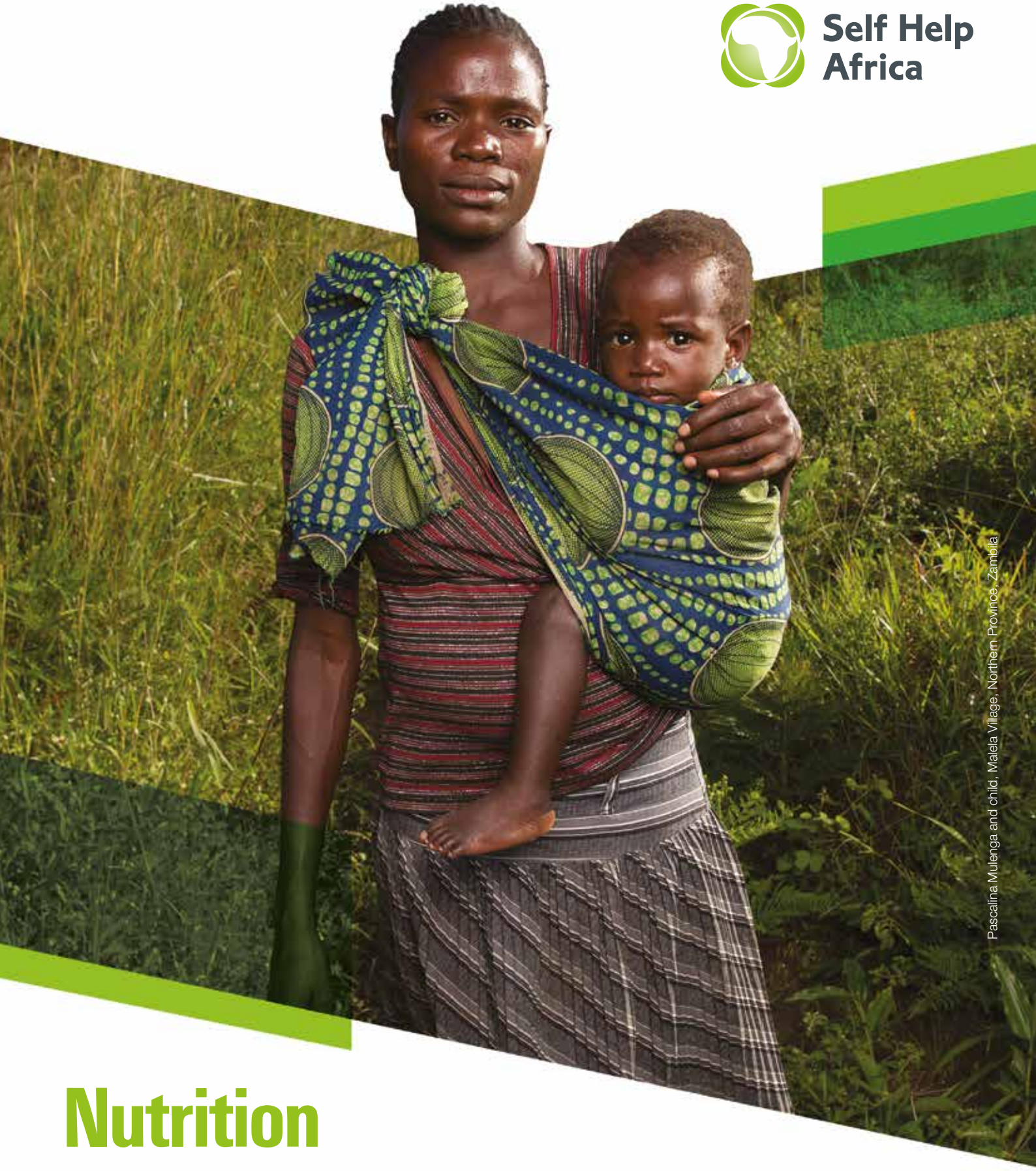
Self Help Africa



Pascalina Mulenga and child, Maleta Village, Northern Province, Zambia

Nutrition

Community Integration of Nutrition within Agriculture Programming (CINAP)

