

## FINAL REPORT

### DEVELOP A STRATEGY ON HOW TO BEST INVOLVE PRIVATE SECTOR ACTORS TO ENSURE THAT HEALTHY FOOD IS AVAILABLE IN PERI-URBAN AREAS

#### Partnership for Improved Nutrition in Lao PDR Pillar 3: Sustainable Change Achieved through Linking Improved Nutrition and Governance (SCALING)

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IMPLEMENTED BY



Save the Children



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## List of Abbreviations

ADB	Asian Development Bank
AFN	Agriculture for Nutrition project
AFASD	Access to Finance for Agricultural Sustainable Development
AHAN	Accelerating Health Agriculture and Nutrition project
AVSF	Agronomes et Vétérinaires Sans Frontières
BI	Burnet Institute
BMS	Breast Milk Substitute
BOL	Bank of the Lao PDR
CBA	Cost-Benefit Analysis
CCL	Comité de Coopération avec le Laos
CFL	Child Fund Laos
CFSA	Comprehensive Food Security Assessment
CSR	Corporate Social Responsibility
CU5	Children Under five years old
DAFO	District Agriculture and Forestry Office
DICO	District Industry and Commerce Office
DNC	District Nutrition Committee
FAO	United Nations for Food and Agriculture Organization
FGD	Focus Group Discussion
ENUFF	Enhancing Nutrition of Upland Family
EU	The European Union
GAfsp	Global Agriculture and Food Security Program
GCDA	Green Community Development Association
GAP	Good Agricultural Practice
GDP	Gross Domestic Product
GIZ	German Agency for International Cooperation
GMP	Good Manufacturing Practice
GoL	Government of Laos
IFAD	International Fund for Agricultural Development
IYCF	Infant and Young Child Feeding
LECS	Livelihood Expenditure and Consumption Survey
LSS	Lower Secondary School
MAF	Ministry of Agriculture and Forestry
MAFIPP	Making Access to Finance More Inclusive for Poor People
MDGs	Millennium Development Goals
MDD-W	Minimum Dietary Diversity in Women
MFI	Micro Finance Institute
MMF	Minimum Meal Frequency
MOH	Ministry of Health
MOIC	Ministry of Industry and Commerce
MSG	Monosodium Glutamate
MSMEs	Micro, Small and Medium Enterprises Small
NFGs	Nine Food Groups
NSLCP	Northern Smallholder Livestock Commercialization Project
NNC	National Nutrition Committee
NNSAP	National Nutrition Strategy to 2025 and Action Plan to 2020
NP	Non-Poor
NSA	Nutrition-Sensitive Agriculture
NSEDP	National Socio-Economic Development Plan
NSSC	Nutrition Sensitive Supply Chain
NSVC	Nutrition Sensitive Value Chain
NTFPs	Non-Timber Forest Products
NUSAP	Nutrition Sensitive Agriculture Project
NUFNIP	Northern Uplands Food and Nutrition Security Improvement Project
P	Poor
PAFO	Provincial Agriculture and Forestry Office
PICO	Provincial Industry and Commerce Office
PNC	Provincial Nutrition Committee
PPP	Purchasing Power Parity
PURE	Prospective Urban Rural Epidemiology

SBCC	Social Behavior Change and Communication
SC	Supply Chain
SCALING	Sustainable Change Achieved through Linking Improved Nutrition and Governance
SCI	Save the Children International
SMEs	Small and Medium Enterprises
SNV	Netherlands Development Organization
SUPA	Scaling Up Convergent Program Approaches
UNCDF	United Nations Capital Development Fund
UNICEF	United Nations International Children's Emergency Fund
VC	Value Chain
VEDCs	Village Education Development Committees
VP	Very Poor
VSLA	Village Saving and Loan Association
WASH	Water, Sanitation and Hygiene
WB	The World Bank Group
WFP	World Food Program

## Executive Summary

There are multiple causes and drivers of malnutrition which cut across sectors that are determined before a child is born. These factors affect the child after birth at all levels. To cope with the malnutrition issues, the National Nutrition Strategy to 2025 and Action Plan to 2020 has clearly set out the strategic framework with an ambitious multi-sectoral convergence approach through request of closer involvement, collaboration, partnership and support from various organizations. The goal aims at reducing chronic malnutrition, measured by stunting rate for Children Under 5 years old, to 25% by 2025.

Many of the grassroot causes of malnutrition in Lao PDR include: inadequate dietary intake, inadequate care for children and women, insufficient health services and an unhealthy environment. It has therefore been recognized that optimal nutrition in the first 1,000 days is fundamental to decrease the prevalence of chronic and acute malnutrition and micronutrient deficiencies. It will also ultimately affect the overall nutrition outcomes.

The main objective of the study is to develop a strategy to increase the involvement of private sector actors in order to ensure the availability of nutritious foods for target groups (adolescent girls, pregnant, lactating women and children aged 6-23 months) in peri-urban areas. The field survey was conducted in nine peri-urban villages of three selected districts of Luang Prabang, Nambak and Luang Namtha. A total of 75 households in 9 villages, 20 private sector actors along the nutritious food supply chains and various government line offices at national, provincial and district levels. Nutrition related projects were also consulted during the study.

Indicative results of the study show that households (HHs) in peri-urban areas have improved their optimal nutrition practices during pregnancy, postpartum and breastfeeding periods. About 52% of HHs interviewed indicated that there is no barrier for optimal nutrition practices. Based on the field survey in the three peri-urban areas, it could be highlighted that during pregnancy about 72% and 69% of HHs interviewed have increased vegetable and meat consumption respectively, whilst the Khmu group reported only about 48% with extra meal per day, about 72%, 76% and 64% with more fruit, vegetable and meat consumption respectively. While during the postpartum and breastfeeding period about 64% of HHs interviewed also increased vegetable and meat consumption as well as feed frequency to at least 8 times per day. On average about 60% of all HHs interviewed practiced exclusive breastfeeding from birth to 6 months of age even though the segment of 0-5 months reported as high as 94%. It was also reported from the field survey that on average about 86% of HHs with 6-23 months fed infants with thick enriched rice soup and gradually added pumpkin, egg and vegetables. Meanwhile, all of the target groups interviewed confirmed that rice and eggs are the main foods fed to infants during these periods.

Aside from limited self-production, HHs interviewed mainly obtain nutritious foods from different sources including: district center markets, peri-urban markets, mobile traders, community trade fairs and village-based shops. In general, all kinds of nutritious foods are commonly available in district centers and some big peri-urban markets. In addition, some specialised nutritious foods such as fortified infant cereals such as Hi-Q, Lactogen, Cerelac, Nan Supermil, Enfagrow, Dumex and Annum, etc. are becoming available in most urban markets but less in village-based markets and shops.

Anecdotal evidence shows that home garden and commercial production farmers have better accessibility to vegetables and small livestock for consumption. However, off-season vegetables and vegetables with dark green, yellow and red colour inside are still seldom cultivated and rarely consumed. This is mostly due to the farmer's lack of knowledge about production techniques as well as not being accustomed to the dietary habits. In addition, levels of barriers for acceptability of organ meat, dairy products and legumes are highest compared to other nutritious food groups resulting mainly from dietary practices of some ethnicities. For all HHs interviewed, food safety is not a significant concern except for in regards to organ meat and some fruits and vegetables.

Recently, mobile traders have become very proactive in delivering a variety of foods (rice, meat, eggs, fish, vegetable, milk and snack, etc.) to sell every day or once every several days. This also makes foods more available in many peri-urban villages. However, there is a concern regarding the regularity of inspection and supervision on food safety of these food items. There are some risks in relation to these mobile sales including the expiration dates of processed and packaged foods, hygiene and the potential for the spread of disease through meat products.

The field survey was also found that inappropriate use of some banned herbicides such as Paraquat Dichloride and pesticides in many upland rice, maize and jobstear, and other farming areas. Official chemical

contamination inspections were conducted on locally produced fresh vegetables. Results showed that some vegetables had unsafe levels of certain chemicals. Inspection of imported vegetables and fruits showed that some green chilies and fresh garlic had high levels of contamination. Imported fruits such as peaches and oranges from China were also found with unsafe levels of contamination. Low quality and expired processed packaged foods are also often found in rural and peri-urban villages.

Currently there is an emerging market for cool chain foods in peri-urban areas for processed and packaged food such as hotdogs, meat balls, chicken and duck parts. However, there are some constraints and risks in association with the promotion of this new cool chain including: hygiene of these meat products, high investment capital for facilities, transportation and high price, food safety regulations, inspection and supervision. At the same time, the consumption of fresh meat as a dietary habit may not be simplified or changed among some target groups in rural and peri-urban areas. It is evident that other supplements such as Sacha Inchi Protein Powder, Sacha Inchi Power Bar, home garden and locally produced Moringa Oleifera, locally produced fruits and vegetables could also be promoted to help achieve optimal nutrition levels.

Based on the field survey in nine villages, the market access in three surveyed districts is rather convenient. Stable markets in both peri-urban and urban areas are very easily accessible by villagers in the peri-urban villages surveyed. Observation during the field survey also shows that road conditions in the nine selected villages surveyed are very good in both the Dry Season (DS) and the Wet Season (WS) even though some difficulties accessing markets were reported. Several factors might contribute to such inconvenience and may include: physical distance of rural villages from main roads, the existence of other districts and other stable markets in particular.

Recognizing that there is no simple solution or single pathway to ensure availability of nutritious food in peri-urban areas, the convergence approach of the government involving line agencies is proposed in order to scale up the proven Nutrition Sensitive Supply Chain (NSSC) along with other marketing promotion interventions. The promotion of the nutrition-based Social and Behavioral Change and Communication (SBCC), economic strengthening, livelihood and social protection should also be highlighted. At macro- and meso-levels, an open, transparent, proactive and systematic approach is recommended to optimizing the benefits from involvement and through the use of collaboration, dialogue, exchange of information and knowledge, incentive and funding initiatives, joint activities and possible conflict and risk management workshops. The draft strategy for long-term engagement of private sectors include: development and implementation of technical programmes, policy dialogue, norms and standard setting, advocacy and communication, knowledge management and dissemination, mobilization of resources and promotion of NSSC. However, based on the current situation, some proposed practical interventions are as follows:

**Identification of nutritious food traders to be involved.** Based on the above proposed long-term strategy, it is important to: further identify trader's interest, find out what the gaps are and support them to fulfil the gaps, find out what is required to support them in terms of technical capacity, provide assistance in finding access to credit, create opportunities for traders, bring awareness and provide information. This may involve various types of nutritious food traders who operate in the district with existing links to provincial or national-based distributors or suppliers to avoid unnecessary transition costs and potential price reduction. The number of traders per nutritious food could be flexible based on the number of target villages to be covered. Special attention may be put on traders with nutritious foods that are not currently available in those districts such as supplementary and fortified nutritious foods, legumes and nuts, meats, Vitamin A rich vegetables and fruits, etc. Some specific activities may include:

- Prepare an introduction letter with clear objectives to target nutritious food traders aiming to increase their interest in supplying more nutritious foods especially, traders who are interested and have transport facilities and could deliver the nutritious food to piloting villages on the regular order base.
- Gather clear information on demand for nutritious food in target villages such as what kinds of nutritious foods, how much demand per day or week, what specific type and grade, and clear affordability of target villages. The activity could be seen as detailed screening survey from demand side piloting in some peri-urban villages.

**Formation of village-based target consumer groups.** Recognizing that many traders want to expand their sales of nutritious foods, there is, therefore, one entry point to support wholesalers and retailers to deliver a price drop. This is via an increase in volume and profit. By organizing consumer groups for collective purchasing in the SCALING project's target villages, traders can identify and specify what kinds of nutritious foods are in demand with bigger quantity ordered and therefore bring the benefit of lower prices for the target groups. The orders can be scheduled based on the actual demand with deliveries being

made daily, every few days or weekly. In the beginning, it is of crucial importance for traders to have sufficient motivation, whilst consumer group committees should be trained on transparency, anti-corruption and volunteer basics. The project can provide basic incentives with a clear supportive schedule.

- Based on the above screening survey, together with the existing Village Saving and Loan Association (VSLA) groups or SBCC peer support groups at the village level, to form consumer group in target villages.
- Select motivated group committee (representatives) with clear operational skills to deal with traders under guidance of project VSLA or SBCC field staff.
- Prepare nutritious food market information board for both demand and supply information. Different price references should be provided with possible lower price for collective purchasing. Demand information for nutritious food should be consolidated on a regular basis.

**Organization of stakeholder platform.** After the interested traders have been identified project teams can facilitate the organization of stakeholder meetings attended mainly by traders and representatives of consumer groups. Discussion could focus on models of agreements, benefits, commitment and incentive for both traders and consumers. Contract farming and contract purchasing approaches could be applied. After that, it is the role of consumer group representatives to propagate collective buying campaigns to other target groups in their villages and it is the role of traders to sort out good quality nutritious food products to supply to the villages as per the orders made.

- Organize demand and supply for nutritious food matching platform through village cluster stakeholder workshop for detailed discussions on opportunities, constraints and recommendations for improvement.
- Once there is clear information on both demand and supply sides, specific supply schedules and payment can be made based on agreement between traders and orders made by each group.
- The platform can be piloted in some target villages in where there is enough demand and affordability and scale out to others. Specific application can also be developed.
- Some local produced nutritious foods with high potential for local demand can be promoted through such platform where a new supply chain can be established.

**Promotion of improvement of a competitive business facility.** At the current stage, it is important to leverage private understanding and financing in the supply chains to provide risk-mitigation and incentive for strengthening businesses (including agribusinesses) empowering them to expand their operations into peri-urban and some rural areas and to ensure inclusive and sustainable contract farming and purchasing arrangements in a context where poor regulations currently exist. It is necessary to provide efficient incentive either through technical and access to credit for committed and interested businesses to improve the nutritious food supply chains in peri-urban areas in particular. Where possible, improvement of a village-based stable market place, improvement of fresh food cool chains, collaboration with food companies to produce supplementary and fortified nutritious foods could be considered.

- In some target villages with high demand, discuss with local producers (in neighboring villages) to produce and supply nutritious food e.g. legumes and nuts, meats, Vitamin A rich vegetables.
- Liaising with local (district or provincial based) traders to improve village-based market place to supply more nutritious foods through e.g. the improvement of fresh food cold chains.

**Launching community-based store through VSLA approach.** Piloting a community based-store through co-financing with local traders who already operate in some selected project target villages. The shops can supply a variety of difficult-to-obtain vegetable seeds, supplementary and fortified foods, processed foods with reasonable prices possibly through social protection scheme supported by the government. Special focus should be placed on vulnerable target HHs to be allowed for post-pay of some agricultural inputs and fortified foods.

- Support the existing VSLA group representative to attend short-term basic entrepreneurial skills so that they are capable to run the village-based nutritious food store.
- Promote locally produce and consume some difficult-to-obtain vegetables, legumes and nuts through SBCC activities.
- Promote locally produce processed nutritious foods with eating convenience, less time-consuming and potential for local demand for example dry fish paste, Fried Mak Kuu nuts, banana, pumpkin and taro chips, etc.

**Networking with other nutritious food supply chain projects.** Currently, considering the limited interest of traders to work with the targeted groups, the project can create instruments to stimulate



agribusiness development through working with other NSSC projects. This may include the establishment of a multisector platform to facilitate linkages and negotiations in the identified SC between the farmer groups and agribusinesses such as input suppliers, collectors, traders, processors, wholesalers, retailers and consumers in target villages.

**Initiating supportive policies with relevant authorities.** The project team plays a coordinating role between big food and multinational business and related authorities to possibly generate incentives including: Incentives from the government to increase demand from consumers through campaigns such as trade fairs, local events and local media. Specific actions to stimulate consumption, such as nutrition awareness and behaviour change campaigns, cooking classes or incentives to save a portion of the nutritious foods for household consumption, are needed to ensure that improvements in production lead to improvements in diets. Based on lessons learnt from the SCALING project's 6 monthly monitoring on Breast Milk Substitute (BMS) code/decreed, similar monitoring system could be applied to the supports how traders could provide more nutritious food in the project target villages. At the same time,

- Facilitate local government to stimulate both demand and supply of nutritious food through campaigns such as trade fairs, local events and local media.
- Capitalize lessons learnt from the current supports on monitoring on BMS on the specific nutritious food price monitoring.
- Closely facilitate the coordination among line local government offices to raise local awareness on food safety and monitor the distribution and use of banned pesticides and herbicides in small-scale gardening and plantation as well as, other high chemical contained fresh products sold in local markets. At the same time, monitor the sale of low quality and expired packaged milk and other supplementary formula products.
- Facilitate in establishing the local monitoring and information systems through identification of responsible staff who will report regularly on progress and the reports on nutritious food price, food safety and chemical use monitoring.
- Similar to the promotion of demand and facilitate the supply of WASH products, latrines and water filters, a clear collective order with well designed criteria for the selection of suppliers are needed to ensure quality and timely supply of the nutritious food products.



# 1. Introduction

## 1.1 Brief Overview of Malnutrition in Lao PDR

Lao PDR has made good progress on the National Strategies on Nutrition a number of Sustainable Development Goals (SDGs), including halving poverty levels, reducing hunger and improving education and health outcomes. Poverty declined from 33.5% to 23.2% in the last decade lifting half a million people out of poverty<sup>1</sup>. However, some SDGs remain off-track, most crucially on nutrition, with an estimated 33% of children under-five (CU5) being stunted. While a child in Lao PDR goes to school for 10.8 years, on average, she only receives the equivalent of 6.4 years of learning. Childhood stunting is associated with poor health, delayed child development, underperformance in school and eventually reduced employment opportunities. It, therefore, contributes to keeping communities in poverty. Current rates of maternal and child malnutrition represent a loss of human capital potentially costing Lao PDR an estimated 2.4% of Gross Domestic Product (GDP) annually (World Bank, 2019)<sup>2</sup>.

