

## DRY ZONE DEVELOPMENT PROGRAMME

### ANNEX 5: NUTRITION

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## ACRONYMS

3MDG	3 Millenium Development Goals
ACF	Action Contre La Faim
AMW	Auxiliary Midwife
ASF	Animal Source Foods
FGD	Focus Group Discussions
HKI	Helen Keller International
IP	Implementing Partners
IYCF	Infant and Young Child Feeding
KI	Key Informants
LEARN	Leveraging Essential Nutrition Actions for Reducing Malnutrition
M&E	Monitoring and Evaluation
MoH	Ministry of Health
NGO	Non Governmental Organisation
NNC	National Nutrition Centre
NPAFN	National Plan of Action for Food and Nutrition
PLW	Pregnant and Lactating Women
PSI	Population Services International
SC	Save the Children International
SUN	Scaling Up Nutrition
U2	Under 2 years old
U5	Under 5 years old
UN	United Nations
UNICEF	United Nations Children Fund
WFP	World Food Programme
WHH	Welthungerhilfe
WHO	World Health Organisation

## A. INTRODUCTION

There are many examples in the existing literature regarding the hypothesis that an increase in economic growth alone does not immediately translate into a reduction in malnutrition. What is needed is a deep understanding of the causes of malnutrition and then approaches implemented which tackle the multi sectoral reasons why households and individuals are nutrition insecure in any specific context. Activities to enable economic growth should be nutrition sensitive and translate into food availability, access and utilisation as well as reductions in poverty and broader social development<sup>i</sup> in order to impact on malnutrition rates. Increasing food availability and reductions in poverty is in line with LIFTs objectives and strategies to further increase the nutrition sensitive nature of achieving these objectives are outlined below. There is a need to identify how far the programme can go beyond nutrition sensitive food security and livelihoods activities, in impacting on broader social development issues such as gender empowerment and health access which are also proxy indicators known to have a significant link to malnutrition. This report outlines the opportunities and avenues by which the programme can have an impact on nutrition security whilst still remaining within LIFTs mandate.

## B. STATUS AND SITUATION ANALYSIS

The nutrition situation in the central dry zone is characterised by long term, or chronic, food insecurity with regular periods of more acute food insecurity and shortage<sup>1</sup>.

The four townships of Myingyan, Natogyi, Thaingthar and Mahlaing in Mandalay Region and Pakokku and Yesagyo in Magway fall into the Dry Land Farming agro-ecological area as categorised by WFP<sup>ii</sup> in the recent food security and nutrition survey and the nutrition indicators are significantly worse in this agro-ecological zone than other zones in the dry zone, with prevalence of wasting at 13.9% and stunting 30.8%. Both these indicators are categorised as a serious public health issue by WHO. Stunting, is an indication of chronic malnutrition and long term food insecurity, the causes of which can begin in pre pregnancy and whilst the child is still in utero. Stunting can be caused by long term poor access to adequately diverse foods low in zinc, high infection and poor health environment of both the mother and child. Stunting affects a child's cognitive development and as a result they are less likely to reach their full growth, education and earning capacity. If a child is stunted by the age of 2years old they are not able to 'catch up' this growth in the future to reach their full growth and developmental potential. This means that the window of opportunity to for interventions to limit the risk of stunting should be targeted from pre pregnancy and pregnancy through to the child's second birthday. Wasting is an indicator of acute or short term malnutrition which is a result of short term food insecurity or diet inadequacy or infection. Poor health outcomes are also a cause of acute malnutrition including repeated diarrheal episodes related to poor hygiene and sanitation. Poor maternal nutrition, a lack of exclusive breastfeeding, poor complementary foods, low levels of sanitation and poor hygiene practices, poor health status contributes to a child's risk of being malnourished. As a result of inadequate diets and infant feeding and as a consequences of recurrent infections often related to hygiene and sanitation conditions micronutrient deficiencies are common.

Key micronutrient deficiencies which are prevalent are detailed below although there is a lack of accurate, regional data available:

- Thiamine (B1) - 5<sup>th</sup> leading death of children under 1 year in Myanmar. A result of a diet which is highly dependent on white rice with low diet diversity and is largely preventable through maternal supplementation as well as improved diet quality. Around 55% report taking supplements of B1.

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<sup>1</sup> Indicated by stunting rates of 27.5% and wasting 12.3% - WFP/SC Food and Nutrition Security Survey 2013.

- Vitamin A – Consumption of vitamin A source foods was reported as high in recent surveys although there is no available, rigorous, data of vitamin A deficiency prevalence and Vitamin A deficiency is normally expected in settings such as this. According to government data over 95% of U5s tested normal for vitamin A status. WFP/SC survey recorded 71% of U5s received supplement in the last 6 months, higher than the national average<sup>iii</sup> but only 32% received it post-partum which is lower than the national figure .
- Iron – There is very little evidence available to know the prevalence of iron deficiency at a township level however national anaemia rates in school age children are at 50% and around 63% amongst pregnant women<sup>iv</sup> and given poor dietary diversity, low availability of animal source foods and poor infant feeding practices it is expected to be a concern. Iron Folate supplementations are routine during pregnancy and 85% report taking them although there is no evidence for whether they receive and take the full course.
- Zinc – Zinc, like iron, plays a vital role in the function of the immune system and is essential for normal growth and development and is most easily consumed and absorb from animal source foods. Little available data and low levels of fortification indicate consuming adequate levels of zinc is unlikely.

### *Conceptual Framework of Malnutrition*

UNIEFs conceptual framework of malnutrition (see Figure 1) provides a useful framework to understand the causes and possible intervention pathways required to address malnutrition as well as the interlinking factors which affect food security.

The data referenced is taken from the recent WFP/ SC Food Security and Nutrition Survey<sup>v</sup>, unless otherwise stated, which was conducted in the dry zone in 2013. It is the most recent study which provides data from the agro ecological zone which these 6 townships largely fall within.

### *Immediate Causes: Inadequate Food Intake and Disease*

The immediate causes relate at the individual level. Individual dietary diversity is low, this was seen during the scoping mission and is reinforced by the available survey data. Only 10.5% of children aged 6-24 months<sup>vi</sup> have a nutritionally adequate diet<sup>2</sup>. Limiting the quality and variety of foods was also stated as a common coping strategy reported during the summer and early rains. Refined white rice dominates the diet with vegetables and seeds, nuts and legumes also playing a role. Animal source foods (ASF) including meat, eggs and fish which are an important source of bioavailable iron, zinc, b-vitamins and protein are rarely consumed. Although most households eat from the same pot there is high reporting of food avoidance, especially during key life stages including pregnancy, lactation and for children under 2.

Optimal infant feeding rates are very low with just over a third (37.5%) of children being exclusively breastfed. Maternal (pregnant and lactating women) dietary diversity score was 4.2 out of a possible 9 demonstrating relatively low dietary diversity, there is also no clear understanding of the quantities of each food group which are consumed which may well be inadequate.