selfhelpafrica.org

Lina Lungu and child, Nsunda Village, Zambia

Introduction

Malnutrition has a significant impact on mortality and morbidity, disproportionately affecting young children. Until recently the focus has been on reducing levels of visible malnutrition (acute malnutrition), using a curative approach, mainly addressed through the Ministries of Health. Growth monitoring at health centres – where programmes are in place on health/nutrition promotion – and at community level, identifies children with acute malnutrition and those who are underweight. Where community health workers are present, their role mainly focuses on curative approaches, identifying and treating minor illnesses and referring the more severe cases to the nearest health centre.

Stunting (chronic malnutrition) is less visible and more difficult to diagnose. Children are shorter than they should be for their age, with stunting impacting significantly on their cognitive development. The most rapid growth in a child's life takes place in the first '1,000 day window of opportunity', the period from conception to the first two years in a child's life. Measuring height and comparing to population growth standards of expected height for age is the only way of diagnosing stunting. However, health workers are normally not trained to measure height and lack the appropriate equipment. Stunting is, as such, an invisible form of malnutrition although in many Sub-Saharan African countries there are high levels of stunting in children under five years varying from 30%-40%[1] with huge disparities both between and within countries[2]. It is difficult to isolate stunting and poverty alone, as there are many other variables at play. Studies indicate strong links between different types of poverty, food insecurity and malnutrition[3]. There are also links to malnutrition and maternal education levels but possibly only modest returns[4]. The long-term consequences of chronic malnutrition are severe, including reduced potential in physical and cognitive development leading to poorer economic outcomes for stunted people. This reinforces a cycle of poverty and links to diet-related non-communicable diseases in later life such as heart disease and diabetes.

1 UNICEF/WHO/World Bank Group – Joint Child Malnutrition estimates 2017 edition.

2 Individual Country DHS Reports.

3 Child growth in urban deprived settings: does household poverty status matter? At which stage of child development? : Jean Christophe Fotso et al 2012.

4 How important is Parental Education for Child Nutrition, World Development, Volume 94, Pages 448 - 464.

Table 1: Self Help Africa Nutrition Survey Results

NUTRITION SURVEY RESULTS 2014 and 2017 and DHS Results			
Height for Age Z-Score	**2014**	**2017**	**DHS 2013-2014 Northern Province**
Prevalence of stunting < 5years	53.4% C.I. (47.8 -59.0)	50.7% C.I. (44.4-56.9)	48.5%
Between -2-3 z-score (moderate)	26.9% C.I. (23.4-30.4)	25.8% C.I (22.2-29.7)	24.9%
Below -3 z-score (severe)	26.5% C.I. (20.7-32.3)	24.9% C.I. (18.8 -32.2)	23.6%
Stunting < 18mths	38.5%	31.4% C.I. (23.1-41.0)	
Between -2-3 z-score (moderate)	19.7%	20.4% C.I. (14.3-28.3)	
Below -3 z-score (severe)	18.8%	10.9% C.I. (6-19.1)	

