



Changing behavior through agriculture-nutrition integration: field experience and results

Regional Technical Committee meeting of the Scaling Up Sweetpotato Through Agriculture and Nutrition (SUSTAIN) project

11–12 September 2018, Kigali, Rwanda



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Acronyms

ASTUTE	Addressing Stunting in Tanzania Early
BCC	Behavior change communication
CHW	Community health worker
CIP	International Potato Center
CSO	Civil society organizations
DDS	Dietary diversity score
DERN	Développement Rural du Nord
DFID	Department for International Development (UKAid)
DVM	Decentralized vine multiplier
ECD	Early childhood development
FAO	Food and Agriculture Organization of the United Nations
FFQ	Food frequency questionnaire
FGD	Focus group discussion
HFIAS	Household food insecurity access scale
HSSP	Health Sector Strategic Plan
IFAD	International Fund for Agricultural Development
IYCF	Infant and young child feeding
KAPs	Knowledge, attitudes, practices
KII	Key informant interview
M&E	Monitoring and evaluation
MINISANTE	Ministry of Health, Rwanda
MIYCAN	Maternal, infant, young child and adolescent nutrition
MP	Member of parliament
MUAC	Mid-upper arm circumference
NECDP	National Early Child Development Program (Rwanda)
NEGAPs	Nutrition education and good agricultural practices
NGO	Non-governmental organization
NMNAP	National Multisectoral Nutrition Action Plan
OFSP	Orange-fleshed sweetpotato
PANITA	Partnership for Nutrition in Tanzania
PDH	Positive Deviance/Hearth
PSTA	Strategic Plan for the Transformation of Agriculture in Rwanda
RAB	Rwanda Agriculture Board
SBCC	Social and behavior change communication
SUN	Scaling Up Nutrition
SUSTAIN	Scaling Up Sweetpotato Through Agriculture and Nutrition
TAAT	Technologies for African Agricultural Transformation
TOT	Training of trainers
UN	United Nations
UNICEF	United Nations Children’s Fund
USAID	United States Agency for International Development
VISTA	Viable Sweetpotato Technologies in Africa
WASH	Water, sanitation and hygiene
WFP	World Food Programme
WHO	World Health Organization
YWCA	Young Women’s Christian Association

Executive summary

Introduction by Frederick Grant

The Scaling Up Sweetpotato Through Agriculture and Nutrition (SUSTAIN) project was a 5-year undertaking running from July 2013 to June 2018 that was led by the International Potato Center (CIP) and funded by UK Department for International Development (DFID). It was mainly implemented in four sub-Saharan African countries, i.e. Kenya, Malawi, Mozambique and Rwanda, with some activities in Tanzania and Bangladesh. In Rwanda, SUSTAIN worked in eight districts. It supported integrated interventions in the agriculture, nutrition, utilization, and marketing of orange-fleshed sweetpotato (OFSP) to reinforce its production and consumption.

One of the outputs defined for SUSTAIN was to contribute to the “Access to improved nutritional knowledge and diversified use of OFSP by both female and male caregivers”. To accomplish that, community health workers delivered nutrition messages to SUSTAIN beneficiaries through community sessions and home visits. A survey was conducted to assess the association between nutrition behavior change messaging in the SUSTAIN project and improvement in nutrition outcomes among the beneficiaries.

The Feed the Future OFSP activity, funded by USAID, had a nutrition outcome similar to that of the SUSTAIN project that aimed to “increase dietary diversity, feeding frequency and nutrition knowledge” among households with children under 5 years of age. The Feed the Future activity was implemented in 10 districts in Rwanda. In Tanzania the Viable Sweetpotato Technologies in Africa (VISTA–Tanzania) project was implemented in seven districts in four regions. The nutrition outcomes for Tanzania were similar to those of the Feed the Future activity in Rwanda.

The Regional Technical Committee meeting of SUSTAIN in Kigali, held in September 2018, was organized to disseminate the results from the analyses of data from surveys, monitoring, and focus group discussions on SUSTAIN and VISTA–Tanzania projects. These analyses were conducted to provide insight into the implementation of the projects and also to shed light on the likely reasons for the observations made in the quantitative analysis. Results from field discussions with CIP partners – local and international NGOs, local government institutions, national and international organizations, the private sector, and donors – were also shared.

The meeting was expected to be a forum for sharing of experiences regarding the implementation of the nutrition activities and the lessons learnt, for application in improving future programs. It was anticipated also that recommendations would be generated for designing programs for effective social and behavioral change communication linked to agricultural innovations in order to strengthen nutrition-sensitive agricultural programs, particularly those implemented by the CGIAR and those of its partners and governments.

Opening

Robert Ackatia-Armah welcomed the participants to the workshop and reviewed the agenda for the two days. He expressed his hope that the sharing of experiences and the other interactions would generate groundbreaking ideas that could be used in tackling childhood and motherhood malnutrition.

In his presentation, **Simon Heck** covered the specifics of the CIP Sweetpotato Program, highlighting the milestones in nutrition outcomes, particularly the recognition of the efficacy of biofortified food crops in improving nutrition and the acceptance of OFSP for both nutrition and market potential. He said that the meeting was intended to review the lessons learned in influencing behavioral change to favor shifts towards healthier diets and nutrition, and to find ways to overcome the obstacles to behavior change.

SUSTAIN and VISTA country updates

Tanzania – Frederick Grant – The focus of this report was the nutrition outcomes of the VISTA–Tanzania project’s OFSP intervention that ran from 2015 to 2017. The intervention introduced OFSP and agricultural-nutritional education in community-based nutrition caregiver clubs with the aim of improving dietary diversity, nutrition, food security and incomes in households with children under 5 years. The outcomes included improved caregiver vitamin A and health-seeking knowledge, which saw a two-fold increase over the period, a 72% rise in the household diet diversity score, a 63% increase in household consumption of vitamin A-rich foods, and improvements in food security. The solid community health network incorporating local leaders contributed to the success of the intervention.

The main remarks from the floor were that the nutrition status of the children did not improve during crop harvesting but in the lean periods means that we have to rethink our nutrition approaches. The response was that the important factor was what was being harvested; it was noted that there was need to include safe drinking-water, sanitation and hygiene as components of nutrition interventions; and the lack of men’s involvement was a big challenge and could have implications on household nutrition, since men are better off financially and have the power to allocate household resources.

Rwanda – Valentine Uwase (presenter) and Kirimi Sindi – The SUSTAIN project in Rwanda worked with the Rwandan Farmers Federation (IMBARAGA), the Rwanda Agriculture Board (RAB) and the Young Women's Christian Association of Rwanda (YWCA) as the implementing partners, and also Urwibutso Enterprises (an agro-processing businesses located in Nyirangarama, Northern Province, Rwanda), the Ministry of Health (MINISANTE), health centers, and decentralized vine multipliers (DVMs) to incorporate OFSP into household diets for improved nutrition outcomes, especially for children and mothers.

During 2016/2017, 103,529 beneficiaries were reached with OFSP vines and agronomic and nutrition training; Urwibutso Enterprises sold processed OFSP products worth USD 200,000 and bought OFSP from 400 households; small-scale seed multipliers sold OFSP vines worth USD 241,114; 39 DVMs were established, supported and strengthened; the formal seed system was developed and strengthened; and Vita, Kabode, Terimbere, Gihingumukungu, Cacearpedo and Yellow (Ukerewe) OFSP varieties were released for dissemination.

Some of the questions on this presentation were on how SUSTAIN work would be continued as the project had ended in 2017 and how sustainability in vine production would be maintained. Responses to the first question were that there were other actors that could take up the nutrition work or disseminate the technologies such as Technologies for African Agricultural Transformation (TAAT) and non-governmental organizations (NGOs), plus the private sector was interested in investing in the supply chain to ensure a regular supply of the roots. For vine production, the project worked with RAB to determine the strategic locations of the DVMs in the districts, and RAB will continue to support the DVMs.

Malawi – Wells Kumwenda – SUSTAIN’s work in Malawi aimed to improve food security through crop diversification, increase nutrition knowledge, improve nutrition by increased consumption of OFSP, and increase incomes by selling the excess roots and vines. The project’s activities included distribution of OFSP vines directly to 86,000 households, who shared them with another 152,000 households, and nutrition training for 60,000 caregivers. Some of the outcomes included heightened demand for OFSP planting materials, which the project could not meet, and improved household nutrition and incomes.

Comments on the presentation pointed to the need for involving men in nutrition interventions to ensure their support both financially and with household responsibilities, and for working with political leaders, since they determine the development priorities and allocate resources.

Results from studies in Rwanda and Tanzania

Quantitative results – Frederick Grant (presenter) and Robert Ackatia-Armah – This presentation focused on the results from a study on the social and behavior change communication (SBCC) aspects of the SUSTAIN Rwanda and VISTA–Tanzania nutrition interventions, specifically the association of nutrition SBCC with improved caregiver health and nutrition knowledge, attitude and practices (KAPs). The interventions employed strong community-based nutrition education and SBCC approaches to promote the incorporation of biofortified OFSP into the diets of households with children aged 6–59 months and pregnant or lactating women. The study showed caregiver participation in nutrition SBCC to be positively associated with improved health and childcare knowledge, household and young child dietary diversity, and vitamin A intake.

A participant wondered if the barriers to better nutrition had been established. The response was that the project carried out preliminary work with nutrition staff in the districts and reviewed literature on similar work from Kenya to identify factors that facilitated vitamin A consumption.

Qualitative results – Robert Ackatia-Armah (presenter) and Frederick Grant – This presentation summarized the findings from focus group discussions (FGDs) with pregnant and lactating women, primary caregivers of children younger than 5 years, community leaders, and husbands of the women, as well as key informant interviews with nutrition and agriculture frontline workers. The objective was to evaluate the effect of the nutrition education program implemented within the VISTA–Tanzania and SUSTAIN Rwanda projects on caregiver nutrition KAPs. The results showed that

women who had participated in the program had better knowledge on feeding infants and young children and cooking of nutritious meals than those who were not in the program, and were more aware of the nutrition benefits of OFSP. Even though the invitations to the sessions were sent out to men and women equally, men generally did not attend.

A participant raised the concern that the requirement that community health worker teams in Tanzania comprise a woman and a man might affect programs if the man is unwilling to take on duties that are considered culturally inappropriate for men. It was observed that although the involvement of men in nutrition-fostering activities, including those for OFSP, was low in Tanzania, they were keen to be involved in OFSP marketing training. This knowledge led the VISTA project to design marketing training for men with nutrition as a component.

Partners' presentations on nutrition interventions implemented in Rwanda

DERN – Etienne Kabahizi – Development Rural du Nord (DERN), a local Catholic NGO, is implementing a Feed the Future project in Rwanda whose nutrition messaging aims to increase OFSP consumption, provide nutrition counselling to caregivers of children aged 6–24 months to improve their feeding practices, and demonstrate improved food preparation techniques incorporating OFSP in local diets. The approach used incorporates nutrition education and good agriculture practice groups designed to integrate OFSP and vitamin A material in the nutrition messaging and counseling activity for at least 20,000 households per district. The key actors are community health workers (CHWs) in charge of community interventions at health facilities, the DERN nutritionist and DERN agricultural extension workers, along with the local authorities and the beneficiaries. The project has seen the groups grow OFSP varieties using good agronomic practices and expand OFSP growing area, leading to its improved quality and availability, as well as visibility in at least one major fresh food market in each district. The nutrition messages helped to emphasize the good practices relating to the preparation of balanced diets and infant and young child feeding.

IMBARAGA – Console Mutuyemariya – Over the period July 2014 to June 2017, IMBARAGA partnered with CIP in a project to increase OFSP production among smallholder farmers in Rulindo, Gakenke, and Gicumbi districts in Rwanda to improve incomes and nutrition outcomes for pregnant women and children under 5 years. IMBARAGA led the OFSP vine distribution and subsequent root production. CHWs, who oversaw the nutrition communication aspect, were involved in giving nutrition messages during mass dissemination of planting materials and monthly community work, as well in providing nutrition counselling both to small groups of children's caregivers and during home visits. Men did not normally participate in sweetpotato planting material distribution and so they were reached during the weekly Umuganda day¹. Their participation improved tremendously, going from 419 to 6,564 over the three years. The other outcomes also were impressive: 13,990

¹ Everyone between the ages of 18 and 65 years in Rwanda is required to take part in the national cleanup day, Umuganda, held on the last Saturday of every month.

households with 85,611 children under 5 years of age received nutrition counselling; 48,000 households were reached with nutrition messages; and 3,166 individuals, of whom 940 were men, participated in nutrition events such as cooking demonstrations and feeding of young children at health centers.

The main challenges were resource limitations, particularly for nutrition counseling, the reach of which was affected by the low numbers of CHWs and farmer promoters, and the requirement for each of them to visit each household at least three times, for a total of 4,200 visits.

YWCA – Christine Nyirahabimana – YWCA and SUSTAIN’s project in Rwanda’s Muhanga, Kamonyi, Ruhango, Rwamagana and Kayonza districts had the goal of promoting OFSP adoption as a way of improving smallholder farmers’ incomes and household nutrition, particularly for mothers and children younger than 5 years. The approach encompassed training of farmer promoters and CHWs who then took on the responsibility of delivering the OFSP message to the community. The specific activities were vine distribution; mass dissemination of nutrition messages during community work events like Umuganda, Umugoroba w’Ababyeyi² and other events; and nutrition counseling and meal preparation demonstrations for small groups of caregivers and for individual households. The project reached 33,665 households with vines; 10,887 heads of household with nutrition counseling, 2,163 of whom were men; and 31,552 heads of household through community message dissemination, 4,969 of whom were men. There was difficulty in involving men, as cultural practices discourage them from taking on caregiving roles, so many would not participate in caregiver training. This can be a big hindrance to nutrition behavior change in the family, as it is men who are responsible for providing the family with food.

Partners’ experience sharing on approaches for behavior change and nutrition interventions

ASTUTE – Generose Mulokozi – The Addressing Stunting in Tanzania Early project (ASTUTE) works to reduce stunting in children younger than 5 years in the Lake zone of Tanzania through transforming and sustaining behaviors, building capacity and investing in maternal, infant, young child and adolescent nutrition (MIYCAN), water, sanitation and hygiene (WASH), and early child development. This is achieved through improving government response to nutrition in health, agriculture, WASH, and early childhood development (ECD) initiatives; building capacity to support optimal care practices for MIYCAN, WASH and ECD; and increasing the knowledge of pregnant women, caregivers of children younger than 5 years and household and community decision-makers on MIYCAN, WASH, and ECD. The strategy includes home visits by CHWs to negotiate for behavior change on maternal, infant, and young child nutrition, WASH, ECD and gender; health worker training on counseling of mothers and caregivers at clinics; community-based nutrition rehabilitation of malnourished children; and mass media messaging. The facilitating aspects are the focus and negotiations around small, doable actions; inclusion of men to support women as they adopt new practices; mutual reinforcement, where CHWs and civil society organization (CSO) volunteers promote behaviors

² ‘Evening for Parents’, a time when parents from the same village gather, discuss government policies and social issues, and educate each other for the sake of families’ welfare.

relayed through radio messages; and supervisory guides to inform on the minimum standards for ASTUTE. So far 8,530 project implementers in stunting reduction have been trained; 518,245 pregnant women and caregivers have received counseling support; 180 malnourished children have been rehabilitated; 1,587,092 beneficiaries have been reached through home visits; and 18,000 radio spots have been aired for 1.8 million people.

A question was raised as to whether there were challenges in ensuring that contradictions did not exist in the training when working with CHWs who also worked with the government and other projects and who had been trained by those partners. The response was that the CHWs were working with the local government and the ASTUTE training was complementary to the training by other programs. There was a question also about sustainability after the project ends. The response was that sustainability would be ensured since the government was fully involved in the design of the project and CHWs and CSOs would take up some of responsibilities at the project's end.

PANITA – Tumaini Mikindo – The Partnership for Nutrition in Tanzania (PANITA), a coalition of 300 CSOs from nutrition-related sectors in Tanzania, focuses on capacity building, technical support and sharing of information for nutrition advocacy nationally and locally. It is keen to achieve behavioral change that supports long-term and positive nutrition outcomes for both individuals and institutions. Its activities include advocacy for domestic resources for nutrition; capacity building and support for nutrition initiatives; creation of pools of advocates and champions for nutrition; and engagement in national, regional, and grassroots nutrition platforms. Important successes include campaigns that led to the inclusion of nutrition in the election manifestos of all the political parties, the increase of the nutrition budget and tax exemption for fortificants, and recruitment of 50 members of parliament and leaders as nutrition champions and 20 biofortified crops' advocates.

UN Network in Rwanda – The United Nations (UN) Network helps to strengthen governance for scaling up nutrition through advocacy and awareness creation, strengthening national nutrition policies and programs, and human and institutional capacity, and monitoring and evaluation of nutrition programs. The first phase of the One UN joint nutrition project aimed to fight chronic malnutrition in Nyamagabe and Rutsiro districts from 2013–2016 by enriching and fortifying children's diets and improving feeding practices; improving local production and consumption of nutritious and safe foods and access to appropriate food supplements for the most vulnerable to prevent stunting; and enhancing knowledge on dietary needs, nutritional status, and management of mother, infant and young child nutrition. The key achievements were the reduction of stunting by 2% in children under age 2 and the reduction of anemia among children by more than 30% and among pregnant or breastfeeding women by more than 20%. The second phase aimed to support the strengthening of national systems to sustain phase 1 achievements. This involved supporting the coordination of food and nutrition interventions, strengthening the national capacity to develop and scale up food and nutrition programs and for nutrition service delivery, M&E capacity and knowledge management strengthening, and support for food and nutrition policy review.

Conclusion

Nutrition is a piece of the puzzle in addressing malnutrition among children younger than 5 years and lactating mothers. Other elements such as policies, agricultural innovations and WASH services have to be aligned for nutrition initiatives to work. The following factors were recognized in the workshop as having been key in facilitating the generation of positive outcomes in behavior change towards nutrition consciousness and adoption of OFSP as an important component in addressing malnutrition:

- Addressing the issues at the community level that stand in the way of realizing the goals of the nutrition programs, such as the cultural taboos that prevent men from assuming caregiver roles.
- Involvement of government institutions in the nutrition projects from their conceptualization in order to obtain government buy-in, ownership and support for sustainability. Policy-makers, CHWs, local leaders and extension staff in agriculture, nutrition, and health should be included as partners in the design and execution of nutrition initiatives. It is important to work with political leaders as it is the government that determines the development priorities and the activities to be implemented.
- Incorporation of the nutrition initiatives into existing programs run by government institutions or NGOs, for example the distribution of OFSP vines during community days in Rwanda.
- Coordination of activities with partners to avoid duplication of effort and to exploit complementarity, benefits and economies of scale.
- Fostering the engagement of men in nutrition activities since they have better financial capacity than women and have the power over the allocation of household resources.

Going forward, nutrition initiatives should exploit existing opportunities to their benefit, such as the current interest in many countries and among development partners in nutrition and the accompanying support in the form of policies, programs and financial resources.

Opening

Welcome

Robert Ackatia-Armah

Robert welcomed the participants to the workshop and reviewed the agenda for the two days. He expressed his hope that the sharing of experiences and the other interactions would generate groundbreaking ideas that could be used in tackling childhood and motherhood malnutrition.

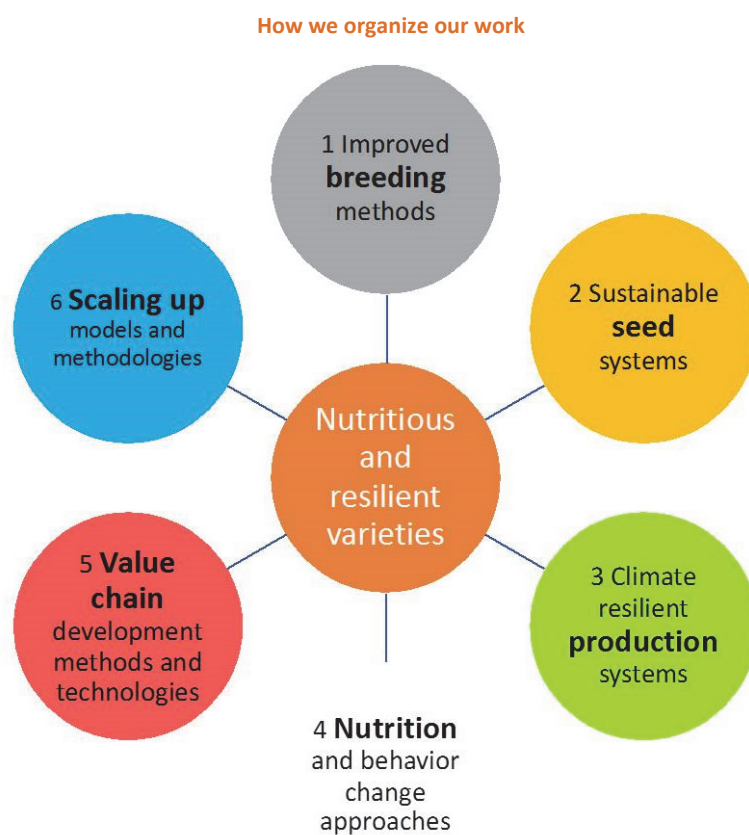
Background and purpose of the meeting

Simon Heck

CIP's Sweetpotato Program

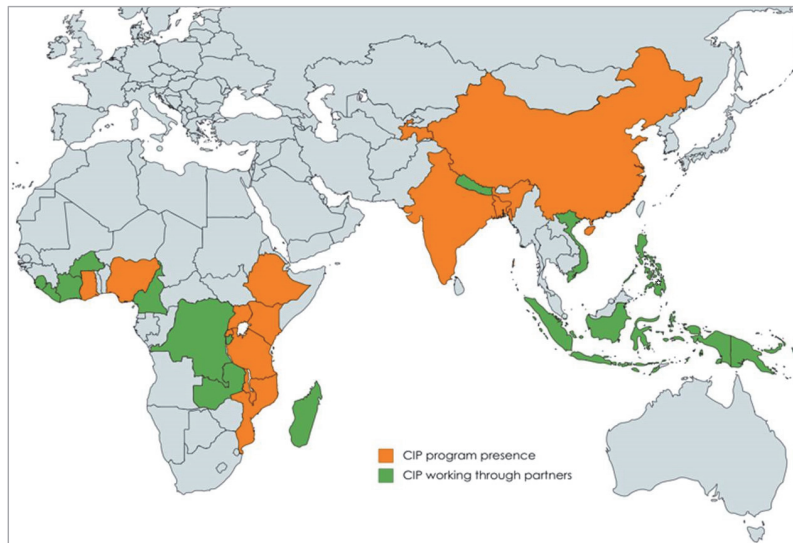
Our goal

The CIP Sweetpotato Program's goal is to enable at least 15 million households to improve the quality of their diets and raise their crop incomes over the next 10 years [to 2023] in countries with micronutrient deficiencies in Africa, Asia and the Caribbean by improving the production and utilization of nutritious, resilient sweetpotato.