Besides stunting, Lao PDR still has a rather high rate of income below \$1.9 Purchasing Power Parity (PPP)<sup>3</sup> per day in both a total and employed population. Lao also has a high rate of people living below the national poverty line with a high prevalence of the total population that is undernourished and a prevalence of wasting of CU5 in comparison with its neighbouring countries.

Table 1: Basic statistics in Lao PDR and in some neighbouring countries<sup>4</sup>; Source: ADB, 2019, FAO, 2019

Country	Total Population	Income below \$1.9 PPP per day	Employed population below \$1.9 PPP day	Population below national poverty line	GNI per capita	Population of under nourishment	Stunting of CU5	Wasting of CU5	Overweight of CU5	Infants with exclusive breastfeeding	Domestic material consumption	Remittance per GDP
	(million)	%	%	%	(\$)	%	%	%	%	(million)	MT/capita	%
	2018	2017	2018	2017	2017	2015-17	2016	2016	2016	2015	2017	2017
Cambodia	15.64		20.3	14.0 (4)	1,230	18.5	32.4 (4)	9.8 (4)	2.2 (4)	<0.1	5.3	5.8
Lao PDR	6.78	22.7 (2)	13.1	23.2 (2)	2,270	16.6	33.0 (8)	6.4 (1)	2.0 (1)	<0.1	12.0	1.5
Myanmar	53.86	6.2 (5)	3.3	32.1 (5)	1,210	10.5	29.4	6.6	1.5	0.1	3.5	3.8
Thailand	66.30	0.0	0.0	7.9	5,950	9.0	10.5	5.4	8.2	<0.1	12.7	1.5
Viet Nam	94.67	2.0 (6)	1.6	5.8 (6)	2,160	10.8	24.6 (5)	6.4 (5)	5.3 (5)	0.1	11.0	6.2

Note: (1)=2011; (2)=2012; (3)=2013; (4)=2014; (5)=2015; (6)=2016; (7)=2017; (8)=2018

In Lao PDR, malnutrition has been recognized as an urgent priority for national concerns and has been promoted for sustainable socio-economic development. During the fourth national nutrition forum and national nutrition committee meeting in 2019, it was re-stated that “Malnutrition is a social and development issue. Although the situation has improved, we need to keep on investing in nutrition because it will play a critical role to meet the criteria for graduating from least developed country status. While creating an enabling environment in which communities can produce and access nutritious food, supporting Social and Behaviour Change Communication (SBCC) that promotes healthy practices and creating a robust and effective nutrition information management system, are key elements for Lao PDR to become a prosperous country with a healthy population” (UNICEF, 2018)<sup>5</sup>.

Previously, some studies have highlighted specific gaps in household food insecurity resulting from unavailability and lack of access to food, poor health facilities, limited skills and behaviours of health workers in delivering nutrition counselling and growth monitoring whilst others have emphasized on the inefficient management of financial and human resources, disconnection and poor coordination of existing policy and strategy planning at central levels and implementation at subnational, provincial and district levels. (World Bank, 2016).

<sup>1</sup> Based on: World Bank, 2019. [www.worldbank.org/en/country/lao](http://www.worldbank.org/en/country/lao)

<sup>2</sup> Based on: World Bank, 2019, <http://www.worldbank.org/en/country/lao/>

<sup>3</sup> Purchasing Power Parity (PPP) is an economic theory for measuring prices at different locations. It is based on the Law of One Price, which says that, if there are no transaction costs nor trade barriers for a particular good, then the price for that good should be the same at every location

<sup>4</sup> Based on: ADB, 2019. <http://www.adb.org/>

<sup>5</sup> Based on: UNICEF website, 2019. <https://www.unicef.org/laos>

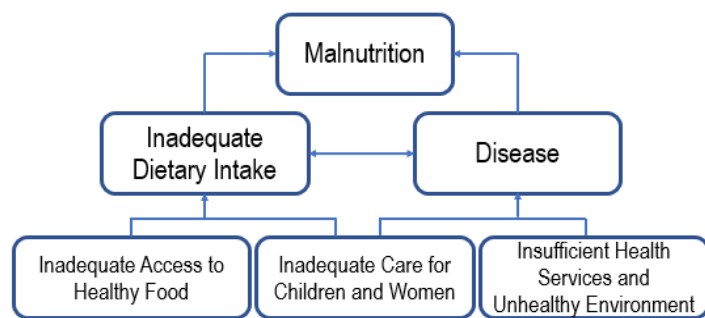
Today, it has been recognized that malnutrition is a complex condition that can involve multiple, overlapping deficiencies or excess of nutrients. The causes and drivers of malnutrition are multiple, cutting across sectors that are determined before the child is born (mother’s stature, education, food and diet, health, and age during pregnancy) to factors affecting the child after birth (sub-optimal infant and young child feeding, poor hygiene and sanitary environment) involving all levels (individual, household, community, society). While food insecurity is widely assumed to be a major determinant of stunting in Lao PDR, World Bank (2016) analyses show that access to food is less of a concern, but rather the lack of dietary diversity (which is largely due to poor child feeding practices) is the main source of inadequate nutrient intake in children.

While inadequate food consumption is the common denominator in all forms of malnutrition (anemia, stunting, wasting, type 2 diabetes, high blood pressure, overweight and obesity), international experience indicates that poor diet consequently contributes to six of the top 10 burden of disease factors including malnutrition, dietary risks, high blood pressure, high fasting plasma glucose, high body-mass index and high LDL. This results mainly from metabolic and behavioral risks in all ages and numbers. (GAIN, 2019).

To cope with the malnutrition issues, the National Nutrition Strategy to 2025 and Action Plan to 2020 (NNSAP) have clearly set out 4 strategic directions, 11 Strategic Objectives (SOs), and 29 interventions, of which 22 falls under the first priority. This ten-year strategic implementation framework is aimed at reducing maternal and child malnutrition rates while also improving the nutritional status and food security of the multi-ethnic people and attaining these strategic targets for 2025. The NNSAP aims to contribute to the adoption of the 8th National Socio-Economic Development Plan (NSEDP) and seeks to achieve Sustainable Development Goal (SDG) 2 “End hunger, achieve food security and improved nutrition and promote sustainable agriculture” and contribute directly to several other SDGs (FAO, 2019).

The NNSAP’s strategic directions are to tackle two areas: First, target the immediate causes of hunger (at the individual level) and focus on achieving sufficient food consumption and safety, emphasizing the first 1,000 days of life and reduce the prevalence of disease caused by contaminated food and indirectly transmitted infectious diseases which impair the body’s ability to absorb food consumed. Second, target the underlying causes of malnutrition (at household and community levels), which requires improvements in the safety and diversity of food consumed so that people have access to food at all times in all locations. Focus should also be put on improving mother-and-child health practices, providing cleaner water systems and sanitation and providing healthy environments and access to health services.

Figure 1: Causes of malnutrition in society; Source: WFP, 2017



UNICEF’s conceptual framework that inadequate dietary intake resulting from inadequate availability and access to nutritious food and inadequate care for children and women, and insufficient health services and unhealthy environment are the grassroot causes of malnutrition in society (WFP, 2017)<sup>6</sup>.

While the theory of change utilized by the SCALING project is based on a socio-

ecological approach, working at and strengthening linkage among individual and household levels, up through villages, system, and policy levels are also very important. The project indicates the three main drivers of stunting in Lao PDR as: Predominance of suboptimal practices related to adolescent and maternal health and nutrition; Lack of local environmental support from improved nutrition; and Limited governance capacity, particularly at provincial, district and community levels (SCALING, 2018)<sup>7</sup>.

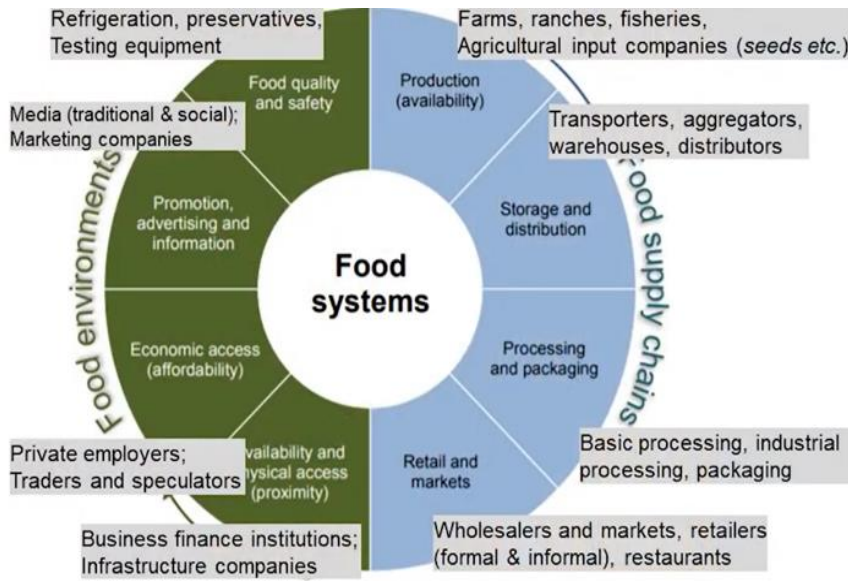
## 1.2 Food System and Nutrient Sensitive Supply Chains

Figure 2: Illustration of a food system; Source: GAIN, 2019

<sup>6</sup> Based on: WFP, 2017. Fill the nutrient gap Lao PDR. World Food Program

<sup>7</sup> Based on: SCALING, 2018. SCALING project’s newsletter, 2018

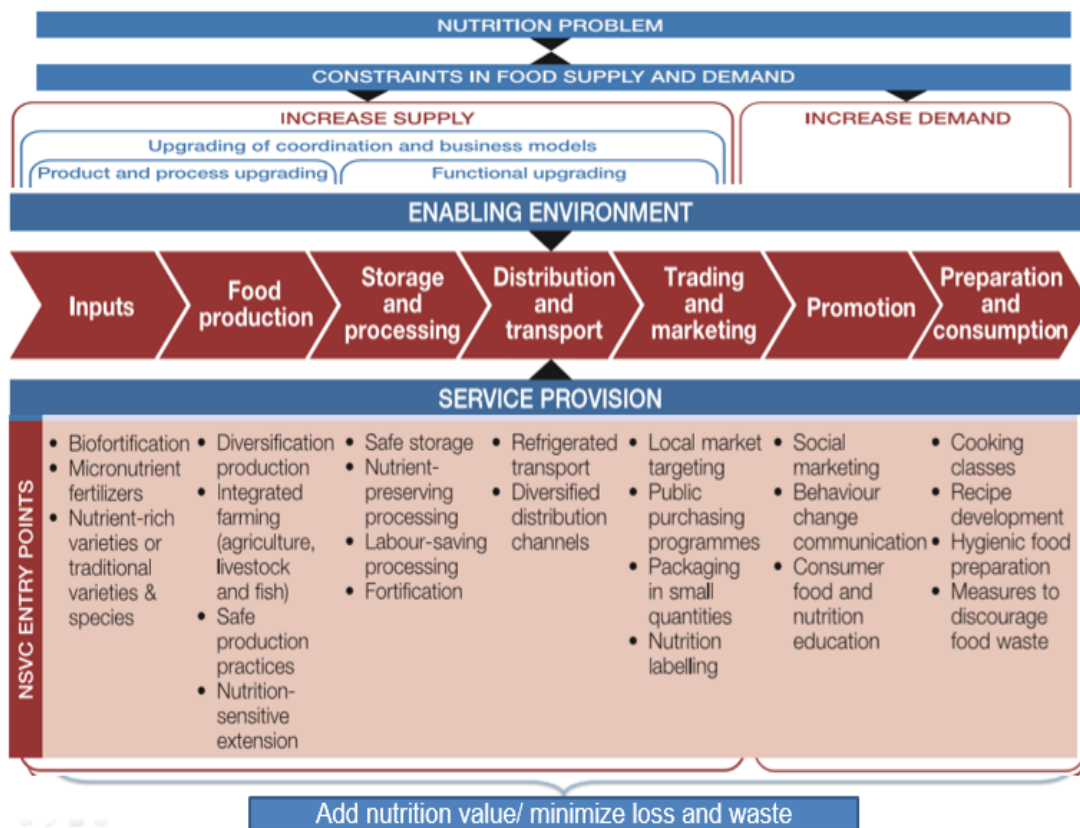
Food systems play a key role in shaping diets. Given that food is not only produced but also stored, processed, distributed and marketed, the Supply Chain (SC) approach offers great potential to unpack the complexity of food systems and identify entry points and pathways for strengthening impact on nutrition (IFAD, 2018)<sup>8</sup>.



The NSSC framework is a practical approach to navigate the complexity of food systems and to identify investment and policy opportunities to ensure that food value chains contribute to improved food security and nutrition. Opportunities to enhance nutrition outcomes arise at all stages of the supply chain, from production to consumption. Adopting a NSSC approach allows for analysing the roles and incentives of different actors along the chain and to consider what the impact may be on cross cutting

issues such as gender and climate change, as well as what policy and regulatory environments are conducive for SC to contribute to better nutrition.

Figure 3: Framework for NSSC development<sup>9</sup>; Source: IFAD, 2018



<sup>8</sup> Based on: IFAD, 2018. Nutrient-sensitive value chains from farmers perspectives

<sup>9</sup> Based on: IFAD, 2018. Nutrition-sensitive value chains from a smallholder perspective: A framework for project design

## 2. Study Objectives, Methodologies and Constraints

### 2.1 Objectives of the Study

The Sustainable Change Achieved through Linking Improved Nutrition and Governance (SCALING) project is being implemented by a consortium led by Save the Children (SCI) and partners including CARE International in Lao PDR, Comité de Coopération avec le Laos (CCL) and ChildFund Laos (CFL). The overall objective of the programme is to improve food and nutrition security among rural households and create sustainable agricultural wealth at the village and household level in target provinces of Huaphanh, Luang Namtha, Luang Prabang and Phongsaly and more specifically to improve nutritional status of adolescent girls, pregnant and lactating women and children 0-23 months in project districts.

The expected outputs of the SCALING project are to: Update improved practices among families, first-1,000-days households, peers, villages and Lower Secondary School (LSS); Enhance facility based nutrition services; Improve gender norms and power dynamics; Renovate and rehabilitate water suppliers and systems; Establish value chains for WASH products; Improve access to and use of nutritious foods; Strengthen implementation of national policy at subnational levels; Strengthen local governance and multi-sector coordination; Improve data quality and use (SCALING, 2018)<sup>10</sup>.

Currently, it is clear that accessibility and availability of nutritious and healthy food is one of the challenges. While a specific objective of the SCALING project is to improve nutritional status of adolescent girls, pregnant and lactating women, and CU5 in project districts, the project aims at better understanding the food systems and SC of Nine Food Groups (NFGs)<sup>11</sup>. After which, a strategy on how to best involve private sector actors to ensure that healthy food is available in peri-urban areas in particular will be developed.

The objective of the study is to develop a strategy to increase involvement of private sector actors in order to improve access to nutritious foods for poor and non-poor peri urban 1,000 Day Households. The strategy will be informed by conducting an in-depth analysis of the demand and supply side for nutritious foods in peri-urban areas through assessment of the market supply of nutritious foods and exploration of barriers and enablers of 1,000-Day poor and non-poor household's access to nutritious foods for pregnant women and children 6- 23 months. Emphasis will be put on adolescent girls, pregnant, lactating women and children aged 6-23 months living in the peri-urban areas of selected three districts of Luang Prabang, Nambak and Luang Namtha. Specifically, objectives of the study could be summarized as to:

- review nutrition related lessons learned on key interventions, motivation and challenges for optimal nutrition practices, nutrition sources for target groups as well as mapping of key partners involved in the supply of nutritious food in peri-urban areas;
- analyse current supply chains of the NFGs with a focus on food safety of both fresh and processed products;
- propose some practical project interventions in order to ensure that more nutritious food will be available and accessible to target groups in project target districts through better involvement of local street sellers, shops and distributors in the private sector;
- present findings and develop the strategy on how to best involve private sector actors to ensure that nutritious food is available to both poor and non-poor 1,000 Days Households in peri-urban areas (detailed objectives and ToR for the study is in the annex).

### 2.2 Methodology and Timeframe

Both quantitative and qualitative approaches are used to complete the following three main steps and activities of the analysis and strategy.

Key stakeholders including national, Provincial and District nutrition committees (NNC, PNC and DNC), Provincial and District Health Offices (PHO/DHO), District Hospital, Provincial and District Industry and Commerce Offices (PICO/DICO), Provincial and District Agriculture and Forestry Offices (PAFO/DAFO), nutrition related projects and NPAs (SCI, NUSAP, ENUFF, Swiss Red Cross, SUN-SCA, SUN-Business Network, SEADA, etc.) were consulted. Private sector actors along the NFG's supply chains that were

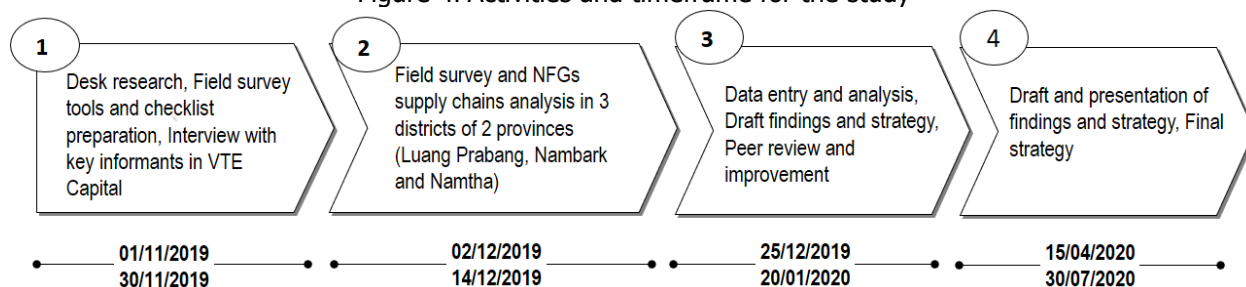
<sup>10</sup> Based on: SCALING, 2018. SCALING project's newsletter, 2018

<sup>11</sup> The NFGs include: 1. Cereals or grains; 2. Foods made from roots or tubers; 3. Legumes; 4. Milk or other dairy products; 5. Organ meats; 6. Any other meat; 7. Eggs; 8. Dark green, leafy vegetables; and 9. Fruit or vegetables that are orange or yellow inside.



presented in the surveyed areas were involved in the discussion. These actors included producers, collectors, processors, collectors, traders, input suppliers, distributors, wholesalers, retailers, etc.