In recent survey data over a quarter of children reported sickness in the last 2 weeks, incidences of diarrhoea, fever and cough, demonstrate it is most likely that illness is playing a contributing role in malnutrition<sup>vii</sup>. The prevalence of tropical enteropathy<sup>3</sup> is not well-assessed or understood in Myanmar however this could be a major contributing factor of malnutrition, related to long term exposure to poor sanitation and hygiene.

<sup>2</sup> A composite indicator which takes into account dietary diversity and frequency

<sup>3</sup> Tropic Enteropathy is a subclinical disorder of the small intestine caused by faecal bacteria ingested by young children living in conditions of poor sanitation and hygiene. (*Child Undernutrition, tropical enteropathy, toilets and handwashing*, Humphrey JH, *The Lancet* 2009; 374:1032-35)

*Underlying Causes: Household Food Insecurity, Social Care and Environment and Health Environment / Health Services.*

The underlying causes are related to factors affected the broader household level. Data demonstrates that 18.5% of households are classified as food insecure with it being most pronounced amongst wage labourers and small scale farmers (<2acres) (WFP/SC Survey). Households reported purchasing food from markets which could be up to 2 hours away in conditions and journey times that worsened in the rainy season. There was very little availability of fresh vegetables and ASF at the village level and most purchasing was done via others. There was little evidence of vegetables being grown within the home compound and generally only during the rainy season by very few households.

Women were the main decision makers (88%) within the household regarding food expenditure and very little food was bought in bulk by the poorest households. There were some reports of the poorest households being paid in kind which could later be traded or exchanged.

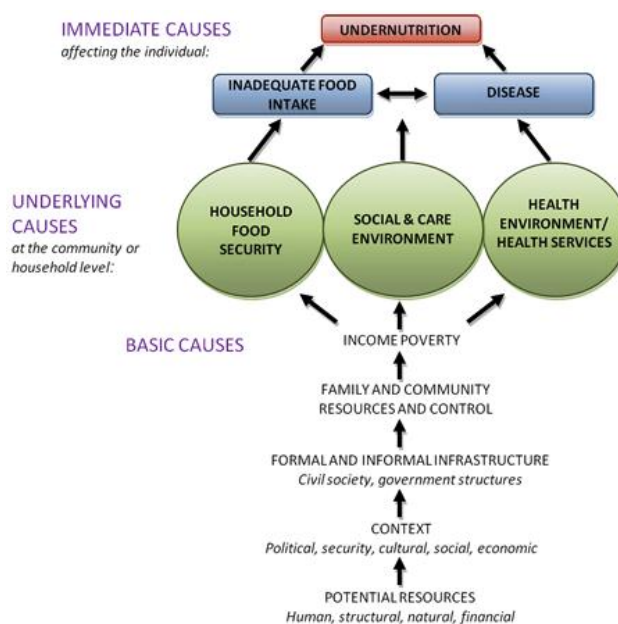
Survey data from 2009 recorded that 60% of households spend more than 2 hours away from their infant per day with the main caregiver remaining being the grandparents<sup>viii</sup>. Consequently it is challenging to maintain exclusive breastfeeding during the first 6months thereby putting the infants at risk of malnutrition and poor health outcomes. Drinking water is mainly sourced from ponds and some tube wells although most households used cloth filtration which is an inadequate method of water purification (see annexe 1 for more detail).

According to the most recently available Township Health Profiles from 2009 there is 1 Rural Health Centre per 1,680 people in Magway and 1 per 31,990 people in Mandalay. The midwife, who along with the unpaid Auxiliary Midwife, is the main provider of outreach health care including vaccinations, immunisations and supplements. There is a new scheme rolling out of Public Health Supervisors whose role it will be to support the midwife in awareness raising and immunisations although this is not yet operational or widely known of or understood.

Low birth weight (under 2500g) indicates poor maternal nutrition and health status and is a strong precursor for future stunting and poor health outcomes of the child, of those households who had records 36% were born low birth weight.

Hygiene practices are suboptimal with less than a third using soap following use of the latrine or before preparation of food (WFP/SC Survey). Although latrines were observed during the field visits, there were still a high number of reports of non-latrines usage or of shared latrines. Up to 25% of households in the dry zone do not use any sort of latrine (WFP/SC Survey), further increasing the risk of intestinal infections which impact on risk of malnutrition.

Figure 1



## B.1 SCOPING MISSION METHODOLOGY

The nutrition component of the scoping mission was conducted by drawing on several different sources including existing documentation and research, community based Focus Group Discussions (FGD) and Key Informant (KI) interviews at the community, township and Yangon level. A total of 11 communities were visited during a 6 days visit to the 6 townships. Within each village the consultation began with an initial meeting with the broader community to understand the context within the village, main livelihoods activities, livestock and agriculture, breakdown of wealth groups, water access, and market access. Following this a FGD was held with a smaller group of women from poor or very poor households or women headed households, determined using the categorisation which had been outlined in the meeting. Main issues which were discussed during this meeting were; food access, availability, storage and types, livelihoods opportunities, consumption patterns during key life stages, market access, roles within the household related to childcare, food, labour etc., water access and usage, and coping strategies. This was accompanied by a walk around the village to get a sense of the context and for observational purposes. If it was possible discussions were held with the Midwife or Auxiliary Midwife and leaders/participants of women's groups. In two townships meetings were held with Township Medical Officer and Public Health Supervisor. Aside from the IP meetings held in Mandalay and Yangon, meetings or email consultations took place with PACT, relating to their Shae Thot programme, with the LEARN Programme Manager, PATH and Welthungerhilfe (WHH). Existing survey reports, project reports and other Dry Zone related documentation was also used to build a better understanding. Meetings were held with the Maternal, Newborn and Child Health Specialist and M&E Specialist at the 3MDG Multi-donor Trust Fund before and after the mission.

## B.2 KEY STAKEHOLDERS AND POLICIES

At the Government level the main responsibility for nutrition sits within the National Nutrition Centre, a department within the Ministry of Health. This, naturally, has followed a traditionally health related view of nutrition and has been focused heavily on micronutrient supplementation Infant and Young Child Feeding (IYCF), and deworming. Since 2012 as the National Plan of Action for Food and

Nutrition (NPAFN) was developed and finalised and the Government of Myanmar has signed up to the Scaling Up Nutrition movement there have been more efforts for cross collaboration between sectors and at a Ministry level. Ministry of Agriculture, Ministry of Education, Agriculture and Irrigation, Livestock, Fisheries and Rural Development have all been participants in the SUN and NPAFN development.

Aside from the NPAFN there are a number of existing strategies which provide a framework within which to work; National Strategy for Infant and Young Child Feeding, Home Fortification, Micronutrient Supplementation (Vitamin A, B1, Iron and Folate), Deworming, Elimination for Iodine Deficiency Disorders.

The Central Board for Food and Nutrition is a government body chaired by the Deputy Minister for Health and vice chaired by the Deputy Minister for Agriculture and Irrigation and Livestock and Fisheries. Other members are Director General level from a board range of ministries including Home Affairs, Border Affairs, Cooperatives, Social Welfare, and National Planning and Economic Development. The objective of the board is to “Lead the promotion of food security and nutrition in Myanmar”<sup>ix</sup>, set up and guide policy development.