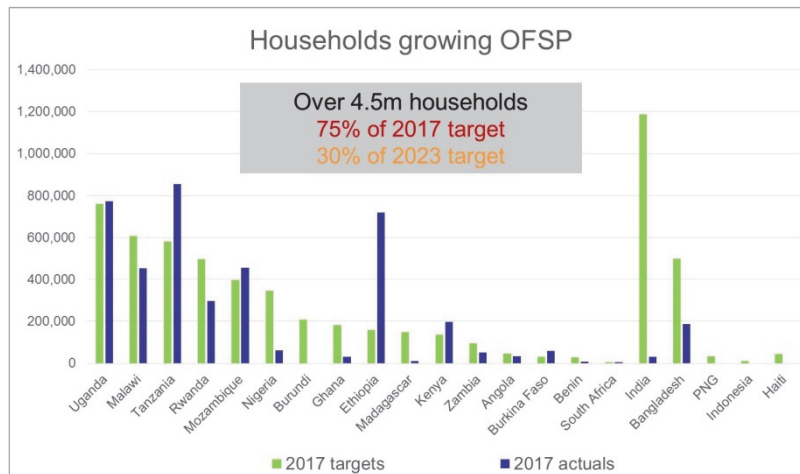


1 core product supported through 6 areas of research and development

CIP's Sweetpotato Program



How well are we doing?



Why a technical review meeting on changing behavior through agriculture-nutrition integration?

Nutrition outcomes are a key objective of our work; they require behavior change at several levels. Over the past 10 years, CIP and its partners have demonstrated:

- efficacy of biofortified sweetpotato to provide beta-carotene and contribute to reducing vitamin A deficiency.
- effectiveness of delivery systems involving agriculture and health sector agencies.
- relative cost-effectiveness of different variations of these delivery systems (scalability).

We have seen increasing demand for utilizing biofortified sweetpotato (and other biofortified crops) by:

- the public sector to support nutrition goals.
- NGOs to strengthen their programming.
- the private sector to develop new markets.

All of these can potentially contribute to meeting nutrition objectives through biofortified sweetpotato.

Purpose of this meeting

This is the time to review recent program experiences:

- What have we learned about behavior change towards healthier diets and better nutrition?
 - Is it taking place? By whom? How far does it go?
 - What has been enabling the program actions, and what are the inhibitors?
- Which behaviors exactly are changing? Are there trade-offs?
- How can we minimize the need for complex behavior change?
- What are the barriers to institutional behavior change and how might they be overcome?

SUSTAIN and VISTA country updates

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

Frederick Grant

VISTA–Tanzania project

The Viable Sweetpotato Technologies in Africa–Tanzania (VISTA–Tanzania) project was implemented in the eastern and southern highlands zones of Tanzania from 2014 to 2017. The intervention integrated biofortified OFSP and agricultural-nutritional education into community-based nutrition caregiver clubs.

Aim

To contribute to improved dietary diversity, nutrition, food security, and incomes of smallholder households with children under 5 years.

Methods

The 24-month (June 2015–July 2017) intervention linked beneficiaries to quality OFSP planting materials. They also received improved nutrition education and counseling. Community-level caregivers' nutrition group meetings were a component of the intervention.

The monitoring and evaluation strategy of the project was designed to assess the overall effectiveness and sustainability of the OFSP delivery approach, linking agriculture to nutrition behavior change communication (BCC) at the community level.

Two cross-sectional surveys were conducted with the goal to examine the effect of the intervention on beneficiary households:

- 549 mother-child (6–59 months) pairs at baseline (November 2015)
- 547 mother-child pairs at endline (October 2017)

Indices were developed to assess:

- Household wealth index
- Caregivers' knowledge on vitamin A and nutrition, health seeking behavior, and childcare practices
- Frequency of consumption of vitamin A rich foods (7-day food frequency questionnaire)
- Household and young child dietary diversity (24-hour recall)

Results

The data show that for OFSP, the intervention had a positive impact on its:

- Production (0.8% at baseline vs. 42% at endline; $P < 0.0001$)
- Consumption (0.4% vs. 46%; $P < 0.0001$)

There was a significant 23% ($P < 0.001$) increase in caregiver knowledge on nutrition/vitamin A (Table 1).

Table 1: Caregiver knowledge at project baseline and endline

	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 (29)	214 (39)	100 (18)	< 0.001
Medium (3–4)	510 (47)	227 (41)	283 (52)	
High (5–10)	272 (25)	108 (20)	164 (30)	
Heard anything about OFSP on the radio past year?*	235 (25)	101 (22)	134 (29)	0.01
Heard anything about OFSP on the TV past year?*	55 (6)	11 (2.5)	44 (9)	< 0.001

*Values are: n (%)

The objective of the VISTA–Tanzania project was to improve caregivers’ knowledge about vitamin A, the benefits of OFSP, general nutrition, child health care practices, and health seeking behaviors. Assessment of household nutrition knowledge in general, and vitamin A in particular, indicated an improvement in vitamin A knowledge among caregivers from baseline to endline. About 30% of the respondents in the endline study were in the “high” score category compared to 25% at baseline (Table 1). The commonest source of vitamin A knowledge was health units (52%) followed by schools (27%) and then community health workers (12%). There was also an improvement in access to OFSP messages from the mass media: 29% of the project beneficiaries received messages and information on OFSP on radio at endline compared to 22% at baseline. The levels for television were 6% at baseline compared with 9% at endline.

Table 2: Health and childcare knowledge score at baseline and endline

	All	Baseline	Endline	P-Value ²
Health-seeking and childcare knowledge score, mean ± SD	8.30±2.34	7.29±2.30	9.32±1.89	<0.0001
Low (<6)*	158 (14)	127 (23)	31 (6)	<0.0001
Moderate (6-9)*	525 (48)	322 (59)	203 (37)	
High (10-13)*	413 (38)	100 (18)	313 (57)	

*Values are: n (%)

The VISTA–Tanzania project intervention significantly improved caregiver health-seeking and childcare knowledge from baseline to endline. The average health-and-childcare knowledge score for caregivers at endline was 9.3 (maximum 13) compared with 7.3 at baseline, representing an increase of 27% between 2015 and 2017. Here, 57% of the caregivers had a high level of health-seeking and childcare knowledge at endline compared to just 18% at baseline, which represents more than a three-fold increase between 2015 and 2017.

Significant improvements were seen in household diet diversity score with a 72% increase (P<0.0001), and young child diversity score with an 18% increase (P<0.01) (Table 3).

Table 3: Household and young child diet diversity scores

	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 (%)	254 (23)	2 (0.4)	252 (46)	< 0.001
Child ate OFSP in the last 24 hours – n (%)	231 (21)	2 (0.4)	229 (42)	< 0.001

The mean household diet diversity score at endline survey was 6.7 compared with 3.9 at the baseline, representing a 72% increase between 2015 and 2017. At the same time the young child mean dietary diversity score increased from 3.9 in 2015 to 4.6 in 2017, representing an increase of 18% for the nine food groups considered. There was also more than a 100-fold increase in OFSP consumption within the past 24 hours for both households and children at endline compared to baseline.

Table 4: Child and household vitamin A intake 2015–2017*

	All	Baseline	Endline	P-Value ²
Child vitamin A intake (overall) - Above 6	245 (22)	88 (16.0)	157 (29)	< 0.001
Animal source vitamin A intake by child - Above 4	185 (17)	69 (12.6)	116 (21)	< 0.001
Caregiver vitamin A intake (overall) - Above 6	236 (22)	93 (16.9)	143 (26)	< 0.001
Animal source vitamin A intake by caregiver - Above 4	174 (16)	69 (12.6)	105 (19)	0.003

Above 6 (or 4) = intake of vitamin A-rich foods on 6 (4) or more days a week.

*Values are: n (%)

Household consumption of vitamin A-rich foods over the recommended six days a week increased from 17% to more than 26%, representing an increase of 63% between baseline and endline levels. There was also an increase in the proportion of children aged 6–59 months consuming vitamin A-rich foods on 6 or more days a week, from 16% at baseline to 29% at endline.

There was significantly improved food security among the beneficiary households from the baseline to the endline; severe food insecurity (high HFIAS scores) decreased from 34% to 16% ($P < 0.0001$) (Table 5). Based on the mean HFIAS score, the proportion of households with low food insecurity (score of 0–2) increased from 32% at baseline to 53% at endline.

Table 5: Household food insecurity access scale (HFIAS) scores*

	All	Baseline	Endline	P-Value ²
HFIAS score (Version 1; out of 88)				
Low (0–2)	467 (43)	178 (32)	289 (53)	< 0.001
Medium (3–9)	357 (33)	184 (34)	173 (32)	
High (10–88)	272 (25)	187 (34)	85 (16)	

*Values are: n (%)

Conclusion

The positive agricultural and nutrition outcomes documented in the VISTA–Tanzania project were a result of household members’ empowerment to adopt OFSP technologies and management practices, and the increased active participation in nutrition club meetings.

Comments and questions

Comments

The nutrition status of children did not improve during harvesting but it did in the lean period. I think this depends on what was being harvested. This is a good lesson because it means that we have to rethink our nutrition approaches.

Community health workers should explain to mothers that child underweight problems could be addressed by incorporating OFSP as an important component in the child's diet. CIP, working through its partners, should ensure that this message is delivered to project beneficiaries.

In Rwanda when mid-upper arm circumference (MUAC) is used to determine the nutrition status of a child and no complications are found, the child is returned to the community and counseling provided to the caregiver on how the child should be fed, followed up with growth promotion and monitoring. Children with complications are referred to a health facility for in-patient treatment.

It is important to understand what is handled at the community level and what is referred to a health facility. The MUAC tape is used in rapid assessment situations, especially in refugee camps; in community situations it is better to use weight-for-height measurements.

The presentation did not include safe drinking-water, sanitation, and hygiene (WASH) initiatives. You cannot achieve good nutrition results without incorporating WASH.

The level of women's involvement in exclusive breastfeeding is low in Tanzania. The project found that support to women to breastfeed was also low and the stresses that hinder them from exclusively breastfeeding their infants for the first six months are not addressed by community health workers. In Rwanda, on the other hand, exclusive breastfeeding levels are as high as 70% owing mainly to the support mothers receive from the health service.

Men's engagement in nutrition activities were a big challenge in Tanzania. This has an important implication on household nutrition, since men have better financial capacity than women and have the power over the allocation of household resources. For OFSP, the decision was made to include men and women in nutrition training. This was more effective than training just women and having them share the message with their husbands. Men were incorporated in the study tours to the different villages, and we found this effective in reaching men in those villages.

Question: I am impressed by the expansion of OFSP in Tanzania. Did the vine plots exist before the project or were they established by the project? How will they be sustained if they were established?

Response: Tanzania has a strong community health network at the local level that links to the district level. The district agriculture, nutrition, and health extension officers are implementing partners of the VISTA program in their district. The district nutrition offices provided the staff to accompany us to the village level and helped to facilitate the work with the village clubs to establish the OFSP vine plots. The clubs were already running, so the OFSP work was incorporated into already established initiatives. For vine production by the clubs to be sustainable, district systems' support is required.

Question: How did you save vines during drought, which is a big issue in the region of your operations?

Response: Training in conservation of vines is part of the training-of-trainers program, which goes up to the village level. OFSP manuals are used for the training. The households receive training on vine preservation methods such as how to plant them near kitchen or bathroom water areas or how to use technologies such as Triple S.

Question: How do you collaborate with local leaders or cooperatives to scale up sweetpotato access in the local markets?

Response: We work together with local authorities such as the district agronomist and the district director of health. Also, the government provides the land on which the seeds are planted. Farmer leaders in the villages

are trained on OFSP. The records and reports we use in monitoring are left in the village so others can use them for learning and continuation of the work.

The recipes we introduce are incorporated into the food that is already available in the community. For example, OFSP puree could be mixed with the porridge consumed by children, chapatti dough or fruits such as papaya or avocado.

Question: I saw in the pictures that in the eastern zone of Tanzania vines are packed onto pickup trucks during distribution, and I am wondering whether such management would not affect their efficacy because of the hot weather present in the zone. We have that problem in Rwanda too. Were the varieties sorted out before or after distribution?

Response: In Tanzania the vine requirements of each village are determined before the vines are cut. The cuttings are then bundled and the varieties labeled before loading onto the van. Once in the village they are distributed to farmers on the day they arrive.

Scaling Up Sweetpotato Through Agriculture and Nutrition (SUSTAIN) country update: Rwanda

Valentine Uwase and Kiriimi Sindi

General context

Sweetpotato is very important in the densely populated areas of Rwanda. The country has bimodal rainfall and the crop is grown throughout the year. There was a lack of improved clean planting material at the time of planting. Sweetpotato planting material (vines) can be easily obtained from existing mature crops but this increases the build-up of sweetpotato viruses in the seed system.

SUSTAIN project

SUSTAIN started in 2014 and ended in 2017. It was funded by DFID and implemented in the four countries of Kenya, Malawi, Mozambique, and Rwanda. Its direct beneficiaries were households with children under 5 years of age. In Rwanda, the project research had components of randomized controlled trials implemented in 252 villages. Michigan State University was in charge of carrying out the evaluation.

Geographical coverage and partners

SUSTAIN was implemented in the eight districts of Gakenke, Gicumbi, Kamonyi, Kayanza, Muhanga, Ruhango, Rulindo, and Rwamagana.




SUSTAIN and Feed the Future intervention zone



The implementing partners were IMBARAGA, RAB and YWCA. Other partners were Urwibutso, MINISANTE, health centers and the DVMs.

SUSTAIN output areas

SUSTAIN had four output areas:

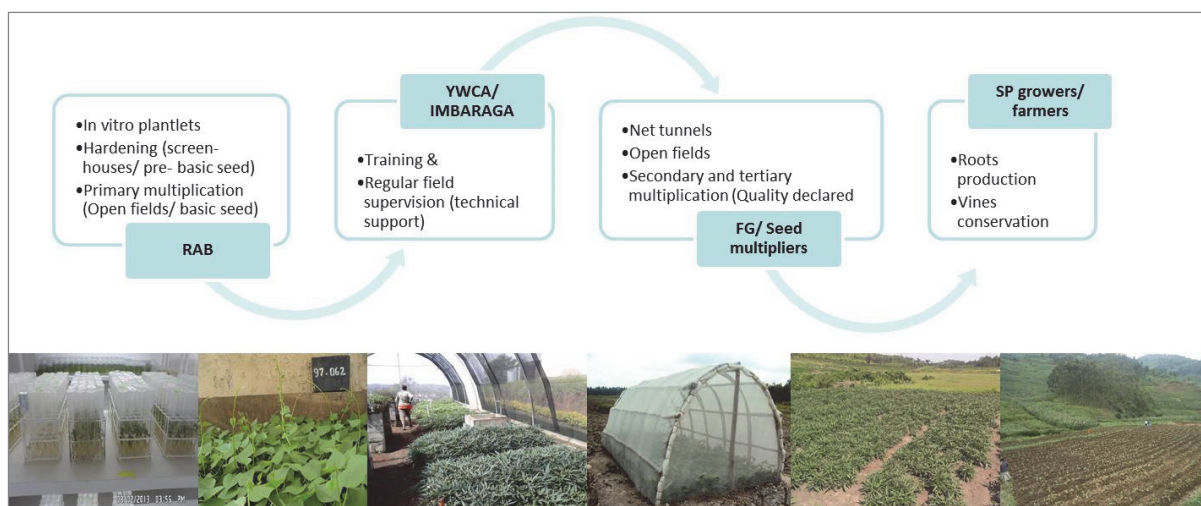
Output 1	Output 2	Output 3	Output 4
Access to improved OFSP varieties by smallholders scaled up-reaching at least 1.2 million household having children <5 years old.	Access to improved nutritional knowledge & diversified use of OFSP by both female and male caregivers.	At least one commercially marketed processed product that uses OFSP as a major ingredient in each target country.	Evidence of achieving outcomes analysed and disseminated
			

What has been achieved

- In Rwanda, during 2016/2017 SUSTAIN reached 103,529 direct beneficiaries with OFSP vines and agronomic and nutrition training.
- Urwibutso Enterprises sold processed products worth USD 200,000 and bought OFSP from 400 households.
- Small-scale seed multipliers (DVMs) sold OFSP vines worth USD 241,114.

Achievements in area 1: Access to OFSP varieties

The formal seed system channel was developed and strengthened.



Note: SP = sweetpotato; FG = farmer group

- Some 103,529 direct beneficiary households were reached with OFSP planting material.
- Thirty-nine DVMs were established, supported and strengthened.
- Six OFSP varieties were disseminated, i.e. Vita, Kabode, Terimbere, Gihingumukungu, Cacearpedo and Yellow (Ukerewe).

Project implementation approach

- Vine multiplication
- Good agronomic practices
- Vine conservation to ensure that vines lasted long in farmers' fields
- Nutrition training for food diversity. This was a pull mechanism for adoption of OFSP. It was conducted on the day of distributing OFSP vines
- Household and processor level training on product development and marketing
- Postharvest handling in harvesting and storage
- Linking producers to the market – processors, restaurants and wet markets

Through these activities we witnessed yields increasing by at least 100%.

Achievements in area 2: Access to improved nutritional knowledge and diversified use of OFSP by both female and male caregivers

- Nutrition messages delivered during vine distribution to 103,529 direct beneficiaries, and 150 OFSP vine cuttings given per household
- Nutrition training provided to 61 community health workers
- Development of infant and young child feeding protocols and other protocols adapted to the Rwandan context
- Organization and conducting of nutrition counseling through home-to-home visits or cooking demonstration sessions in the villages
- Collaboration with 21 health centers where OFSP plots were established and counseling cards handed out
- Translation and adaptation of nutrition counseling cards
- Organization of nutrition events in collaboration with government partners and donors
- Implementation of two monitoring surveys among the project beneficiaries, with an average of 400 beneficiaries

Comments and questions

Question: The sweetpotato program in Rwanda closed in 2017, yet because of the importance of OFSP a similar program requires to be maintained; will the work of the program be continued in an extension of the program? The opening presentation by Simon Heck gave reaching 15 million households as the aim of the global OFSP program; how will that expansion continue in Rwanda if the program has closed?

Responses:

There are new projects to continue the work on nutrition, such as Technologies for African Agricultural Transformation funded by the African Development Bank.

Projects usually are a part of a program; but sometimes there are gaps, which are related to dependence on donor funding. Generally, donors have been generous, and it is time for other actors such NGOs to take up and disseminate the technologies.

Every project is concerned with enabling stakeholders to incorporate the results of its work into their programs. For OFSP, even the private sector is interested in investing money in the supply chain so that it has a regular supply of the crop.

The initial intention for the OFSP project was to change the crops' perception among farmers, and that has been achieved. The next goal is marketing. CIP has built enough capacity at the local level so that nutritionists now have adequate knowledge about OFSP and its production to be able to continue growing OFSP and educating mothers on the benefits of its consumption when the project ends.

Question: Sweetpotato roots are not readily available in Rwanda urban markets and their price is high when they are available; how can we have these issues solved?

Response: There are efforts to link farmers with supermarkets so that they are assured of a market and consumers can have access to OFSP roots.

Question: How can sustainability be maintained? Are you collaborating with RAB in vine production so that households are reached in large numbers, e.g. through cooperatives?

Response: DVMs are placed in the districts within which we operate. We work with RAB in identifying and locating DVMs so that they are close to the beneficiaries and so that people have confidence in them as the source of clean seed.

Question: Are OFSP leaves edible? Many people in Tanzania do not know this.

Responses:

Yes, the slender kind of leaves are consumed. In Rwanda the leaves of varieties such as Kabode and Vita are consumed as vegetables. We have trained households on how to prepare them.

The consumption of OFSP leaves for vegetables is dependent on their taste and cultural preferences. In terms of nutrition, the leaves are rich in protein, vitamin A, and some B vitamins.

Combating malnutrition and poverty with OFSP: experiences from SUSTAIN, Malawi

Wells Kumwenda

Background

Malawi has a population of 17 million, 80% of whom depend on agriculture. Agricultural production depends mostly on rainfall and 90% of the food crops are produced by small-scale farmers. Some 75% of the population lives in rural areas.

General problems

- Limited food diversification
- Low agriculture productivity owing to poor weather and input costs
- Inadequate nutrition knowledge among caregivers
- Malnutrition especially among children and pregnant and lactating women
- Rampant poverty in rural and semi-urban areas
- Problems of a cultural nature

SUSTAIN project objectives

- Improve food security through diversified crop production
- Increase nutrition knowledge of extension workers and caregivers
- Improve nutrition through increased consumption of OFSP with vitamin A
- Increase income through sale of excess roots (vines)

Coverage and methodology

- The project worked in 10 districts in the central and northern regions
- It partnered with 12 NGOs across the region
- It worked through the existing government structures for agriculture, health, and gender
- It had linkages with other projects promoting nutrition such as the Scaling Up Nutrition Movement (SUN)

Approach

SUSTAIN worked with 12 partners to scale out OFSP in 10 districts in the central and northern regions and one large vine producer, with the goal to reduce undernutrition, improve food security, and improve incomes of rural communities.

Activities

- Distributed OFSP vine bundles directly to 86,000 households
- Direct household beneficiaries shared vines with others, reaching an additional 152,000 households
- Trained and reached 60,000 caregivers with nutritional information and information, education and communication materials
- Trained extension officers and partners

Excess roots and vines left over after household use were sold, generating income for the farmers.

The activities included training on OFSP vine multiplication and processing and utilizing OFSP roots, for example in juices or different dishes.

Commercial businesses such as Universal Industries and SUN Bakery also were processing OFSP into several products. Farmers were organized into groups to sell their roots to the businesses, and the businesses paid farmers through their bank accounts. Farmers benefited from increased incomes and also there was

improvement in nutrition for children and mothers. Farmers diversified into other businesses to get more income, and employment was created, distributing income to other people.