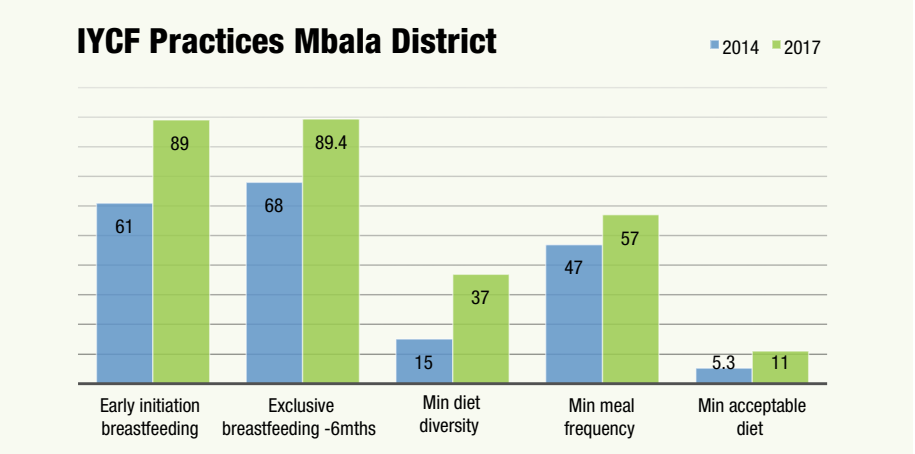
In order to support reductions in stunting, a multi-sectoral holistic preventative approach is required. The improvement of maternal health and nutrition is directly linked to better outcomes for new-born babies. Good Infant and Young Child Feeding practices (IYCF) along with improved environmental sanitation, including safe drinking water, improved food security and access to health care services are required in order to have a meaningful impact on reducing stunting. A multi-sectoral approach is key to ensuring success due to the multiple causes of stunting. This can be challenging, as sometimes people work in silos within different sectors (government, civil society, private) and at different levels (local, regional, national).

With this in mind, Self Help Africa (SHA) developed a model of **Community-Based Integration of Nutrition and Agriculture Interventions** in combination with basic WaSH (water, sanitation and hygiene promotion) to try to address the challenges mentioned above and lay the foundation for new integrated nutrition and livelihoods programming. This multi-sectoral model was piloted in the Irish Aid Local Development Programme (IALDP) in Northern Province in Zambia from 2013-2017, with a one year extension in 2018. The nutrition component didn't commence until mid-2014. The results have been very promising with trends in reduction in stunting in children under 18 months in particular, in a 2.5 year period. As seen in Table 1 above, stunting in children under 18 months has reduced from 38.5% to 31.4%.

Similarly, there have been improvements in IYCF practices seen in the Knowledge Attitude and Practice (KAP) Surveys conducted in Mbala district in 2014 and 2017. The graph below shows significant improvements in breastfeeding practices. Exclusive breastfeeding in six months has improved from 68% to 89.4%. Minimum acceptable diet, although still poor, has improved from 5.3% to 11%.

Taking the learning from this pilot, we aim to roll this approach out in other programmes to test the effectiveness in different country contexts.

Graph 1: Self Help Africa KAP Survey Results



Rosemary Chate and her daughter,
Malela Village, Luwingu, Zambia

1. The Model

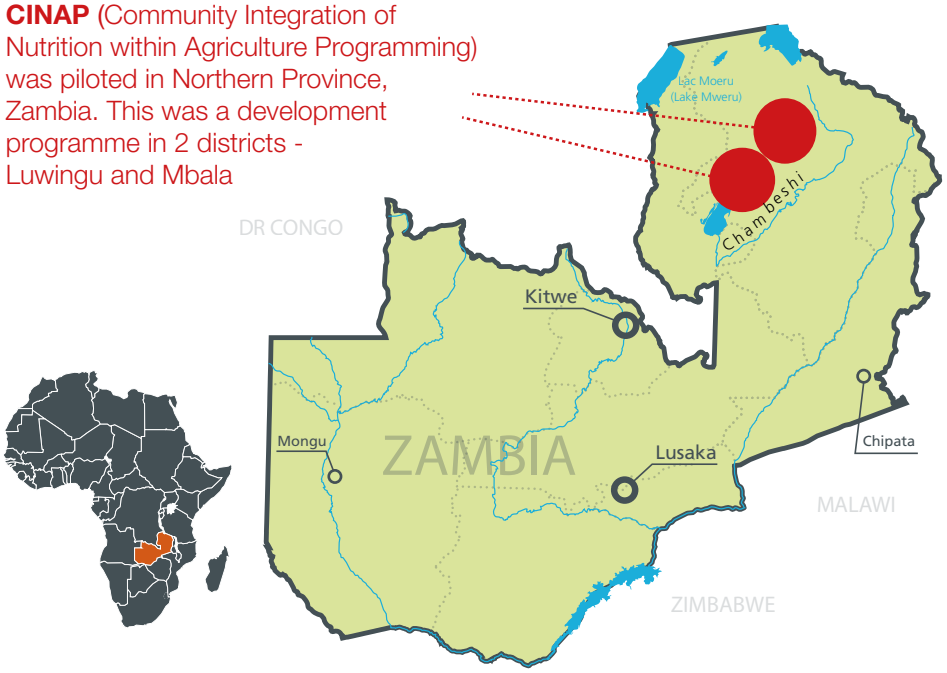
Community Integration of Nutrition within Agriculture Programming (CINAP) is a model of community-based integration of nutrition which was developed by SHA to address high levels of stunting in children under two years. Recognising that the current health centre based approach has had limited reach in addressing the reduction of stunting, the aim of this approach is to place a strong nutrition component within agriculture programmes at community level. Looking at the need for a multi-sectoral approach, the model also comprises a water and sanitation component that is necessary to reduce risks of gastric illnesses which further exacerbate malnutrition. Links are also developed with the nearest health centres for both curative and preventative health care.