National Plan of Action for Food and Nutrition draft was finalised in June 2013 and details 10 Strategic Directions amongst which are improving food access and improving food availability through food based approaches to nutrition and food insecurity, strengthen nutrition education, information and communication, and strengthening linkages with other existing sectoral efforts conditional cash transfers, universal health care coverage, agriculture development, and labour and employment.

Scaling up Nutrition (SUN) is a global movement to which Myanmar is a signatory. Amongst the evidence based cost effective interventions that the SUN promotes, integrating nutrition into other sectors including agriculture, water and sanitation and education and employment are seen as priority areas. SUN provides an immediate opportunity for cross collaboration with different sector ministries, NGO partners and civil society organisations and UN partners especially through the common development of communication materials, advocacy messaging, policy debate and programmatic learning.

LEARN is a LIFT consortium of Save the Children, ACF and Helen Keller International with the goal of maximising the nutrition outcomes of LIFTs food security and livelihoods programmes. LEARN provides valuable lessons learnt and experience as well as a much needed capacity building and training expertise and capacity.

3MDG is a multi-donor trust fund hosted by UNOPS which focusing on maternal, newborn and childhood health, HIV/AIDS, TB and Malaria, and health systems strengthening. The potential to overlap townships between 3MDG and LIFT provides opportunity to address the multi-sector causes of malnutrition and food and nutrition insecurity.

### **C. KEY CONSTRAINTS AND OPPORTUNITIES**

Some of the most significant constraints to improving nutrition security through food security and livelihoods programming are concerning issues of water scarcity, poor access to markets, inadequate income, a lack surplus produce and legal or traditional restrictions on animal slaughter. These are issues which are discussing in more depth in the other Annexes. There are some specific constraints and challenges to implementing nutrition sensitive programming under the current context.

- i) The need to create an effective interface between agriculture and nutrition / health sectors at ministerial, township and implementation levels is apparent however can prove complex.



“Incorporating nonagricultural criteria such as health and nutrition into the design and conduct of agricultural programs suggests developing an effective interface between agricultural and other institutions.”<sup>x</sup> Whilst there is open discussion at a central level of the need for this integration challenges to integrated implementation are foreseen.

- ii) Ensuring the effective delivery mechanism is available within organizations whom may not have prior experience of nutrition sensitive or direct nutrition programming and therefore lacking the adequate technical skills. The existing LEARN project can provide a level of capacity building and support in this area.
- iii) The lack of explicit nutrition indicators within the LIFT logframe is inhibiting to be able to appropriately design and deliver specific activities which will have an impact on nutrition outcomes.

There are a number of opportunities which can be maximized in order to strengthen the impact that the programme can have on nutrition security.

- i) Nutrition is being considered from the outset in the scoping stage and therefore the opportunities for fully integrated nutrition sensitive programming is maximized however this integration must be continued throughout the design stage to ensure adequate measures in terms of budget, adequate capacity provision and technical guidance.
- ii) There is a willingness on behalf of households to engage in activities which improves their own production of foods. With the right technical skills transfer and adequate inputs this interest can be capitalized upon.
- iii) There is great and significant potential to generate evidence of the impact of specific interventions on the understood pathways linking income, productivity and nutrition. This is a current gap both within Myanmar and globally. Producing evidence which can be used to advocate for increased financial and policy commitment to improve nutrition outcomes can have far reaching impact as poverty reduction and food security programmes are designed and implemented in communities across Myanmar.
- iv) The momentum of the Scaling up Nutrition (SUN) movement provides an opportunity for LIFT to work with the different SUN partners; civil society, government, UN, private and academic institutions towards the SUN implementation plan so that the activities are coordinated and have a broader programmatic and policy level influence. Areas of particularly relevance to the SUN movement can be LIFTs addressing the nutrition sensitive agriculture and water programming
- v) Linkages with township level health interventions through the 3MDG which allow a more comprehensive approach to food and nutrition insecurity. There is a willingness at the Fund Management and Donor level and an opportunity to demonstrate how this can be done, the types of activities, additional resources required and benefits gained.

#### **D. DEVELOPMENT CONCEPT AND OBJECTIVES**

Addressing the multiple and interlinking causes of under-nutrition within a food security and livelihoods approach requires a range of interventions which inform all the different proposed components of this programme; water and soil, agriculture seeds and livestock, and finance market and income generation. If the programme itself is to have an impact on food insecurity it must have an impact on malnutrition and stunting, as a key indicator of food insecurity and poverty.

The data demonstrates that stunting and wasting, that is the chronic as well as the short term issues of food and nutrition insecurity, is a cause for concern in this region; it is not only productive and economic growth which needs to be improved but access, knowledge and utilization of this growth by those most vulnerable to malnutrition. That is, those children under 2years old, pre pregnant, pregnant and lactating women and the poorest and most marginalised within the community.

In order to contribute to the LIFT goal of improved food and livelihood security of poor and vulnerable people, utilisation in addition to availability and access must be addressed. If the LIFT programme is to reduce malnutrition of children under 5<sup>4</sup> interventions must address the immediate causes, concerned with inadequate food intake and disease at the individual level. Informing and impacting on this are the underlying causes (see figure 1) which require strategies to improve upon the access and availability of micronutrient dense food items for household consumption, increase awareness, knowledge and resource allocation to improve dietary practices and especially during key life stages, increase access to improved hygiene and sanitation facilities, and address some of the key barriers to optimal infant and young child feeding (IYCF) and care practices. In addition to this there must be explicit linkages formed to improve access to quality health care services. There must also be efforts to address and inform the basic causes through policy influence and advocacy strategies.

There is some discussion in the documented literature as to the contribution that improving the nutritional quality of the crops or type of crops that are sold upon harvest might have to improve the nutrition impact of the wider population rather than an observable impact for the producer household. The majority of the interventions proposed below are designed to impact at the household level however further understanding of the broader food system may provide opportunities for improved nutritional value of crops in order to have a sustainable impact on the wider population outside LIFTs target population. Large scale fortification/bio-fortification may be one area to explore under this hypothesis.

The approach proposed is two-fold; i) direct nutrition interventions and ii) nutrition sensitive interventions, both of which are designed to have an impact on the nutrition security of vulnerable populations whilst supporting poverty alleviation.

The objective of the cross cutting nutrition intervention should centre on efforts to improve nutrition security of the most vulnerable (pregnant and lactating and children under 2) through an integrated nutrition and food security programme impacting at the household and individual level.

This can focus on a number of specific areas:

- i. Improve local production of micronutrient rich food sources and animal source foods which leads to improved consumption to enable year round consumption of a more diverse diet.
- ii. Identification of agricultural adaptations which can impact on specific causes of malnutrition
- iii. Reduce aggravating risk factors for malnutrition through improved water and sanitation environment.
- iv. Nutrition sensitive micro enterprise opportunities provided to most vulnerable households
- v. Improve access to social protection mechanisms which reach those most vulnerable to malnutrition

The interventions should be designed and implemented with a strong **Do No Harm** principle specifically in terms of the unintended outcomes for the nutritional wellbeing of individuals within the household. This should be considered especially when activities may cause an increase in women's work load, especially during pregnancy, time spent away from infants and small children, vocational opportunities which may not be compatible with essential child care duties, crop choice, agrochemicals, increased agricultural water use and zoonotic disease<sup>x1</sup>.