Challenges

- The demand for OFSP was so great that it could not be satisfied by the project.
- The project used only one vine multiplier, who was located in the south, making it expensive to transport vines across the country.
- More small-scale OFSP processing equipment was needed, i.e. for processing puree by small groups.

Lessons learned

- Both men and women need to be trained on nutritional issues.
- Working with partners enabled the project to achieve great coverage of households in a short time.
- Working with the government departments of agriculture, nutrition, and health was very important for sustainability.
- Local processors have a role in promoting OFSP production by working to create demand for the roots and paying better prices than local markets.
- OFSP has great potential in increasing farmers' incomes and diversity of household diets, and reducing malnutrition.

Success stories

- Improved nutrition of children and adults
- Improved incomes for farmers growing OFSP
- Increases in household assets owned by farmers growing OFSP, such as bicycles, goats, iron sheet roofs, and furniture.

Conclusion

OFSP has great potential.

Comments and questions

Question: Many institutional problems and factors contribute to the malnutrition in rural Malawi; can OFSP alone reduce malnutrition? Can OFSP produce tangible results if it is not combined with other interventions?

Response: In solving malnutrition in a community you have to look at many factors, e.g. their observance of cleanliness, availability of WASH services and their use by the caregivers, cultural preferences and practices etc. The introduction of OFSP takes into consideration the community's socioeconomic and cultural factors, and OFSP is combined with other crops for introduction.

Question: What were the targeted reduction levels for stunting and anemia?

Response: The anemia and stunting endline evaluation found anemia levels to have fallen from 44.4% to 23% and malnutrition to 32.1%. Stunting was measured separately and was found to have reduced by 5% owing to many factors, with a 4% reduction in years and 1 and 2.

Comment: In Rwanda, kitchen gardens are seen as a sector chief's initiative to meet his or her targets and not as a resource for farmers' needs.

Response: I worked as the national coordinator for kitchen gardens and I know that the mindset has changed.

Question: What is the involvement of men in different aspects of the project and at the various levels? How many beneficiaries and caregivers are men?

Answer: In Malawi men had poor attitude toward bananas, sweetpotato, and pigeon peas. What we did was provide education targeting men purposely; it was they who were in charge of the family resources. The content of the education events was about the nutrition value of OFSP. The training included men and women so that they obtained the same information. And it worked.

Question: I am concerned about the gender dynamics in nutrition in the project. Often delicious food is given to men first, and I am wondering if the project had an innovation to address that issue.

Comments

At ASTUTE our Cornell University partner did some research on exclusive and complementary breastfeeding and found that when men were involved in the education sessions, they were willing to support their wives, e.g. by doing household chores, and were also willing to purchase nutritious foods for their families.

Being able to convince policy-makers is not easy and it was a big challenge to make sure they understood what our work was and why it was important.

Dealing with policy-makers is hard but it is essential for development. Projects need to work with political leaders as it is the government that determines what activities are going to be implemented and what resources will be allocated for nutrition. Projects rely on the institutional frameworks of both government and NGO actors, whose principles and practices define the scope of the projects' work. Coordination and inclusivity are very important.

Spending on nutrition has been increasing since 2014. The only problem has been in spending from the budget line.

Results from the studies in Rwanda and Tanzania

Association between nutrition SBCC and improved caregiver health and nutrition KAPs in Tanzania and Rwanda: quantitative findings from SUSTAIN/VISTA–Tanzania intervention

Frederick Grant (presenter) and Robert Ackatia-Armah

Background and purpose

In Tanzania an estimated 33% of children aged 6–59 months and 37% of women aged 15–49 years are said to be vitamin A deficient. Current vitamin A deficiency data are not available for Rwanda, but stunting is 34% and it probably contributes to other health consequences linked to micronutrient deficiencies, such as inadequate vitamin A intake.

Nutrition-sensitive agricultural development has a crucial role, 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 in tackling vitamin A deficiency, especially for rural communities where those approaches face greater difficulty in consistently reaching beneficiary populations. Cultural diversity, adaptation, and behavior play an important role in decisions that affect dietary practices.

Social and behavior change communication (SBCC) strategies

- Help promote improvements in knowledge, child health and nutrition
- Improve individual practices on health and nutrition
- Nutrition SBCC can be used specifically as a strategy to change nutrition-related behaviors at community and household levels
- Suboptimal maternal, infant and young child nutrition, and child feeding practices predict young child undernutrition
- Optimal feeding practices and improved dietary habits brought about by nutrition SBCC can potentially improve health, especially among infants, young children, and pregnant and lactating women
- To improve infant and young children practices, targeting behavior change of primary caregivers of such children is important.

VISTA–Tanzania and SUSTAIN initiatives

VISTA–Tanzania and SUSTAIN initiatives employed strong community-based nutrition education and SBCC approaches to promote the incorporation of biofortified OFSP into the diets of households with children 6–59 months old and pregnant or lactating women. The focus of the SBCC was to address factors and barriers that hinder the uptake of recommended maternal, infant and young child feeding practices at the community and household levels.

Objective of the current review

Assess the association of the nutrition education program implemented within the VISTA/SUSTAIN project on nutrition and health knowledge and infant and young child feeding (IYCF) practices in rural Tanzania and Rwanda.

Methods

Monitoring data indicated that a total of 140 clubs were established and run by 157 trained CHWs. They had 2,663 active members. There were 21,876 caregiver attendances at 1,167 club meetings.

Some 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.

An endline cross-sectional survey involving 547 mother-child pairs was conducted in October 2017. It examined the effect of the intervention on beneficiary households.

Indices for six outcome variables were developed to assess:

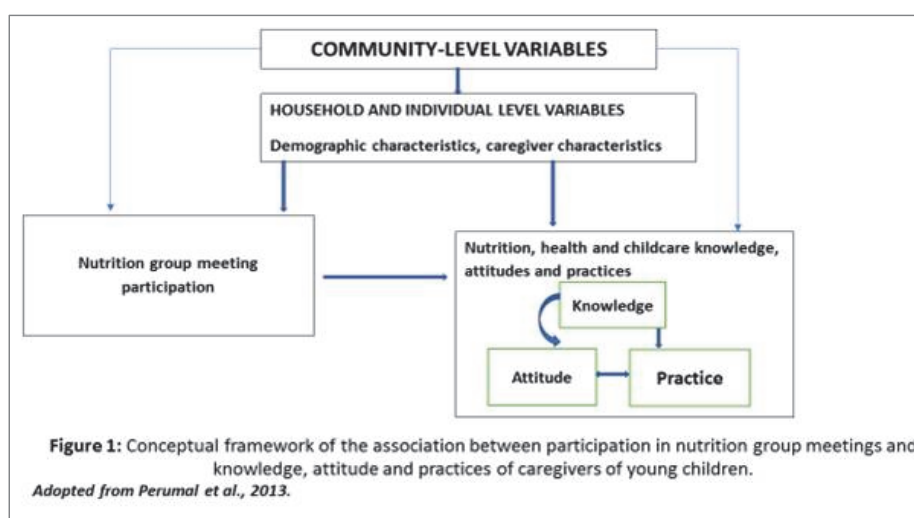
- Caregiver’s knowledge on vitamin A and nutrition, and health seeking behavior and childcare practices
- Household and young child dietary diversity (24-hour recall)
- Frequency of consumption of vitamin A rich foods (7-day food frequency questionnaire (FFQ)) – caregiver vitamin A intake, and child vitamin A intake.

Independent variables

Participation in community-level nutrition group meetings was the primary independent variable.

Based on our work in western Kenya (Perumal et al., 2013) and review of the literature we identified other maternal, household, and community level factors as confounders of the association between nutrition group meeting participation and nutrition and health knowledge, attitude and practices.

Conceptual framework guiding the selection of variables for adjusted models



At the household level, we considered the status, age, educational level, and employment of the household head, as well as household size, as potential confounders of the caregiver’s participation in nutrition group meetings. Maternal or caregiver socio-demographic characteristics such as age, marital status, educational status, involvement in agricultural activity and selling of agricultural products, engagement in salaried employment, and cultivation and consumption of OFSP were identified as potential confounding factors in the association between nutrition social behavior change through club meeting participation and outcome KAP variables. At the community level, the presence of a nutrition club, village health and nutrition committees, and trained CHWs were considered as factors that potentially affected participation in nutrition group meetings and caregiver KAP.

Data analyses

In bivariate unadjusted analyses, we employed Chi-square and Fisher exact tests (proportions) and student's *t*-test (continuous variables) to compare baseline characteristics of participants between two groups, i.e. those attending at least one nutrition group meeting vs. those attending none. The differences compared between the two groups were in nutrition and health and childcare knowledge, dietary diversity and vitamin A intake.

In cluster-adjusted analyses, multi-linear regression was used to assess the effect of nutrition group meeting participation (none, fewer than four, and four or more visits) on nutrition and health and childcare knowledge, and better household and young child dietary and vitamin A intake. There was adjusting for caregiver and household level potential confounders such as maternal age, marital status, education, employment, household size, sweetpotato cultivation, wealth index, source of consumed OFSP root, and status of the head of household.







Findings

Tanzania

Participant and household demographics by whole sample and nutrition group club attendance

Variable	Overall	Club meeting attendance		P-value
		Attending	Non-attending	
n (%)	547	272 (49.7)	275 (50.3)	
Age of caregiver, years	32.8±0.39	32.1±0.52	33.6±0.57	0.053
Marital status, n (%)				
Single	52 (9.5)	24 (8.8)	28 (10.2)	0.006
Married	401 (73.3)	191 (70.2)	210 (76.4)	
Divorce/Separated	94 (17.2)	57 (21.0)	37 (13.4)	
Sold agricultural/livestock products in past 2yrs.	181 (33.1)	116 (42.7)	65 (23.6)	<0.0001
Involved in informal business in past 2yrs.	83 (15.2)	52 (19.1)	31 (11.3)	0.011
Wealth index of household	13.65±0.17	14.31±0.23	13.0±0.23	<0.0001
1 st tertile (lowest)	160 (29.3)	63 (23.2)	97 (35.3)	0.002
2 nd tertile (medium)	162 (29.6)	80 (29.4)	82 (29.8)	
3 rd tertile (highest)	225 (41.1)	129 (47.4)	96 (34.9)	
Consumed OFSP past 24 hours	257 (47.0)	125 (48.6)	132 (51.4)	0.243
OFSP from own field	138 (53.7)	73 (52.9)	65 (47.1)	0.141
Market sources	119 (46.3)	52 (43.7)	67 (56.3)	

KAPs of primary caregivers of children under 5 years, overall and by nutrition club meeting attendance

Variable	Overall	Club meeting attendance		p-values
		Attending	Non-attending	
n (%)	547	272 (49.7)	275 (50.3)	
Nutrition knowledge score	7.35±0.13	7.51±0.19	7.19±0.19	0.227
Low (<5)	231 (42.2)	109 (40.1)	122 (44.4)	0.241
Moderate (5-7)	157 (28.7)	75 (27.6)	82 (29.8)	
High (7-14)	159 (29.1)	88 (32.4)	71 (25.8)	
Vitamin A knowledge score	3.42±0.06	3.51±0.09	3.33±0.09	0.157
Low (<2)	209 (38.2)	98 (36.0)	111 (40.4)	0.297
High (2-7)	338 (61.8)	174 (64.0)	164 (59.6)	
Health and childcare knowledge score	9.32±0.08	9.36±0.12	9.28±0.11	0.623
Low (<6)	31 (5.7)	13 (4.8)	18 (6.6)	0.525
Moderate (6-9)	203 (37.1)	98 (36.0)	105 (38.2)	
High (10-13)	313 (57.2)	161 (59.2)	152 (55.3)	

KAPs of primary caregivers of children under 5 years, overall and by nutrition club meeting attendance

Variable	Overall	Club meeting attendance		p-values
		Attending	Non-attending	
Household dietary diversity score	6.66±0.08	6.70±0.11	6.62±0.12	0.640
Low (<4)	62 (11.3)	24 (8.8)	38 (13.8)	0.160
Moderate (4-7)	317 (58.0)	165 (60.7)	152 (55.3)	
High (8-13)	168 (30.7)	83 (30.5)	85 (30.9)	
Young child dietary diversity score	4.61±0.07	4.75±0.09	4.47±0.11	0.048
Low (<3)	45 (8.2)	15 (5.5)	30 (10.9)	0.072
Moderate (3-5)	353 (64.5)	181 (66.5)	172 (62.6)	
High (6-9)	149 (27.3)	76 (28.0)	73 (26.5)	
Caregiver vitamin A intake	4.93±0.19	5.24±0.31	4.62±0.22	0.101
Less than 6 days	404 (73.9)	198 (72.8)	206 (74.9)	0.574
Above 6 days	143 (26.1)	74 (27.2)	69 (25.1)	
Young child vitamin A intake	5.03±0.20	5.41±0.32	4.65±0.23	0.053
Less than 6 days	390 (71.3)	189 (69.5)	201 (73.1)	0.351
Above 6 days	157 (28.7)	83 (30.5)	74 (26.9)	
<p>Although caregiver DDS did not differ by nutrition group meeting attendance</p> <ul style="list-style-type: none"> • Children of caregivers who participated in nutrition group meetings were more likely to have moderate-high level of DDS compared those whose mothers did not participate in nutrition meetings • And marginally greater number of days of dietary VA intake 				

Effect of mother's club participation on KAPs among caregivers, adjusted for covariates

In adjusted analyses (controlling for maternal age, marital status, education, employment, household size, sweetpotato cultivation, wealth index, and status of head of the household) participation in nutrition group meetings was significantly associated with:

- health and childcare knowledge score
- household and young child dietary diversity scores
- household and young child vitamin A intake.

Compared to no participation in nutrition group meetings, fewer than four nutrition meeting attendances were positively associated with greater:

- Health and childcare knowledge (β (SE):1.062 (0.187), $P<0.001$)

- Household [1.300 (0.157), P<0.001] and young child dietary diversity score [0.427 (0.127), P<0.01]
- Household (0.575 (0.317), P<0.01) and young child vitamin A intake (0.827 (0.326), P<0.01).

The magnitude of the following associations increased significantly for four or more nutrition club meeting attendances:

- Health and childcare knowledge (1.194 (0.248), P<0.0001)
- Household dietary diversity score (1.513 (0.209), P<0.0001)
- Young child dietary diversity score (0.594 (0.168), P< 0.001)
- Household vitamin A intake (1.403 (0.421), P<0.001)
- Young child vitamin A intake (1.409 (0.433), P<0.001)].

Households that obtained their consumed OFSP from their own farms had better household (0.384 (0.241), P = 0.11) and young child (0.316 (0.201), P = 0.12) dietary diversity score compared to those who bought the roots from the market or obtained them from neighbors. However, these did not reach statistical significance.

Rwanda

Participant and household demographics by whole sample and nutrition SBCC participation

Variable	Overall	SBCC Participation		p-values
		Participated	Non-Participation	
n (%)	1,308	972	336	
Age of caregiver, years – Mean [SD ¹]	34 [8.5]	34 [8.6]	33 [8.3]	0.3
Marital status, n (%)				0.8
Single	92 (7.1)	66 (6.8)	26 (7.8)	
Married	1,105 (84.7)	825 (85.1)	280 (83.8)	
Divorce/Separated	107 (8.2)	79 (8.1)	28 (8.4)	
Caregiver/mother education level				0.05
No schooling	116 (8.9)	77 (7.9)	39 (11.7)	
Primary school completed	930 (71.3)	691 (71.2)	239 (71.6)	
Above primary school	258 (19.8)	202 (20.8)	56 (16.8)	
Household size – Mean [SD ¹]	4.1 [1.8]	4.1 [1.7]	4.1 [1.8]	0.8
Age of HH head, years – Mean [SD ¹]	38 [10.7]	38 [10.8]	38 [10.5]	0.4

Participant and household demographics by whole sample and nutrition SBCC participation (cont.)

Variable	Overall	SBCC Participation		p-values
		Participated	Non-Participation	
Household head, n (%)				
Male headed	1,143 (87.9)	851 (88.3)	292 (86.7)	0.7
Female with support non-resident male	17 (1.3)	12 (1.2)	5 (1.5)	
Female without male support	141 (10.8)	101 (10.5)	40 (11.9)	
Household head education level				
No schooling	143 (11.0)	101 (10.5)	42 (12.5)	0.6
Primary school completed	923 (71.0)	687 (71.3)	236 (70.0)	
Above primary school	235 (18.1)	176 (18.3)	59 (17.5)	
Currently growing sweetpotato, Yes	1,248 (95.9)	925 (96.0)	323 (96.0)	0.9
Agricultural activity				
Principal	1,209 (92.9)	898 (93.2)	311 (92.3)	0.6
Secondary	92 (7.1)	66 (6.9)	26 (7.7)	
Salaried employment within past 2 years, yes	76 (5.8)	54 (5.6)	22 (6.5)	0.5

KAPs of primary caregivers of children under 5 years, overall and by nutrition SBCC participation

Variable	Overall	SBCC Participation		p-values
		Participated	Non-Participation	
n (%)				
Household dietary diversity score				
Low (<4)	299 (22.9)	212 (21.8)	87 (25.9)	0.2
Moderate (4-7)	802 (61.3)	598 (61.5)	204 (60.7)	
High (8-12)	207 (15.8)	162 (16.7)	45 (13.4)	
Young child dietary diversity score				
Low (<3)	882 (67.4)	647 (66.6)	235 (69.9)	0.3
Moderate (3-5)	286 (21.9)	214 (22.0)	72 (21.4)	
High (6-8)	140 (10.7)	111 (11.4)	29 (8.6)	
Caregiver vitamin A intake				
Less than 6 days	1,201 (91.8)	876 (90.1)	325 (96.7)	< 0.001
Above 6 days	107 (8.2)	96 (9.9)	11 (3.3)	
Young child vitamin A intake				
Less than 6 days	1,251 (95.6)	923 (95.0)	328 (97.6)	0.04
Above 6 days	57 (4.4)	49 (5.0)	8 (2.4)	

More women (10% vs. 3%) and children (5% vs. 2%) in the nutrition SBCC exposed group than those in the non-exposed group had the recommended dietary vitamin A intake of 6 days or more in a week.

Effect of nutrition SBCC participation on KAPs among caregivers, adjusted for covariates (multi-linear regression)

In adjusted analyses (maternal age, marital status, education, employment, and size of the household), participation in nutrition SBCC was significantly associated with household dietary diversity scores and household and young child vitamin A intake.

Compared to no exposure to nutrition SBCC, exposure to nutrition SBCC was positively associated with greater maternal dietary diversity (β (SE): 0.07 (0.14), $p < 0.01$).

Effect of nutrition SBCC participation on KAPs among caregivers, adjusted for covariates: odds ratio (controlling for caregiver age, educational status and employment status)

Caregivers who were exposed to nutrition SBCC were three times more likely to meet the recommended dietary vitamin A intake for at least 6 days per week compared to those who were not exposed to nutrition SBCC (OR: 3.22; 95% CI: 1.69–6.16). Similarly, their children were twice as likely to meet the recommended dietary vitamin A intake for at least six days within a week (OR: 2.24; 95% CI: 1.05–4.79).

Conclusion

The study showed caregiver participation in nutrition SBCC to be positively associated with improved health and childcare knowledge, household and young child dietary diversity, and vitamin A intake compared to non-participants. The magnitude of the association was greater for caregivers who attended at least four meetings.

The findings emphasize the need for programs that seek to address the issues present in the use of nutrition SBCC at the community level to improve maternal or caregiver KAPs and subsequently to improve nutrition status of infants and young children. Qualitative research is needed in this context to provide in-depth understanding of the determinants of health and nutrition knowledge, attitudes, and practices among caregivers of infants and young children.

Comments and questions

Question: Were baseline data available for Rwanda and Tanzania?

Answer: For Tanzania we had baseline data from other sources but we did not look at it because we were focusing on participation in club meetings, and the clubs were started during the project. In Rwanda we did not have such data for SUSTAIN but were informed by an assessment conducted by a consultant. Also, Michigan State University conducted an independent impact assessment that provided both baseline and endline data. They also carried out an impact analysis.

Question: How is juice made from sweetpotato leaves?

Answer: Wash the leaves of OFSP or other sweetpotato variety, put them in hot boiled water (with about one cup of the leaves to one gallon of water) and let it stand for 30 minutes. It will be ready to use directly or in food or beverages. You can enrich the flavor with condiments.

Question: Was there a study to find out what the barriers to nutrition were?

Question: What was being captured?

Responses

Each interaction had particular behavior change goals for each period and session, and the evaluation aimed to check if these had been achieved. Group and individual counseling interventions had different targets.

In formative research in the beginning we were working with district nutrition staff and were looking for factors that would facilitate vitamin A consumption. We obtained this information from our partners. We made reference to previous formative research from Kenya, which served as a key component in designing the strategy. In addition, we consulted other programs that were doing similar activities.

In the nutrition training we took into account the fact that women's lives were basically loaded with responsibilities, so we could only deliver two lessons a day. Those who attended eight consecutive meetings were given a prize. We did not evaluate the level of information obtained by those who attended fewer meetings. Those completing the program were asked to share their knowledge with others in the community.

Question: We can understand why working women are able to provide better nutrition to their families than their non-working counterparts; but does that not depend on the nature of the job and personal resources? What kind of jobs did the women perform?

Response: We looked at previous literature on similar studies in Africa, Bangladesh, and Nepal but all showed the opposite to be true. For us the question was about farm employment, which is usually time consuming. Most of the women earning an income were able to buy a variety of food for their family.

Question: What is the experience in Tanzania about men's engagement in nutrition?

Responses

Formative gender analysis showed that it was only the women who were involved in nutrition. The recommendation was to include nutrition in marketing training, in which men who mostly participated.

Among the protein foods, milk was what most parents preferred to introduce to their infants, as well as some plant protein. Most families were feeding children root and tuber crops, and this was an advantage in introducing vitamin A OFSP. Cooking demonstrations were meant to show how to prepare food in ways that would address the cultural-based fears in relation to feeding of sweetpotato to children, for example relating to the false belief that it upsets children's stomach.

Association between nutrition SBCC and improved caregiver health and nutrition KAPs in Tanzania and Rwanda: qualitative findings from SUSTAIN/VISTA–Tanzania intervention

Robert Ackatia-Armah (presenter) and Frederick Grant

Background and purpose

In Tanzania, an estimated 33% of children aged 6–59 months and 37% of women aged 15–49 years are vitamin A deficient. In Rwanda, current vitamin A deficiency data are not available, but stunting is at 34% and it probably contributes to other micronutrient deficiency health consequences linked to vitamin A intake.