Figure 4: Activities and timeframe for the study



A survey was conducted among the individual target groups. The survey applied a semi-structured questionnaire to indicatively identify issues and constraints according to the expectation of respondents from lowest barrier (1) to highest constraint (5). The results were averaged to determine which issues and constraints were the highest priorities that need addressing. During focus group discussions similar questions, on constraints and opportunities to increase demand and availability of healthy foods, were asked in order to get more qualitative information and to verify it with the individual household survey.

Field visits were conducted between 2<sup>nd</sup> and 14<sup>th</sup> December, 2019 (Details of field survey agenda and persons met are in the annex). The field survey team included a national supply chain consultant, representatives from Save the Children International and PHO and DHO staff who are based in provinces and districts surveyed. Surveyed villages were selected by the SCALING team in consultation with PHO and DHO based on: distance from stable markets and main roads, poverty status, ethnicity and agricultural commercial production. Details of villages and HHs groups interviewed are provided in the below table.

Table 2: Detailed information of villages and HHs surveyed

Villages	Villages interviewed						Total number of HHs interviewed																
	Distance from (km)		No. of households			Ethnicity					No. in FGD	Total number	Adolescent	Pregnant	Mother with child of 0-23 months					Other caregivers			
	Main road	Stable Market	City	Total	% with 6	% with 19	Lao Loum	Kmu	Aka	Hmong					Others	<1	1-5	6-8	9-11	12-23	First time	Father	Grand parents
<b>Luang Prabang</b>				<b>16,922</b>	<b>93.3</b>	<b>81.9</b>	<b>3</b>	<b>12</b>	<b>-</b>	<b>6</b>	<b>-</b>	<b>28</b>	<b>21</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>6</b>	<b>2</b>	<b>2</b>
Pouxangkham	0	10	11	559	85.5	84.6	3	4		1		5	8	1	1		1	1	2		1	1	1
Nongbouakham	7	20	21	276	60.5	20.7		8				11	8		2	2	3				3		1
Naouan	0	10	11	75	60.0	29.3				5		12	5	1	1		1			1	2	1	
<b>Nam Bark</b>				<b>13,180</b>	<b>81.1</b>	<b>65.0</b>	<b>8</b>	<b>12</b>	<b>-</b>	<b>6</b>	<b>-</b>	<b>29</b>	<b>26</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>5</b>	<b>6</b>	<b>1</b>	<b>2</b>
Namthoumneua	0	0	16	409	95.1	82.2	1	6		4		10	11	1	2	1	2	2		2	3	1	
Houana	0	0	18	690	100.0	94.2		6		2		12	8	1	1		1	1	1	2	2		1
Nayangtai	10	10	10	141	100.0	95.0	7					7	7	2			1	1	1	1	1		1
<b>Nam Tha</b>				<b>13,104</b>	<b>73.5</b>	<b>59.1</b>	<b>7</b>	<b>1</b>	<b>9</b>	<b>3</b>	<b>8</b>	<b>14</b>	<b>28</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>6</b>	<b>10</b>	<b>1</b>	<b>3</b>
Namthoung	0	7	7	326	100.0	-	6				2	6	9	2	1	1	1	1		2	3		1
Kokmee	0	22	22	194	41.2	-	1	1			6	3	10	1	2		1	2	1	1	1		2
Lakhamai	0	36	36	96	72.9	59.4			9	3		5	9	1	2	1		1		3	6	1	
<b>Total</b>							<b>18</b>	<b>25</b>	<b>9</b>	<b>15</b>	<b>8</b>	<b>71</b>	<b>75</b>	<b>10</b>	<b>12</b>	<b>5</b>	<b>11</b>	<b>9</b>	<b>5</b>	<b>12</b>	<b>22</b>	<b>4</b>	<b>7</b>

Note: Of nine villages surveyed, only Namthoung in Namtha is not a target village of the SCALING Project.

A total of 75 households with adolescents, pregnant women, mothers with infants from 0-5 months, 6-8 months, 9-11 months, 12-23 months were individually interviewed. The interviewees were segmented by age, socio economic status, ethnic group, first time mothers and experienced mothers. In addition to the primary target group, other caregivers including representatives from the village committee, village women's union and village health volunteers also attended focus group discussions in 9 villages. The above table also indicates that most villages in the three surveyed districts are not considered poor (based on the Decree No. 348 poverty criteria). The results indicated that 93.3% (in Luang Prabang), 81.1% (in Nambark) and 73.5% (in Namtha) met at least six of the development criteria respectively.

A total of 20 private sector actors who operate different kinds of NFG businesses were involved in the discussion including 7 traders in Luang Prabang, 6 traders in Nambark and 6 traders in Nam Tha districts. This private sector group includes wholesalers and retailers in peri-urban markets and villages, as well as wholesalers and retailers in urban areas where there is easy access by the peri-urban villagers. As almost

of the supplementary milk supply for infants in Lao PDR are imported from Thailand such as Hi-Q, Lactogen, Cerelac, Nan Supermil, Enfagrow, Dumex and Annum, etc., although there are some local distributors or wholesalers for these brands in big cities of Luang Prabang, the importers are based in Vientiane Capital who are closely monitored and linked to the Ministry of Health to ensure that their products are complied with the international and national standards. One supplementary formula milk importer and wholesaler based in Namtha also imports her products from Thailand either through Vientiane Capital (Lamthong Trading Co., Ltd.) or through Houyxyay in Bokeo. Products are regularly supplied in every 1-3 months based on the orders. Details of private sector actors that were consulted during the study are indicated in the below table.

Table 3: Private sector involved in the survey

District	Wholesalers in urban	Retailers in urban market	Retailers in village market	Retailers in village	Local collectors	Local meat processors	Importers	Distributors and agents	Agro-inputs suppliers	Agro-commercial producers	Fortified food traders
Luang Prabang	√	√	√	√	√	√	√	√	√	√	√
Nam Bark	√	√	√	√	√	√		√	√	√	√
Namtha	√	√	√	√	√	√	√	√	√	√	√

By using the information gathered during the field visits, as well as secondary research (particularly the reports on: WFP-Fill the Nutrient Gap in Lao PDR (2017), USAID-Multi-Sectoral Nutrition Strategy 2014-2025 (2014), FAO-FAO Strategy for Partnership with the Private Sector (2013), and IFAD-Nutrition-sensitive Value Chains from a smallholder perspective, etc.), some supply chain linkages, mapping and trade flow for the NFG in three surveyed districts have been developed and summarized. Indicative Cost-Benefit Analysis (CBA) with profit margin for some actors along the supply chain were also analyzed. Existing opportunities and constraints along the value chain were analyzed based on the information provided by key informants, traders and target groups, etc. Results were used in developing the draft strategic framework. Due to the limited number of samples, the study was also focusing more on qualitative information; therefore, some relevant information from other nutrition projects was also cited such as the Scaling Up Convergent Program Approaches (SUPA) and SCALING baseline cross-data analysis, etc.

## 2.3 Constraints for the Study

Several challenges were encountered in the course of completing the study including:

Available data - PICO/DICO and PAFO/DAFO have provided some supply and demand information and production and market data. However, some disaggregated figures were unclear particularly regarding the list of traders for the NFG regarding imported volume and value of the NFG by province and district as the list of suppliers of the NFG, etc.

Due to time constraints - The survey covered all NFGs with multiple actors along supply chains. However, as only three districts in two provinces were visited for field verification, a limited number of sampling was included. At the same time, many high-end private sector actors, traders and Micro Finance Institutes (MFI) normally require a long process for making an appointment. Therefore, the team could not meet with all of them.

Disaggregation of target groups - Detailed segments of target groups for adolescents, pregnant women, mothers with infants less than one month, 1-5 months, 6-8 months, 9-11 months, 12-23 months, and other caregivers by age, socio economic status, ethnic group, first time mothers, experienced mothers, information collection could be analysed. However, to a certain extent (mainly regarding preliminary household nutrition practices) there is a challenge to analyse in-depth details on demand information as the number of each segmented samples interviewed were too small.

Field Survey Approach - The study applied the NSSC approach which is entirely new to the team particularly, those who participated in the survey. The production data and local information provided was also for some reason, unclear. On the other hand, quantitative information collected was based on the limited number of sampling of interviewed members of the target group and traders. Therefore, the results are more indicative rather than highly scientific and accurate.

Delineation – There is no straight definition of what constitutes a peri-urban, urban and rural spaces in Laos PDR. There are also separate lines for urban and rural areas (The Poverty Line, 2019). Unclear delineation has created a challenge regarding how to segment the poor and non-poor target groups. Moreover, it is also difficult to focus only in peri-urban areas and target groups resulting from such unclear delineation. This is a key issue and there needs to be a common definition of what “peri-urban” means<sup>12</sup> even though there are several literatures on definitions of “urban” and “rural area”.

Based on SDC (2018), the villages classified as “urban” if any three of the following criteria are met: 1) Village is part of a provincial or district municipality; 2) >70% of households use electricity; 3) >70% of households use piped water; 4) Village is accessible by road all year around; and 5) Village has permanent all day market. While based on Decree No. 348/Gol<sup>13</sup> on wellbeing criteria and development criteria in Lao PDR (2017), rural area is defined as outside area of the capital city, provincial and district municipalities which conquered by agriculture as domain occupation under village authority.

In the case of the SCALING project, a peri-urban, there needs to be more specific in relation to nutrition issues and basic accessibility to the currently daily life and livelihood of the target villages such as health, education, communication, transportation, information, energy, sanitation and clean water, technical materials, finance and market, etc. to facilitate their livestyle and and earnings. More specifically, market accessibility for nutritious foods should not be difficult in both lean and non-lean seasons, in both dry and wet seasons. At the same time, a better understanding of the adequacy of nutrient intake at the household level and the ability of households to cope with potential shocks should be observed in peri-urban compared to more rural area.

Definition of private sector - ToR has been changed and requires more detailed information linking to the project activities and possible interventions which were used to clear a different case based on the previous discussion and ToR review between the responsible hiring manager and the consultant. The definition of “private sector” was not clearly explained. However, it was confirmed later that the project refers to the private sector as street sellers, shops and other which minimizes the scope of private sector actors compared to the early discussion.

## 2.4 Key Assumptions

When official figures on production and trade of the NFG products and demand are not clearly available, quantitative data was based on information provided by MOIC, PICO/DICO, PAFO/DAFO, producers and traders with anecdotal evidence. Within villages, levels of constraints and opportunities are based on the information provided by individual HHs and cross-checked with focus group discussions in the interviewed villages.

Lao PDR’s poverty line is constructed on an absolute basis, consisting of a food poverty line (based on 2,100 kcal per day) and non-food poverty line (30% of total consumption). The most recent overall national poverty line is LAK 192,000 per person per month (2010). Despite the fact that national rural poverty line is LAK 196,413 per person per month (LECS, 2012/13), the study applies criteria from ADB with \$1.9 PPP per day per person as a baseline for non-poor households. Households with income between \$1.2-1.89 per person per day are considered poor and susceptible to shock whilst households with income less than \$1.2 per person per day are considered very poor and vulnerable.

## 3. Nutrition Practices

### 3.1 Feeding Practices by HHs interviewed

Table 4: Income sources and vulnerability of target group surveyed; Source: Field survey and Consultant’s consolidation, 2019

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<sup>12</sup> Based on: SDC, 2018. Urbanization Process in Lao PDR. The villages classified as “urban” if any three of the following criteria are met: 1) Village is part of a provincial or district municipality; 2) >70% of households use electricity; 3) >70% of households use piped water; 4) Village is accessible by road all year around; and 5) Village has permanent all day market.

<sup>13</sup> Based on: MAF, 2017. Decree No. 348/Gol on wellbeing criteria and development criteria in Lao PDR



Target group	Average					\$/ per/d	HH status (%)			Main sources of income (%)						
	Age	Edu.	People in HH	# of Adult	# of Female		NP	P	VP	Agri.	Live.	NTFPs	Busi.	Remit	Salary	Labor wage
Pregnant	26	SS	7.2	4.8	3.4	1.60	33	8	58	35.7	0.5	1.8	9.0	-	30.9	22.1
< 1 month	23	PS	7.2	4.6	3.2	1.35	20	60	20	25.0	-	-	-	-	52.5	22.5
1-5 months	24	SS	5.4	3.0	2.6	2.34	55	9	36	34.0	-	-	8.7	-	51.5	5.8
6-8 months	24	HS	7.2	4.8	3.4	3.48	22	33	44	25.0	-	-	25.4	-	28.8	20.7
9-11 months	27	SS	4.8	2.8	2.4	3.90	80	-	20	17.0	-	-	40.4	-	42.6	-
12-23 months	26	SS	6.1	3.0	3.2	0.96	33	17	50	41.1	-	0.6	20.0	-	2.3	36.1
Adolescent	20	HS	5.5	4.7	3.3	2.17	50	20	30	21.1	0.7	-	16.0	5.3	56.9	-
Other caregivers	53	PS	7.1	4.5	3.4	1.26	9	27	64	27.6	-	-	19.7	-	36.3	16.4
Total	28		6.3	4.0	3.2	2.08	36	20	44	28.2	0.2	0.3	18.0	0.7	38.6	14.0

Note: For education: PS (primary school); SS (secondary school); HS (high school).  
For household status: NP (non-poor); P (poor); VP (very poor)

A total of 75 individual HHs in 9 villages in 3 districts of Luang Prabang, Nam Bark and Namtha were interviewed. On average, an interviewed household has income of about 18,280kip (\$2.08) per person per day. Of these 75 HHs about 36% are considered non-poor (NP) and 20% and 44% are considered poor and very poor respectively. Monthly salary (with more stable jobs such as government officers, staff in private companies or projects) accounts for about 38.6% of the total household income. Income from agriculture, particularly from rubber and vegetable cultivation is about 28.2%. Income from business is about 18% and income from labour wages is about 14%. Other sources of income are very minimal.

In 2015, the Minimum Dietary Diversity in Women (MDD-W) assessment by WFP showed that only 44% of all pregnant women had minimally diverse diets. MDD-W was much higher in urban areas (76%) than in rural areas with or without roads (33% and 20%, respectively) and was correlated to both educational level and wealth status. MDD-W was achieved more frequently among Lao groups (55%) than among ethnic minority groups and was lowest among the Khmu (29%)<sup>14</sup>.

The field survey conducted also indicated that during pregnancy about 72% and 69% of HHs interviewed have increased vegetable and meat consumption respectively, whilst only 57% mentioned that they had eaten an extra meal per day particularly among those mothers with infants of between 12-23 months. About 53% of total HHs interviewed take daily iron and folic acid, while only 3% reported that they had taken deworming medicine during this period. The field survey did not observe significant differences in MDD-W among different ethnicities.

Table 5: Practices by different segments during pregnancy (% of HHs interviewed)

HHs interviewed by segment	Eat extra meal	Increase fruits consumption	Increase vege.	Increase meat consumption	Eat iron-rich foods	Increase fortified food	Increase iodized food	Track weight gain	Increase rest time	Avoid heavy lifting	Take daily iron and folic acid	Take daily Vit. B	Take deworming	Visit antenatal care at
Pregnant	33	92	100	100	33	67	42	100	67	50	58	33	0	5.5
0-5 months	75	94	94	88	56	50	44	94	75	75	75	69	0	7.5
6-8 months	78	78	78	78	67	67	67	78	89	78	89	89	22	6.3
9-11 months	80	80	80	80	60	60	60	60	80	80	60	60	0	6.75
12-23 months	92	83	92	92	75	33	42	75	58	50	58	50	0	6.3
Caregivers	45	45	45	36	36	27	9	27	45	45	27	27	0	7.0
Total	57	69	72	69	47	43	36	65	59	53	53	47	3	6.4

During the postpartum and breastfeeding period about 64% of HHs interviewed also increased vegetable and meat consumption as well as feed frequency to at least 8 times per day. On average about 60% of all HHs interviewed practiced exclusive breastfeeding from birth to 6 months of age even though the segment of 0-5 months reported as high as 94%. This figure is much higher compared to that of the 40% of children under 6 months who are exclusively breastfed across the country (WFP, 2017)<sup>15</sup>. However, only 28% of total HHs interviewed eat iron-rich foods such as animal liver, offal and blood.

<sup>14</sup> Based on: UNICEF, WFP, 2016. Lao Food and Nutrition Security Survey in 2015

<sup>15</sup> Based on: WFP, 2017. Fill the Nutrient Gaps Lao PDR

Based on anecdotal evidence during the field survey, some babies are left with other caregivers from the age of about three months or as early as only a few weeks. It was also reported that more mothers leave their infants with others in Peri-urban areas of Nambark where they can work more factories, rubber and banana plantation than in more rural villages. These infants then, are fed by some supplementary infant milk, thick rice soup or sweetened milk depending on household's income. Mothers with sufficient family income from husbands and relatives might take care of babies up to six months or longer. Limited income generation, especially non-farm employment, is an obstacle in obtaining optimal nutrition practices by more vulnerable groups in particular.