The core focus of this model lies in a combination of Nutrition Sensitive and Nutrition Specific Interventions within agriculture programmes at community level, with a particular emphasis on women of reproductive age, infants and young children.

Traditionally, **Nutrition Specific Interventions** are predominately placed within the health sector and include the following: Vitamin A supplementation, provision of therapeutic zinc for the management of diarrhoea, Iron and Folate supplementation during pregnancy, support for breastfeeding, nutrition education, treatment of infections and treatment of severe acute malnutrition. Nutrition Specific Interventions that can be undertaken at community level – and which are key to the model promoted by SHA – include a strong component of promotion of Infant and Young Child Feeding (IYCF). This comprises early initiation of breastfeeding after delivery, the promotion of exclusive breastfeeding up to six months, the promotion of both quality and quantity of complementary feeding at six months in conjunction with continued breastfeeding as well as general nutrition and health education. Other interventions also include Vitamin A supplementation for children of 6-59 months supported by the health centre staff. Through the training of people within the community on IYCF, mother-to-mother support groups are formed and

training and mentoring is delivered to pregnant women and new mothers by the community trained members. For nutrition-specific components that cannot be managed in the community, it is important that people are encouraged to attend their nearest health centre at times such as during pregnancy for ante-natal monitoring and to receive supplements such as Iron and Folate. In the case of young children affected by illnesses or losing weight, it is essential for them to be brought to the nearest health centre for the diagnosis and management of infections and management of severe acute malnutrition.

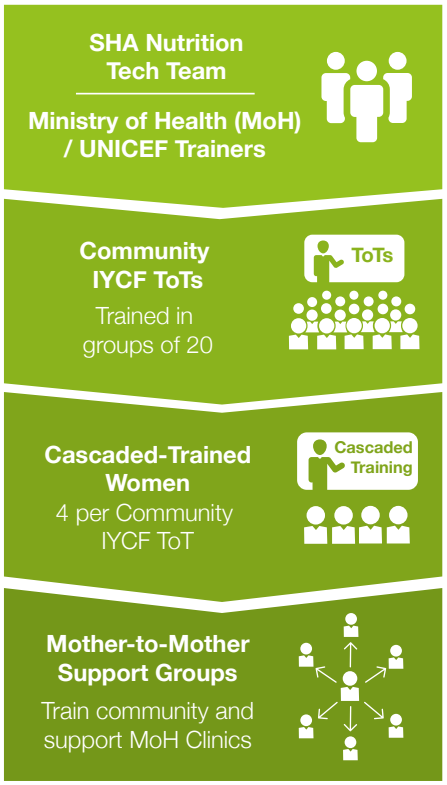
CINAP (Community Integration of Nutrition within Agriculture Programming) was piloted in Northern Province, Zambia. This was a development programme in 2 districts - Luwingu and Mbala