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<sup>4</sup> LIFT Goal indicator: “% of moderately / severely malnourished children under 5 years of age in the target area”

Despite the challenges of implementing a multi-sector programme it is essential that the nutrition actions within the other components are considered central during the design, the development of the work and implementation plan. The skills set and technical competencies required are different and therefore it is important to ensure there is **adequate technical capacity** to support the implementation and to prevent the nutrition activities being implemented as stand-alone or isolated activities where they should be fully incorporated.

**Empowerment and inclusion of women** should be a central and cross cutting theme that should be considered throughout the design of all components in line with LIFT's Gender Strategy and central to the programme approach. This will require promoting gender equality and equal access to services and opportunities whilst also understanding and respecting the unique gender roles which influence food and nutrition security. The empowerment of women and their role is central from the nutrition perspective for a number of reasons;

- i. women are the primary caretaker role within the household
- ii. increased nutritional requirements during pregnancy, lactation
- iii. women reduce their own consumption as a coping strategy<sup>xii</sup>
- iv. role of women during breastfeeding and complementary feeding of children under 2
- v. main decision maker on food and household expenditure

Women are key agents of change on key factors which will impact on the improved nutrition security at the individual and household level.

There is a strong need to **generate evidence** and to conduct a methodologically sound study of the impacts of nutrition sensitive agricultural interventions on nutrition outcomes. There is a lack of evidence available from existing studies and whilst that should not be interpreted as evidence for no impact<sup>xiii</sup>, there is a clear role for LIFT to play in further understanding the impact of nutrition sensitive food security and livelihoods programmes on nutrition outcomes and the different variables which are central to achieving that impact. This would provide essential evidence for further programming in Myanmar and also contribute to the global discussion.

## E. MAJOR ACTIVITIES AND PHASING

The proposed potential activities would not be implemented in all intervention communities but a package of interventions can be selected which are appropriate to the setting whilst still addressing the specific causes of malnutrition; food access and availability, hygiene and the household environment, and care practices. All activities should be underpinned by a nutrition education and behavior change strategy, which is informed by community based research, to improve food consumption practices and awareness.

### E.1 NUTRITION SENSITIVE INTERVENTIONS

#### **Nutrition Sensitive Agriculture and Livestock Interventions**

*(see Agriculture & Livestock Section for more information on specific activities)*

##### *Homestead and Community Food Production*

Home and community gardens can optimise the potential for local production and consumption of micronutrient rich vegetables. The vegetables types will be selected based on their micronutrient content, year round production potential and resilience to the water availability/scarcity and salinity.

**Home gardens** provide the capacity for household production for consumption but are reliant on available household water sources and labour.

**Community gardens** will be created on common or unused land and will managed by a group. Community gardens provide the opportunity for larger scale production which may go beyond the

household consumption and can be used to generate income. Community gardens also allow for shared labour.

**School Gardens** can be cultivated and managed by a group as decided by the community. The teachers from the school should form part of the group to ensure that the gardens are used as a basis for teaching, focusing on nutrition, small scale vegetable production and water harvesting and management. The produce can be used to supplement children's meals at the school.

The activities will improve household access to an improved diverse diet throughout the year. Households with children under 2 will be given a priority for participation in this activity with those in the poorest and/or landless wealth group.

Water scarcity is a major constraint within the majority of communities of the dry zone and access to suitable and available water source will form part of the criteria for selecting communities to participate in the home or community gardening. Alternative water harvesting or irrigation strategies will also be explored including the use of grey water, hydroponic water technology, water storage, drip irrigation and treadle pump systems.

Other than water availability, soil quality or lack of space were cited as inhibiting barriers to homestead production and therefore feasibility for raised beds, keyhole or vertical gardens, container gardens, transporting soil, identification of vacant land such as road side, edge of fields or vacant plots should be assessed.

**A keyhole garden** is a waist height garden bed surrounded by rocks and stones, with a walkway ('keyhole') to allow easy access. The bed is comprised of layers of various organic materials that add nutrients and retain moisture.

**A vertical garden** is made from a bag or other vessel, filled with a mixture of soil, ash and compost. Leafy greens are cultivated in holes, cut in the side of the bag, and on top. Some designs include a gravel column at the centre of the bag to allow filtration of grey-water.

*(International Water and Sanitation Centre)*

In order to ensure the sustainability and effectiveness of the home and community gardens a full understanding of traditional home cultivation techniques and produce must be gained in advance of beginning the intervention and should form part of the community-based assessments, which should take place during Project Year 1. In addition, on-going training and capacity building of participants in green manures, fencing, pest control and seed storage.

As main determiners of food purchase and consumption women should be targeted to play a primary role in this activity however caution should be displayed to prevent over burdening and therefore a mixed male and female committee could be involved in the plot identification, nutrition education and basic agriculture training whilst women could be the most appropriate 'manager' of the process. Further evidence from the Dry Zone setting should be gathered to identify the best mechanism for this region.

An initial community-based scoping study should take place in Year 1 in order to inform this activity and understand the context, food preferences, constraints, and indigenous practices so that techniques are more likely to be effective and the training can be appropriately targeted. The food and nutrition education component should be fully integrated into the curricula of the on-going technical training linking an understanding of the causes and consequences of malnutrition and the specific practices to prevent malnutrition. The participants should be involved in the selection of vegetables to build awareness of nutrition value of different foods. For the intervention to have a sustainable impact on improved nutrition it is essential that the outreach staff who deliver the homestead food production

component are trained and supported adequately to deliver effective nutrition education. This activity would start in Project Year 2 with 200 households being reached across 6 townships. A further 200 households will be reached in Project Year 3 and 4.

#### *Wild Food Cultivation*

A research study is needed at the initial stage of the project to identify suitable wild food sources, which can be cultivated at the community or household level to provide a more readily available food source during lean periods. Secondary research data exists within Government departments as well as the FAO resource library which will provide a good basis although township level understanding of what is available, grown and consumed will also be essential to being able to make recommendations as to what varieties can be usefully cultivated. In addition to this there may be a need to conduct some food composition analysis to understand the micronutrient content of different foods as many of the databases which exist within Myanmar are out of date or incomplete. Collaboration with the relevant government department and potentially academic institutions would be advantageous. In order to successfully identify potential food sources there should be extensive work with communities and collaborations with civil society organisations which can provide the information and the resources regarding the availability and potential indigenous food sources.

This study would start in the last quarter of Project Year 1 with initial inputs at a village level by the last quarter of Project Year 2. This would be rolled out to 10 villages each year for 3 years with evidence of identified crops and conditions for successful cultivation to be disseminated and shared for scale up and replication.