Table 6: Practices by HHs interviewed during postpartum and while breastfeeding (% of HHs interviewed)

HHs interviewed by segment	Increase fruits consumption	Increase vege. consumption	Increase meat consumption	Eat iron-rich foods	Increase Vit. C-rich food consumption	Eat extra meal	Take daily Vit. B	Take Vit. A supplement	No. of time have PNC checked	Wash hands with soap before food preparation and eating	Wash hands with soap after defecation	Wash hands after handling child's stool	practice exclusive breastfeeding from birth to 6 months of age	feed frequency of at least 8 times per day
Pregnant	42	58	58	17	42	42	33	50	33	33	42	42	58	58
0-5 months	38	81	94	19	31	56	56	56	44	75	88	81	94	94
6-8 months	78	89	78	44	89	56	78	67	33	56	78	89	89	100
9-11 months	40	80	80	40	60	60	60	40	40	40	40	40	60	60
12-23 months	75	92	83	50	58	42	50	58	42	67	67	67	67	75
Caregivers	27	45	45	36	27	27	27	27	18	27	45	36	36	45
Total	43	64	64	28	41	40	43	44	31	45	55	53	60	64

The field survey also indicated that on average about 89% of infants of age 6-8 months received solid/thick enriched rice soup. This percentage is higher compared to 81% in urban, 77% in rural areas with roads, and 69% in rural areas without roads reported by the Lao Food and Nutrition Security Survey in 2015 (UNICEF, WFP, etc, 2016)<sup>16</sup>. On average about 86% of HHs with 6-23 months fed infants with thick enriched rice soup and gradually added pumpkin, egg and vegetables. Meanwhile, all of the target groups interviewed confirmed that rice and eggs are the main foods fed to infants during these periods. Only 27% of interviewees reported that they had provided some supplementary formula milk (such as Nestle Brand-Lactogen 2 containing of DHA & ARA, Iron, Iodine, Ca and Omeda3&6 or Hi-Q Brand with DHA/ARA, Omega, Vitamin B12, Choline and Iodine) to their children and 79% of HHs also fed children sweetened milk.

<sup>16</sup> Based on: UNICEF, WFP, 2016. Lao Food and Nutrition Security Survey, 2015

Table 7: feeding practice when child is 6-8 months, 9-11 months and 12-23 months of age (% of HHs interviewed)

HHs interviewed by segment	Feed with thick enriched rice soup gradually adding sweet potato, pumpkin	Start with 2-3 tablespoons per feeding and gradually increase	Feed 2-3 times per day plus frequent breastfeeding (at least 8 times per day)	Plus 2 local available nutritious snacks after 8 months	Grain, roots and tubers	Legumes and nuts	Dairy products	Fresh foods (meat, fish, poultry and organ meat)	Eggs	Vit. A rich fruits and vegetables	Other fruits and vegetables	Feed with a bottle and teat	Feed with sweetened milk	Feed with canned/ bottle drinks	Feed with processed packaged snacks
	Nutritious food feeding														
6-8 months	89	89	78		100	11	22	56	100	56	56	22	22	22	22
9-11 months	80	80	80	80	100	20	40	80	100	100	100	20	20	40	20
12-23 months	92	92	100	92	100	33	33	75	100	100	100	75	75	75	75
Caregivers	91	91	82	91	100	55	27	64	100	100	100	91	91	82	91
Total	86	86	84	86	100	36	32	75	100	79	79	79	79	75	75

Based on SCALING (2020)<sup>17</sup>, adolescents, pregnant and lactating women in Namtha were 4.24 times more likely to be malnourished and 5.64 times more prone to being underweight, respectively, if they lived in households where women were not actively engaged in decision-making or did not produce their own vegetables or fruit, either for their own or local consumption. Moreover, the chances of having given birth at a young age was 3.84 times higher if their children had a low weight at birth, and being Hmong mien increased the propensity for giving birth at a young age 4.42 times. Not meeting Minimum Meal Frequency (MMF) in young children aged 6 – 23 months mostly likely impacted on infant feeding, increasing it 4.57 and 3.08 times, respectively, when children lived in households that had inadequate access to improved water or incorrectly treated their water for drinking. In addition, delaying early initiation of breastfeeding was more likely if women and children lived in households that did not have coping mechanisms against food insecurity.

Based on the field survey in the three peri-urban areas, it could be highlighted that during pregnancy about 72% and 69% of HHs interviewed have increased vegetable and meat consumption respectively, whilst the Kmu group reported only about 48% with extra meal per day, about 72%, 76% and 64% with more fruit, vegetable and meat consumption respectively. While during the postpartum and breastfeeding period about 64% of HHs interviewed also increased vegetable and meat consumption as well as feed frequency to at least 8 times per day. On average about 60% of all HHs interviewed practiced exclusive breastfeeding from birth to 6 months of age even though the segment of 0-5 months reported as high as 94%. It was also reported from the field survey that on average about 86% of HHs with 6-23 months fed infants with thick enriched rice soup and gradually added pumpkin, egg and vegetables. Meanwhile, all of the target groups interviewed confirmed that rice and eggs are the main foods fed to infants during these periods.

### 3.2 Factors Effecting Optimal Nutrition Practices

Optimal nutrition is fundamental in decreasing the prevalence of chronic and acute malnutrition, micronutrient deficiencies and ultimately the general nutrition outcomes. Therefore, efforts to increase the availability of and access to high-quality nutrition specific services and commodities have been highlighted by related governmental initiatives and nutrition projects resulting in very motivating factors.

Rapid local economic growth and income generation in urban and peri-urban villages has provided a strong push and spillover-effect factors that bring about better nutrition outcomes of vulnerable groups living in poverty who previously could not often access necessary and sufficient nutritious foods, education and health services. More income generation through on-farm & off-farm activities, agricultural commercial

<sup>17</sup> Based on: SCALING, 2020. Report on the cross-data analysis of the Baseline Survey Baseline Survey

production, micro-finance (particularly, village development fund and credit, etc.), employment and services have built more resilience to shocks, improved food security and prevented spikes in malnutrition. This has resulted in better affordability and accessibility for vulnerable groups.

In most peri-urban villages, the majority of HHs have better accessibility to the internet and social media which sometimes provides better nutrition awareness and practical information. Within the same villages, some HHs (mostly local government officials, urban workers, Micro, Small and Medium Enterprises {MSMEs}, Small and Medium Enterprises {SMEs}) have better access to education, health services and nutritious foods. These Non-poor HHs or less vulnerable groups could also demonstrate and share optimal nutrition practices and information to more vulnerable ones. Currently, thanks to more local demand for foods in some villages, some local traders actively supply diverse nutritious foods which could not be locally produced or distributed via mobile motorbikes and trucks or even on-line services.

Village reconsolidation has provided opportunities for better infrastructure such as electricity and good road conditions resulting in increased accessibility to better health services and nutritious foods in stable markets at district centers and in some village-based markets, vendors and shops. At the same time, villages along the main road with some commercial vegetable cultivation also have income from seasonal vegetable plantations through sales in local villages or to nearby villages as well as to district markets thus making locally produced food distribution more accessible and available. Diverse types of imported supplementary formula milk with Lao language instruction is also available for pregnant, postpartum women and infants of 1,000 households in most urban and in many peri-urban villages.

Based on the field survey about 35% of HHs interviewed have learned about optimal nutrition practices from health workers, particularly during the antenatal care visit of pregnancy. Another 11% reported learning from self-motivation and 5% from the observation of their relatives or neighbours. Another 8% of HHs interviewed indicated their higher income afforded them the ability to buy more nutritious food. However, about 41% of HHs interviewed do not practice optimal nutrition resulting from the fact that they either did not have access to information or do not have any motivation to do so.

Despite of a highlight by WFP (2017)<sup>18</sup> that key barriers to optimal IYCF practices: women's time working away from the home, cost of appropriate foods, insufficient knowledge, the majority of interviewees indicated that there are no barriers for optimal nutrition practices, about 21.3% reported that the main factors are lack of income. Another 6.7% reported difficulty accessing markets and 4% reported some cultural taboo regarding the consumption of some specific types of foods.

Anecdotal information from the field survey shows that despite the instruction by health workers during pregnancy and postpartum period, optimal nutrition practices were adopted by 50-70%. In some target villages, interviewees and health workers estimated that only about 5-10% of the instructions for optimal nutrition practices were adopted. Some FGDs showed that pregnant and postpartum women could understand as much as 70-80% of the instruction on nutrition practices. In other villages, it was reported that women hardly change their dietary practices to encompass all NFGs. The most difficult ones are: organ meat, milk and beans. In addition, some women continue to eat spicy food and drink alcohol as per their normal dietary habits during pregnancy and few months after delivery.

The field survey also explored that in some peri-urban villages, health education and nutrition promotion is still very limited particularly in connection with SBCC, diet diversity, change in cultural dietary norms and taboo as well as breastfeeding practices. It was indicated that this was mainly a result of limited exclusive focused promotion towards specific target groups before SBCC under SCALING in particular. While promoting the optimal nutrition practices, target group-specific training workshops and campaigns must be improved. In some districts SBCC activities have just started and the nutrition practices are still suboptimal in many peri-urban villages. At the district level the role and responsibility as well as coordination mechanism, monitoring and reporting systems of related offices under the DNC are not yet clear.

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<sup>18</sup> Based on: WFP, 2017. Fill the Nutrient Gaps Lao PDR

Figure 5: Motivation in optimal nutrition practices

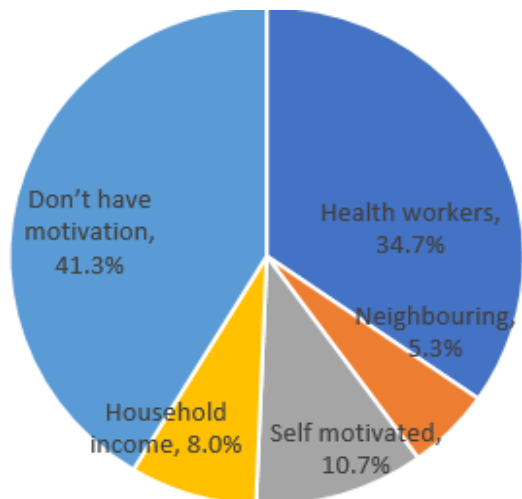
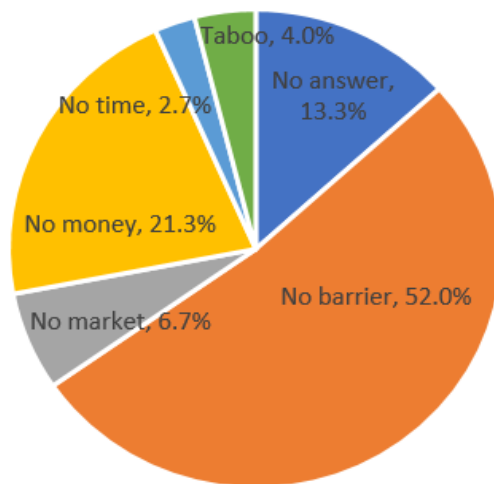


Figure 6: Constraints for optimal nutrition practices

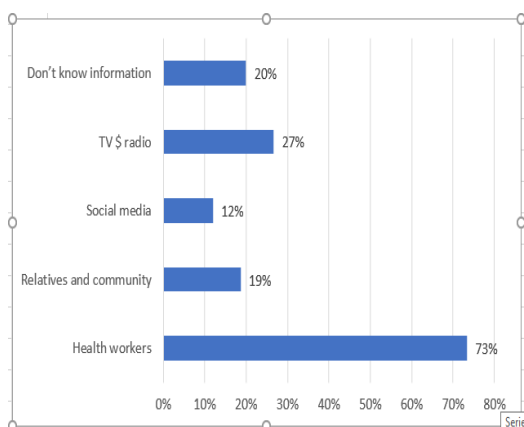


### 3.3 Nutrition Information Sources and Sharing

Efficient information distribution through district and health workers plays an important role in the improvement of local awareness of nutrition for maternal, infant and young children feeding. The field survey indicated that about 73% of all HHs interviewed received nutrition information through local health workers, mobile health teams and health volunteers. Dissemination via television, radio and social media platforms such as YouTube and Facebook are also becoming an important source of information accounting for about 39% of all HHs interviewed. About 20% of interviewees reported that they don't know of any sources of information about optimal nutrition practices for mothers and infants.

Another 16% of HHs interviewed also reported that they shared some nutrition information through informal platforms in their villages such as informal village discussions and social activities. For example, some basic information about eating and drinking habits were discussed. Specific topics of discussion included what foods to eat (more fish and meat) and what foods to avoid (spicy or salty food and alcohol) during pregnancy and breastfeeding are commonly shared.

Figure 7: Sources of nutrition information by interviewees

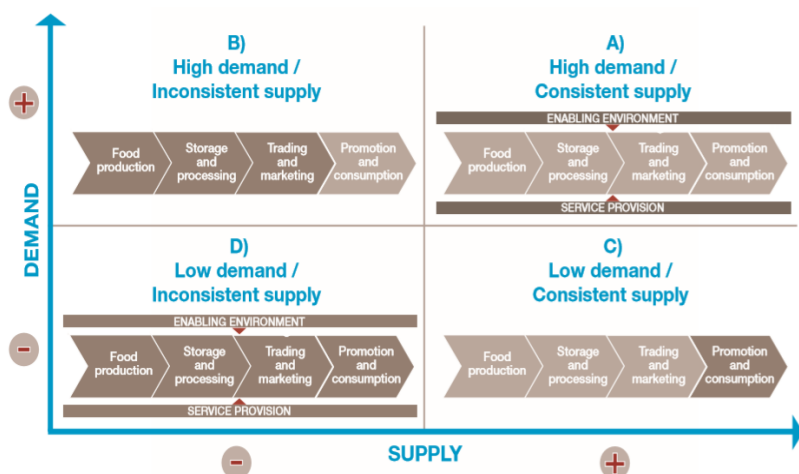


About 40% of interviewees indicated that information on maternal and child nutrition is shared informally and 15% indicated it was shared formally. However, about 45% of interviewees reported that they did not share information with others as either their workplaces are outside of the village or they have too much workload at home. During free time in the community, the majority (64%) of interviewees do not socialize whilst about 24% normally join together for some non-farm income generation activities such as weaving (for Hmong women in particular). Only about 7% of interviewees discuss formally about maternal and child nutrition concerns, whilst about 5% mentioned it during social parties through snack and alcohol drinking.

## 4. Nutritious Food Demand and Supply Analysis

### 4.1 Instrumental Principle

Figure 8: Demand and supply scenario for nutritious food products. Source: IFAD, 2018



Recognising that nutrition problems have strong links to constraints in food supply and demand, four scenarios with varying levels of demand and supply are illustrated. In order to improve the nutritious food system, different scenarios require different types of intervention. For example, in the case of high demand and consistent supply, some interventions might include improving food safety, adding nutritional value through fortification, and strengthening the linkages among VC actors to improve food quality, etc. However, if there is low demand and consistent supply, focus on enhancing demand for the specific food, specifically promoting consumption by the target group through social marketing, nutrition education, SBCC and recipe development might be needed. The most challenging scenario is when there is low demand and inconsistent supply. In this case interventions will be required at all stages of the nutritious food VC from production to consumption.

### 4.2 Current Demand for Nutritious Foods in Peri-urban Areas

Results of the field survey show that about 57% of all interviewees grow rice. However, about 19% still buy rice for home consumption. For those who buy rice, about 40% buy from district markets, 12% buy from village-based markets and 8% buy from mobile traders. 70% of HHs buy rice once per month and 27% buy once per week with a range of 12-50 kg of milled rice per purchase. Local milled rice is priced between 6,000-10,000 kip/kg depending on the rice variety, quality and the location of production.

About 36% of interviewees also grow roots or tubers for home consumption. However, 69% of interviewees buy taro, sweet potato and cassava for home consumption with about 51% coming from district markets, 15% from village-based shops and only 4% from mobile traders. Purchasing frequency indicates that 47% of HHs purchase once per month and 45% purchase once per week with an average of about 1-2 kg per procurement. Only 8% of all interviewees buy every day with a market price of about 5,000-10,000 kip/kg.

While a limited number of HHs interviewed (27%) grow some peanuts for home consumption, about 57% of interviewees reported that some legumes and nuts are bought from district markets whilst about only 12% buy from village-based shops and 5% from mobile traders. 37% of HHs purchase once per month, 51% purchase once per week and 11% purchase once every few days. Normal purchase quantities range from approximately 0.5-2 kg per purchase at a price of about 10,000 kip/kg.

About 67% of interviewees buy dairy products for themselves and their infants of 1,000 days, of which 68% and 56% buy from district markets and village-based retail shops respectively. For those who buy, the frequency is 16% (every day), 29% (every few days), 43% (every week) and 12% (every month) with different packaging from small box of Latasoy, Dina to big box of Letogen, HI-Q or Anmom. The retail price ranges from 3,000 kip per small box up to 165,000-170,000 kip per large box. In Luang Prabang, a milk distributor/wholesaler/retailer estimated that about 30% of mothers with infants after 3 months of birth go back to work outside of their villages and leave their infants with other caregivers feeding with supplementary milk.

Based on interviewees, about 37% do not buy organ meat (animal's liver, offal and blood, etc.) for consumption. Of those 44% buy from district markets, 12% buy from mobile traders and 9% buy from village-based butchers or village trade fairs which are normally organized once in every 7-10 days. Of those



who buy, only 2% buy every day, 9% buy every few days, 36% buy once a week and 52% buy once a month with a quantity of about 0.5-1 kg per purchase at a market price of 10,000-50,000 kip/kg.

Almost all interviewees buy different kinds of meats and fish for their home consumption with about 67% buying from district markets. Approximately 44% of interviewees also raise some poultry but mainly for home consumption. Another 34% buy either from village-based butchers or mobile traders. Approximately 9% of interviewees buy meat every day, 25% buy once every few days, 45% buy once per week and 22% buy once per month. The average quantity meat bought is about 0.5-1.0 kg per procurement and market price of about 35,000-40,000 kip/kg for pork, 65,000-70,000 kip/kg for beef, 20,000-22,000 kip/kg for tilapia, 35,000-40,000 kip/kg for native chicken and 25,000-30,000 kip/kg for layer or broiler chickens respectively.