Within agriculture programmes, **Nutrition Sensitive Interventions** incorporate key components to support improved household food and nutrition security. Training is delivered to farmer groups using a Training of Trainers (ToT) approach and covering a variety of elements including: production of higher quality and quantity of diverse crops with a specific focus on pulses and vegetables, improved small livestock husbandry, understanding of food groups and the need for a balanced diet, better utilisation of food at household level in combination with developing local recipes and basic cooking demonstrations. Another important component is training on improved post-harvest handling and storage practices which are key to improving the shelf life of food and reducing wastage and spoiling.

As this is a multi-sectoral approach, a Water, Sanitation and Hygiene (WaSH) knowledge component is also part of the model, with a focus on personal, household and community hygiene and sanitation. Training involves information on the need for a clean environment, how to safely dispose of waste including human excreta, and how to keep water safe for drinking and good hygiene practices around food. It may include demonstrations on how to make a local 'tippy-tap' and local latrines. In our model, taking note of the budgetary implications for WaSH hardware such as those required for rehabilitating boreholes, building latrines or resourcing the drilling for water, a minimum requirement would be to focus on the 'software' elements of WaSH. Where possible, links are established with relevant government departments and other stakeholders to support this element.

Compared to the standard Ministry of Health (MoH) approach, SHA's model empowers the community to take direct responsibility for health and nutrition themselves through various training and capacity building initiatives such as the IYCF training and formation of mother-to-mother support groups described to the right. It is fundamentally a preventative approach rather than a curative one.



Felsiter Namfukwe (59), Nsunda Village, Northern Province, Zambia

1.1 Ways of Working: IYCF Trainers and Mother-to-Mother Support Groups

Nutrition Specific: At community level, 1-2 people are identified to become Infant and Young Child Feeding (IYCF) Trainers of Trainers (ToTs) – we would aim for an average ratio of 1 to 30 households, depending on context. The idea is to target mainly women while ensuring inclusion of approximately 20% of men to get their buy-in of the importance of nutrition at household and community level. This is important for success as men are often the decision makers and nutrition is generally considered a 'woman's responsibility'. These community members receive a 5-6-day residential training on the following topics: nutrition and health during pregnancy, safe delivery – ideally at the nearest health facility, early initiation of breastfeeding, promotion of exclusive breastfeeding to six months and introduction of quality and quantity of complementary feeding alongside breastfeeding at six months and basic care of sick children. Much of the training is practical and 'hands on' and is delivered by accredited MoH/UNICEF trainers using a nationally developed curriculum. The Community IYCF Trainers are responsible for cascading the training within their community, identifying and training four other people each. These newly trained people together with the Community IYCF ToT then form mother-to-mother support groups targeting pregnant women and new mothers. The Community IYCF ToTs are also linked to their nearest health centre, attending child health days and supporting health staff as required. They also refer children to the health centre.

In terms of the Nutrition Sensitive component, trainings are conducted on aspects such as a balanced diet and improved food utilisation. This is done through cooking demonstrations and delivered mainly through the Ministry of Agriculture staff where a nutritionist exists. This training targets members of farmer groups and other community members. Agriculture extension officers are responsible for training on improved agronomic practices and good animal husbandry. Training for the WaSH component is partly done during the IYCF training but also through the department of local government and other WaSH stakeholders working in the community.

The strength of this model lies not only in the integration of Nutrition Specific and Nutrition Sensitive Interventions but also in the multi-sectoral approach which accompanies it from planning to implementation and monitoring. Relevant Ministries at local and district levels are brought together and involved in the different interventions in collaboration with NGOs and other stakeholders.