#### *Micro-Scale Poultry Farming*

All the findings suggest very poor access to animal source foods (ASF) and limited opportunities to improve access and availability. Improving access and consumption of ASF, especially during the rainy season, will have an impact on the high the likely high levels of zinc and iron deficiencies which are having detrimental impact on childhood growth and development. Establishing a micro scale poultry farming initiative which is targeted at households with children under 2 and pregnant and lactating women can provide not only additional access to available eggs and poultry meat at the household, increased availability at the community level but also additional sources of income generation. Whilst indigenous chickens are raised by some households they are not readily consumed nor are the eggs produced in sufficient quantities to be consumed. The chickens are mostly sold (approximately 4000Ks) as a coping strategy to release cash. Poultry raising would give a small group of landless or poor households the opportunity to raise poultry for egg and meat consumption and sale at a village level, collectively managing the livestock to improve the success and feasibility and sharing the burden.

This activity should be underpinned with the core messages of the nutrition education activity, specifically to highlight the value of consuming ASF during pregnancy, lactation and for children 6-24 months. In line with the phasing in Annexe 2, 10 groups will be formed in each township in each year starting in year 2. A total of 180 groups comprising of 6-8 women per group will be participate in the activity.

#### *Maximising nutrition impact of conservation agriculture*

As conservation agriculture is identified as a key strategy for improvement of sustainable and responsible increase in agricultural production it is an important opportunity to identify crops which meet the criteria required of climate smart agriculture with nutritionally valuable crops which will add to the quality of the diets consumed. As new varieties of traditional crops are likely to be grown they will be familiar but may not necessarily be consumed at a household level. The use of these crops in

activities such as the food processing / snack manufacturing should be promoted to increase availability and consumption at a local level.

### *Ultra-Rice and Biofortification*

Under LIFTs current funding PATH, in partnership with PSI and Post Harvest Pioneer Group, are implementing a rice fortification programme. Working with rice millers to increase the availability of the blended fortified rice as well as creating the demand amongst communities. The current programme is in the Ayerwaddy and Yangon regions. The programme is still in its infancy, however if there is a proven level of success it is recommended that further opportunities for supporting the expansion of the programme to the Dry Zone should be provided in year 2. This would start with an initial scoping study informed by the experiences in Ayerwaddy and Yangon, which will be in its 3<sup>rd</sup> year, to identify millers, fortified grain producers and market research before launching into production and demand generation in year 3.

## **Nutrition Sensitive Soil, Water and Sanitation Intervention**

### *Hygiene and Sanitation*

“In order to improve childhood nutrition, agricultural commercialization interventions would most likely need to be complemented by components or parallel interventions that specifically target other determinants of child nutrition.”<sup>xiv</sup> These interventions include water and sanitation and the household environment along with access to health care and care practices.

By reducing the aggravating risk factors to poor health and nutrition status hygiene and sanitation should be included to ensure maximum utilisation of improved access and availability to food sources. Hygiene and sanitation education and awareness raising should be provided as part of the overall strategy to improve nutrition security.

There should be a component of hygiene and sanitation awareness raising included in all the food and nutrition training modules to the different groups, focusing on hand washing after latrine use, before food preparation, use of soap, latrine usage, water purification and the impact of poor practices.

Appropriate water filtration is not a commonly reported practice, with 80% (WFP/SC Survey) using cloth filtration, only 0.5% of households reported using other filtration methods such as ceramic water filters. During the scoping mission water filters were observed though there was little evidence of usage. Improving access to sustainable water filters through **retraining on existing filters, provision of ceramic filters, or training in other water treatment methods such as solar filtration** is an essential component of efforts to address malnutrition and potentially widespread waterborne diseases such as tropical enteropathy and diarrhoea which is understood to be a causal factor of chronic malnutrition.

The priority households to receive a water filter intervention would be households with a pregnant woman or child under 2. This would be the same initial target population for a latrine construction activity.

An estimated 25% of households in the dry zone are without access to a latrine and others within the community share or have access to a poor quality latrine. Prioritising approximately 20% of households within the community to receive support for **construction of a latrine** would enable coverage of the most vulnerable, pregnant and lactating and children under 2 as well as a broader reach of very poor households. Prior experience from programmes in the dry zone found that the cost of construction to be an inhibiting factor and therefore the cost of latrine provision should include pan, pipe, materials as well as any labour costs.

Those beneficiaries participating in both the latrine and the water filtration component will be included in specific hygiene and sanitation education sessions which are designed to also incorporate the links to the causes and consequences of malnutrition and identification of strategies at the household level which can be taken to minimise vulnerability. In addition to this the sessions should provide support on maintenance and cleaning of the filters and latrines to ensure they continue to function and to understand and overcome any challenges or barriers to using them in efforts to ensure appropriate uptake and usage. This activity will start in year 1; the sessions should take place on a regular basis, every second month for example, phasing out as is appropriate.

## **Nutrition Centred Market Opportunities**

### *Food Processing*

There are 3 food processing opportunities which stand out from the scoping mission which can impact on income generation as well as improved nutrition intake:

**Preservation and storage techniques** - Of those households who grow vegetables, gourd or eggplant, during the rainy season there were reports of sun drying and storing for consumption during the summer and lean season, the same was reported for wild flowers. Increased homestead or community production of vegetables would allow for this to be more commonly practiced. Some of the poorest households are paid in kind during harvest of ground nuts and later trade the ground nuts for other food items. Efforts can be made to improve storage at the household level to prevent damage especially as a result of aflatoxins during the rainy season, through the provision of suitable containers.

In addition to this technical training should be provided to improve the preservation and storage techniques so as to prevent avoidable loss of micronutrients. Training would need to be given to small groups as part of the home gardening intervention as well as to a broader group and small inputs such as small appropriate and locally available storage containers.

**Healthy snack making and dried fruit production** provides potential income generation opportunities. Currently snacks purchased at the community level are manufactured in Mandalay or Yangon and offer little nutritional value, are high in fat, salt and sugar content. Production of healthier snacks at a community level can provide healthy alternatives, increasing the accessibility of micronutrient rich foods, as well as providing an income generation activity. A study which draws on the collective indigenous knowledge of communities can inform a collection of recipes. The study will also look at the market opportunities for the sale of the produce; local markets, larger towns and roadside marketing opportunities should also be considered. Some of the local resources which could be used are ground nuts, sunflower, sesame, jaggary, papaya, mango and gourd.

**Oil Production** at the community level it is often small scale, with rudimentary equipment and with sub-optimal efficiency, and predominantly used for home consumption. Most poor households purchase a mix of palm and ground nut oil from the central markets, whilst preference is for pure groundnut or sesame, palm oil is a cheaper alternative which is higher in saturated fats with a greater cholesterol raising effect<sup>xv</sup>. This is of particular concern in a context such as Myanmar which is at risk of the double burden<sup>5</sup> of malnutrition. There are constraints to promoting increased local production and therefore consumption of ground nut and sesame which is related to the price that producers can get for the unrefined or raw product versus the cost of the oil (see Annexe 3 Finance, Marketing and Income Generation for more details).