During the field survey, barriers of availability were discovered. Eggs are easily accessible and affordable by all respondents, particularly for industrial farm-produced layer chicken's egg with a market price of about 830-1,500 kip per egg. However, about 68% and 39% of interviewees buy eggs from village based-retailers and from district markets respectively whilst about 11% also buy from mobile traders who are retailers of layer chicken farms locating in the district. About 12% of interviewees also indicated that they buy eggs every day, 41% buy once every few days, 37% buy once per week and 10% buy once per month with purchases varying in number from a few eggs to several trays per procurement.

About 53% of interviewees grow vegetables for home consumption and some for sale. Of those, 18% also buy other kinds of vegetables for home consumption. Fruits and vegetables are mainly bought from district markets (33%), village-based grocery (27%) and mobile traders (8%). Among 56% of interviewees who buy vegetables for home consumption 12% buy every day, 33% buy every few days, 43% buy once a week, and 12% buy once a month. The most prevalent kinds of vegetables bought are leafy light green colours such as Chinese kale and yellow colours such as pumpkins and carrots, etc. The general market price for these items ranges from about 5,000-10,000 kip per kg.

Only 17% of interviewees cultivate some fruits for home consumption whilst of 83% interviewees who buy fruits, 65% buy from district markets, 21% buy from village-based markets or temporary shops, and 14% from mobile traders. For those who buy fruits, 14% buy every day, 22% buy once every few days, 38% buy once a week and only 26% of HHs buy once a month. The quantity bought is about 0.5-2 kg per procurement with a market price of about 10,000-20,000 kip/kg. The main fruits bought are: apples, oranges, dragon fruit, Longan and rambutan, etc.

Table 8: Sources and frequency of buying of nutritious foods (% of interviewees)

Food group	Home produce	Buy	Purchase from			Frequency of buying once in				Ave. quantity bought per purchase
			Shops in village	Mobile trader	Markets in town	Daily	3 days	A week	A Month	
Cereals or grains	57	60	20	13	67	0	3	27	70	12-50 kg
Roots or tubes	36	69	21	6	73	8	0	45	47	1-2 kg
Legumes and nuts	27	75	16	7	77	0	11	51	37	1-2 kg
Dairy products	0	67	45	0	55	16	29	43	12	Varied packs
Organ meat	44	65	14	18	67	2	9	36	52	0.5-1 kg
Other meat products	44	100	16	17	67	9	25	45	22	1-1.5 kg
Eggs	44	100	68	11	39	12	41	37	10	Varied eggs
Vit.A rich fruits/ vege.	51	68	39	12	49	12	33	44	12	0.5-4 kg
Other fruits/ vege.	17	83	21	14	65	14	22	38	26	1-2 kg

### 4.3 Nutritious Food Availability

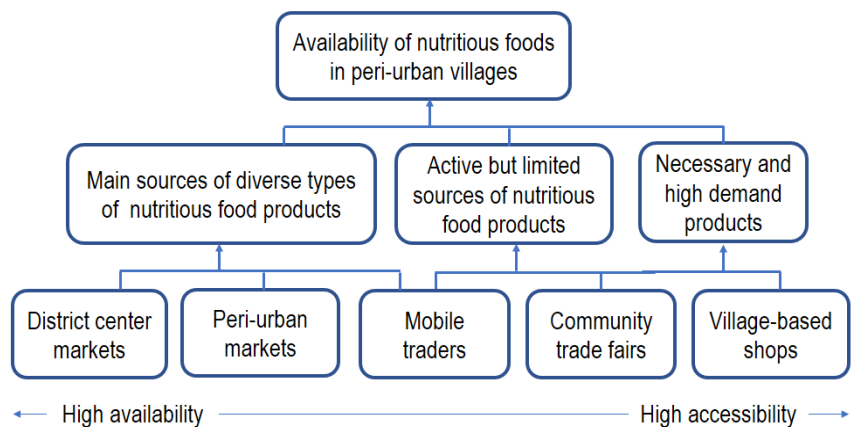
Although other food products are also consumed, rice is still the main staple food in most peri-urban villages surveyed. In the past, self-production and naturally resourced foods are important sources of food, particularly for rice, vegetables and livestock, etc. However, urbanization has resulted in limited access to land and forests where NTFPs and other main food sources used to be. Anecdotal evidence also shows that home garden and commercial production farmers have better accessibility to vegetable and small livestock consumption. However, off-season vegetables and vegetables with dark green, yellow and red colour inside are still rarely cultivated and rarely consumed. This is either because farmers either lack knowledge of production techniques, it is not included in their dietary habits or they are not locally available.

Besides limited self-production, HHs interviewed mainly obtain nutritious foods from different sources including: district center markets, peri-urban markets, mobile traders, community trade fairs and village-



based shops. Generally, all kinds of nutritious foods are commonly available in district centers and some big peri-urban markets. Recently, mobile traders have become very proactive in delivering a variety of foods (rice, meat, eggs, fish, vegetable, milk and snack, etc.) to sell every day or once every several days. This also makes foods more available in many peri-urban villages. In addition, some specialised nutritious foods such as fortified infant cereals are becoming available in most urban markets but less in village-based markets and shops. Items found that are imported include: Cerelac, Lactogen, Bear Brand, etc.

Figure 9: Current availability of nutritious foods in peri-urban villages



Besides markets in district centers, village-based markets and shops also play an important role in the distribution of some nutritious foods. In many peri-urban villages that are near the main road there are also temporary marketplaces where farmers can sell their local produce, small livestock or NTFPs, etc. Some spot traders also sell and deliver meat and other food products in these villages.

However, facilities are always poor and limited nutritious foods are traded.

In some districts such as Luang Prabang and Nambark, community or village cluster-based market fairs are organized weekly or once every 10 days. In Nambark district for example, a total of 4 stable markets are reported mostly in urban and peri-urban areas and nine other temporary market fairs are also organized every 10 days in nine other village clusters. During the market fairs, farmers in the same cluster will bring their produce, whilst a diverse range of other NFGs are also delivered and sold by local spot traders.

Wet market in peri-urban of Luang Prabang



Wet market in peri-urban of Nambark



Roadside market in peri-urban of Namtha



Based on Luang Namtha PAFO (2019), the food supply in Namtha District is estimated at only about 50% of its demand. The rest is mostly imported either from other provinces or from China, Thailand and Vietnam. It was also reported that about 100 MT of agricultural products (mainly vegetable, fruits and meat) are imported daily through the Boten-Bohan border. These imported products are then distributed to many provinces in Lao PDR. A cool chain trader in Luang Prabang reported similar trends that about 65% of imported food products from China to Luang Prabang are vegetables and fruits whilst about 35% is meat (about 30T per week). Based on Luang Prabang PICO (2019), the local supply of pork, tilapia and chicken can meet only about 56.4%, 35.4% and 19.0% of the total local demand in the district respectively.

#### 4.4 Market Accessibility

Nearly all interviewees indicated that constraints on the availability of nutritious foods are very low as they can easily access urban markets where they can buy all necessary food items. Despite the trends of increasing reliance on incomes and purchased food, markets and other sources of nutritious foods should continue to be both geographically and economically accessible for peri-urban villages. However, the field survey explored that even though these surveyed villages are accessible to permanent markets in urban areas, some others in SCALING project may still have difficulty reaching fresh nutritious foods every day

because of distance and poor or inadequate road systems, particularly during the rainy season for more remoter villages.

Figure 10: Market access in northern provinces.  
Source: Decide Lao, 2018

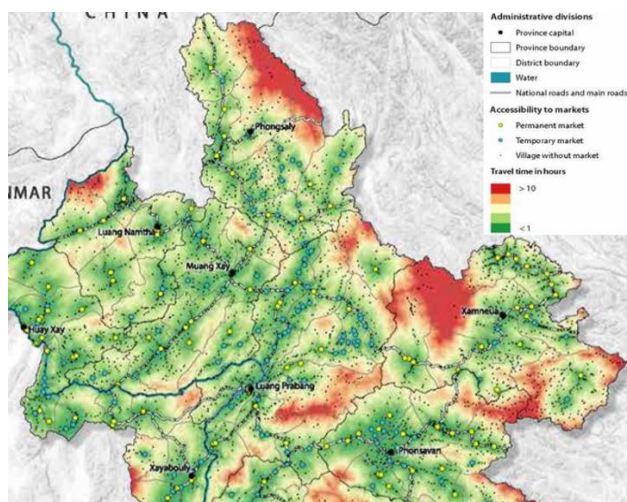


Table 9: Market access of the project villages in three districts and villages surveyed<sup>19</sup>

District	Villages surveyed	Distance from (km)			Ave. no. of shops in villages with		Road condition in DS/WS
		Main road	District market	Nearest market	Grocery and eggs	Meat and vege.	
<b>LPB</b>		<b>2</b>	<b>21</b>	<b>21</b>	<b>4.00</b>	<b>0.53</b>	
	Phouangkham	-	2	2	10.00	2.00	Very good
	Nongbouakham	4	37	37	3.00	0.00	Very good
	NaOuan	-	4	4	1.00	0.00	Very good
<b>Nambark</b>		<b>13</b>	<b>33</b>	<b>33</b>	<b>4.17</b>	<b>0.07</b>	
	Namthoumneua	-	16	-	10.00	0.00	Very good
	Houana	-	20	-	8.00	1.00	Very good
	Nayangtai	12	12	12	5.00	0.00	Very good
<b>Namtha</b>		<b>14</b>	<b>34</b>	<b>13</b>	<b>3.87</b>	<b>0.63</b>	
	Kokmee	-	18	18	7.00	0.00	Very good
	Lakhamai	-	34	34	2.00	5.00	Very good
	Namthoung	-	7	7	n.d.	n.d.	Very good

In principle, “market accessibility” is calculated by using five proxy indicators: market location, road network, healthcare centre location, provincial and district town and elevation. However, time required for traveling from village to market is used as the main indicator and is illustrated on the above map. Based on the Lao Socio-economic Atlas (2018), adequate market access is of crucial importance not only for farmers because markets allow them to acquire farm inputs and farm services and to deliver their agricultural produce to potential buyers but also to provide accessibility for consumers to buy nutritious foods as per their needs and affordability. Clearly, access to markets is significantly better for villagers located near the main road and in proximity to administrative centers and in lowland areas.

It was indicated that only 7% of villages in Lao PDR have a permanent market but only 4% of rural villages with roads and only 1% of rural villages without roads have markets. This above map illustrates the accessibility of markets in terms of travel time. The colour ranges from green to red to show the travel time from a specific location to the closest market. The regions shown in green enjoy quick and easy access to markets, whereas those coloured red take 10 hours or more to reach the nearest market. Market locations are distinguished by those that are permanent markets (yellow) and temporary markets (blue).

As indicated in the above table, on average, the distance of the SCALING project’s target villages from the main road are about 2km in Luang Prabang District, 13km in Nambark District and 14km in Namtha district. Information from the SCALING project also shows that the distance from the district market is about 21km in Luang Prabang, 33km in Nambark and 34km in Namtha district. The nearest stable market is about 21km away in Luang Prabang, 33km away in Nambark and 13km away in Namtha district.

Based on the field survey in nine villages, the market access surveyed in the three districts is rather convenient. Stable markets in both peri-urban and urban areas are very easily accessible by villagers in peri-urban villages surveyed. Observation during the field survey also shows that road conditions in the nine selected villages surveyed are very good in both Dry Season (DS) and Wet Season (WS) even though it was reported by the SCALING project that about two thirds of their project’s target villages in Namtha district have difficulties accessing markets. Several factors might contribute to such inconvenience with one of them being physical distance of rural villages in particular. For example, the average distance to villages from the main road is about 19.55km, the distance from the district center is about 37.9km, the distance from the nearest market is about 17.15km and distance from the district market is about 37.9km. From those villages with easy market access the distance is only 2.4km, 27.4km, 4.5 km and 27.4km respectively.

On average, there are an average of 4 grocery shops with eggs in each project target villages in Luang Prabang, 4.17 shops in Nambark and 3.87 shops in Namtha. However, the average number of butchers and vegetable shops is very limited with only 0.53 shops in Luang Prabang District, 0.07 shops in Nambark

<sup>19</sup> Based on SCALING project: there are 30 project target villages in Luang Prabang, 30 villages in Nambark and 30 villages in Namtha. Except for Namthoung village, other 8 villages surveyed are SCALING project target village

District and 0.63 shops in Namtha District. These shops only provide basic non-perishable products for simple daily needs and are mostly available based on the demand and affordability of villagers in those localities. Based on most shop owners interviewed, it would be difficult for them to retail those perishable nutritious foods with a high price and high volume for no profit. There is also competition in selling the same products between village-based shops and spot mobile traders as they (spot traders) can sell at lower price through bigger volume and without any fees.

## 4.5 Affordability

In many Asian countries, nutritious foods are unaffordable and large parts of the world share a per capita household income of 52% per person per day. This was reported on availability, affordability, and consumption of fruits and vegetables in 18 countries across income levels findings from the Prospective Urban Rural Epidemiology (PURE) study. International reports also show that most foods are purchased from markets, even in rural areas. Therefore, we are already engaging with businesses and private sectors. For example, 96% and 83% of foods and beverages are bought from markets for urban and rural households respectively in Indonesia in 2012 (GAIN, 2019).

However, physical access to markets is likely to be less relevant for households in peri-urban and rural areas that lack the income to make purchases. Obviously, income is a crucial key barrier to households consuming nutritious food. This is likely to worsen as market reliance increases but because of NTFPs, land access and foraging capacity decreases. Unless income from other sources increases for many peri-urban villages, their affordability for nutritious foods will remain very low.

The 2015 Comprehensive Food Security Assessment (CFSA) in Lao PDR found that 66% of all households nationally spent less than half of their budget on food, and another 20% spent between 50-64% of their budget. These households that devote less than 65% of their expenditure to food are considered to have more flexibility and greater resilience to shocks than those who spend a greater proportion of their budget and are less likely to have savings or emergency funds (MAF and WFP, 2016). The 2013 LECS 5 found, similarly, that food accounted for an average of 63% of total consumption nationally (WFP, 2017).

The field survey also anecdotally explored the notion that even though there is high income generation in some peri-urban villages with ethnicities in particular, the majority of the income is used for other purposes. For example, Hmong HHs interviewed save more income for their children's basic eating and less nutritious foods as they consider that they have a lot of children in their family, whilst Khmu HHs interviewed spend more income on housing with an estimation of only about 25% used for their foods. An Akha village interviewed spends most of their income on other social activities rather than for nutritious food consumption in their families, etc.

As illustrated previously, over 70.6% of HHs interviewed have household income from salary, business and labor wage whereas income from agriculture is only about 28.2%. While selling livestock and NTFPs is not a common source of income anymore in many peri-urban villages, other income sources are becoming significantly more critical. At the same time, improved rural incomes may also be met by inflation and similar increases in costs of living. Ultimately, the pressure to earn money can result in livelihood coping strategies that compromise household food consumption (Bouapao et al. 2016). If access to land, and thus access to self- production, NTFPs, and other resources, continues to decline, improved market access and increased purchasing power will be integral to food security and dietary diversity for peri-urban villages in particular.

Based on SUPA (2020)<sup>20</sup>, income generation among Akha in the sample villages has been largely based on collecting of NTFPs, with a small number of households growing and selling sugar cane, and is limited in terms of cash generated. Having a low-income impact on the level of food access and ability to ensure adequate family nutrition. Another baseline survey by SLALING (2020) indicated that when households grow their own vegetables or fruit, the prevalence of stunting in Akha CU5 will decrease while exclusive breastfeeding rates in pregnant and lactating women from other ethnicities will increase. In Namtha, the prevalence of malnutrition in adolescent girls, pregnant and lactating women will decrease. Household

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<sup>20</sup> Based on: SUPA, 2020. Study on infant and young child feeding beliefs and practices among Akha and Yao communities and perceptions and impact of LANN training.



capacity to grow their own vegetables or fruit will also lower the prevalence of women giving birth at a young age in Luang prabang district.

Field survey also observed that some villages surveyed have been involving in vegetable commercial agricultural production in Houana village of Nambark and Namthoung village of Namtha earned about 15-20 million kip per year. However, vegetable producers in other villages, for example in Na-Ouan village of Luang Praband district who mostly produce mostly cabbage during the dry season for road side groceries and local markets earned less than 1 million per household. While some other fruit and vegetable household interviewed are more subsistant with limited production technologies and market-orientation. However, there is no clear evidence from the study that these subsistant vegetables producing households have improved their nutritional dietary because of the income from vegetable production in peri-urban areas.

Based on the total average income of HHs interviewed at about \$2.08 USD/person/day (\$0.72 USD/day for very poor group, \$1.54 USD/day for poor group, and \$4.15 USD/day for Non-poor group), it could be estimated that HHs interviewed have a wide range of affordability for their food. With a scenario of spending 25% and 63% of HH income on food, the average expenditure on food is about \$3.30 USD/day and \$8.32 USD/day respectively. While the non-poor group has much better affordability of food between \$5.41-\$13.62 USD/HH/day the very poor group can afford only \$1.33-\$3.35 USD/HH/day. This implies that although there are more nutritious foods available, the very poor group may not be able to afford them.