Technical staff within each Ministry are involved in training, capacity building and mentoring at community level. These include representatives from the Ministry of Agriculture, the Ministry of Health, the Ministry of Local Government and others as relevant. Where a Scaling Up Nutrition (SUN) initiative exists, linkages are made with it so as to further enhance stakeholder coordination.

1.2 Essential Components

The CINAP model's essential components can be identified in the following elements:

1. **Context analysis:** Starting with an in-depth contextual and stakeholder analysis is key to ensuring that interventions are appropriate and respond to local needs and that relevant stakeholders are involved and well-coordinated at the early stages of programme design.

2. **Nutrition Specific training:** This training focuses on: the nutrition and health needs of vulnerable groups within the community, especially pregnant/ lactating women and children under 24 months. Where possible it should involve MoH/UNICEF accredited trainers.

3. **Nutrition Sensitive programming:** The integration of nutrition within agriculture programming is essential to improving food security. Increased production, diversity and utilisation of food together with nutrition knowledge and behavioural change are key to improving nutrition outcomes.

4. **Working with different line Ministries:** Working with Government Ministries across different sectors (especially the Ministry of Health, Ministry of Agriculture and Ministry of Local Government) allows for a more comprehensive lens in approaching nutrition needs at different levels and increases the potential for real collaboration on the ground contributing to long-term sustainability and positive impact.

5. **Working closely with Nutrition Coordination Committees at district and sub-district level:** These committees should be established where they don't already exist (often within the context of the SUN movement) and should comprise members from the relevant line Ministries at district level together with other stakeholders, including NGOs. They should be tasked with planning and coordination of activities to support improved nutrition outcomes.

6. **Linking in with Community Health Centres:** Community IYCF Trainers should be strongly linked to their nearest health centre as this collaboration ensures that health centre personnel are aware of community needs. In cases where the health centre capacity is limited, IYCF-trained people within the community are encouraged to support the centre, particularly during child health days.

7. **Simple Monitoring and Evaluation (M&E) tools:** Simple M&E methodologies should be developed in collaboration with the Ministry of Health, and should adequately reflect the activities being undertaken by IYCF trainers at community level. These tools should be submitted to the nearest health centre and shared with NGOs and other stakeholders.

8. **Gender inclusion:** Ensuring equal participation of men and women in the programme is key. In particular, it is important to ensure that influential men within the community partake in the various nutrition training as this will support buy-in and lead to positive change; men need to understand that nutrition is not just a 'woman's issue'.

9. **Translating material into local dialect and availing of pictorial/visual aids:** This is particularly important where literacy is an issue; it also helps in giving further legitimacy to the Community IYCF Trainers.

10. **Enhancing knowledge transfer:** Identifying diverse and creative ways to enhance knowledge transfer, including cooking demonstrations and role play, is important.

11. **Promoting basic WaSH practices:** This should focus on the promotion of good hygiene and sanitation practices at individual, household and community level, including aspects such as hand washing at critical times, safe drinking water, food safety (processing, storage), refuge disposal, and disposal of human excreta. Collaboration with stakeholders working on WaSH systems and infrastructure should be pursued.

2. The Experience of CINAP within the IALDP (Irish Aid Local Development Programme) in Zambia

The CINAP approach was piloted by SHA, with the support of Irish Aid, in Northern Province, Zambia between 2013 and 2017 with a one year extension in 2018 to consolidate and exit. This was a development programme in two districts (Luwingu and Mbala) targeting 16,000 households (approximately 90,000 beneficiaries) with a focus on women and other vulnerable groups. The programme had three main objectives:

- **To increase market-oriented sustainable agriculture production and productivity;**
- **To improve the nutrition and health status of vulnerable households in Northern Province;**
- **To improve service delivery to local communities by local authorities.**

Following on from an initial contextual analysis and baseline study, a wealth ranking exercise was conducted to assist with beneficiary identification. Within the identified communities, individuals were selected for participation in the programme and groups were formed. The groups were called 'Livelihood Enhancement Groups' (LEGs). Each group comprised 45 members with an average of 60% female participants. Initially the groups received training on group dynamics, putting together a structure including chair person, secretary, treasurer etc.