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<sup>5</sup> Double burden of nutrition whereby populations experience under nutrition as well as over nutrition, obesity and diet related chronic disease related to a rapid change in diet and the increased availability of saturated fats, sugar and refined foods.

There will be efforts however to increase the production of sunflower and in turn the production of sunflower oil. Sunflower is high in polyunsaturates with a far higher content of vitamin E and K than palm, peanut or sesame and is preferable for frying due to the high oleic content<sup>xvi</sup>.

A pilot area should be considered for sunflower oil production and should be accompanied by a strategy to inform community members, those growing sunflower, those involved in production and the consumers about the properties of sunflower oil, to encourage uptake and usage. There can also be links to the snack making activities as a way to improve the nutritional value of the snacks by improving the type of fat which the final product contains.

### **Social protection mechanisms that can impact on nutrition outcomes**

To ensure that the most vulnerable and marginalised households those most at risk of malnutrition are supported, social protection measures must be designed to incorporate the needs and specific circumstances of pregnant and lactating women and households with one or more child under 2.

There are five potential social protection mechanisms which hold potential impact for these core groups to enable nutrition security of the targeted of the poorest households.

For more detail on these mechanisms see Annex 4: Social Protection.

- i) Cash for work linked to the pond rehabilitation should be developed to include appropriate activities for pregnant and lactating women to ensure that they are not excluded as a result of their status but that they are not involved in work which does not provide additional burden such as heavy lifting or physical labour nor which requires extend periods (>4 hours) away from infants.
- ii) Savings groups with criteria specifically for pregnant women are an opportunity for pregnant women, once they know they are pregnant to begin saving a small sum each week. This can then be withdrawn on delivery, either to pay delivery related health costs or to cover the cost of lost earnings during the post delivery period. This savings product would be provided along with key messages of maternal nutrition and breastfeeding support.
- iii) Vocational Training specifically designed for pregnant and lactating women which would not require extensive time away from the home either for the training or for the income generation activity.
- iv) Cash transfers are a potential mechanism to support the most vulnerable and poorest household during times where it is challenging for these families to purchase a good quality diet. Maternity benefits during the last two trimesters, to improve maternal nutrition as well as during the first months after delivery to support exclusive breastfeeding<sup>6</sup> and child benefits for families with children under 2 could be considered, targeted at the poorest households, to enable them to meet the nutritional gap<sup>xvii</sup>.
- v) Emergency Health Funds are a potential strategy to relieve the burden of unexpected health expenditure which has a negative impact on a household's food and nutrition security. Providing free allowance, without the need to pay back, to poor pregnant women can be one way to support poor households to during times of stress.

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<sup>6</sup> Maternity transfers to support breastfeeding has previously been implemented in Dry Zone and Delta areas by Save the Children.



## E.2 DIRECT NUTRITION INTERVENTIONS

### Food and Nutrition Education

Nutrition education is a core underpinning component of ensuring that the nutrition sensitive interventions will in fact have an impact on nutrition outcomes. Breaking down some of the social and cultural barriers which prevent good nutritional practices is as essential as ensuring that the households are well informed to make appropriate decisions regarding food purchase and consumption for the different members of the household. Behaviour Change Communication strategies work when they employ several different coordinated approaches to reach different audiences but all of whom contribute to the decision making around food consumption patterns and household practices.

1) It is recommended that there be **community wide nutrition education** sessions to inform the general themes around causes and consequences of malnutrition and those at highest risk. Detailing the linkages between the different interventions, such as latrines, sanitation, vegetable production, social protection measures for PLW. These sessions should address the importance of key life stages (pregnancy, lactation and children U2), the importance of dietary diversity, promotion of iodized salt, hygiene, appropriate complementary feeding and breastfeeding support.

2) **Nutrition Education** sessions will also be provided to more specialised groups such as the home gardening groups, poultry keeping groups and wild food cultivation groups to ensure that there is an understanding of the nutrition and health related purpose to the type of activity. This should be built into the broader training and facilitation guidance of the specific activities. Although it is primarily women within the household who determine what food is purchased it is paramount that the messaging reaches all members of the community in order to be able to allow effective behaviour change.

3) Specialised nutrition education will be provided to groups of **pregnant women and mothers of under 2** in conjunction with the midwife, auxiliary midwife (AMW) or public health supervisor. These groups can be formed and will provide an opportunity to learn about the other potential activities to which they can access such as home gardening, savings and loans groups, hygiene and sanitation. They will also provide a forum for specialised nutrition education focused specifically on pregnancy and for the first 2 years. Informed by the context, the sessions should follow a behaviour change approach which addresses maternity nutrition, food taboos and avoidance; breastfeeding, complementary feeding, preventing loss of micronutrients through cooking, water and sanitation and available supplementation.

To be effective this activity should be conducted by specially trained nutrition animators. They will provide a programme of 6-8 sessions twice a year to be able to reach new mothers whilst keeping the groups small and effective and not overburdening the communities with meetings and trainings. The timings and frequency of the sessions will be determined through consultations with the community.

Ad hoc sessions can be conducted to reach specific groups as is assessed to be necessary at the community level. For example, to ensure that grandparents, who are secondary carers in most households, are well informed and included in information dissemination and messaging.

The development of the training packages should be developed to ensure that messages are coherent, targeted, but are in line. The people who will be implementing the different components may not all have the same background or be specialists so it is paramount that during staff training there are pre identified core messages which are included so that there is a cross sectoral understanding the linkages and relevance of nutrition being integrated in the agriculture, water, or finance components.

## Behaviour Change Media Campaigns

As part of the behaviour change strategy and linking up with Scaling Up Nutrition (SUN) initiative a media campaign can be a powerful tool when developed based on understanding of the context and the barriers within the specific communities where the project is working. Based on research the campaign could target specific behaviours such as food avoidance, improved dietary diversity and consumption of ASF, good hygiene practices, food safety and infant feeding including breastfeeding and complementary feeding practices.

A media communications campaign should use forms of media which are most readily available and accessible to the target communities such as radio, journal and billboards and should take place in collaboration with the township authorities and the SUN partners.

### E.3 LINKAGES BETWEEN LIFT AND 3MDG IN MAGWAY TOWNSHIPS

There are potential opportunities to maximise the impact on the development outcomes for the communities in Yesagy and Pakokku through effective planning, coordination and overlap with 3MDG Multi-donor trust fund. Where LIFT will impact on poverty reduction, increased productivity, economic growth and improved nutrition and food security, 3MDG will impact on reduction in maternal, newborn and child mortality through community based health programming and health system strengthening at the township level. Improving nutrition security and reducing undernutrition is a key indicator of the success of these two thematic areas, having a positive impact on nutrition outcomes will result in improved LIFT and 3MDG outcomes. Achieving nutrition security and improving productive capacity, earning potential and food security is key driver in reducing the risk for poor health outcomes, securing a more nutritionally stable population will reduce the risk for common infant and childhood illnesses.

There are some key areas which could be addressed in the LIFT target communities where 3MDG may potentially implement<sup>7</sup> to enhance multi-sector collaboration.