Figure 11: National household expenditure; Source: WFP, 2017

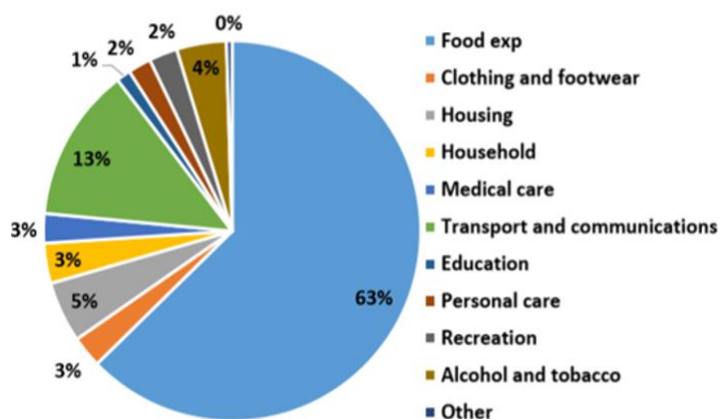


Table 10: Indicative affordability of HHs interviewed

	Very poor	Poor	Non poor	Total
% of HHs interviewed	45.21	17.81	36.99	100
Ave. income per capita (USD/day)	0.72	1.54	4.15	2.08
Ave. no. of people in HH	7.39	4.15	5.21	6.35
Ave. affordability on food USD/HH/day at 25%-63%	1.33 -3.35	2.47 -6.22	5.41 -13.62	3.30 -8.32

## 4.6 Acceptability and Cultural Norms

Based on the World Bank (2016), insufficient diverse diets are of greater concern than meeting caloric intake, which even the poorest groups exceed on average. The typical diet is centered on rice and condiments such as salt and monosodium glutamate (MSG), which are consumed every day. This results in excess consumption of carbohydrates but inadequate fat, protein and micronutrient intake. Dietary diversity was also lower in rural areas than in urban and lowest among rural households in the poorest quintile. Along with meat, legumes, dairy and eggs were consumed by a smaller percentage of households across groups. Dark leafy vegetables were also less common in rural areas, with only 27% of the poorest rural households consuming them.

In 2015, the most commonly consumed animal protein was fish, which households consumed on average every other day (3.4 days per week). Wild meat was only consumed an average of 0.8 days every week, less frequently than eggs (2.8 days) and domesticated meat including beef, pork, or chicken (2.5 days). Households in more remote areas with less access to markets continued to consume wild meat 2.2 days per week as their only source of animal protein, but overall community perceptions are of declining access to wild animals as a result of unsustainable hunting practices (MAF and WFP, 2016).

Based on SUPA (2020), the main barriers or constraints to the changing of IYCF practices are a mix of cultural beliefs and culturally embedded practices, simplicity of eating habits, limited variety of available foodstuffs, lack of knowledge and awareness regarding food and nutrition, limited access to markets, lack of resources and limited impact of trainings provided by relevant projects. However, they are undergoing increasingly rapid change as villages become more closely linked to the outside world.

The field survey showed that rice, locally produced leafy light green vegetables, tilapia fish, eggs, locally produced fresh meats and local fruits are the most commonly acceptable food groups. However, some

households purchase low quality imported Vietnamese rice which is approximately 20-30% lower in price than local rice. Some significant barriers exist because of various food preferences in connection to organ meat, dairy products, legumes and nuts. These are a result of either cultural norms for dietary habits or the fact that people personally don't like to consume these items, particularly organ meat.

The field survey also showed, imported frozen meats (pork, chicken, duck, hotdog and meatballs, etc.) and different kinds of vegetables (cabbage, lettuce, radish, green chili, long bean, etc.) and fruits (apple, peach, dragon fruit, Logan, rambutan, and mango, etc.) are commonly found in urban areas of Luang Prabang, Nambark and Namtha. All target groups interviewed showed their high preference towards these groups of imported foods mostly due to their more pleasing appearance even though the prices are considerably higher for these items. Local fruits such as papaya and banana are preferred but are consumed less than imported ones.

Promotion of safe dietary diversity through changing dietary habits and the consumption of locally available nutrient-rich foods seems to be the right direction to go. However, there is a need to increase local awareness of the diversity and value of local fruits, vegetables, meats, fish, aquatic animals and insects. Introducing organic and Good Agricultural Practices (GAP) suited to local agro-ecological conditions and markets, and promoting investments in natural resource management and environmental protection such as propagation and sustainable use of NTFPs will ensure a sufficient supply of natural-nutritious food in all areas.

Imported cool chain products in Luang Prabang market



Tilapia in Namthoum market of Nambark



Imported fruits in Namtha market



## 4.7 Food Safety and Hygiene

Food safety is becoming a growing concern as income increases and the population grows and relies on food produced and processed by others. Food safety, including hygienic food preparation, storage, processing, and environmentally appropriate production, reduces harmful pathogens and other toxic substances that impact health and nutrition (USAID, 2015)<sup>21</sup>. The importance of food safety is significant when storing and preparing foods, particularly for children under the age of 2 years.

WFP (2017) indicated that the 2012 Risk and Vulnerability Survey collected information on consumption of packaged snack foods by children, as a way of understanding shifts in availability and affordability and possible impacts on nutrition. Over half of CU5 (53%) and nearly as many CU2 (45%) had eaten a packaged snack food in the preceding day (MAF, 2013). Increasingly, these snack foods are being imported from Thailand and Vietnam and are marketed toward school-age children, often only labelled in foreign languages (Bouapao et al. 2016). Today, more severe problems were observed in many peri-urban villages surveyed as more imported packaged snacks are also coming from China.

During the field survey, the use of some banned herbicides (Paraquat Dichloride) and pesticides (Sevin 85%) found in the production of rubber and upland rice, jobstear, maize and others, as well as some paddy rice areas. No appropriate use of these herbicides and pesticides was reported by HHs interviewed. It was also reported that more diverse types of stronger pesticides and herbicides are sold in many district markets during producing seasons. This is in line with herbicide inspection and 4 banned ones were found in Nambark district in 2018. Recently, some Chinese imported herbicides and pesticides were also found in some peri-urban areas surveyed. Although these are labelled with official registration in China and are not banned in Lao PDR, as there is no using instruction in Lao language, there is a risk for over and miss-use of these chemicals.

<sup>21</sup> Based on: USAID, 2015.

In August, 2019, inspections for chemical contamination with fresh vegetables were also conducted in Namtha and Sing districts. The results showed that some lettuce and cucumber had particularly high levels of contaminants. Cucumbers were found with levels of contaminants unsafe for consumption in some production areas. Other vegetables such as Chinese kale, eggplant, chayote and spinach were also found with high yet consumable rates of contaminants. Similar inspections were also conducted in Sing and Long and found broccoli contaminated with unsafe levels. The inspections also detected high levels of contaminants in chili, chayote and watermelon (LNT PAFO report, 2019).

In May and July, 2019, imported vegetables and fruits were also inspected by the LNT PAFO. The results showed that green chili and fresh garlic had high levels of contamination but that they were still consumable. Some contamination was found in cabbage, long beans, long chilies and chayote. Fruits such as peaches and oranges imported from China were also found with unsafe levels. Other fruits such as rambutan, watermelon, longan and apples from Thailand and litchi and pineapples from Vietnam were found with small amount contamination.

Expired milk in peri-urban village in Luang Prabang



Herbicides sold in Namtha market



Herbicides and banned pesticides used in peri-urban villages in Namtha



Low quality and expired processed packaged foods are often found in rural and peri-urban villages. In 2018, two commodity inspections were conducted and 34 items of processed food were found to be expired in Nambark district. The most prevalent expired processed foods are snacks (Nambark DICO, 2018). Based on Luang Namtha PHO (2017), the expiration date of 38 processed food products were investigated in May, 2017. This included Chinese sausage, Thai milk (Latasoy, GEN) and different kinds of packaged snacks and sauces, etc. In July, 2017, another processed food inspection was conducted and 11 kinds of products were found to be expired including some milk, yogurt, processed snacks, salad dressing and sauces, etc.

Although foods delivered by mobile traders by motorbikes and trucks could improve the food availability and accessibility in many peri-urban villages, there is a concern regarding the supervision on food safety of these food items. There are some risks in relation to these mobile sales including expired processed and packaged foods, adequate hygiene, the potential for disease spreading from fresh meat and meat products, as well as high contamination from imported seafood.

In peri-urban areas, inspection and food safety awareness has been improved for businesses. One dairy distributor/wholesaler/retailer in Namtha reported that the Thai Milk company always provides training on how to promote and market the milk. They must also show their social responsibility regarding expired milk. If any milk is found to be three months before their expired date, they are committed to send the products back to the company. Based on MOH (2018)<sup>22</sup> Standard Operating Procedures (SOPs) for food factories, food in market, restaurant, hotel and school have been published and inspections are regularly conducted. For example, the SOPs for food indicate that the acceptable level of Coliform is less than 2 MPN whilst ZERO traces of formalin, Borax, NaOH and Salicylic Acid should be detected upon inspection. Cool chain facilities must maintain a temperature of between -10°C and -18°C. Additional inspection on NO<sub>3</sub>, NO<sub>2</sub>, Sodium hydrosulfite, Pola and other hygiene categories, food quality, freshness, expiration dates and the registration of processed foods all included when food inspections are conducted in the markets.

Reduction of food safety risks for both production and consumption by strengthening guidelines for the safety of pest management, enforcing sanitary and phytosanitary inspection protocols during production and marketing of fresh products and raising awareness of the nutritional content of packaged and processed foods, especially sugar, fat and sodium was highly recommended (World Bank, 2016).

<sup>22</sup> Based on MOH, 2018. Manual for Standard Operation and Process of Food-Drug Inspection, 2018



Initially, a national fortification strategy must be developed to ensure nutritional quality and food safety of processed and packaged foods through the development of standards and appropriate regulations. It also must be ensured that there is adequate monitoring by related authorities. As food fortification is typically produced by a big food company, this requires strong collaboration between the public and private sectors in order to set nutrient targets, formulate feasible standards and regulations and ensure food safety for maternal and infant under 1,000 days in peri-urban and rural areas.

## 4.8 New Healthy Food

There is an emerging market for cool chain products in peri-urban areas for processed and packaged foods such as hotdogs, meatballs and chicken and duck parts. However, there are some constraints and risks in association with the promotion of these new cool chain meats and meat products. High investment capital for facilities, high transportation cost and high price, food safety regulations, inspection and supervision are mentioned as constraints by the private sector actors and local authorities interviewed. At the same time, the consumption of fresh meat as a dietary habit may not be simple to change for some target ethnic groups in peri-urban areas.

Sacha inchi has all of the essential amino acids in an adequate amount when compared with the FAO/WHO recommended amino acid pattern. Currently, the vine that produces edible nuts is processed by Maisavanh Lao Company as Sacha Inchi Protein Powder, and Sacha Inchi Power Bar. The snack has been promoted by UNICEF/WFP to improve nutrition in some provinces in Lao PDR. Maisavanh Lao stated that “We opted for a “Non-profit” structure and all the benefits are reinvested in the business.” “Our internal policy is based on fair values in work and personal respect.” “This results in the development of a sustainable relationship with the producer by paying a fair price and respecting the natural environment.” ([www.maisavanhlao.com](http://www.maisavanhlao.com)). As the products are rather expensive, analysis of how Sacha Inchi could be consumed in other forms should be considered.

Moringa Oleifera (Drumstick) originated in South Asia with 14 species identified. It is mostly found in tropical and sub-tropical areas. Lao PDR has the most common variety and was found in almost all villages surveyed. The crop has been traditionally consumed as a vegetable in many areas in Laos. However, farmers have very minimal production and consumption knowledge about it particularly, on its consumption benefits. The crop is very high in protein, mineral content and CARTB, A, C, E, etc.

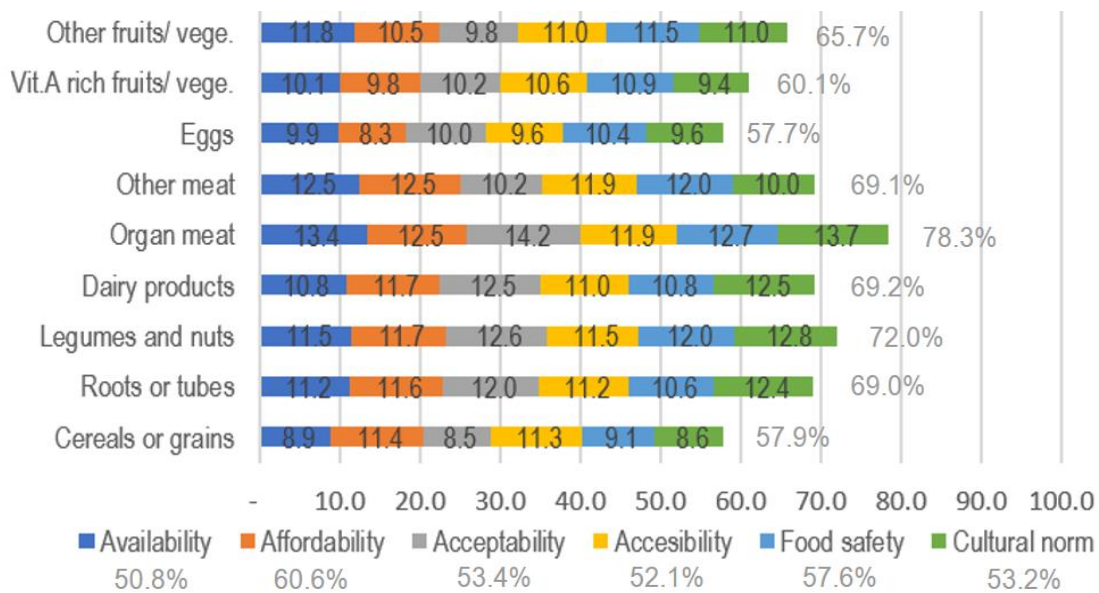
## 4.10 Summary of Supply and Demand for Nutritious Foods Consumption

The lack of dietary diversity which is largely due to poor child feeding practices (mostly due to limited optimal nutritious awareness, cultural norms for dietary habits as well as, household affordability for some nutritious food) is of higher concern than availability and accessibility to nutritious foods. In this paper, the conceptual framework used for analysis the opportunities and challenges to consumption of the NFGs includes the following elements: (i) Availability (ii) Affordability; (iii) Acceptability; (iv) Accessibility; (v) Food safety and hygiene; and (vi) Dietary habit as a cultural form.

Results of the field survey are indicatively summarized that barriers for all nine nutritious food groups are rather low. While the highest barriers are organ meat, legumes and nuts with about 78.3% and 72.0% respectively whilst the lowest barrier are eggs, rice and other grains respectively. Barriers for organ meat are more resulted from the acceptability (14.2%), cultural norm (13.7%) and availability (13.4%) rather than other factors. The below chart also shows that the availability of rice, eggs and vegetables is less a barrier than those meat and meat products. Villagers also reported a slightly higher barrier for affordability for those organ meat and other meat products.

Figure 12: Indicative barriers for consumption of the nutritious food groups by all target groups interviewed





On another hand, the table below also indicates that the very poor and poor households have higher barriers for availability of food groups of legumes and nuts, dairy products, organ meat and vegetables with yellow colour, at the same time, they also face more affordability barrier for nearly all types of food groups compared to the non-poor groups. Indicative barriers for consumption of each nutritious food group by non-poor, poor and very poor quintile are showed in the table below.

Table 11: Indicative barriers for consumption of the nutritious food groups by all target groups interviewed

Nutritious food group	Availability				Affordability				Acceptability				Accesibility				Food safety				Cultural norm			
	All	NP	P	VP	All	NP	P	VP	All	NP	P	VP	All	NP	P	VP	All	NP	P	VP	All	NP	P	VP
Cereals or grains	2.0	1.8	2.4	2.0	3.1	2.3	3.5	3.5	2.0	2.0	2.2	1.9	2.7	2.3	2.8	2.8	2.4	2.3	2.5	2.3	2.1	2.0	2.4	1.9
Roots or tubes	2.6	2.3	2.9	2.6	3.2	2.6	2.9	3.5	2.9	3.2	2.8	2.6	2.6	2.3	3.2	2.6	2.8	2.8	2.7	2.7	3.0	2.8	3.4	2.8
Legumes and nuts	2.6	2.3	2.5	2.8	3.2	2.8	3.2	3.4	3.0	3.2	2.6	3.0	2.7	2.4	3.0	2.7	3.1	3.0	2.8	3.2	3.1	3.0	3.2	3.0
Dairy products	2.5	2.3	2.4	2.6	3.2	2.4	3.3	3.6	3.0	2.9	2.4	3.3	2.6	2.3	2.8	2.7	2.8	2.6	3.0	2.8	3.0	2.5	2.8	3.3
Organ meat	3.1	2.5	3.4	3.3	3.4	2.9	3.2	3.7	3.4	3.7	3.2	3.2	2.8	2.4	3.2	2.8	3.3	3.2	3.4	3.2	3.3	3.3	3.8	2.9
Other meat	2.9	2.5	3.3	2.9	3.4	2.3	3.4	4.1	2.5	2.3	2.5	2.5	2.8	2.3	3.1	3.0	3.1	2.9	3.2	3.1	2.4	2.3	3.7	2.3
Eggs	2.3	2.2	2.5	2.2	2.3	2.1	2.4	2.3	2.4	2.5	2.6	2.2	2.2	2.1	2.7	2.1	2.7	2.8	2.9	2.4	2.3	2.5	2.2	2.1
Vit.A rich fruits/ vege.	2.3	2.2	2.3	2.3	2.7	2.3	2.4	3.0	2.4	2.6	2.4	2.3	2.5	2.3	2.6	2.5	2.8	2.8	2.8	2.8	2.3	2.4	2.2	2.1
Other fruits/ vege.	2.7	2.4	2.7	2.9	2.9	2.3	2.4	3.4	2.4	2.5	2.2	2.3	2.6	2.4	2.8	2.5	3.0	2.9	2.9	3.0	2.6	2.5	2.7	2.6

Note: NP-Non-poor, P-Poor, VP-Very Poor

Levels of barriers: 1=No or Lowest barrier, 5=Highest barrier

## 5. Current Engagement of Private Sector in Nutrition Outcome

### 5.1 Government Initiatives and Development Projects

#### The 45-days project

In 2017, four poor districts (Phonxay, Pakxieng, Viengkham and Phonthong) in Luang Prabang provinces received over 2.9 billion kip to support the nutrition of CU5 through provision of trainings to health workers in districts and Kumban in order to demonstrate and provide nutritious lunch to CU5 in 239 villages for a duration of 45 days. Based on Luang Prabang province PNC, some budget was used to contract traders to supply egg, salt, oil and milk and other food items to the target villages. Weight monitoring for the beneficiaries was carried out by districts and Kumban health workers every 15 days. The results show that 93% of 2,827 CU5 have increased their weight and maternal practice for optimal nutrition was increased due to project support. The same project was also implemented in Luang Namtha province.