Different members within each group received specific training on a variety of agricultural/livelihood practices. They were then tasked with cascading the training within their group using a Trainer of Trainer approach (ToT). Some of the LEGs' members received inputs such as seeds and small animals (goats, chickens etc.) on a pass on/pass back system.

2.1 Nutrition and Agriculture Components

The nutrition component evolved over time. Initially the programme collected data on dietary diversity using a modified World Food Programme (WFP) tool to get an understanding of the variety of foods being consumed within the households. The results from the Food Consumption Score (FCS) undertaken in November/ December 2013 indicated that only 62% of surveyed households had acceptable dietary diversity in Luwingu - consuming an acceptable variety of food groups. Consequently, the first activities rolled out were the promotion of production of a better variety of foods, the growing of different varieties of pulses, small livestock rearing and basic nutrition education.

In mid-2014, a Knowledge, Attitude and Practice (KAP) study was completed in Mbala district and a nutrition survey conducted in Luwingu district in Nov/Dec of the same year. The results from these studies indicated that the nutritional situation was extremely poor, with levels of stunting in children under five years at 53.4% and severe stunting at 26.6% in Luwingu district. Infant feeding practices were also very poor with early initiation of breastfeeding at 53%, exclusive breastfeeding up to six months at 55%, and extremely poor levels of consumption of acceptable quality and quantity of complementary foods (17% and 48% respectively). Water, sanitation and hygiene practices caused concern. There was little understanding of the need to hand wash at critical times (before preparing food, before eating, after using the toilet) and how to make drinking water safe. There were very high levels of illiteracy within women. Based on these results, it was decided that there was a need for a more comprehensive nutrition and WaSH component in the programme.

The component on Nutrition Specific IYCF training is detailed on page 3 where individuals were trained and in turn cascaded training in the community which led to the formation of mother-to-mother support groups and the rolling out of nutrition training/ information sharing and cooking demonstrations to specific vulnerable groups.

Over time, the Community IYCF trained workers were linked with the nearest health centres and tasked with providing them with monthly activity reports. Some of these Community IYCF Trainers also attended the ante-natal and under-five health days in their local health centre and provided support to the health centre staff.

Some of the Community IYCF Trainers conducted nutrition screening at community level, doing regular MUAC (mid upper arm circumference) screening and referring children identified with malnutrition to the nearest health centre or providing support and education to mothers/ carers on nutrition within their community. Over 500 LEG members received the Community IYCF ToT training and over 2,600 community members received cascaded training.

In addition to the strong general agriculture component within the LEGs groups, a component on growing vegetables and fruit trees (kitchen gardens) was added in later within the mother-to-mother support groups.

Collaboration was also sought from another NGO, World Vision, which linked in with the trained community workers and provided a strong focus on WaSH with emphasis on aspects of improving environmental sanitation, construction of 'tippy-taps', improved latrines and drying racks together with improved personal and household hygiene practices.