Nutrition-sensitive agricultural development has a crucial role to play, particularly for poor rural households for whom farming is the main source of food and income. Food-based efforts are highly complementary to other approaches to tackling vitamin A deficiency, especially for rural communities where alternative interventions face greater difficulty to consistently reach the beneficiary population. Cultural diversity, adaptation, and behavior play an important role in decisions that affect dietary practices.

Social and behavior change communication (SBCC) strategies

- Help promote improvements in knowledge, child health and nutrition
- Improve individual practices on health and nutrition
- Nutrition SBCC can be used as a strategy to change nutrition-related behaviors at community and household levels
- Suboptimal maternal, infant and young child nutrition and child feeding practices predict young child undernutrition
- Optimal feeding practices and improved dietary habits brought about by nutrition SBCC can potentially improve health, especially among infants and young children and pregnant and lactating women
- To improve infant and young children practices, targeting behavior change of primary caregivers of such children is important

VISTA–Tanzania and SUSTAIN initiatives

VISTA–Tanzania and SUSTAIN initiatives employed strong community-based nutrition education and SBCC to promote the incorporation of biofortified OFSP into the diets of households with children 6–59 months old and pregnant or lactating women. The focus of the SBCC was to address factors and barriers that hindered the uptake of recommended maternal, infant and young child feeding practices at the community and household levels.

Objective of the current review

To evaluate qualitatively the effect of the nutrition education program implemented within the VISTA/SUSTAIN Tanzania project on caregiver nutrition knowledge, attitude, and practices.

Methods

In Rwanda, the study used semi-structured interviews and focus group discussions (FGD) guides. FGD participants were purposively sampled from the beneficiaries and were from one or two villages from each district. In total 24 FGDs were conducted, each involving 8–12 participants drawn from eight villages. The participants included pregnant and lactating women, primary caregivers of children younger than 5 years, community leaders, and husbands of the women. Key informant interviews (KIIs) were conducted among 24 nutrition and agriculture frontline workers.

Study participants

Districts	FGDs	KIIs
Tanzania		
Iringa (2)		
Mufindi (2)	23	23
Gairo (2)		
Rwanda		
Muhanga		
Bugesera		
Ngororero	24	24
Kamonyi		
Rwamagana		
Rulindo		

Study participants in the VISTA–Tanzania project intervention districts in May 2018

Activity	Men	Women	Total
FGDs with OFSP farmers/beneficiaries	12 events (103 participants)	12 events 116 participants)	219
Individual interviews with CHWs	5 respondents	6 respondents	11
Individual interviews with VAEOs	3 respondents	3 respondents	6
Individual interviews with district level nutrition and agriculture extensionists	3 respondents	3 respondents	6
Total			242

Study participants in the SUSTAIN Rwanda qualitative review (2018)

Activity	Men	Women	Total
FGDs with OFSP farmers/beneficiaries	12 events (119 participants)	12 events 122 participants)	241
Individual interviews with CHWs	6 respondents	6 respondents	12
Individual interviews with Agri promoters	3 respondents	3 respondents	6
Individual interviews with district level nutrition and agriculture extensionists	4 respondents	2 respondents	6
Total			265

Data analysis

Detailed summaries of the FGDs and transcripts of the in-depth interviews were drawn from the data analysis. The data were analyzed in MAXQDA 11 using a thematic analysis approach to identify common practices and beliefs around maternal nutrition, breastfeeding and complementary feeding, and to understand the community's perceptions on adequacy of current complementary foods.

Findings

Themes

- Theme 1: Maternal nutrition
- Theme 2: Child nutrition activity
- Theme 3: Sources of information on infant and young child feeding
- Theme 4: Capacity to adhere to recommendations
- Theme 5: SUSTAIN and Feed the Future Nutrition BCC
- Theme6: Gender integration in nutrition BCC

Tanzania infant and young child feeding practices

Breast milk is the main food given to infants after birth. There is a perception that porridge should be given to infants upon persistent crying as breast milk is believed to be inadequate to satisfy infants, even before they are 6 months.

The introduction of foods other than breast milk in early child feeding varied by socioeconomic status and the perceived breast milk inadequacy for the infant. The typical regime for child feeding was as follows:

- At 6–9 months diluted cow milk and very thin porridge (uji) made from maize, cassava, and/or millet flour with sugar or milk were given 2–3 times a day.
- At 9–11 months a thick porridge of groundnuts or soybeans is given with less milk than was previously given, along with mashed sweetpotatoes (OFSP)/bananas, leafy vegetables, ugali with vegetable or meat soup, and mashed fruits.
- At 12–24 months ugali and leafy vegetables, animal proteins, rice and beans are fed to the child. Protein foods are introduced at 12–24 months. There is a general fear of the infant choking if such foods are introduced earlier.

Eggs are not introduced until the infant develops speech since there is a belief that they delay speech development.

Dietary practices of pregnant and lactating women in Tanzania

Generally, women consumed two meals and one or two snacks a day. Lactating women consumed an extra meal a day to increase milk production. This was recommended in counseling at nutrition meetings. Traditional community influencers, who are mainly grandmothers and mothers-in-law, advised pregnant women not to consume much food to avoid delivery complications. The commonly consumed foods were potatoes, beans, ugali, fish, vegetables and fruits.

Food consumption varied by its seasonal availability and household socioeconomic status, as well as cultural beliefs about the effects of the food on milk production and size of the baby at delivery. For example, breastfeeding women consumed all foods with the exception of peanuts, which were believed to affect milk production.

The most common source of nutrition information in the community for pregnant and lactating women were healthcare providers, CHWs, older women, mothers-in-laws and health centers.

Rwanda infant and young child feeding practices

- For infants 6–9 months, women had an understanding of what to do but were not actually doing it. Few women had any knowledge on the right consistency for a meal for a child aged 6 months onwards.
- Infants 9–11 months were fed a thick porridge of groundnuts or soybeans with less milk than was previously given, along with mashed sweetpotatoes (OFSP), potatoes or bananas and leafy vegetables, ugali and vegetable or meat soup, and mashed fruits.
- At 12–24 months, potatoes, limited quantities of vegetables, animal proteins and beans were introduced. Protein foods were introduced at 12–24 months because there was a general fear of the infant choking if they were introduced earlier.

Eggs were not introduced until the child develops speech, as there was a belief that eggs delayed that. Milk was provided when it is available.

Main obstacles to adherence to nutrition advice during pregnancy, lactation and infant feeding

- Availability of and access to nutritious foods
- Poverty and teenage pregnancy
- Cultural taboos, although these were found to be minimal across all communities
- Influence of agricultural seasons. Agricultural activities can take up the time allocated to take care of children. During harvesting time there is a lot of food of different varieties to feed to children. Parents also have the time to monitor how children are growing.

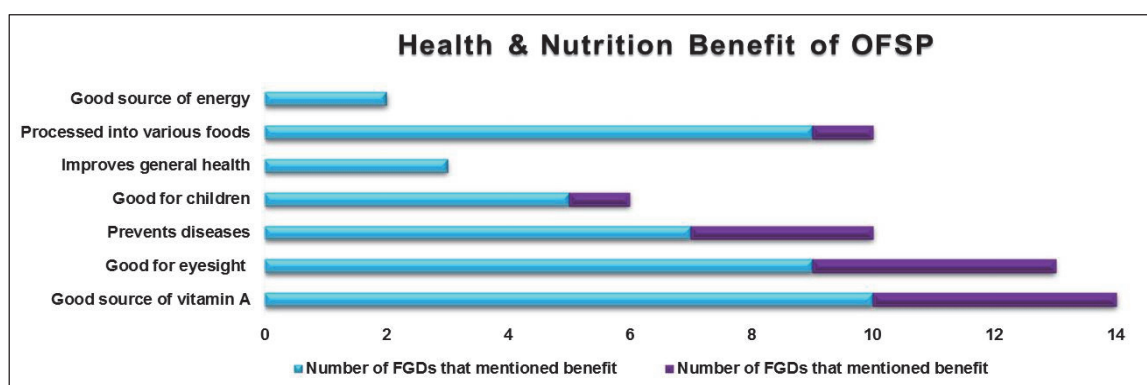
Effects of VISTA and SUSTAIN nutrition interventions on maternal and caregiver KAPs

Counseling cards – Both women and men identified counseling cards as the tool used by the project CHWs for counseling activities at the community level. They indicated that the card had clear messages with good visual images and that they enhanced transmission of messages during counseling sessions. They recognized that the messages on the card pertained to optimum nutrition and health practices for the antenatal stages of pregnancy and with regard to the use of all food groups, appropriate IYCF practices, OFSP production and utilization, and kitchen gardens.

“The counseling card has information about good nutrition for pregnant woman and infant, and how to take care of the child.” 26-year-old participant from Ibuti village, Gairo District.

“The card has information on how to grow OFSP and how to prepare nutritious or balanced diet for children and household members.” 22-year-old participant from Igomaa village, Mufindi District.

Both male and female participants of nutrition groups listed some health/nutrition benefits attributed to OFSP. Women listed more diverse benefits than men. The most frequently cited benefit among men was the presence of vitamin A, which was said to be good for eyesight. This was also the most important benefit for women along with the fact OFSP could be processed into various food products. Only one group of men noted OFSP’s capability for processing into diverse food products.



The female participants in the nutrition FGDs had better knowledge on IYCF practices in terms of the need for:

- Initiation of breastfeeding within one hour of birth
- Timely introduction of appropriate complementary foods at six months and continuous breastfeeding up to 2 years
- Increased frequency of feeding and thickness of complementary food as the infant ages
- Incorporation of OFSP into infant foods
- Improved WASH practices

Frontline workers, i.e. CHWs and nutrition and agricultural extensionists, indicated that women had better nutrition knowledge than men and that women benefitted from both the project’s nutrition training and the health talk at child welfare clinics.

Gender integration in nutrition interventions

About 50% of the women attended nutrition sessions where a cooking demonstration was held. The foods involved were OFSP-based porridges, chapatti, mandazi/doughnuts, and juice. Only a few men attended these sessions.

Different roles were assigned to male and female participants. For women attendance in the sessions provided valuable knowledge on cooking of nutritious meals for their children and family using local ingredients.

“We were able to learn to prepare a balanced diet for our children and family members from many ingredients such as OFSP and others that are available locally.” 21-year-old woman from Madege village, Gairo District.

The mode of invitation to the nutrition meetings was similar for both men and women, but most men ignored the invitations giving the excuse that nutrition matters belonged to women.

Comments and questions

Question: We can understand why children did not consume fruit during their low production period, but what did you find as the reason for their low consumption during their high season?

Response: The reason given for the low consumption of fruit during their high season was that most of the harvest was sold.

Comments

Mothers consider thirst, in addition to hunger, as a cause of babies' persistent crying.

The Tanzania nutrition guideline for expectant mothers recommends the consumption of two main meals and two snacks in between.

Teen pregnancy is an important factor in the high levels of stunting and undernutrition among infants in Tanzania. Teen pregnancy is not accepted in many communities, so expectant teens do not make known their pregnancy or avail themselves to health facilities early enough to benefit from advice on the diverse foods they need to consume or the antenatal care provided there.

The selection of CHWs in Tanzania is conducted by the local/community government and requires that the teams comprise a woman and a man. This means that some of the programs could suffer if the man is not willing to take on duties that are considered culturally inappropriate for men, such as demonstrating food preparation. The goal should be to have the team members assume their roles taking into account the cultural factors relevant to the community in question.

The involvement of men in nutrition-fostering activities has been found to be very low in Tanzania, although they have an important role in the family's nutrition, particularly owing to their power over the allocation of family resources. It was found in OFSP work that although men did not participate in training on the nutrition value of OFSP, they were keen to be involved in its marketing training. This knowledge led the VISTA project to design marketing training for men with nutrition as a component.

Some of the reasons cited in Rwanda for the failure to feed OFSP to children were: that many mothers thought that feeding it to babies aged 6 months to 2 years would cause them stomach problems; women who did not like the low dry matter or taste of OFSP would not give it to their children; and some women thought that OFSP was intended for processing only and not for consumption in its natural form.

During food preparation demonstrations, processing of OFSP into puree before its inclusion in children's food such as porridge might have an impact on men's reception of the message related to it, as they might not like its look.

Partners' presentations on nutrition interventions implemented in Rwanda

DERN's experience in the delivery of nutrition interventions during the Feed the Future income and nutrition project implementation

Etienne Kabahizi

Introduction to DERN

The Développement Rural du Nord (DERN) program's activities cover five districts in the Northern Province and three districts in the Western Province. DERN is a farming support service initiated by the Ruhengeri Diocese in 1981.

Mission

To help farmers in rural areas to achieve a high level of economic growth through participatory development based on agriculture and livestock.

Vision

Facilitating self-promotion by farmers through raising their awareness and training them on improved agricultural and livestock production approaches, and promoting the use of those approaches in support of food security, economic empowerment, and sustainable development of rural environments for the present and future generations.

Seven specific objectives of DERN program

- Strengthen the technical management, restoration and protection of the soil
- Increase agricultural production
- Increase livestock production
- Strength non-agricultural activities
- Establish a fund to support development initiatives in agribusiness
- Build the capacity of farmers' organizations
- Improve social conditions in rural areas

General information on the OFSP project

- Project name: USAID/Feed the Future OFSP for Income and Nutrition Activity
- Partnership: Ruhengeri Diocese and CIP
- Donor: USAID
- Implementer: DERN
- Districts: Musanze (15 sectors) and Burera (8 sectors)
- Project period: October 2015 to September 2018
- Target group: Pregnant/lactating women or households with children under 5 years of age
- Target households: 32,400 households with 16,200 per district
- Coverage area in Musanze: Muko, Nkotsi, Rwaza, Remera, Gashaki, Muhoza, and Gacaca

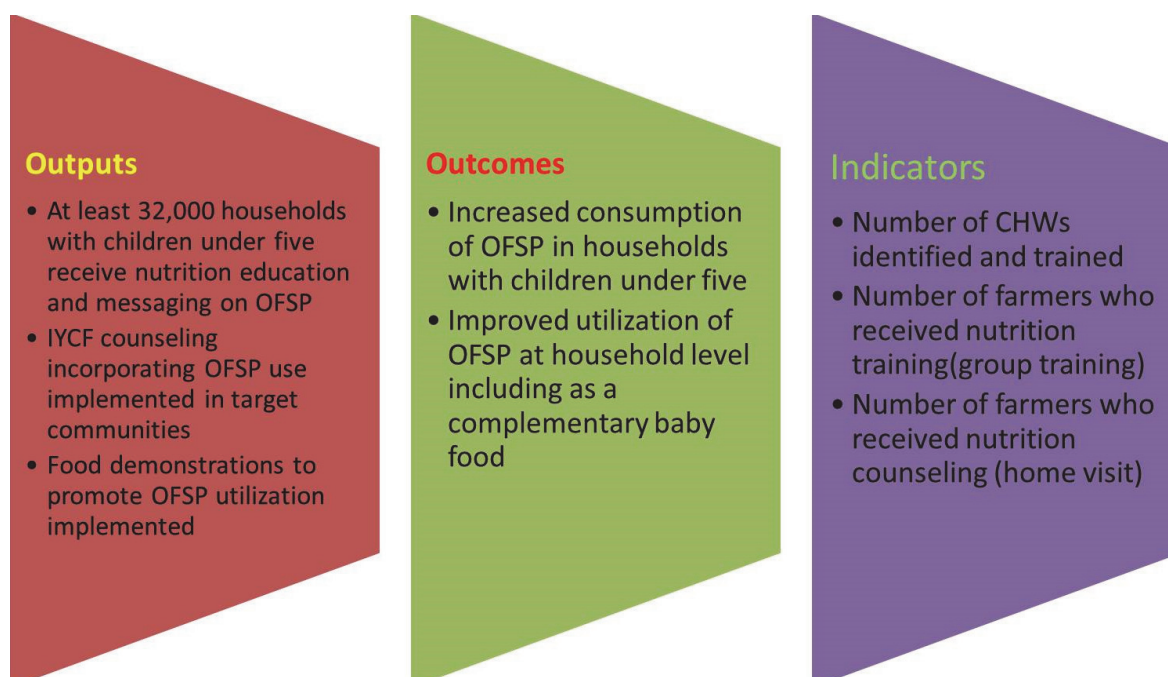
Goal

To increase the production and consumption of OFSP to enhance incomes of smallholder farmers and improve the nutritional status of women and children under five years. As a result of the implementation of this activity, 32,400 households in two districts will grow and consume OFSP and over 48,600 children under 5 years will have a minimum acceptable diet.

Objectives

- Increased productivity and production of OFSP among smallholder farmers
- Improved incomes from OFSP along the value chain
- Improved nutrition outcomes for women and children under 5 years

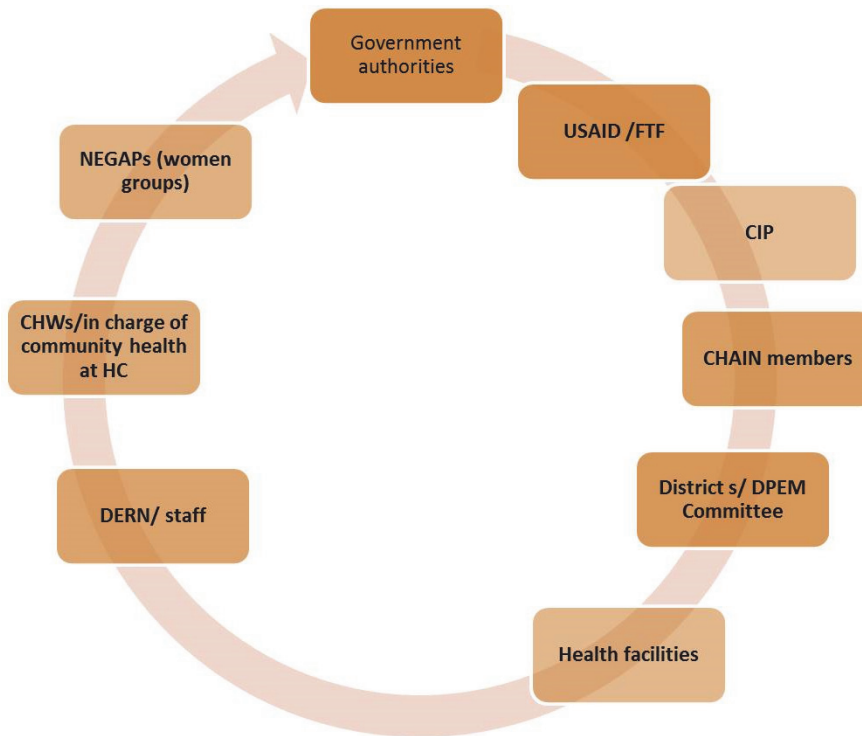
Outputs, outcomes and indicators of the project



Partnerships in implementation

- Local actors: CHWs, DWMs, agricultural promoters, people in charge of community health at health centers, district and sector agronomists, socioeconomic development officers, individual farmers, farmers' cooperatives, women, bakeries, vendors of OFSP
- Institutions: USAID, CIP, Ruhengeri Diocese/DERN, districts and their institutions, health facilities, schools, media

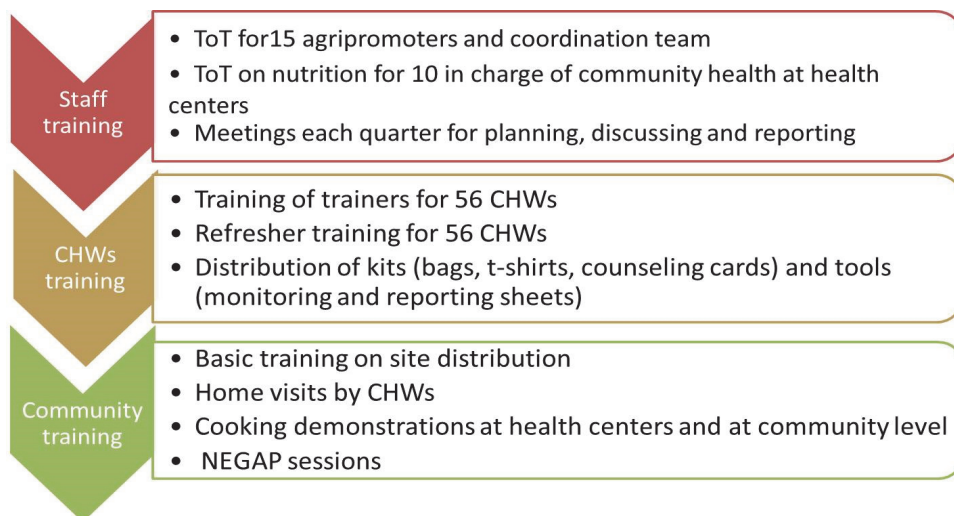
Nutrition collaboration model



Nutrition package in the Feed the Future project

- Implement nutrition education and messaging initiatives to increase consumption of OFSP as part of a healthy diet in households with children under five.
- Conduct nutrition counseling related to infant and young child feeding practices, incorporating OFSP modules targeted at caregivers of children aged 6–24 months to improve infant and young child feeding and dietary frequency.
- Demonstrate improved food preparation techniques incorporating OFSP in local diets, including as complementary baby food, to improve dietary diversity in households and improve micronutrient status.

Strategies used in nutrition training

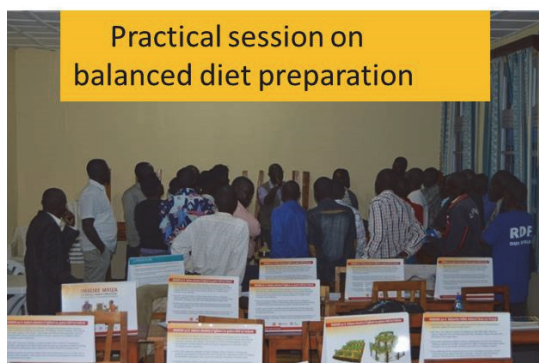




Nutrition specialist from CIP



CHWs with their counseling card



Practical session on balanced diet preparation



Nutrition education and good agriculture practice groups

This is a community approach designed by DERN to integrate OFSP and vitamin A material into the nutrition messaging and counseling activity that reaches at least 20,000 households per district through community groups supported by at least 51 trained CHWs per district and 14 agricultural promoters. The community groups have helped to improve the utilization of OFSP among 20,000 households with at least 30,000 children under 5 years of age. The support in the groups also focuses on agriculture and has seen the groups grow OFSP varieties using good agronomic practices, resulting in an increase of OFSP growing area and improved availability, visibility, quality, and food safety of OFSP roots in at least one major fresh food market in each district.