#### AFN

The Agriculture For Nutrition (AFN) project is supported by IFAD under the Global Agriculture and Food Security Program (GAFSP). The goal of the project, which will operate until 2020, is to reduce extreme poverty and malnutrition in the poorest communities in 12 districts in Houaphan, Oudomxay, Phongsaly and Xieng Khouang provinces in the upland areas of Lao PDR. The project aims to reduce malnutrition and enhance income and food security in rural communities by supporting nutrition-sensitive and climate-smart agricultural practices.

The project aims to support diverse agricultural supply chain development through promoting successful agricultural approaches and technologies. Its emphasis is on building an enabling environment for sustainable market-led improvements in nutrition-rich and diverse agricultural production and boosting rural employment and incomes. Women empowerment and PPP have also been highlighted in the project's target areas. The strategic investment plan was prepared before the interventions were implemented in different districts. Supported supply chains include: tilapia, local pig, native chicken and cattle, cardamom, tea and coffee. The AFN project has applied the competitive agribusiness co-investment facility approach to leverage private financing in the supply chains. Detailed technical and financial assessments and qualified agribusiness proposals are co-financed by the project, covering up to maximum 49% of total investment costs.

#### NUSAP

Funded by AFD and EU, the Nutrition Sensitive Agriculture Project (NUSAP) aims to improve the capacities of government services at provincial and district levels to mainstream nutrition issues in their interventions. The project also aims to improve knowledge about Nutrition Sensitive Agriculture (NSA) and nutrition related attitudes at the community level. The goal is to also improve access to and use of nutritious food for vulnerable households (pregnant and lactating women, adolescent girls, children under 5, especially during the first 1,000 days of life) in target villages.

#### NUFNIP

The Northern Uplands Food and Nutrition Security Improvement Project (NUFNIP) had €2.77 million in funding from the EU and was implemented by Helvetas Laos between February 2016 and January 2020. The main objective of this project was to contribute to securing and improving livelihoods of poor rural women and men farmers in the Northern Uplands of Laos. The project aims to improve food and nutritional security, especially for women and young children in Vieng Phoukha district of Luang Namtha and Ngoy district of Luang Prabang Province.

#### World Vision

The EU funded integrated multi-sectoral Accelerating Health Agriculture and Nutrition (AHAN) project is being implemented by a consortium led by World Vision with its partners including Agronomes et Vétérinaires Sans Frontières (AVSF), Green Community Development Association (GCDA) and the Burnet Institute (BI). The project targets 12 districts across three central and southern provinces of Savannakhet, Saravane, and Attapeu. The AHAN project's NSVC Analysis has selected the nutrition rich foods including native chickens, frogs, crickets, corn, bananas, pumpkins and moringa for interventions. These products

were targeted particularly because some crops are relatively high in protein, mineral, vitamins, dietary diversity, local availability and familiarity and have high potential for adding value.

## **UNICEF**

The 1000 Day Project, a public-private partnership (PPP) between the GoL, UNICEF, PSI, and mining company MMG, began in 2012. The project has been distributing “SuperKid” micronutrient powder (MNP) in the provinces of Savannakhet, Saravane, and Attapeu, with free provision for families with children under the age of two and subsidized provision for families with CU5. In addition to MNP, the project provides malnutrition screenings as well as educational and informational sessions. An estimated 180,000 children and their families have been reached thus far with plans to expand to a fourth province (Houaphanh) and reach 270,000 children during the second phase of the project that began in 2016 (MMG Limited 2016; MMG Limited 2017).

## **WFP**

World Food Program (WFP) currently operates in 100 villages in two districts of Ngoi and Phonthong districts of Luang Prabang province and 130 villages in four AFN districts of Houaphanh province. Their main activities are school feeding programs and improvement of local nutritional awareness. At district and community levels, WFP operates through Village Education Development Committees (VEDCs) establishing school gardens with connections to local farmer groups, hence, there are already platforms. WFP also operates through PAFOs/DAFOs and district health in supporting village level planning for investments under the IFAD/MAF component for farmer groups.

## **ENUFF**

Funded by SDC, the Enhancing Nutrition of Upland Family (ENUFF) is implemented by SNV in partnership with Agrisud in 20 villages of Viengxay and Xiengkhor districts of Houaphanh province and in Oudomxay province. The ENUFF project applies multi sectoral approach to improve the nutritional status of family and children in remote and ethnically diverse upland farming communities through nutrition sensitive agriculture production, sustainable management of natural resources and enhancement of good practices in health and hygiene, including a more conducive and efficient policy and institutional framework.

## **UNCDF**

Funded by AusAID and implemented by the Bank of the Lao PDR (BOL), "Making Access to Finance More Inclusive for Poor People" (MAFIPP) is a seven year UNCDF initiative with objectives to increase access to financial services to low income households and micro-entrepreneurs on a sustainable basis. In this sector based programme, MAFIPP takes a role of market facilitator to advance financial inclusion in the Lao PDR. At meso level MAFIPP, works with financial service support organizations to build capacity of selected institutions to provide on-going technical assistance to the sector. At the micro level MAFIPP supports and provides a set of incentives to market actors as a way to strengthen institutional capacity and facilitate the development of the actors that advance financial inclusion. The MAFIPP programme has set up the Fund for Inclusive Finance (FIF) to channel its support to institutions at the meso-and micro-levels. Oudomxay Development Non-Deposit Taking Microfinance Institution (ODNMFI) has received technical support from FIF for piloting the establishment of "Access to Finance for Agricultural Sustainable Development" (AFASD) Project unit through an agricultural loan that embeds paid-for agricultural inputs and agricultural extension support.

## **NSLCP**

The Northern Smallholder Livestock Commercialization Project (NSLCP), which has been in operation since March 2015 and will continue until June 2021, is funded by a \$21.46 million USD loan from ADB. The project aims to increase income to the smallholders, livestock and agriculture business units by facilitating and supplying the need for commercialization of livestock production to the local market in turn creating a new good opportunity of exporting livestock to foreign markets. The project operates in 12 districts of Luang Namtha, Luang Prabang, Houaphanh and Xieng Khuang provinces. Improvement of pasture land for cattle fattening, strengthening farmers groups and linking to markets are the main success of the project.

## **5.2 Private Sector**

Table 12: Member of SUN Business. Source: SCALING Project, 2020

#	COMPANY/ORGANISATION	SECTION	CONTACT
1	ADC Aquatic Development Co.	Farming	Ferenc Levai
2	Agroasie	Food Production / Processing	Ian Dierden
3	Aluna	Advocacy	Aluna Thavonsouk
4	AmCham	Advocacy	Kevyn McGraw
5	ASEAN Contact Center	Advocacy	Kevyn McGraw
6	Australian Chamber of Commerce (AustCham)	Advocacy	Sophie Depachtere
7	Benir Nursery & Kingergarten	Education	Mrs Soudaphone Monesavanh
8	Burapha Agroforestry	Agriculture forestry	Cara McCartney
9	Concept Lao Sole	Food Production / Processing	Jo Lidbetter
10	Deluxe Food	Food Distribution	Sam Chanpradith
11	Diep Vu	Manufacturing	Johannes F. Somers
12	Doi Ka Noi	Food Production / Processing	Mick Schippen
13	ECCIL	Advocacy	Philipp Gleaser
14	iCare Benefits	Financing	Limawati Jamir
15	Lao Agro Industry Co. Ltd	Food Production / Processing	Mr. Phachankham Vongsay
16	Lao Dairy Farm	Food Production / Processing	Ms. Senmany Yathotou
17	Lao Farmers' Products	Food Production / Processing	Mrs. Bouakhaykhone Svengsuksa
18	Lao Fresh Meats	Food Production / Processing	Mr. Serge Selbe
19	Lao Gourmet Inc.	Food Production / Processing	Afiwa Prudencio
20	Love Life	Food Production / Processing	Ms. Fleur Varenne
21	Mai Savanh	Food Production / Processing	Dr. Philippe Schmidt
22	Pankham Jampa	Product Development	Mr. Mana Jangmook
23	Salana Boutique Hotel	Hospitality	Keota Thamnuvong
24	shopping-D	Online Retail	Mr. Sysay Khoungkhakoune
25	Xao Ban	Food Production / Processing	Nongnut Foppes

## 6. Proposed Strategies to Involve Private Sector

### 6.1 Rational and Objectives

The proposed draft strategy, prepared by the team in consultation with related stakeholders at national, provincial and district levels provides some fundamental understanding and priorities under which the private sector could be involved through partnership and collaboration with governmental initiatives and development projects to ensure that nutritious foods are available and ultimately, contribute to improving the nutrition outcomes in peri-urban areas in particular<sup>23</sup>.

Recognising that there is no single pathway and simple solution to ensure the availability of nutritious food in peri-urban areas, the convergence and supply chain approach is proposed in order to scale up the proven NSSC interventions, promote the nutrition-based SBCC, push economic strengthening and develop livelihood and social protection. In the long-term, the strategy identifies the following main areas of engagement with the private sector: development and implementation of technical programmes, policy dialogue, norms and standard setting, advocacy and communication, knowledge management and dissemination and mobilization of resources.

Strategies are often interconnected and interdependent. For example, demand may be constrained by low nutrition awareness (which would require actions to stimulate demand) and low purchasing power that compromises affordability of nutritious products (which could require intervening in the demand and/or supply side of the SC) or both. Therefore, a systemic perspective is needed, as well as a combination of strategies and actions that can take into account the dynamics of both market systems and food systems as a whole (IFAD, 2018).

Practically speaking, there are three types of private sector actors and businesses that could get involved: 1) Work with enterprises outside the food system to shape the food system and supply chain; 2) Support SMEs and MSME businesses that are involved in producing, processing, distributing, marketing and selling

<sup>23</sup> Note: the draft strategy was based on several key documents: WFP-Fill the Nutrient Gap in Lao PDR (2017), USAID-Multi-Sectoral Nutrition Strategy 2014-2025 (2014), FAO-FAO Strategy for Partnership with the Private Sector (2013), and IFAD-Nutrition-sensitive Value Chains from a smallholder perspective, etc.,

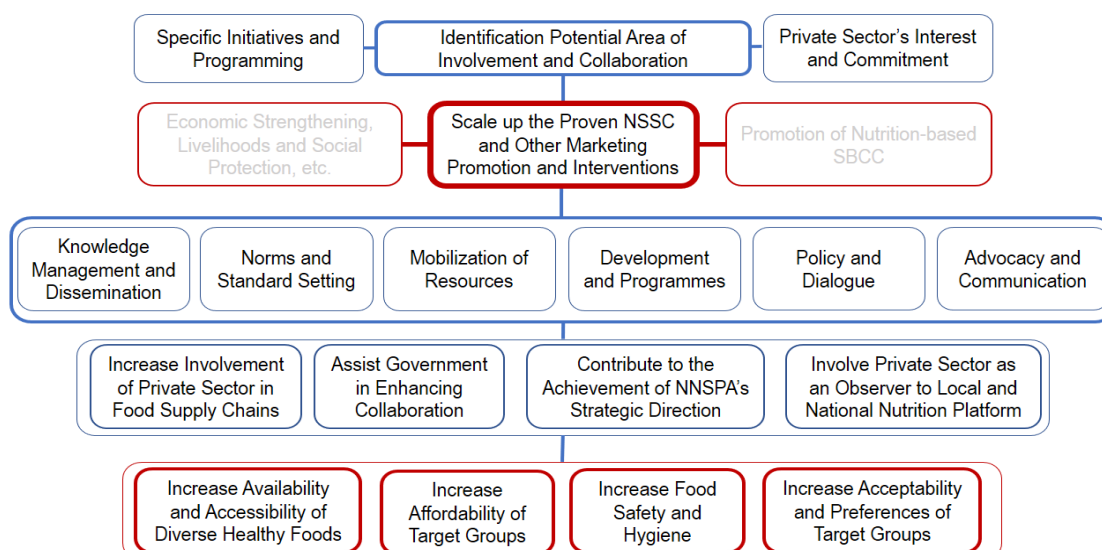
nutritious foods that are key parts of healthy diet and nutrition; and 3) Influence the big food and beverage companies.

Recognizing that profit is the main mandate of the private sector, they, as the primary suppliers of the food in the food systems, should be involved at all levels. It is the role of governments to provide adequate information and technical assistance to the food industry to foster their compliance with national and international regulations and standards, to protect the health of consumers and to engage in public-private sector dialogue to ensure ethical marketing practices. Also, it is the role of government to create an enabling environment to ensure availability and affordability of healthy foods in markets, provide adequate information and technical assistance to the food industry to foster their compliance with national and international regulations, to protect the health of consumers and to engage in public-private sector dialogue to ensure ethical marketing practices. More specifically, the long-term draft strategy aims at:

- assisting the government at all levels in enhancing negotiation, involvement, coordination and collaboration with the private sector to boost agricultural production and healthy food supply, to increase incomes and enable the provision of employment, services and goods.
- supporting the government to achieve its nutrition strategy objectives at local and national levels.
- enhancing the role of private sector as an observer through the involvement and participation in local and national platforms in relation to DNC, PNC and NNC’s mandate and encouraging the private sector to respect relevant standards set by the government;
- enhancing the participation of the private sector through financial and non-financial contributions in NNC’s activities, with mutual cooperation including the sharing of lessons learned and the development of best practices.
- increasing the creation, availability, accessibility, affordability and access to safe and healthy foods in peri-urban areas in particular.
- piloting practical interventions to involve local-based traders in supplying more nutritious foods in peri-urban areas and scaling out where applicable.

## 6.2 Long-term Strategic Direction and Conceptual Framework

Figure 13: Proposed private sector involvement framework; Source: FAO, 2013; Consolidation by consultant, 2020



## 6.3 Approaches of Engagement and Collaboration

### Development and technical programmes

Private companies can complement governmental initiatives and nutrition projects to boost markets particularly in urban and peri-urban areas where demand, accessibility and affordability exist. Large and medium-size enterprises can provide support to local MSMEs and SMEs and other actors, strengthening national and local capacity and economic growth. This can be revealed through the equitable distribution of goods and services; the enabling of access to fair agriculture insurance and contract farming; the providing of credit and financing opportunities; improved agricultural inputs; improved production techniques among others.

### **Policy dialogue**

Private sector participation in policy dialogue on issues related to food and nutrition security at local and national levels can contribute to the debate. It allows for private sector interests, concerns and technical expertise to be heard. Providing information and technical support to MSMEs and SMEs as well as large businesses on food and nutrition regulations while supporting open dialogue between government officials and private sector actors will help to ensure compliance at all levels. This fosters a sense of ownership that will enhance sustainability of policy adoption and implementation at both local and national levels in the longer-term.

### **Advocacy and communication**

Recognizing that business entities have expertise in marketing, engaging the private sector in advocacy and communication activities could allow the government initiatives and nutrition projects to reach a wider audience with a strengthened scope and impact across broader sections of the target groups. This can be done by working with the private sector to develop stronger communications and marketing approaches in support of improved nutrition for mothers and children and increasing demand for safe and nutritious foods starting with urban and expanding to peri-urban and rural areas. Once nutrition awareness is increased, the private sector might sponsor events organised at the local level through financial or in-kind donations. They may also help improve the visibility and effectiveness of local nutrition awareness initiatives. These include communication and social media outreach campaigns, patronage and co-sponsorship of projects or government-led events, e.g. World Food Day, local trade fairs and local food related festivals, etc.

### **Norms and standard setting**

Promote nutrition and food safety awareness with food supply chain businesses while leveraging the social enterprise concept. Invite private sector and civil society to join national and local nutrition platforms in a consultative role in standard setting. Private sector actors can provide their practical views as observers informing the standard setting process and encouraging the private sector to respect relevant standards set by the related governing bodies. They can share and generate new knowledge on topics such as nutrition science, safe and nutritious product formulation, supplementary and fortified food production as well as behaviour change.

### **Food Safety and hygiene**

It is essential to strengthen food safety control systems with strong regulations and laboratory and enforcement capacity to help ensure a safe and nutritious food supply. A functional national food safety system is essential to ensure a safe and nutritious food supply by allowing the application and implementation of required norms and standards of production throughout the supply chain. Proposed actions may include: Promote sustainable food production; develop processing and storage systems; change behaviours that prevent mycotoxins in foods and animal feeds; monitor and ensure safe levels of herbicides, pesticides and other chemicals are used in smallholder and large agricultural production; Strengthen food supply chain infrastructure and capacity to ensure high-quality, safe food with regard to storage, cold chain, logistics, and food waste; Implement organic agriculture, Good Agricultural Practice (GAP) and Good Manufacturing Practices (GMP) to reduce risks associated with fresh fruits and vegetables and animal source foods. Both physical facility and technical know-how improvement is needed to ensure better food safety and hygiene practices. At the same time, besides clear regulations with sufficient promotions, closer monitoring and supervisions system by line local offices are necessary to raise awareness and practices of both producers and consumers.

### **Knowledge management and dissemination**

It is critical to have a clear monitoring, evaluation, information sharing and dissemination system that can provide the private sector and related entities with impartial information and knowledge, including statistics on food and agriculture, nutrition and health, industry and commerce and supply and demand, etc. The private sector can contribute to government initiatives and nutrition project's knowledge and research capacity by providing data and information on market trends and emerging technologies. The sharing and



dissemination of private sector information through local and national networks and along the supply chain should be encouraged and supported.