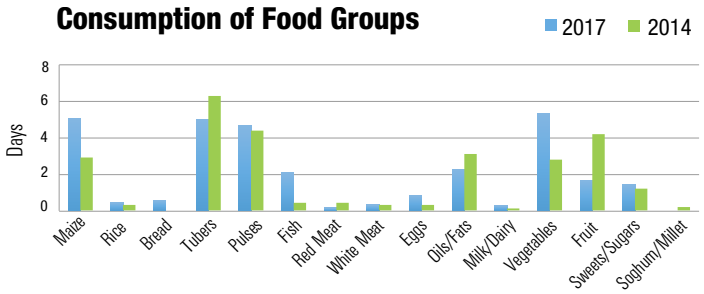
2.2 Major Achievements

A number of studies were completed in mid-2017 to measure the impact of the various interventions. A repeat nutrition survey after 2.5 years showed significant improvements in stunting trends among children under 18 months, with levels decreasing from 38.5% in November/December 2014 to 31.4% in April 2017. More importantly, a change in the ratio of moderate and severe stunting was observed. In the 2014 study, the ratio of moderate to severe stunting was 1:1, while in 2017 this had changed to 2:1, meaning far fewer cases of severe stunting. In terms of IYCF practices, there were some statistically significant improvements particularly in relation to: pregnant women attending ante-natal services at least three times during pregnancy, mothers initiating breastfeeding within one hour of delivery, and exclusive breastfeeding to six months. There were also statistically significant

improvements in complementary feeding practices with increases in both the quantity and quality of meals provided to children from 6 to 24 months. Improvements were recorded also in WaSH practices, including in the use of latrines, 'tippy-taps' and drying racks. There was also a notable increase in the treatment of drinking water to make it safe.

Household dietary diversity over the lifetime of the programme had also improved. The introduction of pulses in Luwingu, together with training on their nutritional value and ways of utilising them, was an important factor. Between 2013 and 2017 the number of days pulses were being consumed increased from 2.2 days to 4.6 days. This is particularly important as pulses are a nutritionally valuable crop especially where the diet is poor in other good sources of proteins such as fish, meat, eggs and dairy. There are seasonal variations also, particularly when populations are dependent on what is locally available which affects food consumption.

Graph 2: Variety of Food Groups Consumed – April 2017 and December 2014



Several factors influenced the success of the programme in Northern Zambia. These include: the willingness of the local authorities to work with SHA and the IALDP which led to close collaboration between the Ministry of Health and the Ministry of Agriculture; the presence of SHA technical staff on the ground who worked very closely with government and the fact that a strong agriculture component aimed at improving food security was being implemented even prior to commencing the nutrition component[5]. The community involved in the programme felt that by improving food security it was possible to make improvements in nutrition practices. This laid the foundation for strengthening nutrition. Close collaboration with another NGO specialising in WaSH was key in introducing strong aspects of water, sanitation and hygiene in the programme.

5 This was not intentional but proved to be a key element of success. Our recommendation would be for the two components to start at the same time.

3. On-going Monitoring of Interventions

In addition to ensuring that local health centres and Community IYCF ToTs are monitoring certain programme aspects such as the trainings conducted in the community, cooking demonstrations, MUAC screening and referrals, it is important to have a strong M&E system, with clear baselines, adequate monitoring plans and an effective learning strategy.

Typical indicators for this type of programme would include:

On the agriculture and socio-economic side:

- **Increased level of production**
- **Crop diversification**
- **Changes in household disposable income**
- **Women's empowerment**

On the nutrition side:

- **Number of months households have access to sufficient food**
- **Household dietary diversity (seven day dietary recall) seasonally (minimum twice per year)**
- **Levels of stunting – start and end of 3-5 year programme**
- **Acute malnutrition**
- **Increased knowledge of IYCF practices and WaSH**
- **Behavioural change in IYCF and WaSH**

Justina Nkangwa, Nsunda Village, Northern Province, Zambia

4. Conclusions

Embedding Nutrition Specific and Nutrition Sensitive Interventions at community level within a multi-sectoral intervention is a new approach. This programme was a pilot with interventions evolving throughout the funding period due to Irish Aid funding flexibility which was extremely appreciated. It is important to take learning from this experience to assist in developing better community integrated programmes.

Some key learnings are mentioned here. A comprehensive nutrition situation analysis early on in programme design can help to shape both nutrition and agriculture interventions. This can also assist in ensuring that there is better multi-sectoral coordination which will ultimately have an impact on programme sustainability. Resources are always challenging, therefore better planning on activities and budgets within each sector, and the close coordination of same, would be very important.

The model and its approach could offer interesting contributions to a number of policy processes at both district and national level through, among others, close collaboration with initiatives such as the SUN movement.

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