Approach and methodology

Nutritional education and good agriculture practices (NEGAP) using CIP-developed nutrition counseling card is an approach initiated by DERN in order to reinforce skills and knowledge for behavior change towards healthier diets for pregnant and lactating women, and children under five years.

This approach is a community intervention built on the existing health structure. The key persons who play a role are the CHWs in charge of community interventions at health facilities, the DERN nutritionist, and DERN agricultural extension workers, along with the local authorities and the beneficiaries.

Health facilities have contributed by providing all the necessary help, which has been facilitated by our close relationship. Selected CHWs and agents in charge of community healthy interventions under DERN supervision have organized nutritional counseling, creating a favorable environment for both theoretical and practical sessions. All cooking demonstrations and related sessions are conducted at health facility level and in villages. They are complementary to home visits in helping meet beneficiaries for further nutritional interventions. The weekly report on CHWs' achievements has to be sent to DERN staff regularly.

Schedule of nutrition counseling

With the selection of four CHWs in every health center for 1,200 beneficiaries, during nutritional counseling a CHW visits 200 households divided into eight nutrition education and good agriculture practice groups made up of 25 beneficiaries each. By setting a meeting with two groups per week and discussing one topic from the counseling cards, we have all eight groups trained on one topic in one month. The process is repeated until all the topics are covered. Particular sessions, such as cooking demonstrations using OFSP as a principal entry crop and OFSP by-product production (processing), might have a particular time in addition to the scheduled sessions.

Learning session schedules

No	Agricultural assistance	Nutritional counseling	
No	TOPICS		PERIOD
1	Land preparation	Having a healthy mother	1 st month
2	Fertilization	Balanced diet components and preparation	2 nd month
3	Vine preparation	Vitamin A and its features	3 rd month
4	Planting (spacing)	Biofortified food in Rwanda,	4 th month
5	Weeding and binning	Infant and young children feeding (households visits)	5 th month
6	Pest and disease management	<ul style="list-style-type: none"> ✓ Cooking ways and cooking demonstration at health centers ✓ OFSPs and its contribution to malnutrition alleviation 	6 th month
7	Postharvest handling (sorting, conservation and processing)	Best agricultural practices for OFSP	7 th month
8		Kitchen garden preparation, fruit and vegetable production	8 th month

Achievements on indicators

Indicators	Overall target (per district)	Total males reached	Total females reached	Total achievements (per district)
1. Number of CHWs identified and trained	16 in Burera and 14 in Musanze	15 Musanze and 13 Burera	13 Musanze and 10 Burera	51 (28 Burera and 23 Musanze)
2. Number of farmers who received nutrition training (group training)	20,000 in Burera and 20,000 in Musanze	2047 Musanze and 2509 Burera	15457 Musanze and 11870 in Burera	20,335 (17,504) Musanze and 20,768 (15,379) in Burera
3. Number of farmers who received nutrition counseling (home visit)		1260	6260	7520
4. Number of farmers groups created (NEGAP)	1600	615 groups in Musanze and 700 groups in Burera		

NEGAP launch

Before commencing the NEGAP activities we had them launched in all the regions in our working area.

Partnership with health facilities

Collaborating with the health centers, the CHWs screened beneficiaries who were more vulnerable than others for particular attention in the nutrition activities and counseling. Those families were to be visited periodically in order to see the evolution in their nutrition status.

We also participated in different cooking demonstrations in partnership with the health facilities in every cell (administrative level above a village in Rwanda), looking for the feasibility to incorporate OFSP in the meals prepared.

During vine distribution, basic nutrition training was conducted by DERN staff and a leaflet was distributed on the nutritious value of OFSP and how to cook OFSP roots.

Behavior change activities

OFSP is now starting to be prepared in some restaurants and hostels in Musanze.

NEGAP-related advances

Strengthening the NEGAP groups involved establishing crop fields for cooperatives and helping them find biofortified iron-rich bean and OFSP seed. These fields were established as part of the beneficiaries' initiatives. This approach helped ensure that everyone in a group would have the seeds to grow on his or her fields, and thus OFSP roots would be available to us for incorporation into meals during the cooking demonstrations and for trials for processing roots into by-products.

Biggest achievements

- The deep collaboration with the health centers facilitated the registration of beneficiaries via CHWs in charge.
- We had close collaboration with project implementation facilitators at district, sector, health center, and cell levels, and we let them get involved in all project activities.
- Some NEGAPs groups started processing OFSP roots.

Lessons learned

- The nutrition messages delivered by the trained CHWs to NEGAP groups helped to emphasize the good practices relating to the preparation of balanced diets and IYCF, and now mothers are using small bowls in feeding nutrient-rich food to their children under 2 years, which was previously not a common practice for them.
- The results and successes from the NEGAP groups were good not only for nutrition but also for agriculture:
 - The area for OFSP root production was defined
 - Mothers benefited from the roots produced on collective plots
 - Mothers also received vines for planting in their own fields in subsequent seasons
 - Mothers continued to expand their root production as a business activity and generated income for their family needs
 - In some groups, mothers were supported with capacity building for processing and to start a small processing unit
- The current experience shows us that sweetpotato production will continue even after the project period. Our activities with the Feed the Future OFSP project are contributing to social development and behavior change among rural communities. We are promoting the value chain of sweetpotatoes by

initiating and providing training and demonstrating OFSP processing practices to beneficiary groups' representatives.

Comments and questions

Question: Among your two nutrition activities, i.e. the household level and the community level initiatives, the first initiative was more effective but more expensive. Have you monitored them?

Response: We have assessed the cost. Home-to-home visits were possible but required more effort. On looking at the impact, we found that they were better appreciated than community visits. The costs were USD 4 per home visit compared with USD 1.50 per community visit.

IMBARAGA famers' organization's achievements in implementation of SUSTAIN project

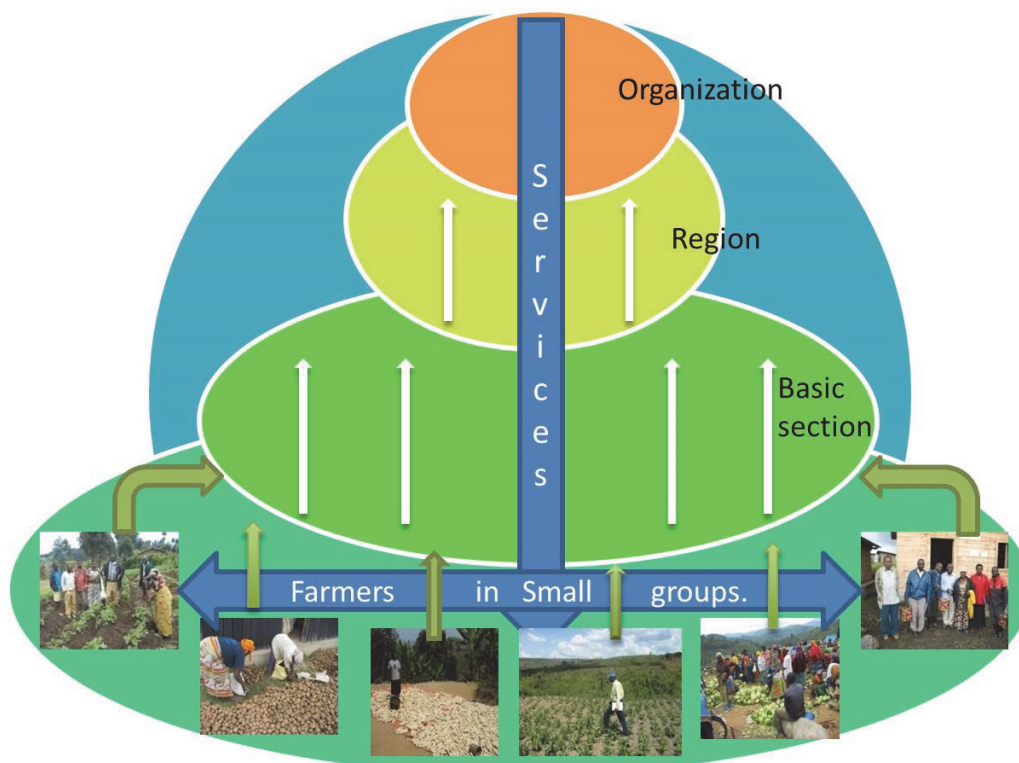
Console Mutuyemariya

IMBARAGA was started in Rwanda 1992 by farmers who recognized the need to unite in order to have a strong voice for lobbying and advocating for farmer-friendly policies and addressing farming issues related to policies, production, productivity, and other issues. IMBARAGA's goal is to promote and safeguard the social, economic, and political interests of its members.

Vision

Having professional farmers and entrepreneurs who are competitive in socioeconomic exchanges

IMBARAGA's organizational structure



SUSTAIN project highlights

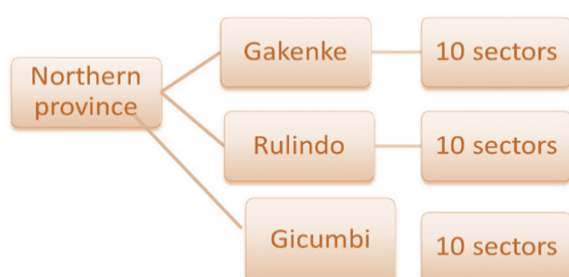
IMBARAGA farmers' organization worked in partnership with CIP in the implementation of the SUSTAIN project. The aim of the project was to increase production of OFSP among smallholder farmers, improve incomes from OFSP along the value chain, and improve nutrition outcomes for women and children.

Over a three-year period from July 2014 to June 2017, IMBARAGA, as the local project implementer in the field, achieved a lot in nutrition activities based on the distribution of nutritious sweetpotato vines and subsequent root production. In collaboration with the ministry of health, CHWs helped to reach more than 48,000 households with nutrition activities.

The intervention area is in 30 sectors of Rulindo, Gakenke, and Gicumbi districts of the Northern Province of Rwanda. Our target direct beneficiaries were children under 5 years of age and pregnant women.

SUSTAIN working area

369 villages, 30 sectors in 3 districts

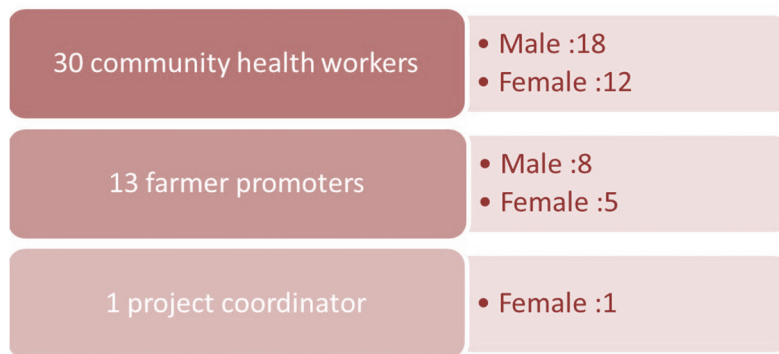


The 30 sectors under SUSTAIN project

Gakenke	Rulindo	Gicumbi
Janja	Masoro	Shangasha
Muhondo	Cyungo	Nyankenke
Minazi	Tumba	Rukomo
Cyabingo	Base	Ruvune
Gashenyi	Buyoga	Cyumba
Gakenke	Bushoki	Manyagiro
Karambo	Rusiga	Kageyo
Muyongwe	Mbogo	Byumba
Rushashi	Rukozo	Nyamiyaga
Busengo	Shyorongi	Miyove

Staff

Forty-four of IMBARAGA staff worked on nutrition activities.



Community health worker selection involved direct collaboration with health centers located in their sector under the SUSTAIN project.

Approaches used to deliver nutrition intervention

- Nutrition messaging
- Nutrition counseling in small groups of caregivers plus home-to-home visits
- Nutrition events



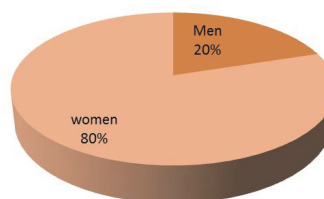
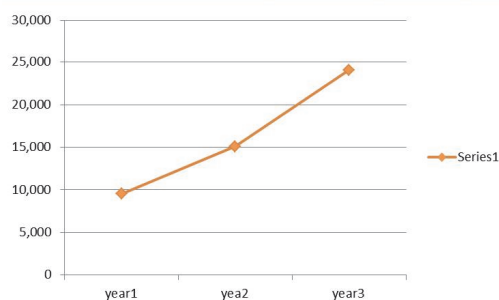
To achieve our target of reaching more than 48,000 households with nutrition messages, each of the 43 workers was given a target of reaching not less than 1,140 people.

Approach 1: Nutrition messaging

Nutrition messages were delivered during mass dissemination of planting materials and monthly community work.

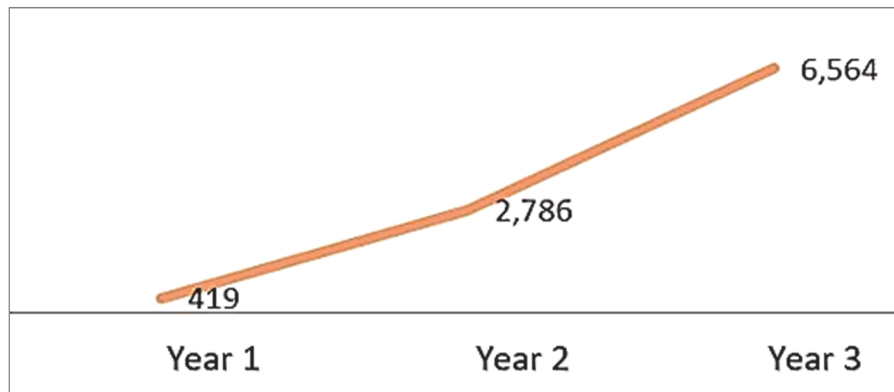
People reached with nutrition messages

Period	Male	Female	Total
Year1: 2014-2015	419	9,109	9,528
year2: 2015-2016	2,786	12,293	15,079
year3: 2016-2017	6,564	17,488	24,052
Total	9,769	38,890	48,659



As men did not normally participate in sweetpotato planting material distribution, to reach them we gave nutrition messages during the Umuganda day. Eventually, their participation started increasing, even during vine dissemination.

Men's participation from year 1 to year 3



Approach 2: Nutrition counseling

This was done in both small groups of children caregivers and home-to-home visits. The main topics were:

- health of pregnant women
- balanced diet
- source and role of vitamin A
- infant feeding
- role of OFSP in nutrition
- how to make a kitchen garden

In the group sessions, the caregivers shared experiences and directed questions at the nutrition agent. In home-to-home visits the caregiver could ask questions that were not easy to ask in a group. Home-to-home visits also provided an opportunity to meet the caregivers' spouses.

Households reached with nutrition counseling

Period	Households headed by male	Households headed by female	Total households
year1: 2014-2015	2,884	746	3,630
year2: 2015-2016	1,595	946	2,541
year3: 2016-2017	6,345	1,474	7,819
Total	10,824	3,166	13,990

In the 13,990 households, we reached 85,611 children under 5 years of age.

Children reached in nutrition counseling

Period	Male	Female	Total
year1: 2014-2015	41,998	24,665	66,663
year2: 2015-2016	2,739	1,609	4,348
year3: 2016-2017	9,198	5,402	14,600
Total	53,935	31,676	85,611

Approach 3: Nutrition events

Activities were conducted at the cell and village kitchen levels and involved:

- Cooking demonstrations and feeding of children in schools.
- Cooking demonstrations and feeding of young children at health centers:
 - Screening by CHWs using the MUAC (mid-upper arm circumference) tape to identify malnourished children.
 - CHWs had to give special care to malnourished children who had no other complications so that their tape reading would move into the green zone, indicating that their nutritional status was normal.
 - If the parents of a malnourished child did not have the means of providing a balanced diet to the child, the child had to be transferred to a nutrition center for improved feeding.

Caregivers brought what they had and we cooked it and fed them.



The total participants in the different nutrition events was 3,160, composed of 940 men and 2,220 women.

Challenges

- The participation of men in improved nutrition activities (20% of participants) was low, and it was a barrier for some mothers in improving their children's nutrition.

- The short project period and human resource limitations arising from budgetary shortfalls affected project achievements. The program period was too short for nutrition activities. Nutrition counseling is a good approach, but it was very difficult to reach many households with just a few CHWs and farmer promoters, who were supposed to each visit each household at least three times, a total of 4,200 visits each.

Lesson learnt

- People learn well by doing and seeing. We realized that cooking demonstration events and nutrition counseling were very helpful in making people aware of how to make a balanced diet.
- The nutrition work made a positive change among the children’s caregivers. They understood that children were exposed to malnourishment during the harvesting period because they ate almost only what was being harvested in large quantities, e.g. maize or potatoes only. When food was bought, it constituted almost a balanced diet, even if the caregivers were not aware of this. For example, vegetables, oil and dried small fish were bought to mix with the small quantity of tubers they had in what they called the ‘hunger period’.

Conclusion

Close collaboration with local leaders and health workers located in the same areas as the beneficiaries were key elements in achieving our targets.

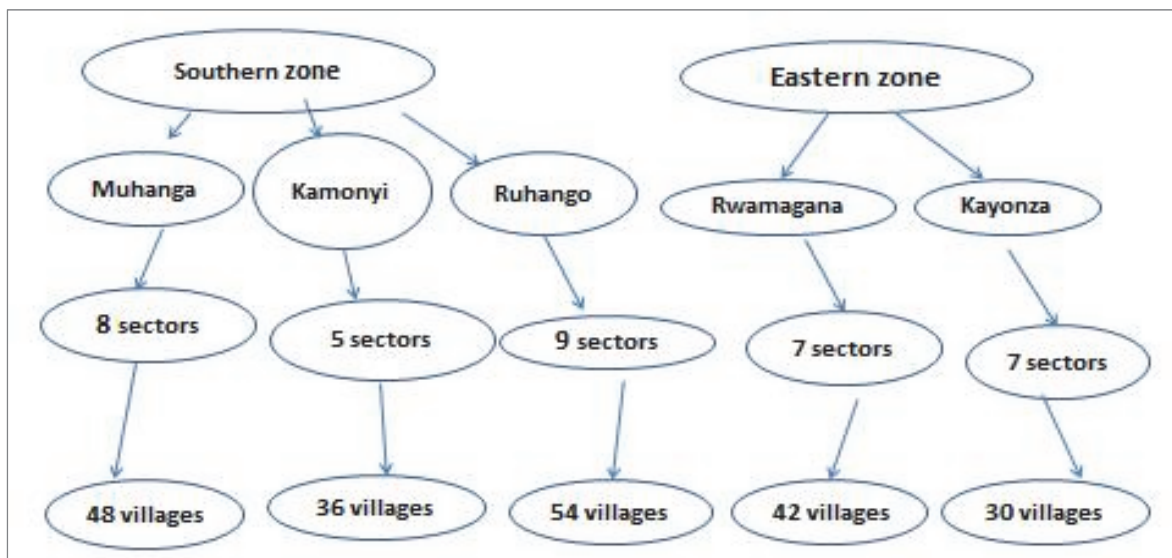
YWCA SUSTAIN project’s nutrition achievements

Christine Nyirahabimana

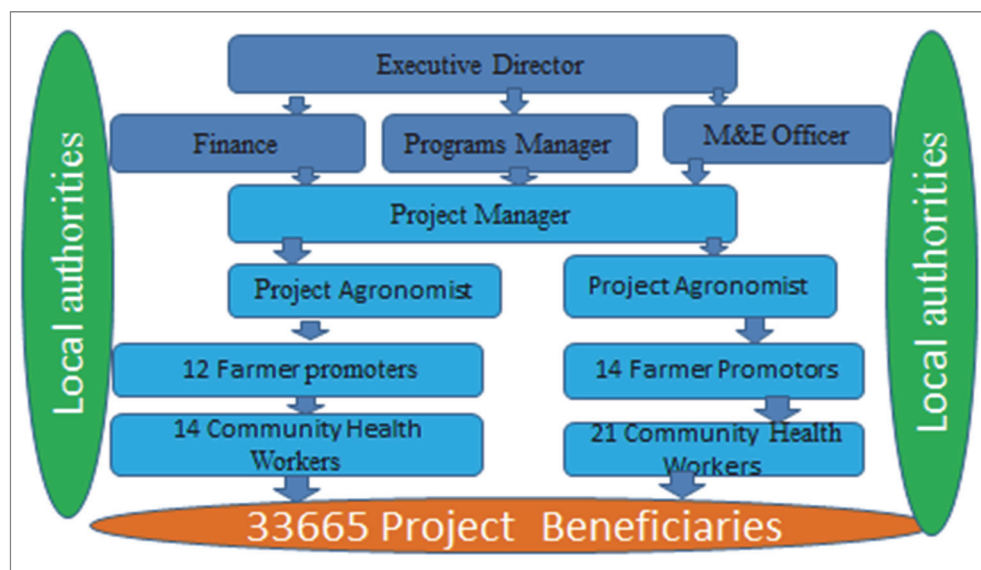
YWCA Rwanda is an NGO established in 1995 with the mission to develop the leadership and collective power of women and girls in Rwanda to achieve high quality education, health, and socioeconomic outcomes for themselves, their families and their communities. YWCA works in 18 districts in Rwanda.

YWCA SUSTAIN project operating zone

YWCA is implementing the SUSTAIN project in two zones with five districts and 36 sectors.



Project implementation structure under YWCA



Training of trainers

Several training events were organized by CIP and RAB for project agronomists, farmer promoters, and community health workers on different topics.

Achievements

Vine distribution

District	People reached
Muhanga	4,499
Ruhango	11,090
Kamonyi	2,400
Rwamagana	8,362
Kayonza	7,314
Total	33,665

Nutrition training

District	Nutrition counseling (home-to-home visits)		Nutrition message (community session)	
	Number of male head of households	Number of female head of households	Number of male participants	Number of female participants
Muhanga	232	952	490	3,857
Kamonyi	164	570	529	1,904
Ruhango	734	2,517	2,087	11,072
Rwamagana	563	2,806	810	5,343
Kayonza	470	1,879	1,053	4,407
Total	2,163	8,724	4,969	26,583

Approaches used

- Delivering the nutrition message
- Nutrition counseling
- Working with health centers
- Organizing cooking demonstrations

- Organizing nutrition events in schools, health centers, and markets.