1. Household water access and sub-optimal sanitation is a key driver for poor nutrition and health outcomes yet it is not currently explicitly mentioned under either strategy.
  - a. Latrine construction / improvement
  - b. Improved access and availability of drinking water
  - c. Hygiene and sanitation training
2. There is a lack of understanding of the prevalence of anaemia and other micronutrient deficiencies which can provide sufficient evidence on which to base interventions and is inhibiting programme planning.
  - a. Undertake collaborative studies with UNICEF/WHO/MoH (Ministry of Health) to assess levels of anaemia in women of reproductive age, pregnant women and children under 5.
3. Commonly developed BCC messages which address dietary diversity, breastfeeding and complementary feeding practices.
  - a. These messages and approaches can be developed in conjunction with MoH and National Nutrition Centre (NNC) and in line with the Scaling Up Nutrition core Myanmar specific messaging.
  - b. Coordinating at a township level
4. Research initiatives to assess the impact of coordinated LIFT and 3MDG programming versus standalone programming.

<sup>7</sup> 3MDG is still waiting for confirmation from Government of Myanmar for the MoU and agreement to expand into Yesagy and Pakokku townships.

- a. Measuring the impact of interventions which address health related programmes and income and poverty reduction

#### **E.4 POLICY ENGAGEMENT AND ADVOCACY**

LIFT and LIFT funded projects provide a unique voice to the policy debate within in Myanmar. There is much discussion about the importance of nutrition sensitive agriculture and livestock programming however still the focus is largely on the health related components of nutrition. LIFT can be the voice of nutrition related food security bringing experience and evidence to the discussion and ongoing policy development. There is significant potential for LIFT to be take the first steps in contributing to the development and implementation of SUN advocacy activities, alongside other SUN partners, to reach both communities and policy level actors. Because of the impact that nutrition has on the economic potential of individuals and therefore on the economic development of the population there are strong arguments for nutrition to be prominent within national development plans and poverty reduction strategies. LIFT and LIFT fund board members, along with 3MDG donors, are in a position to influence such policy at a national level and there is the opportunity to advocate using evidence generated at a programmatic level. Specific areas for input going forward will be in the SUN development of action plan, fortification policy, nutrition sensitive agricultural policy.

#### **E.5 TARGETING**

Whilst many of the activities proposed for the agriculture, livestock, water and financing components will reach whole communities there are specific activities which can be targeted at households which are most vulnerable to nutrition insecurity. Key categories could be households with children under 2, pregnant or lactating women, female headed households, smallholder farmers and those without land or assets.

Specific activities including; home gardening, poultry raising, wild food cultivation, food preservation, vocational training, and hygiene and sanitation activities can be targeted directly at the afore mentioned vulnerable groups for maximum impact on nutritional. Whilst the broader community would benefit from basic food and nutrition education in order to be able to make informed decisions regarding prioritisation of expenditure, importance of hygiene and sanitation as well as supporting some of the community based activities such as the use of vacant land for growing nutritious foods.

In order to be able to target effectively and appropriately adequate population data is needed and therefore some form of data collection, which includes nutrition specifics, should be incorporated into the inception phase of the project. This could take the form of household surveys, community participatory vulnerability assessments or community mapping. The information which can be used to inform the targeting from a nutrition perspective would include:

- Households with a pregnant / lactating women
- Households with a child Under 2 and to a broader extend Under 5
- Nutrition status at a community level
- Water access for household use
- Households that are landless / asset less
- Households which have/use a latrine

## E.6 MONITORING AND EVALUATION

### *Logframe and Indicators.*

In order for food utilisation activities to be appropriately represented within the programme design this must be reflected in the logframe beyond the goal level indicator of percent under 5's malnourished to include explicit nutrition outcome indicators. Stunting<sup>8</sup> is the best indicator of food insecurity, chronic malnutrition and poverty and therefore would be a more appropriate indicator at goal level. This would require anthropometric measurements to be taken at the baseline and endline of the project in order to be able to assess any change in the prevalence of stunting.

Outcome level indicators which more accurately reflect food utilisation and adequacy, such as individual dietary diversity and access to animal source foods should also feature within the logframe. Whilst household level dietary diversity is a proxy indicator of food insecurity and economic capacity to afford the foods, individual dietary diversity is a proxy indicator for nutrition status and gives a much better understanding of the nutrient quality of the data as well as whether there is any change in consumption of food promoted by the project<sup>xviii</sup>. Core nutrition indicators should be considered throughout the M&E plan in order to be able to measure effectively the impact of the different interventions on nutrition outcomes.

Whilst stunting (height for age) is an indicator of long term food insecurity and would be relevant as an overall impact indicator, given the prevalence of seasonal food shortage regular monitoring of acute malnutrition<sup>9</sup> as well as individual dietary diversity and other coping strategies would be valuable indicators to measure as part of an ongoing monitoring system to understand any change to the seasonal pattern of food insecurity and whether the integrated interventions are in fact impacting on the seasonal coping strategies.

## E.7 RESEARCH OPPORTUNITIES

As has been mentioned there is a need for improving the documented evidence base for the impact food security and livelihoods programmes can have on nutrition outcomes. LIFT Central Dry Zone programme provides an opportunity to undertake a methodologically sound study potentially through partnerships with academic institutions either within Myanmar or internationally such as with Colombia Earth Institute, London School of Hygiene and Tropical Medicine and others. This would not only strongly contribute to the evidence for further programming within Myanmar but also globally.

A thorough research impact study of nutrition sensitive programming on nutrition outcomes, initiated at the outset of the programme to ensure a methodologically sound design, could incorporate all of the pathways outlined below.

- i. Impact of nutrition sensitive agricultural production (cash crops) interventions have on the nutrition outcomes of the target community and wider populations
- ii. Added value of water and sanitation interventions on nutrition outcomes of food security and livelihoods programmes.
- iii. Effectiveness of increasing household production for household consumption at the individual level. Specifically looking at the food types which can be cultivated, labour required, natural resources required and analysis against the benefit in terms of improved nutrition security

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<sup>8</sup> Stunting or Chronic malnutrition is measured using height for age of children under 5

<sup>9</sup> Acute malnutrition is measured using weight and height of children under 5

- iv. Evidence of increased income on increased diet quality and quantities at the individual and household level
- v. Compare the impact of stand-alone nutrition sensitive food security programme and combined with health programming under the 3MDG to measure the relative impact of the multi sectorial approach.

*Estimated Research budget: \$300,000*

#### Bio-fortification and Fortification

Research to build on the experience of PATH's Ultra Rice programme and to assess the suitability of the approach in the dry zone is recommended. Other fortification mechanisms can also be explored including household fortification (sprinkles), fortification of food manufactured locally such as oil and biofortification of crops can be explored further.

If the Ultra Rice programme scale up is feasible additional funding will be required.

*Estimated Research budget: \$200,000*

#### Micronutrient Survey

In order to be able to programme more effectively specifically targeting the 'hidden hunger' of micronutrient deficiencies, a better understanding of clinical micronutrient deficiencies needs to be gained. This would feed directly into any research on fortification and bio fortification to address specific micronutrient deficiencies. As outlined under section E.3, collaborative research with 3MDG, Government and UN partners can be carried out to assess levels of anaemia, Vitamin A, Zinc and thiamine deficiencies which are potentially having a damaging impact on growth and development.

