.003

Results

Significantly improved food security among beneficiary HH from baseline to endline where severe food insecurity decreased from 34% to 16% (P<0.0001)

	All	Baseline	Endline	P-value[2]
HFIAS Score (Version 1; Out of 88)				
Low (0 – 2)	467 (42.6)	178 (32.4)	289 (52.8)	< 0.001
Medium (3 – 9)	357 (32.6)	184 (33.5)	173 (31.6)	
High (10 – 88)	272 (24.8)	187 (34.1)	85 (15.5)	

Conclusion

- The positive agricultural and nutrition outcomes documented in VISTA-Tanzania project was a result of
  - household members being empowered to adopt OFSP technologies and management practices as well
  - increased active participation in nutrition club meetings.

Thanks for listening

ACKNOWLEDGEMENT

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