Nutrition message

- Nutrition group creation and delivery of the nutrition message
- Dissemination of the nutrition message during community work events such as Umuganda, Umugoroba w'Ababyeyi and other local meetings
- Dissemination of the nutrition message during mass vine distribution

Our work with the health centers



Nutrition counseling

We organized small groups of five to eight caregivers and trained them on nutrition, meeting them in their homes, discussing with them nutrition matters, and working with them to put what we discussed into practice. We demonstrated the preparation of balanced meals using locally available foods and encouraged good nutrition practices, such as breastfeeding and good hygiene. We also organized cooking demonstrations in the community.

Nutrition counseling



Cooking demonstration



Challenges

The main challenge is that the Rwandan culture discourages men from taking on caregiving roles, so they would not participate in caregiver training. This can be a big hindrance to behavior change in the family, as it is men who are responsible for providing the family with food.

Owing to the project design, which incorporated both randomized controlled and non-randomized controlled trials, some people did not receive some project support, such as counseling, to avoid introducing contamination across the trials.

Recommendations

- More effort is needed to get more men into the nutrition sessions.
- As nutrition counseling was one of the approaches most appreciated by the beneficiaries, it would be beneficial if it could be extended to all sectors and even all villages.
- As behavior change is a process, it would be good to get some means to continue the activities in the field in order to ensure the sustainability of SUSTAIN project activities.

Partners' experience sharing on approaches for behavior change and nutrition interventions

Mtoto Mwerevu: Addressing Stunting in Tanzania Early (ASTUTE) in children younger than 5 years

Generose Mulokozi

Overview

Objective: Reduce stunting in children younger than five years-of-age by 6% through transforming and sustaining behaviors, building capacity, and investing in MIYCAN, WASH, and early child development.

Implementers: IMA World Health, PANITA, Development Media International, Cornell University and Government of Tanzania

Donor: UKAID through DFID

Duration: 4.5 years (2016–2020)

Main strategy: Social and behavior change communication

Coverage: Five Lake zone regions of Mwanza, Shinyanga, Geita, Kagera, and Kigoma, a total of 36 district councils

Targeted population: 10.5 million, with 815,000 stunted children and over 3 million mothers and children

Aim: Prevent stunting among 50,000 children



How ASTUTE works

- Improving the government's multisectoral response to nutrition at all levels in health, agriculture, WASH and ECD.
- Building capacity to support optimal care practices for MIYCAN, WASH and ECD.
- Increasing the knowledge of pregnant women, caregivers of children younger than five years and household and community decision-makers on MIYCAN, WASH and ECD

Origins of ASTUTE's SBCC strategy

- National nutrition SBCC strategy
- Global literature reviews on optimal practices impacting stunting and SBCC strategies for stunting reduction
- SBCC strategies used by other projects inside/outside Tanzania (Mwanzo Bora, Alive & Thrive, LINKAGES)
- ASTUTE's formative research on facilitators and barriers to practices and information gaps

ASTUTE SBCC strategies

- Home visits by CHWs to prioritized households to negotiate for behavior change on maternal, infant, and young child nutrition, WASH, ECD and gender
- Support group – CSO volunteers who negotiate for behavior change
- Health facility worker training on counseling of mothers and caregivers in clinics
- Positive deviance/hearth (PDH) approach – community-based nutrition rehabilitation of malnourished children
- Mass media – radio and TV spots on local channels

Criteria for prioritizing households for home visits

- First pregnancy
- Moderately or severely malnourished child
- Child aged 3–9 months old
- Very poor household receiving support from the Tanzania Social Action Fund

Eight steps for negotiating behavior change during home visits

1. **Greet** the person and establish confidence.
2. **Ask** the person about current behaviors/practices.
3. **Listen** to/reflect on what the person says.
4. **Identify** any difficulties/obstacles and possible causes.
 - Select one difficulty/obstacle to work on.
5. **Discuss** with the person the different possible ways to overcome the obstacle.
6. **Recommend** and negotiate doable actions:
 - Ask for solutions
 - Offer additional options/suggestions, and
 - **NEGOTIATE** with the person to help him/her select one option/action that he/she can try.
7. Person **agrees** to try one or more of the options
8. Make an **appointment** for the follow-up visit.

Innovations to support behavior change

- Focus and negotiation around small, doable actions
- Inclusion of men to support women as they adopt new practices
- Mutual reinforcement: CHWs and CSO volunteers promote behaviors relayed through radio messages for that week
- Guaranteed quality work from CHWs and CSO volunteers through:
 - Job aids (cards with nutrition information) specific to the age of the child
 - Checklists
 - Monthly meetings to practice negotiation in home visits and support group facilitation
- Supervisory guides to inform on the minimum standards for ASTUTE's work

Achievements

- Actively involved in national and subnational meetings and workshops to support the National Multisectoral Nutrition Action Plan
- Collaborating with the government to review and develop realistic work plans and budgets in two consecutive financial years for the regional secretariat and 36 local government authorities

- Provided Tanzania shilling (TZS) 3.2 billion as fixed obligation grants to all regional secretariat and local government authorities
- Strengthening the organization of quarterly Council Steering Committee meetings
- Trained key project implementers on interventions for stunting reduction:
 - Over 2,000 health facility workers, working in reproductive and child health units
 - 6,000 CHWs
 - 300 CHW supervisors (1 per 20 CHWs)
 - 50 CSOs and 300 CSO volunteers
 - 180 council staff, who underwent training of trainers
- Ensured counseling support for 518,245 pregnant women and caregivers
- Piloted PDH in four councils (more than 180 malnourished children rehabilitated)
- Reached a total of 1,587,092 beneficiaries through home visits by the end of year 2
- Aired more than 18,000 radio spots to a potential audience of 1.8 million people
- National and international recognition and visibility – national advocacy and international conferences, manuscripts
- Completed two operations research studies.

ASTUTE's successes

- As the largest nutrition program implemented by an NGO in Tanzania, ASTUTE is now recognized by the government as a key partner in nutrition activities at all levels.
- ASTUTE is undertaking the first-ever nutrition home visits in Tanzania, working through CHWs and CSOs and focusing on the most vulnerable households.
- During 2016/17 and 2017/18 annual reviews by DFID, ASTUTE scored an A+³.
- ASTUTE implements a package of SBCC strategies that are complementary to each other.

Key bottlenecks and challenges

- The councils take a long time to understand the fixed obligation grant (performance-based) funding system.
- Submitting quarterly financial reports is challenging.
- The capacity among CHWs/CSO volunteers to negotiate for behavior change is uneven.
- CHWs are few, meaning that their work load for home visits is heavy.
- The stipend for CHWs is low compared to what other partners pay.
- The commitment of regional nutrition officers and district nutrition officers is uneven.

Comments and questions

Question: How were poor households to be visited identified?

Response: The project worked with households known to be benefiting from the Tanzania Social Action Fund support. Home visits were meant to ensure that money was spent on the child and to advise the caregiver on what needed to be done with regard to the child's nutrition. It involved negotiating on how the money would be spent for the child's benefit.

³ The second highest of DFID's five-point project scoring system meaning 'outputs/outcomes moderately exceeded expectation'.

Question: How do you monitor the 6,000 community health workers in the project?

Response: Monitoring is critical for the project, and we have a strong M&E unit. Monitoring involves regular completion of various monitoring forms by the CHWs for registration, home visits etc. and direct supervision of weak CHWs. CHWs' supervisors collect the forms and submit them to the district nutrition officers who transmit them to IMA staff in the region. Data from those forms is compiled and analyzed. At the end of the month a meeting is held to assess progress, discuss problems and opportunities and collect the forms for forwarding to the district nutrition officers. The M&E unit in Mwanza has 15 clerks for data entry.

Question: Are the radio spots in English or Swahili?

Response: Swahili. Sometimes community workers use local languages in verbal communication but the forms are filled in Swahili.

Question: The interventions seem to be limited to children up to 2 years, yet the goal is to reach ages up to 5 years?

Response: The project deals with households with children of up to 5 years and pregnant mothers.

Question: What are the challenges in ensuring that there are no contradictions in the training when you work with CHWs who also work with the government and other projects and who have been trained by those partners?

Response: We are using local government CHWs who are already on the ground. We have trained them but they are also used by other programs. We require them to visit only six households a week, meaning that they have plenty of time for other work.

Question: How do you ensure that the content and structure of the training are in line with that of the other partners, and how do you coordinate with partners that already have trained workers?

Response: In defining the content of the training we worked with government representatives and reviewed the training materials used in the country to assess their adequacy in terms of content. We found the materials to be adequate except for ECD and WASH components. We added that content and updated the materials. The standardized government materials we use are used also throughout Tanzania and even by UNICEF (United Nations Children's Fund).

Comment: CIP also uses the standardized government materials but adds specific content relevant to its projects if that is missing.

Question: Most standardized material includes counseling content: what is your experience in terms of what you are doing now and what has been done before? Are you doing new things? How do you make sure that what you are doing is spread throughout the country?

Question: The eight steps the CHW follows in caregiver visits start with a greeting followed by questions: do you have a short introduction session to make sure that the caregiver understands what the CHW is trying to do?

Response: The eight steps do include an introduction and it is covered in the greeting step.

Question: What do you have as the sustainability mechanism to be used when the project ends?

Response: Sustainability will be ensured since the government was fully involved in the design of the project. The project is a government level undertaking. CHWs and CSOs will take up some of responsibilities at the

project's end. This is the first time in these nutrition interventions that caregivers are going to where they are needed by the children. After the project, I think the work will continue because we are collaborating with the government. The government workers will be there to take over.

Question: How big was the ASTUTE grant?

Response: GBP 29.2 million or about USD 35 million.

Comment: Such information is important for planning because it gives an indication of what can be achieved with a certain level of funding.

Question: Did you have baseline data on the status of the WASH parameters?

Response: DFID did not want us to do a baseline study, but the Tanzania household survey of 2015 was being carried out at the time of the project's initiation and we took the results to serve as the baseline. Development Media International also did a baseline study to fill specific data gaps.

Question: Were you able to assess the impact of PDH?

Response: About 80% of the children rehabilitated under PDH gained weight. Mothers of those who did not were advised to consult a medical facility.

Question: How do you decide on the food products to recommend for inclusion in a nutrition innovation?

Response: In Mwanza we are recommending OFSP but where it is not common, we recommend other foods. Sweetpotato of any kind is liked by children so we recommend recipes in which it is used with nutritious foods such as spinach. But this meeting has opened my eyes to the need to actively promote OFSP.

Institutional and individual behavioral change towards improved nutrition outcomes: the case of PANITA

Tumaini Mikindo

Background

PANITA (Partnership for Nutrition in Tanzania) is a coalition with over 300 CSO members drawn from nutrition-related sectors including agriculture, education, health, community development, social protection, gender, WASH and livestock. It is the official SUN Civil Society Alliance in Tanzania. The platform focuses on capacity building, technical support, and sharing of information and provides a learning space and synergy for nutrition advocacy at both the national and local levels. PANITA is keen to achieve behavioral change that supports long-term and positive nutrition outcomes for both individuals and institutions.

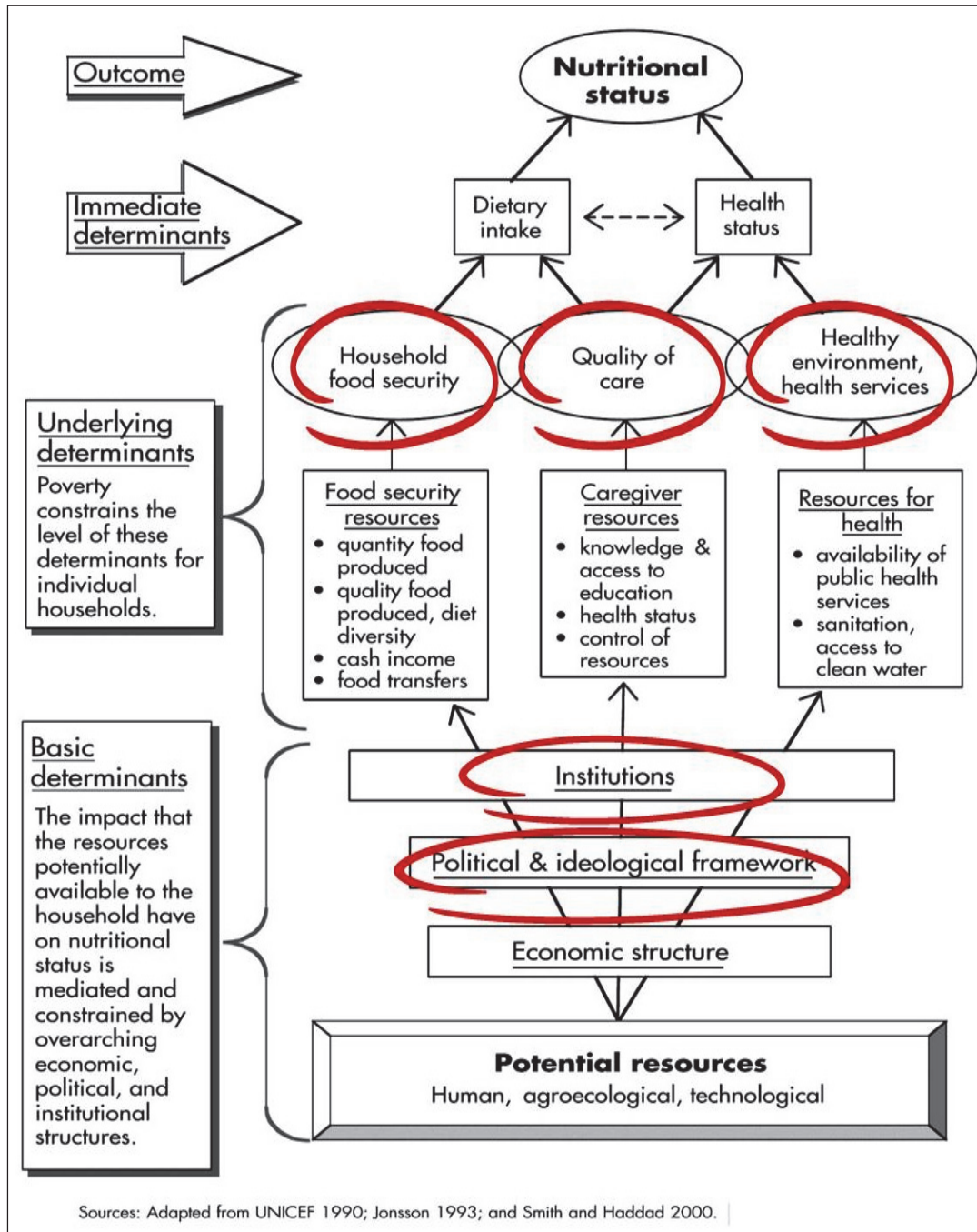
Achieving PANITA's long-term desired change

PANITA combines advocacy, capacity building, and implementation of nutrition-specific and nutrition-sensitive interventions. How does it do that?

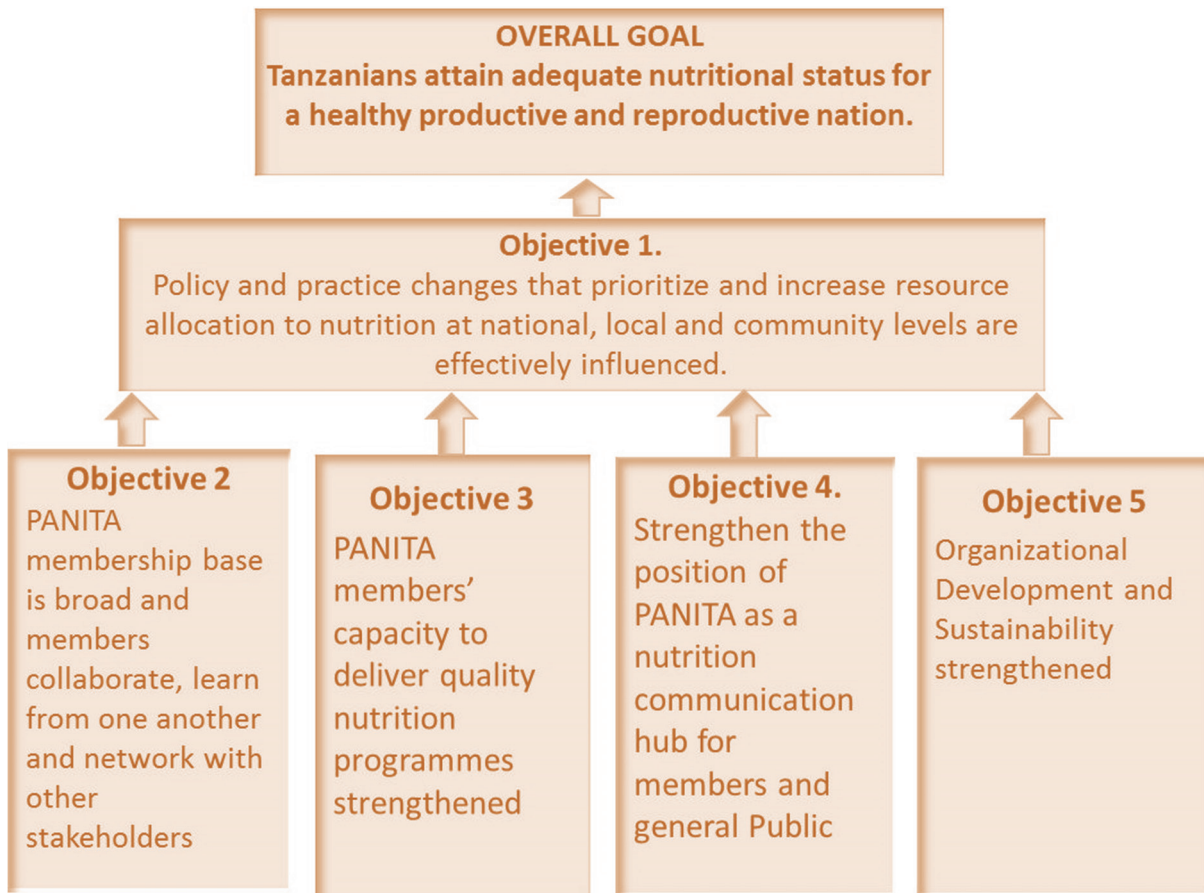
- Through a systems approach guided by the second Five Year Strategic Plan (2015–2020). This approach allows systematic and coordinated implementation of multiple projects in integrated fusion. The implementation of the five-year strategy is guided by the systematic advocacy and change models.
- Members and the secretariat work collaboratively.

- There is engagement with the government at the national level (mainly by the secretariat), regional level (by the secretariat and CSO members) and the local level (mainly CSO members with support from the secretariat).

Areas of focus for our interventions



PANIATA's Five Year Strategic Plan's goals and strategic aims

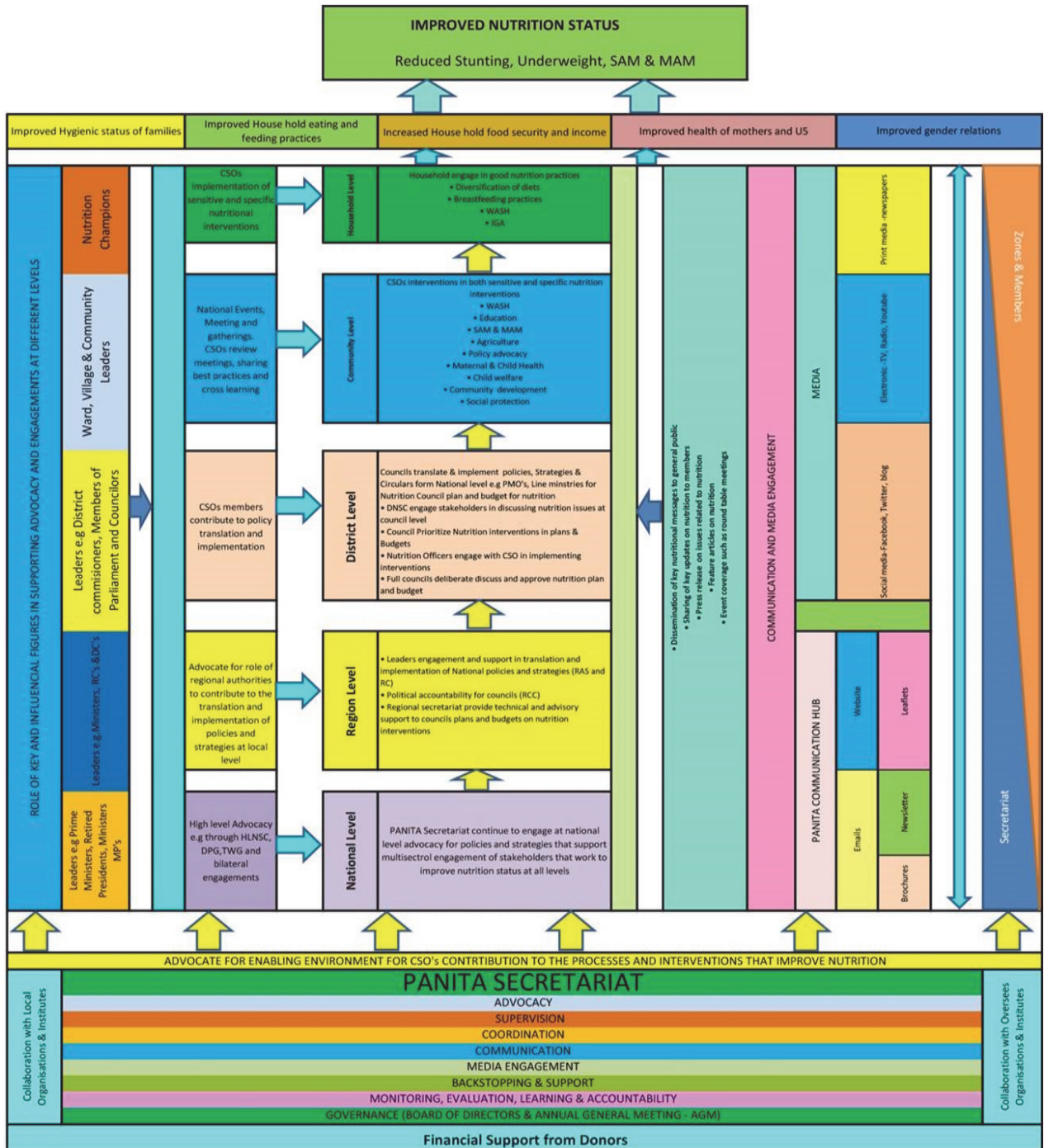


Connecting the dots from the strategic plan

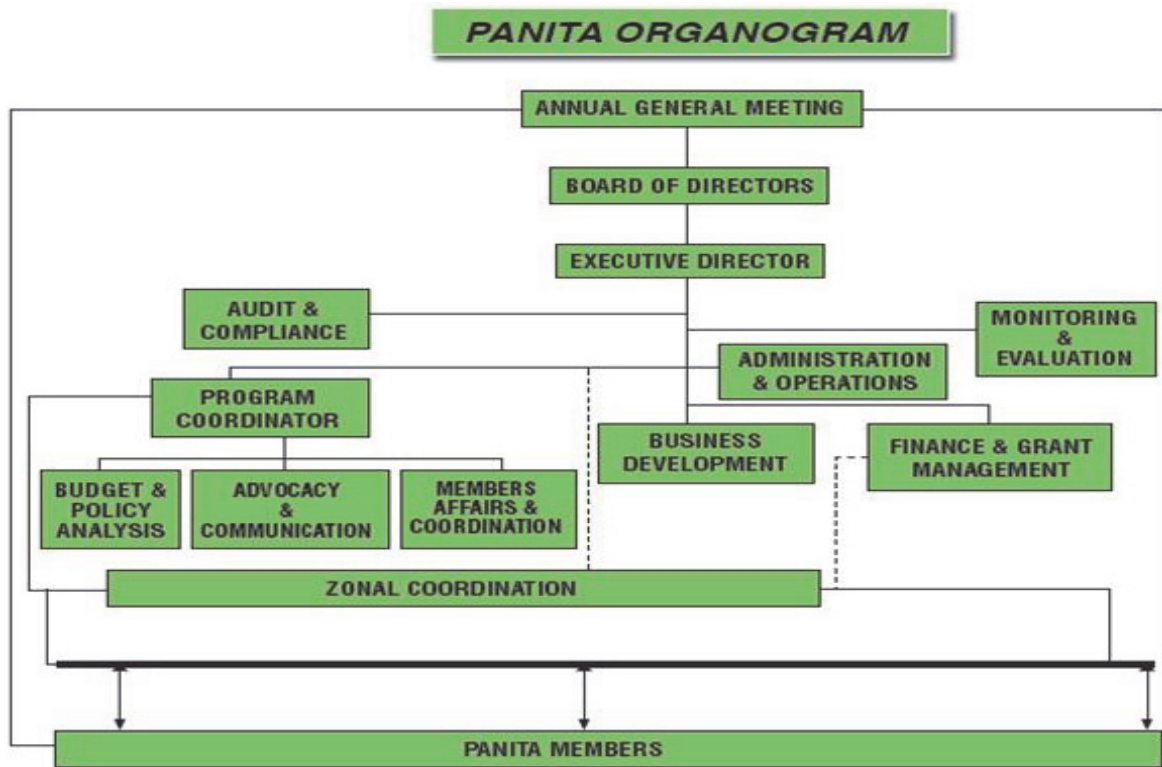
The integration and implementation of the five-year strategic plan are guided by:

- PANITA's organizational design – these are the governance and functional systems and structures, where we have adopted the fuzzy and crisp matrix approach.
- Models – the system (holistic) and the change models.