*Estimated Research budget: \$150,000 (co financing with 3MDG)*

There is also scope for smaller research studies into better understanding the nutrition composition of wild foods and locally available foods, through collaboration with national institutions, and future opportunities for use of the foods for improving diet quality.

*Estimated Research budget: \$50,000*

## **F. SIGNIFICANT ASSUMPTIONS AND RISKS**

There are significant assumptions and risks which affect the nutrition sensitive interventions and which will be considered under Annexes 1- 4. There are, however, some specific issues which are connected with the proposed activities outlined previously:

### **Assumptions**

- 3MDG Fund Board along with UNICEF/WHO and MoH will support the proposed research agenda
- Ministry of Health support the interventions and collaboration with Township Medical Officer are successful for the mass media campaign as well as the targeted session for pregnant and lactating women
- SUN partners and government counterparts collaborate on advocacy planning, materials and key message development

### **Risks**

- Severe unexpected drought conditions would provide untenable conditions for the home food production or agricultural components
- Community level engagement with the food and nutrition components is not sufficient to allow for effective programming

- Research agendas are not supported or agreed by the Ethics Committee and relevant ministry departments or that the process is time consuming and hinders the ability to carry out the research.
- Implementing partners do not have sufficient skills and do not draw on the available capacity building opportunities that LIFT are providing to implement effectively.

## G. INDICATIVE COSTS AND BENEFITS FOR PHASE 1

This approach is to ensure that the activities within the core components are designed from the outset to have an impact on nutrition. For this reason many of the activities such as home gardening, poultry raising, latrine construction and water filters will be budgeted for under the three main components. The costs which are budgeted for within the cross cutting nutrition section are the specific nutrition related costs or additional costs to ensure effective nutrition sensitive programming. The total amount of budget estimated at this scoping stage is **\$2,836,000** and can be broadly broken down as the following:

Activity	Cost (USD)	Comment
Nutrition Sensitive Agriculture, Livestock and Seeds	218,000	Majority of input costs come under Annexe 2 Bio-fortification and Fortification Research
Nutrition Sensitive Soil, Water and Sanitation		All related costs come under Annex 1 except training (below)
Nutrition Centred Market Opportunities	156,000	
3MDG Collaboration	306,000	Micronutrient Assessments Comparative Survey
Policy and Advocacy	80,000	
Baseline	50,000	Contribution to broader baseline
Direct Nutrition	75,000	Materials & messaging
Nutrition Education	776,000	Underpinning all nutrition sensitive activities
Research	300,000	Impacts of nutrition sensitive interventions on nutrition outcomes
Staff Capacity	875,000	Nutrition Specific
<b>Total</b>	<b>2,836,000</b>	

## H. OUTSTANDING TASKS FOR DESIGN MISSION

A vital part of the next step will be to carry out a lessons learnt exercise with the Tat Lan partners on integrating nutrition into a food security and livelihoods programme. There is a lot to be learnt from understanding the success and constraints both technically and operationally and identifying the best mechanisms of nutrition to be effectively cross cutting throughout a project. Further assessments should be made into the best mechanisms for delivery of the nutrition education components to the different groups (home gardens, water and sanitation, wild food cultivation) to avoid repetition to the same people who may be involved in more than one activity.

Further consultations should take place with a range of different development partners who have experience of homestead food production and processing both within the dry zone and elsewhere in Myanmar. Specific technical areas to follow up Ultra Rice, bio/fortification, cash programming options and evidence, community gardens and mechanisms for effectiveness, evidence of Myanmar interventions to increase milk consumption, conservation agriculture and opportunities for nutrition sensitive crop choices.

In addition to that a consultation should take place with the Scaling Up Nutrition groups; Government representatives, Civil Society Alliance, UN Partners to understand the role LIFT can play in operationalizing the action plans (if finalised) as well as ensuring there is buy in and support for the proposed LIFT activities. A formal consultation with Government partners related to nutrition would be valuable in order to establish consensus on the approach and to seek inputs and guidance.

Further consultation with NGOs and INGOs will also be an essential part of the next stage. Specifically PATH (ultra rice), PLAN (water and nutrition programming), Terre Des Homme (hydroponics), SUSTAIN partners (WHH and ACF) as well as LEARN (SC, ACF, HKI) who provide a wealth of experience and expertise and should be consulted to ensure that the proposed activities and implementation plans are suitable and reflective of the experiences within Myanmar. Further discussion are also necessary to explore the potential scope of the LEARN project to supporting IPs in the implementation of the proposed activities and capacity building opportunities and how far that can extend. Whilst initial discussions with 3MDG have shown promise, further clarification is required as to the scope and extent of the research agenda, including the agreement of the Fund Board and other potential partners such as UNICEF and MoH.

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- i Turning Economic Growth into Nutrition-Sensitive Growth, Derek Hadley, IFPR 2011
  - ii A Nutrition and Food Security Assessment of Dry Zone of Myanmar in June – July 2013, Save the Children, WFP, Ministry of Livestock, Fisheries and Rural Development, February 2014
  - iii Multi Indicator Cluster Survey, MoH, NPED, UNICEF 2009-2011
  - iv Multi Indicator Cluster Survey, MoH, NPED, UNICEF 2009-2011
  - v A Nutrition and Food Security Assessment of Dry Zone of Myanmar in June – July 2013, Save the Children, WFP, Ministry of Livestock, Fisheries and Rural Development, February 2014
  - vi A Nutrition and Food Security Assessment of Dry Zone of Myanmar in June – July 2013, Save the Children, WFP, Ministry of Livestock, Fisheries and Rural Development, February 2014
  - vii A Nutrition and Food Security Assessment of Dry Zone of Myanmar in June – July 2013, Save the Children, WFP, Ministry of Livestock, Fisheries and Rural Development, February 2014
  - viii Save the Children, Nutrition Survey in 4 Townships of Magway Region, 2009
  - ix National Plan of Action for Food and Nutrition, Government of Myanmar, June 2013
  - x From Agriculture to Nutrition, Pathways, synergies and outcomes, World Bank, 2007
  - xi Synthesis of Guiding Principles on Agriculture Programming for Nutrition, FAO, February 2013
  - xii Gender Development Initiative, Gender Issues Survey Report of Food Security Programme in Mawlamyingyan and Hlaingbone, Save the Children, May 2010
  - xiii Synthesis of Guiding Principles on Agriculture Programming for Nutrition, FAO, February 2013

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- xiv From Agriculture to Nutrition, Pathways, synergies and outcomes, World Bank, 2007
  - xv Culinary Oils and their Health Effects, British Journal of Nutrition, 2009
  - xvi Culinary Oils and their Health Effects, British Journal of Nutrition, 2009
  - xvii Hungry for Change, Save the Children UK, 2009
  - xviii Maximising nutrition interventions of FSL programmes, ACF, 2011