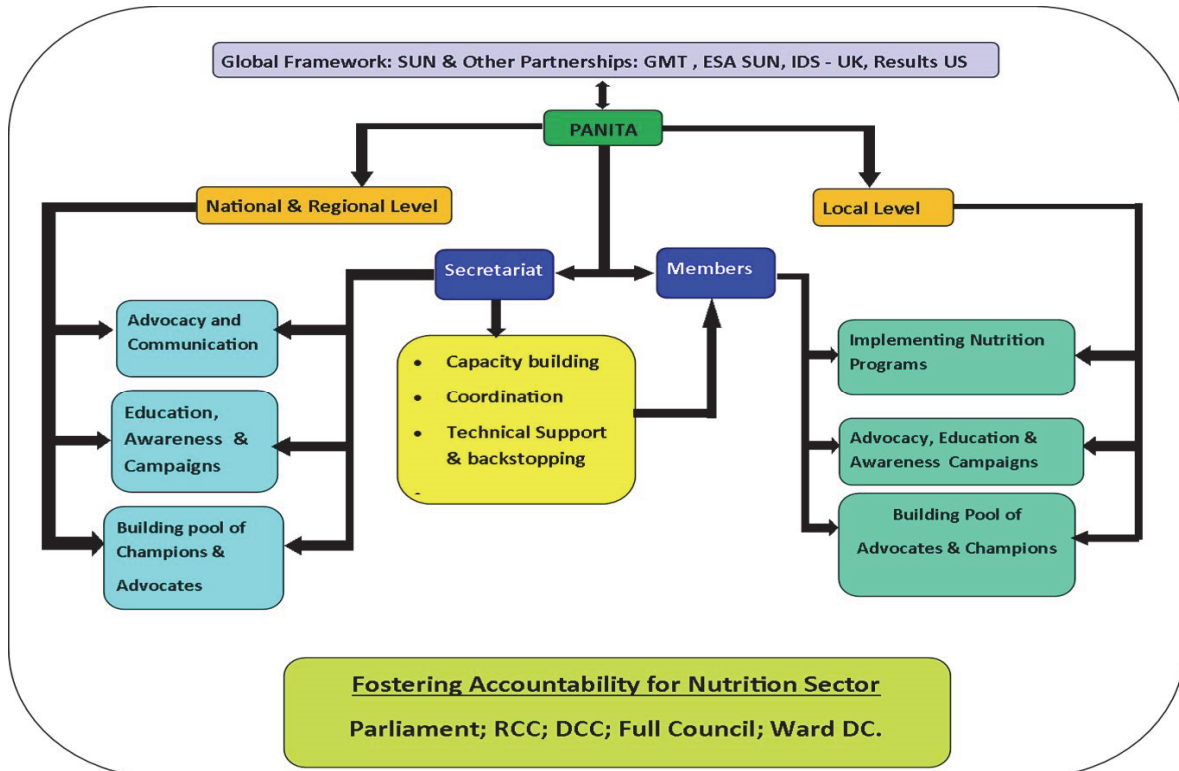
PANITA's Strategic Plan (2015–2020) conceptual framework



How we are structured as a platform to effect the desired change



Functional structure: engagement and implementation framework

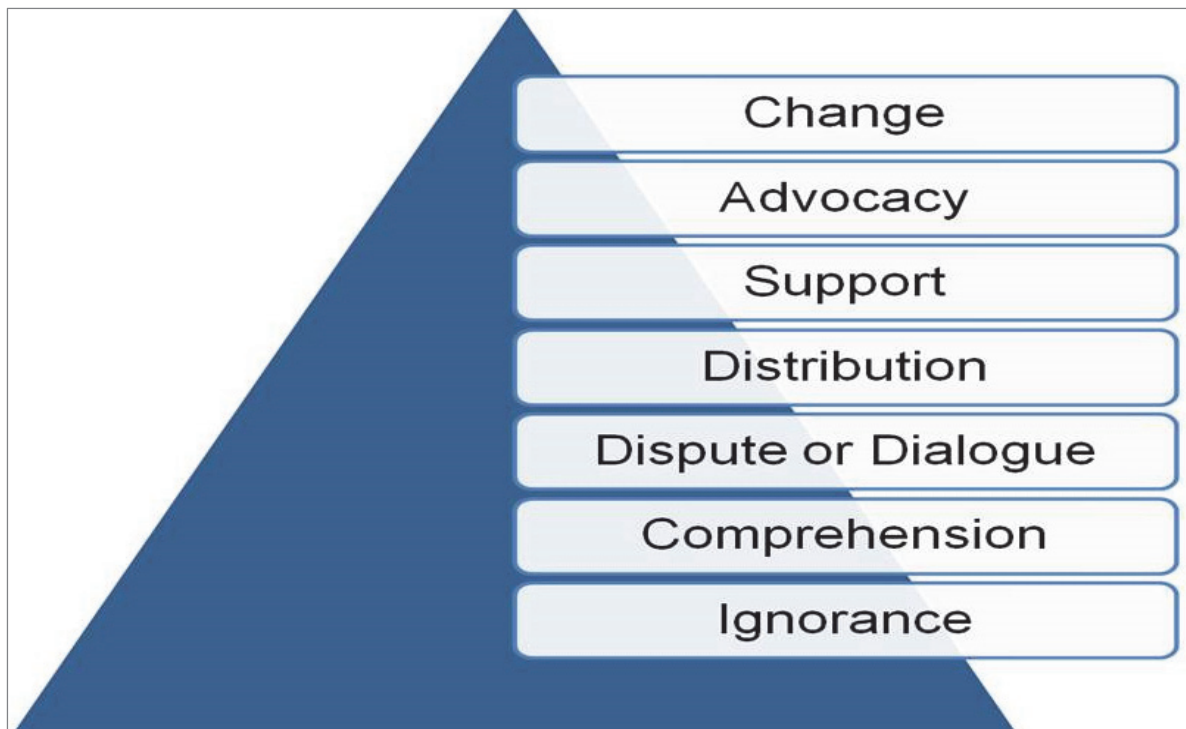


Integrating the implementation models for the strategic plan into the functional organization systems

Systems model (holistic)



Change Model (behavior)



Making the system work

Connecting the dots between ...

- the strategic plan's conceptual framework and
- the models and then
- fitting in the organizational structures (functional and governance)

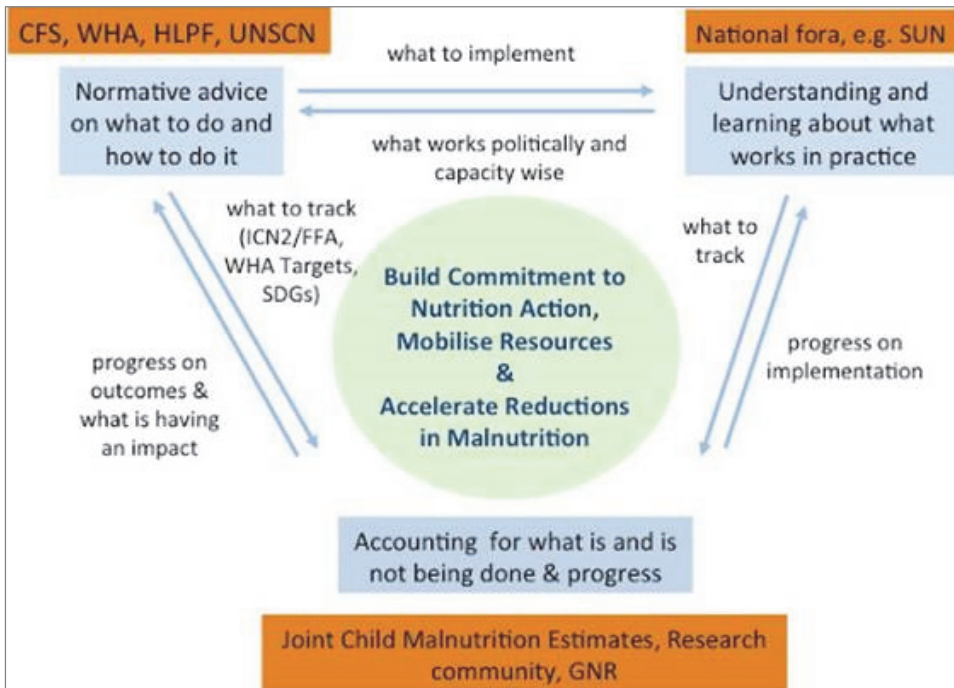
... to achieve the desired change.

We also need to bring into perspective:

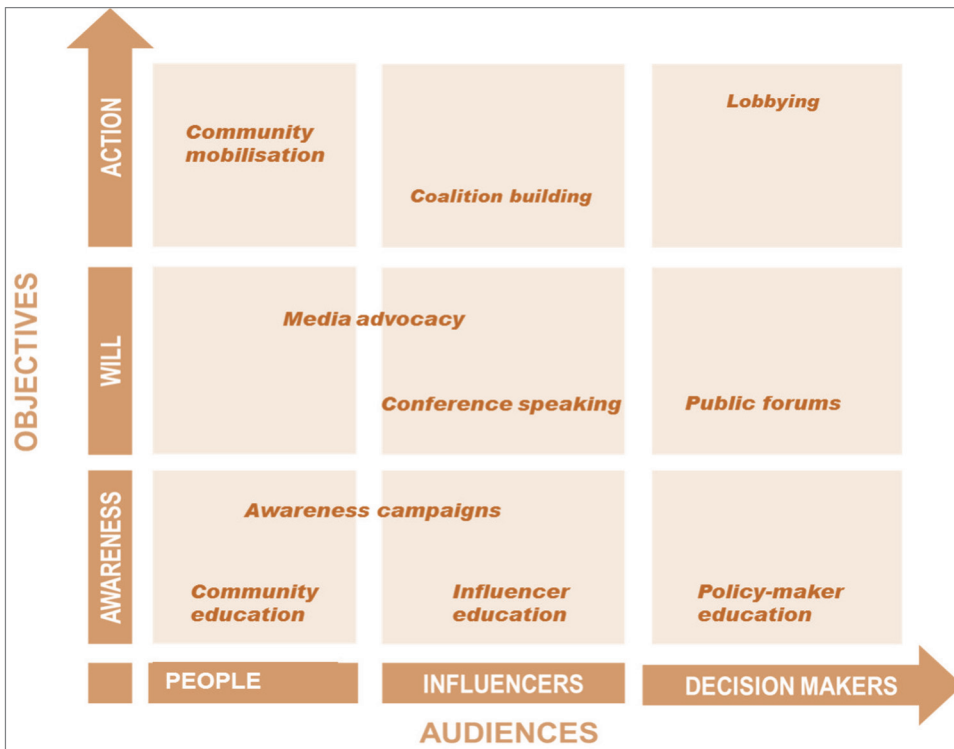
- Governance systems
- Making the organization work – by learning and being adaptive
- Resource mobilization

- Strengthening the secretariat
- Strengthening the capacity of CSO members

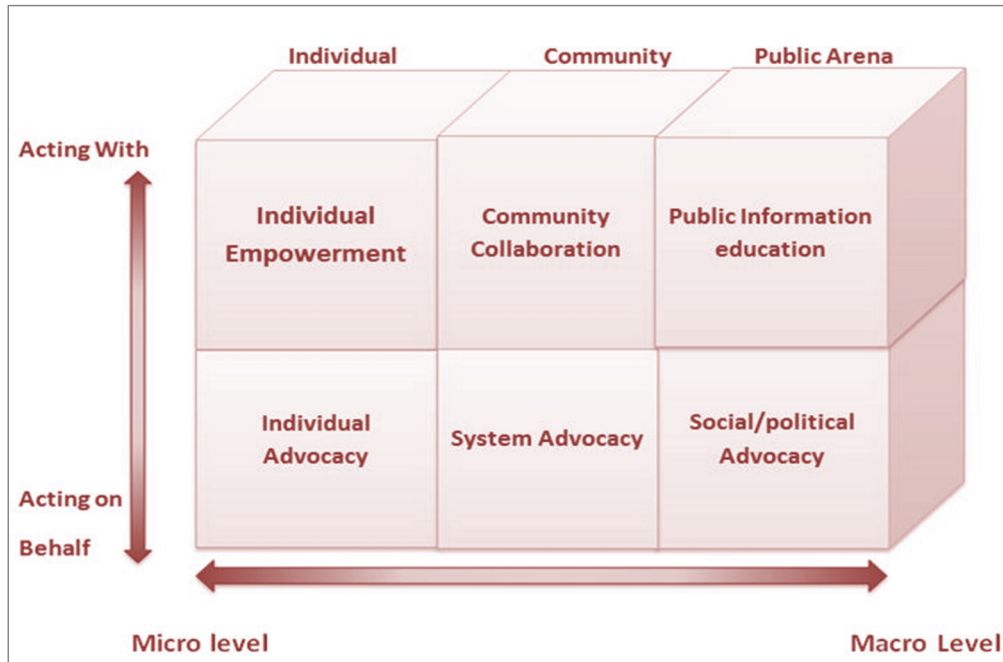
Adapting an international framework into local context



Advocacy strategy framework

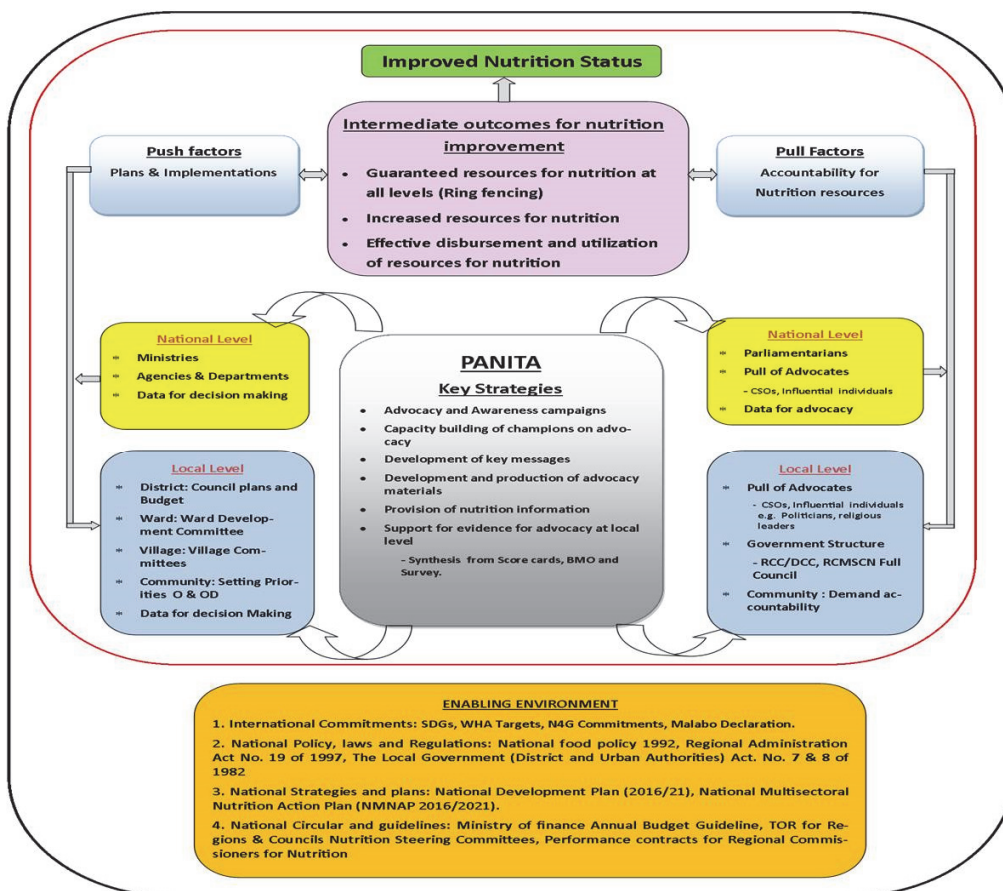


Building competence domains for both advocacy and behavioral change



How we combine advocacy and behavior change interventions: our overarching framework

Conceptual framework for sustainable and improved nutrition outcomes



Key activities

Our key activities involve multiple projects such as ReMAC, SuPREM, ASTUTE, PLANCORD, District HANCI-Scorecard and Engage+. They involve:

- Advocating for domestic resources for the nutrition sector:
 - Inclusion of nutrition plans and budget
 - Minimum mandatory allocation for nutrition
- Capacity building and support for nutrition initiatives for members and key stakeholders such as members of parliament, religious leaders, and the media
- Communication and media engagement through the production and dissemination of leaflets, newsletters and brochures
- Developing pools of advocates and champions for nutrition
- Engagement by the PANITA secretariat and members in nutrition platforms such as the High-level Steering Committee on Nutrition and the regional and council level multisectoral nutrition steering committees.
- Contributing towards the implementation of the National Multisectoral Nutrition Action Plan (NMNAP 2016–2021) on governance and accountability aspects at all levels:
 - Conduct advocacy meetings on nutrition for members of parliament, regional commissioners, district commissioners, councilors, RAS, DEDs and other influential people
 - Support the Members of Parliament Group on Nutrition Food for effective engagement in advocating on nutrition issues both at national and local levels, e.g. for the inclusion of nutrition in political party election manifestos, which occurred in 2015, and on ensuring the provision of the minimum mandatory allocation for nutrition in the budget.
- Coordinating the implementation of NMNAP by all CSO members
 - Support the implementation of large-scale programs
 - Monitor the CSOs' implementation of and contribution to NMNAP

Successes to date

Advocacy

- Successful campaigns, e.g. for the inclusion of nutrition in the political parties' election manifestos, increase of the nutrition budget and tax exemption on fortificants.

Capacity building

- Building high caliber parliamentary champions for nutrition:
 - Fifty members of parliament and other leaders are now nutrition champions including the Minister for Health, Honorable Umy Mwalimu, and the Minister for Local Government, Honorable Suleiman Jafo
 - Over 150 CSO members have been trained on biofortified crops
 - Biofortified crops' community advocates numbering 20
- Increased awareness and understanding on nutrition issues by MPs reflected by the number of questions and quality of debates on nutrition issues in the parliament
- Capacity strengthening for CSOs in effective implementation of nutrition interventions, advocacy and effective engagement in nutrition dialog spaces at the local level

Coordination

- PLANCORD quantified the contribution of CSOs in NMNAP, and PANITA members now understand NMNAP programmatic results and their respective contributions
- Improved linkages with government and other stakeholders, particularly at the local level

Implementation of nutrition programs

- Through capacity building and coordination of CSO members we are witnessing their enhanced ability to implement large nutrition programs under the leadership of the secretariat. For example, ASTUTE:
 - Strengthened the capacity of CSOs/volunteers to implement activities in MIYCAN, ECD, WASH, homestead food production, and male involvement in nutrition.
 - Helped CSOs to work with 500 support groups in two years to help beneficiaries practice optimal behaviors.

There is a spillover effect on nutrition knowledge among the community members.

Lessons

- Combining advocacy and behavior change interventions in a large nutrition program appears to be a 'darling' of donors, CSOs and policy-makers.
- Systematic and targeted capacity building brings value addition in most of nutrition projects.
- Establishing sustainable governance and coordination mechanisms for CSOs through a platform brings meaningful change, though it has cost implications.
- The SUN Civil Society Alliance provides a platform where various interventions, projects and programs, such as those for advocacy, capacity building and behavioral change, can be effectively implemented to achieve long-term and sustainable outcomes.
- Transforming a platform into a sustainable vehicle for the implementation of a project is a slow and laborious process, and it needs patience.

Comments and questions

Comment: This presentation is important for policy-makers and decision-makers in learning how coordination of CSOs has worked to achieve nutrition goals.

Question: Mention was made of the fact that in Tanzania nutrition goals were incorporated into the political party manifestos; was this for the ruling or the opposition party?

Response: All political parties. It took two years to achieve this.

UN Network in Rwanda

UN Network engagement

Governance

The governance structure of the UN Network is headed by the leaders of four UN agencies, i.e. Food and Agriculture Organization of the United Nations (FAO), UNICEF, World Food Programme (WFP) and World Health Organization (WHO), who make up the steering committee. The International Fund for Agricultural Development (IFAD) also joined the UN Network towards the end of 2016. The technical committee is made up of focal points from the four UN agencies and REACH⁴ facilitators. WFP serves as the administrative agent and UNICEF is the UN Network chair.

Key strategy

Facilitating strengthened governance for nutrition scale up through a multisectoral approach

Focus areas

- Advocacy and raising awareness on nutrition problems and solutions
- Strengthening national nutrition policies and programs
- Supporting human and institutional capacity
- Strengthening monitoring and evaluation

Some of the activities supported and achievements

- Multisectoral coordination – support to national coordination platforms (including SUN) and UN nutrition coordination
- Nutrition stakeholder mapping
- Integration of nutrition into the Economic Development and Poverty Reduction Strategy (EDPRS III) and sectoral plans, i.e. the Health Services Support Project (HSSP IV), the Strategic Plans for the Transformation of Agriculture (PSTA IV), the social protection strategy, the school health policy, and the early childhood development policy and strategy
- Nutrition action plan for the Ministry of Agriculture
- National Food and Nutrition Policy and Strategy (2013–2018)
- 1000 Days' Campaign
- Rwanda cost of hunger study
- Capacity building in planning and tracking implementation progress for District Plans to Eliminate Malnutrition
- RapidSMS⁵ application was expanded to include tracking on stunting
- Nutrition surveillance
- National food and nutrition summits (3)
- Rwanda Country Strategic Review of Food and Nutrition Security
- UN institutions' joint programming to scale up nutrition

⁴ REACH assists governments of countries with a high burden of child and maternal undernutrition to accelerate the scale-up of food and nutrition actions.

⁵ An initiative to track the health of mothers and children under 5 to prevent unnecessary deaths.

One UN joint nutrition project phase 1

Effectively Fighting Chronic Malnutrition in Nyamagabe and Rutsiro Districts

This was a three-year project (2013–2016) funded by the Swiss Agency for Development Cooperation and the Embassy of the Kingdom of the Netherlands in Rwanda. It had five components:

- Enrich and fortify children’s diets and improve feeding practices
- Improve local production and consumption of nutritious and safe foods
- Improve access to appropriate food supplements for the most vulnerable to prevent stunting
- Enhance knowledge on dietary needs, nutritional status, and management of mother, infant and young child nutrition
- Coordination and M&E – strengthen districts’ capacity for multisectoral planning, coordination, management and M&E

Project objectives

- Improve nutritional status of children under the age of 2 and pregnant and lactating mothers in two districts
- Contribute in the long term to eliminate malnutrition in Rwanda by developing lessons that can be used to scale up nutrition actions countrywide

Expected results

Over three years, from 2013 to 2016, the two districts will have:

- 5% reduction in stunting per year among children under the age of 2 years.
- 30% reduction in anemia prevalence in children under 2 years of age.
- 20% reduction in anemia prevalence among pregnant and lactating mothers.

Key achievements

- Stunting was reduced by 2% in children under 2 (and 4% in ubudehe 1 and 2⁶), while the objective was a 5% reduction. However, stunting in children not included in the study actually increased over the same period, implying that the study cohort was potentially protective and kept the children from deteriorating.
- The goal to reduce anemia in children by 30% was exceeded.
- The goal to reduce anemia by 20% in pregnant and breastfeeding women was exceeded.

Three key success factors

- Coordination systems and structures
- A rigorous monitoring and evaluation system
- Government ownership and sustainability

One UN Joint Nutrition Project phase 2

Context

Phase 2 was needed to support the strengthening of national systems in order to ensure sustainability of phase 1 achievements. The project aimed to build on the achievements of phase 1 using existing UN structures and coordination mechanisms.

⁶ ‘Ubudehe’ refers to the long-standing Rwandan practice and culture of collective action and mutual support to solve problems within a community. There are four categories of ubudehe recognized by the government, reflecting their degree of social and economic vulnerabilities. Categories 1 and 2 are the most vulnerable.

Project summary

- **Title:** Effectively Fighting Chronic Malnutrition in Rwanda
- **Goal:** Contribute to the Government of Rwanda's efforts to effectively fight against stunting in Rwanda
- **Beneficiaries:** National and decentralized levels
- **IPS:** National Early Childhood Development Program (NECDP) and social cluster ministries
- **Duration:** 18 months – July 2017 to December 2018 (additional 6 months no-cost extension)
- **Donor:** Swiss Agency for Development Cooperation

Strategic objectives (SO)

- SO 1: Support NECDP to effectively coordinate all food and nutrition interventions in Rwanda
- SO 2: Strengthen the national capacity to develop and/or scale up national food and nutrition programs
- SO 3: Strengthen the capacity of nutrition services and service providers including health care providers, CHWs, school teachers, and agriculture promoters at the decentralized level
- SO 4: Increase M&E capacity and knowledge management of NECDP and other sectors
- SO 5: Support NECDP to efficiently deliver policy review and advice on all food and nutrition related matters

Challenges

- Change in government counterparts' structures
- Limited government capacity to absorb funding by implementing activities in timely manner
- Conflicting agenda – UN agencies' internal priorities supersede UN Network priorities

Lessons learned

- Government buy-in and ownership are particularly important in implementation of UN Joint nutrition programs' priority activities.
- Joint programming strengthened collaboration among UN agencies and enhanced their capacity for resource mobilization and support to the government.

Comments and questions

Question: I have learned that behavior change is difficult; that it is easier to change attitude. If that is the case why don't we focus on attitude change?

Response: Changing attitude is a step forward but behavior change is necessary for our work to have impact. But it takes time and involves several steps among which is attitude change.

Question: How can the 8-month UN program have any impact on stunting?

Comments

Behavior change encompasses knowledge acquisition, attitude change and practice of new behavior. Data showed that those who were exposed to many contacts were more amenable to behavior change. If behavior change does not arise from your work, find the critical factors preventing the change, which could be cultural, and change your strategy.

One of our starting points was determined based on the belief that following the whole behavior change process was not necessary to achieve behavior change. It was based on the notion that if farmers planted more nutritious staples these would be consumed by households. But in our work, we found that this is not

the case. Taste, cooking requirements etc. affect consumption. We want to take the long road to behavior change so that people are empowered to make decisions on their health.

Programs are funded for specific activities with some aimed at improving knowledge. Although along the way you might realize that knowledge is not a problem, you should recognize that it could change attitudes. In practice we need to ensure that we do not ignore the fact that even if we have knowledge and attitude change, behavior change is not automatic. We should think through these issues in program funding and ensure to incorporate the components of the complete behavior change spectrum.

Thematic group discussions

Instructions

- Discussions will take 45 minutes.
- Presentation at the group's table – total 45 min
- Writing material will be provided for participants to note down their ideas as much as possible (flip charts, sticky notes, writing cards). These notes will later be synthesized by us and a consultant/note taker.

Group 1: Civil society – NGOs and extension service providers



Responses

1. What do you consider as an achievement/game-changing approach in the recent past?

- Providing knowledge on group training (the knowledge on the benefits of change)
- Cooking demonstration events using locally available materials
- Practice and demonstrations in face-to-face training to build trust in facilitators
- Using community health workers
- Umugoroba w'Ababyeyi events

2. What do you consider as the major challenge in getting people to respond to nutrition-sensitive interventions?

- Mindset – it is difficult to change people's beliefs
- Poverty
- Irregular follow-up by CHWs, who are limited in numbers

- Lack of support from influencers (people around the women and men targeted by the behavior change messages)
- Introduction of many practices/behaviors at the same time

3. What needs to be done differently?

- Improving economic status so that savings groups can be formed
- Separating men and women during group training
- Recruiting more volunteers to complement CHWs

4. Who needs to be involved for partnership, co-investment and co-responsibility?

Partners	Roles
Local government	Regular follow-up of CHWS Support from influencers
Private sector	Training to change community mindset
Faith-based organizations	All of the above

Comments and questions

Question: Can you explain what you mean by “many different behaviors” need to change and that many more people are needed to promote behavior change for better nutrition? Isn’t there a risk of sending out conflicting or confusing messages? How do we ensure message quality control when we broaden the set of agencies and media outlets involved?

Comments

Currently nutrition messages come from many different sources. There is need to standardize the message being given. That is why the issue of quality control is important and why in monitoring we need to find out if our project communication activities are being implemented as we intended.

There are different levels at which messaging should be controlled, i.e. the individual, household, community and wider public levels. This means that the messages going to the mass media, the community etc. need be consistent in content.

In the case of Tanzania, all messages on nutrition require the approval of the Tanzania Food and Nutrition Centre before they are released.

The Rwanda NECDP has a behavior change communication strategy developed in consultation with many stakeholders. The strategy has enabled the review of all messages in the field of both nutrition-specific and nutrition-sensitive nature and narrowed them down to just a few that get into the media. Those messages can be integrated into messages from other institutions but should not be modified. Standards have been set for the minimum requirements for nutrition message contents.

Group 2: Regulators – NECDP, RAB and health centers



Responses

1. What opportunities exist currently at the country level to facilitate nutrition behavior change in the community?

- The community health work structure exists and is operational
- Community-based nutrition program at the village level
- School feeding programs (providing one cup of milk per child)
- Umugoroba w'Ababyeyi (weekly evening program at the village level)
- Village agriculture communities that work through farmers' promoters in each village
- National Early Childhood Development Program
- Districts' Program to Eliminate Malnutrition
- Existing nutrition programs supported by donors (Shisha Kibondo, Gikuriro, etc.)
- Nutrition-sensitive programs
- Agriculture Sector Working Group/Ministry of Agriculture
- Family Planning Program

2. What constraints exist associated with the current policy and regulations and based on your experience in coordinating work with other government sectors and development partners?

- Districts' Program to Eliminate Malnutrition is not well organized, implemented or budgeted for
- Conflicts and overlapping of Joint Action Development Programs
- The fortification program for the products selected is not well implemented. Imported food products such as salt, maize, cassava, beans etc. need to be fortified as recommended
- Low participation of people in programs
- Low level of education
- Poor coordination of programs

3. How can these constraints be handled?

- Strengthen coordination among implementers of nutrition initiatives such as local governments and government ministries
- Strengthen linkages between programs
- Strengthen civil society and advocacy roles of partnerships
- Media intervention, i.e. use various channels
- Promote networking among nutrition intervention programs
- Develop a policy on nutrition and behavior change with a good monitoring mechanism

4. Who needs to be involved for partnerships, co-investment and co-ownership?

- All nutrition partners and programs
- Research institutions
- Academic institutions
- Private sector
- Cooperatives and farmers' organizations
- Donors and financial institutions
- Civil society (faith-based organizations)

Comments and questions

Question: Does the policy on fortification of some of the products or crops imported into Rwanda pose a constraint?

Response: Rwanda has a policy on tackling malnutrition using fortification of foods such as sugar, salt, wheat, maize and edible oil, but this policy is not implemented well and actually only salt is fortified.

Question: A fellow participant in this meeting noted that in Tanzania edible oil and maize flour are fortified, but the maize flour imported from Tanzania into Rwanda is not.

Response: The maize flour that Tanzania exports to Rwanda is not fortified because it originates from large-scale maize processors who currently do not fortify it; only small and medium-scale processors are doing this.

Comments

The availability of professionals in various sectors and at various levels versed in nutrition-specific and nutrition-sensitive knowledge provides an opportunity to facilitate behavior change. Tanzania has a policy on industrial fortification of food such as wheat and maize flour and edible oil.

There is an opportunity for advocacy for not only fortification but also biofortification. For large-scale impact we should ask ourselves how we can work with the government and industries to facilitate the blending of biofortified crop products such as OFSP puree and vitamin A-rich cassava in processing of products such as maize and wheat flours or even pastry products. Kenya is already on the way to ensuring that nutritious traditional grains are blended in the industrial processing of cereals such as maize and wheat. This move will provide an opening for the production of biofortified crops and is a way to provide assured market access for their crops.

It is important that we have input in the development and implementation of policies that affect health and nutrition. The VISTA staff in Tanzania are already involved in this with the project leader participating in the national nutrition policy-making organs.

Group 3: Development practitioners – FAO, CIP, USAID



Responses

1. What roles have your institutions played in linking farming communities and commodities to nutrition?

Could be OFSP or any other agricultural commodity.

- Selection of crops that are more nutritious than those regularly grown types
- Collaboration with partners to disseminate the nutritious crops
- Conducting nutrition education through counseling and messaging

2. What has been the major lessons learned while using approaches in No. 1? Provide both positive and negative lessons emerging along the implementation process.

- Need to have more innovations on how to approach people
- Have a forum where results can be shared
- Engage more health centers and other partners during project implementation
- Build the capacity of the institutions and maintain linkage with the local government and local development organizations to ensure sustainability of the work once the project phases out
- Some projects have left little impact on the ground because of their large-scale coverage. It is preferred to focus on a small size of the beneficiary population, as you have a better chance of generating more significant impact
- Plan for the long term
- Small changes in technology require big efforts for behavior to change
- There is a need to involve traders who collect farmers' harvest, wholesalers and retailers for improved availability of our products in the market

3. What opportunities exist currently, e.g. funding priorities and opportunities and government policies?

- Many countries and governments are interested in nutrition and are developing nutrition policies and programs
- Many donors are focusing on nutrition programs

4. Who needs to be involved for partnerships and co-investment?

- Private sector
- Government
- Financial institutions
- Development partners
- Donors

Feedback and research suggestions

Donors

DFID

DFID is interested in research that will:

- help guide the programming of the DFID long-term work to eliminate malnutrition and to foster private sector involvement
- assess the impact of investments directed towards tackling malnutrition
- define the nutrition pathway that is the most effective in reaching vulnerable populations and generating the greatest trickle-down impact
- identify the entry points in the behavior change chain where malnutrition interventions can be introduced
- determine how policies have helped tackle malnutrition.

Question: What would DFID like to see addressed in the short term?

Responses:

DFID's short-term programs are generally intended to address emergency situations. In such cases the focus is on food diversity, food availability, cost of nutritious food and what can be done to improve access to these foods, barriers to market access, and market improvements that help improve farmers' livelihoods.

The long-term programs have the goals of creating jobs, raising income levels to improve livelihoods, and improving community resilience.

DFID allows for flexibility in program implementation but that is dependent on its assessment of the implementation of the program.

USAID

The research that would interest USAID would:

- foster the achievement of its program aims by helping to find new ways to address the challenges and developing strategies to implement the programs
- generate evidence to ensure that all interventions are based on evidence. Evidence-based policies are important to ensure that sustainable solutions are generated for the development challenges we are facing
- encompass policy analysis to understand the environment in which USAID is operating
- include a monitoring and evaluation component, which is crucial in helping determine if USAID programs are promoting the right practices and if they are making impact, and if USAID is doing what it set out to do. Generation of data is important to make sure we are doing the right things now and for posterity
- research analysis and implementation of new findings are important to USAID.

Comments and questions

Questions

We have lots of data about what we need to do but we are not getting the results we want; why is this so? I would like to hear about the flexibility of USAID in providing funding for research themes that spring up during implementation of programs.

We are often looking for quick wins rather than sustainability, e.g. in the case of fortification versus biofortification; how are quick wins balanced against long-term sustainability?

Responses

We focus on building systems, which is a sustainable way to address malnutrition and also food security and nutrition. We are interested in organizing farmers so that they can be effective in their role as producers and to facilitate their access to inputs and business services, working with the private sector and financial institutions. We involve the private sector and others so that they can be a market for farmers. By addressing all the challenges at each level of the value chain, we address youth unemployment, income and food security, etc., integrating nutrition by adding value to the product.

We are involved in building the capacity of CSOs to promote their involvement in nutrition work, and in strengthening health systems to deliver education and nutrition best practices.

We want to work with the government.

To generate quick wins in malnutrition programming we use approaches such as supplementation at the clinic level.

Government

From the RAB perspective, the government would be interested in:

- research on biofortified crops and how the added specific micronutrients help address malnutrition.
- research and extension work to find efficient ways to improve availability of improved crop varieties to farmers, such as orange maize, whose presence is not known to RAB.
- consumer acceptability studies for crops such as OFSP.

Comments and questions

Questions

Questions exist in regard to the sharing of information, because timeliness of results and their easy accessibility among researchers are critical factors; is this a bottleneck in our work?

How can the constraints of access to and sharing of data at the national level be resolved? Nutrition data at the national level are not adequate.

Comments

Information seems to be available in small pockets, and there are issues of its access its sharing.

Orange maize exists in three varieties in Rwanda but is not yet available to farmers.

Engaging the government is key in nutrition initiatives, and in Tanzania projects involving the government are required to have the principal investigator coming from the government. The research areas have to be

approved by the government and any information generated from the research must first go to the government before it is shared with others. The research results are expected to inform government policy.

Question: Is involving the government as the main partner a good or bad practice in research?

Response: The practice is beneficial in capacity sharing and ensuring that what was found is what is reported.

Comment: In Rwanda, ethical approval is needed for research, but the process of obtaining it can be long and tedious.

Question: Isn't the requirement to give the government the results from research as the first step in their release a way of controlling what is made available?

Response: That might not be that important. What we should be concerned with are our knowledge management policies. The government is not efficient in distributing information and so we have to find innovative ways of making information available to the people who need it.

Question: What are the key results from what we have covered in the last two days? We still need to define the specific outputs of this meeting.

Response: The notes from the meeting will be synthesized to draw out some lessons for sharing.

Comments

We need to establish what information challenges each stakeholder at each level is facing and determine how to overcome them.

A large resource of trained workers is left unattached when projects conclude, whose skills could be used to contribute to the sustainability of the initiatives introduced by the projects: could donors look for ways of integrating such people?

NGOs

CRS

We are collaborating with the government and we want to strengthen that collaboration. But we still have gaps in behavior change data to promote biofortified crops. We would like to collaborate with other partners that could fill these gaps.

Comments and questions

Questions

What do we need to do so that data from research are made available and used?

Nutrition has a lot of actors; how are we transforming the sector to allow the efficiency of these actors? How are we changing the system to allow smooth collaboration among these actors?

Comments

Nutrition is a piece of the puzzle; there are other elements that have to be aligned for nutrition initiatives to work, such as policies, drinking-water, sanitation and hygiene (WASH) services and agricultural innovations.

At CIP we are confident that we have something to contribute to nutrition, and that is the food crop varieties we research on and breed and the knowledge and know-how on how those crops benefit the body. We

recognize that other actors also are involved in nutrition work, but we all need to be on the same page. Together we need to find ways to help families to access these crops so that they can improve their lives.

Operating in programs has its tradeoffs, particularly in regard to sustainability. We will need to find ways to work without sacrificing the continuity of innovations that work.

SUN

Data collection and accessibility are a major problem, so SUN conducts M&E on a quarterly basis. SUN has been mapping nutrition stakeholders in Rwanda and their work, all the way to the district level.

Workshop agenda

Tuesday, 11 September 2018

Time	Agenda item	Responsible
Morning Session Chair: Robert Ackatia-Armah		
08:00–08:30	Registration	Grace/Valentine
08:30–09:00	Introduction	Robert Ackatia-Armah
09:00–09:30	Opening remarks – background and purpose	Simon Heck and Martin UKAID/DFID
09:30–10:15	SUSTAIN and VISTA country updates Rwanda, Tanzania, Malawi	Kirimi Sindi, Frederick Grant, Wells Kumwenda
10:15–10:45	Open questions session for all countries	All
10:45–11:15 Health break		
Chair: Kirimi Sindi		
11:15–12:00	Partners presentation on nutrition interventions implemented in Rwanda (YWCA, IMBARAGA and DERN)	YWCA/Christine Nyirahabimana IMBARAGA – Console Mutuyemariya DERN – Etienne Kabahizi
12:00–12:15	Open questions and discussions	All
12:15–13:00	Findings and results from quantitative studies carried out in Rwanda and Tanzania	Frederick Grant and Robert Ackatia-Armah
13:00–14:00 Lunch break		
Afternoon Session Chair: Frederick Grant		
14:00–14:45	Findings and results from qualitative studies carried out in Rwanda and Tanzania	Robert Ackatia-Armah and Frederick Grant
14:45–15:00	Open questions and discussions	All
15:00–16:00	Thematic group discussions (proposed questions will be shared)	All
16:00–16:15 Health break		
16:15–17:00	Group presentations and discussions	All
17:00–17:15	Day 1 summary – Recommendations for nutrition behavior change practices	Frederick Grant and rapporteur

Wednesday, 12 September 2018

Time	Agenda Item	Person
Morning Session Chair: Wells Kumwenda		
08:30–08:45	Re-cap	Robert Ackatia-Armah
08:45–09:45	Partners' experience sharing on approaches for behavior change and nutrition interventions UN Agencies (FAO/UNICEF; IMA World Health, Tanzania; PANITA, Tanzania; MINISANTE/RBC; NECDP)	UN representatives Generose Mulokozi Tumaini Mikindo
09:45–10:00	Open questions and discussions	All
10:00–10:30 Health break		
10:30–11:30	Feedback and research questions from the workshop: Implications for policy and research	Frederick Grant and Robert Ackatia-Armah
11:30–12:00	Open questions and discussions	All
12:00–12:15	Closing remarks and way forward	Simon Heck
12:15–13:15 Lunch and departure		

Participants

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CIP is a research-for-development organization with a focus on potato, sweetpotato and Andean roots and tubers. It delivers innovative science-based solutions to enhance access to affordable nutritious food, foster inclusive sustainable business and employment growth, and drive the climate resilience of root and tuber agri-food systems. Headquartered in Lima, Peru, CIP has a research presence in more than 20 countries in Africa, Asia and Latin America.

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