### Mobilization of resources

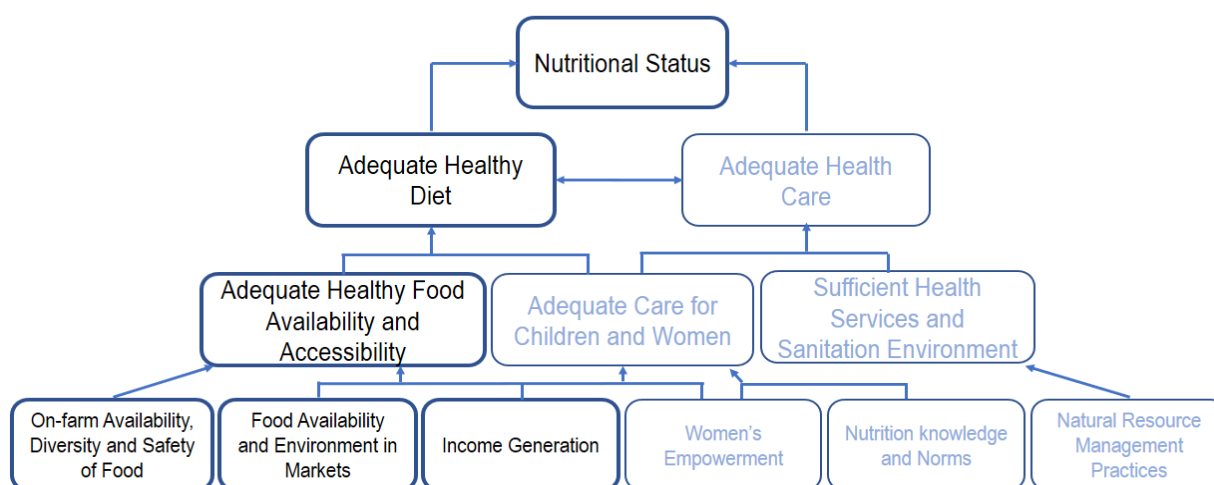
Mobilization of human, financial and other resources is fundamental to the implementation of government initiatives, nutrition projects and programmes. Big private sector entities may provide human resources, logistics, managerial and financial resources to specific activities. Incentify the private sector (manufacturers, factories, venders, etc.) to contribute to nutrition through an efficient process of regulations, registration, taxes, incentives in subsidizing and reducing electricity, water and lowering interest rates in order to result in nutrition impact.

### Nutrition-sensitive supply chains

The NSSC promotes changes in quantity and quality of production, post-harvest practices and access to markets or changes in SC coordination, with the goal of achieving an increase in nutrient-dense food, as well as an increase in sales and profits that will lead to increased income. At the same time, the consumption of nutritious foods by producers out of their own production can be considered the most direct and ultimate pathway that results in achieving changes in consumption.

In regards to the market pathway, the NSSC aims to improve availability, affordability and acceptability of foods in the market. This can translate into increased consumption both on-farm and off-farm. The exploration of new markets, such as institutional markets (e.g. public purchasing programmes, school meal programmes, food assistance programmes) could also benefit broader target groups in the nutritious food system. The NSSC should be promoted by working with private sector partners including grassroots producers and farmer organizations, agro-processors, distributors, wholesalers and retailers. Local markets should be fostered that will offer diverse, safe, nutritious, and affordable food products to consumers. Engage in collaboration with food factories and companies to expand food fortification initiatives where appropriate.

Figure 14: FAO impact pathway for NSA; Source: Helvetas, FAO, 2017; FAO, 2016



The long-term proposed actions may include: Invest in improved agricultural techniques and diversified products that safely and sustainably increase production and consumption of nutritious foods; Invest in supply chains and food security activities that can provide income generation for women; Embed nutritional and hygiene messages in agriculture extension services through NSSC and behaviour change activities to increase demand for nutritious foods; Promote private sector involvement and partnerships that channel inputs, services, and technology to farmers and enhance food production and marketing systems to increase access to safe and nutritious foods; Reduce postharvest losses and improve off-season food products to increase food availability; Improve local based solutions for fish and other aquaculture farming; Improve distribution systems for vegetables; Improve sanitary environment for meat products.

### Models of collaboration

There are different models of involvement and collaboration with the private sector that range from dialogue and consultation through to comprehensive partnerships. Not all forms of involvement and collaboration require a formalised partnership and the value of developing informal collaborations as an initial step should be recognized. When collaboration becomes more structured or involves funding or other



resources, a formalised partnership arrangement is required. The models of involvement and collaboration with the private sector can be formalised through: Memorandum of Understanding (MoU); Memorandum of Agreement (MoA); Letter of Agreement (LOA), Partnership Agreements, Exchange of Letters, etc. However, all forms of involvement and collaboration, risk assessment and management mechanisms, private sector identification approach as well as monitoring and evaluation system should be in place.

## **6.4 Monitoring and evaluation of the strategy**

### **Monitoring, evaluation and accountability**

The monitoring system will be linked to NNC, PNC and DNC's strategic direction. Identification of responsible staff who will report regularly on progress and the reports will be uploaded in the monitoring and information systems. This monitoring system will assist government initiatives and nutrition projects in improving the quality of its involvement, collaboration and partnerships. Their outcome and impact will be evaluated, including through a set of indicators against which performance can be evaluated. The renewal or termination of partnership agreements will be decided accordingly.

Recognizing that there is a new approach in the country, the effective management and involvement of partnerships with the private sector, require the maintenance of a high-quality database that serves as an accessible repository of accumulated experience of working with the private sector which can be a source of organizational learning both for government initiatives, nutrition projects and the private sector. The quarterly, biannual and annual reports will provide details on geographical distribution, industry category, outcomes, key achievements and key lessons learned from the implementation of this strategy along with financial aspects. To ensure transparency all lists of the selection criteria for involvement and collaboration with the private sector along with up-to-date lists of approved partnerships will be posted on the relevant website.

The proposed strategy also recommends development of strategic plans around learning and adapting that should include the analysis and application of performance and impact evaluation results. In addition, it is recommended that careful monitoring of contextual indicators, strategic dialogue with key stakeholders around lessons learned and potential course corrections along with flexible funding mechanisms and adaptive management techniques that allow for timely adjustments to policies, programs, projects, and mechanisms are established when needed.

### **Impact and outcome level indicators**

Prevalence of stunting and wasting among CU5; Prevalence of anaemia among women of reproductive age; Prevalence of low birth weight; Prevalence of exclusive breastfeeding of infants 0-5 months; Prevalence of minimum acceptable diet of children 6-23 months; Women's dietary diversity score; and Availability, accessibility, affordability and food safety in peri-urban areas.

## 7. Proposed Interventions for the SCALING Project

**1. Identification of nutritious food traders to be involved.** Based on the above proposed long-term strategy, it is important to: further identify trader's interest, find out what the gaps are and support them to fulfil the gaps, find out what is required to support them in terms of technical capacity, provide assistance in finding access to credit, create opportunities for traders, bring awareness and provide information. This may involve various types of nutritious food traders who operate in the district with existing links to provincial or national-based distributors or suppliers to avoid unnecessary transition costs and potential price reduction. The number of traders per nutritious food could be flexible based on the number of target villages to be covered. Special attention may be put on traders with nutritious foods that are not currently available in those districts such as supplementary and fortified nutritious foods, legumes and nuts, meats, Vitamin A rich vegetables and fruits, etc. Some specific activities may include:

- Prepare an introduction letter with clear objectives to target nutritious food traders aiming to increase their interest in supplying more nutritious foods especially, traders who are interested and have transport facilities and could deliver the nutritious food to piloting villages on the regular order base.
- Gather clear information on demand for nutritious food in target villages such as what kinds of nutritious foods, how much demand per day or week, what specific type and grade, and clear affordability of target villages. The activity could be seen as detailed screening survey from demand side piloting in some peri-urban villages.

**2. Formation of village-based target consumer groups.** Recognizing that many traders want to expand their sales of nutritious foods, there is, therefore, one entry point to support wholesalers and retailers to deliver a price drop. This is via an increase in volume and profit. By organizing consumer groups for collective purchasing in the SCALING project's target villages, traders can identify and specify what kinds of nutritious foods are in demand with bigger quantity ordered and therefore bring the benefit of lower prices for the target groups. The orders can be scheduled based on the actual demand with deliveries being made daily, every few days or weekly. In the beginning, it is of crucial importance for traders to have sufficient motivation, whilst consumer group committees should be trained on transparency, anti-corruption and volunteer basics. The project can provide basic incentives with a clear supportive schedule.

- Based on the above screening survey, together with the existing Village Saving and Loan Association (VSLA) groups or SBCC peer support groups at the village level, to form consumer group in target villages.
- Select motivated group committee (representatives) with clear operational skills to deal with traders under guidance of project VSLA or SBCC field staff.
- Prepare nutritious food market information board for both demand and supply information. Different price references should be provided with possible lower price for collective purchasing. Demand information for nutritious food should be consolidated on a regular basis.

**3. Organization of stakeholder platform.** After the interested traders have been identified project teams can facilitate the organization of stakeholder meetings attended mainly by traders and representatives of consumer groups. Discussion could focus on models of agreements, benefits, commitment and incentive for both traders and consumers. Contract farming and contract purchasing approaches could be applied. After that, it is the role of consumer group representatives to propagate collective buying campaigns to other target groups in their villages and it is the role of traders to sort out good quality nutritious food products to supply to the villages as per the orders made.

- Organize demand and supply for nutritious food matching platform through village cluster stakeholder workshop for detailed discussions on opportunities, constraints and recommendations for improvement.
- Once there is clear information on both demand and supply sides, specific supply schedules and payment can be made based on agreement between traders and orders made by each group.
- The platform can be piloted in some target villages in where there is enough demand and affordability and scale out to others. Specific application can also be developed.
- Some local produced nutritious foods with high potential for local demand can be promoted through such platform where a new supply chain can be established.

**4. Promotion of improvement of a competitive business facility.** At the current stage, it is important to leverage private understanding and financing in the supply chains to provide risk-mitigation and incentive for strengthening businesses (including agribusinesses) empowering them to expand their operations into peri-urban and some rural areas and to ensure inclusive and sustainable contract farming and purchasing

arrangements in a context where poor regulations currently exist. It is necessary to provide efficient incentive either through technical and access to credit for committed and interested businesses to improve the nutritious food supply chains in peri-urban areas in particular. Where possible, improvement of a village-based stable market place, improvement of fresh food cool chains, collaboration with food companies to produce supplementary and fortified nutritious foods could be considered.

- In some target villages with high demand, discuss with local producers (in neighboring villages) to produce and supply nutritious food e.g. legumes and nuts, meats, Vitamin A rich vegetables.
- Liaising with local (district or provincial based) traders to improve village-based market place to supply more nutritious foods through e.g. the improvement of fresh food cold chains.

**5. Launching community-based store through VSLA approach.** Piloting a community based-store through co-financing with local traders who already operate in some selected project target villages. The shops can supply a variety of difficult-to-obtain vegetable seeds, supplementary and fortified foods, processed foods with reasonable prices possibly through social protection scheme supported by the government. Special focus should be placed on vulnerable target HHs to be allowed for post-pay of some agricultural inputs and fortified foods.

- Support the existing VSLA group representative to attend short-term basic entrepreneurial skills so that they are capable to run the village-based nutritious food store.
- Promote locally produce and consume some difficult-to-obtain vegetables, legumes and nuts through SBCC activities.
- Promote locally produce processed nutritious foods with eating convenience, less time-consuming and potential for local demand for example dry fish paste, Fried Mak Kuu nuts, banana, pumpkin and taro chips, etc.

**6. Networking with other nutritious food supply chain projects.** Currently, considering the limited interest of traders to work with the targeted groups, the project can create instruments to stimulate agribusiness development through working with other NSSC projects. This may include the establishment of a multisector platform to facilitate linkages and negotiations in the identified SC between the farmer groups and agribusinesses such as input suppliers, collectors, traders, processors, wholesalers, retailers and consumers in target villages.

**7. Initiating supportive policies with relevant authorities.** The project team plays a coordinating role between big food and multinational business and related authorities to possibly generate incentives including: Incentives from the government to increase demand from consumers through campaigns such as trade fairs, local events and local media. Specific actions to stimulate consumption, such as nutrition awareness and behaviour change campaigns, cooking classes or incentives to save a portion of the nutritious foods for household consumption, are needed to ensure that improvements in production lead to improvements in diets. Based on lessons learnt from the SCALING project's 6 monthly monitoring on Breast Milk Substitute (BMS) code/decreed, similar monitoring system could be applied to the supports how traders could provide more nutritious food in the project target villages. At the same time,

- Facilitate local government to stimulate both demand and supply of nutritious food through campaigns such as trade fairs, local events and local media.
- Capitalize lessons learnt from the current supports on monitoring on BMS on the specific nutritious food price monitoring.
- Closely facilitate the coordination among line local government offices to raise local awareness on food safety and monitor the distribution and use of banned pesticides and herbicides in small-scale gardening and plantation as well as, other high chemical contained fresh products sold in local markets. At the same time, monitor the sale of low quality and expired packaged milk and other supplementary formula products.
- Facilitate in establishing the local monitoring and information systems through identification of responsible staff who will report regularly on progress and the reports on nutritious food price, food safety and chemical use monitoring.
- Similar to the promotion of demand and facilitate the supply of WASH products, latrines and water filters, a clear collective order with well designed criteria for the selection of suppliers are needed to ensure quality and timely supply of the nutritious food products.

## 8. Conclusions

While the first 1,000 days, from conception to the age of 2, are the most critical period for a child's physical and mental growth, Lao PDR has made good progress on improving nutrition and food security. Although there are many challenges, the local awareness on optimal nutrition practices have been improved through both pushed factors and efforts by the government and nutrition projects and pulled factors by more purchasing power and accessibility of peri-urban communities.

Currently, households interviewed mainly obtain nutritious foodss from different sources including: self-production, district center markets, peri-urban markets, mobile traders, community trade fairs and village-based shops. While some barriers for acceptability of some nutritious food were resulting mainly from dietary practices of some ethnicities, their affordability and time constraints, food safety is not a significant concern despite of some banned chemical inputs used and expired packaged nutritious food observed.

Thanks to more local demand for foods in some villages, some local traders actively supply diverse nutritious foods which could not be locally produced or distributed via mobile motorbikes and trucks or even on-line services. Currently, although there are more nutritious foods available, the very poor quintile may not be able to afford them. Promotion of food availability and environment in markets for nutritious foods together with other campaigns through social behavior change and communication, economic strengthening, social protection and livelihood strengtening should also be highlighted. The promotion of the nutrient sensitive supply chain to improve local on-farm availability, diversity and food safety can be capitalized.

## Annexes

### Annex 1: Detailed objectives of the study

The specific objectives of the assignment are:

1. Generating information to inform the strategy through completing a literature review of lessons learned from peri-urban nutrition related interventions in Laos and neighbouring countries in South East Asia particularly related to private sector involvement and supply and demand challenges for access to nutritious foods.
2. Identification of a sample of target groups (poor and non-poor) 1,000 Day Households living in peri-urban areas) and exploration of current practices, motivators and barriers including social norms related to: optimal maternal nutrition, infant and young child feeding, demand for, and barriers to access to nutritious foods for pregnant, lactating women and children 6 - 23 months.
3. Carefully segment target groups considering age, socio economic status, ethnic group, first time mothers, experienced mothers, mothers with infants from 0-5 months, 6 - 8 months, 9 -11 months, and 12 - 23 months.
4. Identify the target group's: information sources particularly for maternal and child nutrition; popular local means of information sharing; existing community women's groups or networks; popular ways to socialize; preferred 'free time' activities for women with young children and pregnant women.
5. Identify and map local trading of current supply chains with a focus on the local market, (including list of suppliers and sellers).
6. Identify and map the key partners (Gov't, private sectors and NGOs) involved in the supply of nutritious food in peri-urban.
7. Analyse fresh products versus processed as well as the use of (banned) pesticides in fresh food.
8. Provide practical recommendations on the business model (including a list of potential suppliers and demand) and a list of new products/ingredients that contain 9 food groups that are mentioned above.
9. Develop a draft strategy and share it with CARE International for review/ feedback.
10. Finalise the strategy on how to best involve private sector actors to ensure that nutritious food is available to both poor and non-poor 1,000 Days Households in peri-urban areas, including a monitoring and evaluation framework.
11. Prepare the presentation of this strategy/study results and present findings at a consultation workshop of this strategy to consortiums and government partners at national level and within target provinces.

### Annex 2: Field Survey Schedule and Persons Met

Day	Time	Activity	Who/ persons met
Mon. 2/12	17:30-18:20	From VTE to LPB (flight QV111)	
	08:00-12:00	Meeting with SCI (PHO) team and training on tools and data collection approach	Mr. Sengphet (PHO) Ms. Khanphet (SCI)
	13:30-14:30	Meet with LPB Provincial Health Office (together): - Maternal, newborn and child health related division - Food Safety Division	Dr. Sykhai (Data consolidation division) Dr. Khamphoi (Food safety division)
	15:00-16:15	Meet with LPB Provincial Industry and Commerce Office (together): - Domestic Trade Division - Business License and Management Division - Trade and Production Promotion Division - Import-export Division	Mr. Sisomphone Mr. Visala Mr. Vang
	16:45-17:10	Meet with director of SCI	
Tue. 3/12		Overnight in LPB	



Wed. 4/12	08:30-09:30	Meet with Strengthening MNCH Services in Luang Prabang (Swiss Red Cross)	Mr. Por Hachit Ms. Kala
	09:45-10:45	Meet with LPB Provincial Nutrition Committee	Dr. Niphone (Director)
	11:00-12:00	Meet with NUSAP team	Mr. Mel Jones (CTA) Mr. Sonechanh (PPC)
	13:00-17:00	Field survey in Phouxangkham village	Primary target group + Traders
	17:20-18:20	Meet with cool chain trader in Luang Prabang	Mr. Lod
		Overnight in LPB	
Thu. 5/12	08:30-12:00	Field survey in Nongbouakham village	Primary target group + Village committee/LWU/Youth Union + Local NF product shop
	13:00-17:00	Field survey in Naouane village	
	18:00-18:45	Meet slaughter house in Luang Prabang	Mrs. Thatsanee
		Overnight in LPB	
Fri. 6/12	08:30-12:00	Meet milk distributor/wholesaler/retailer Meet fruit and vegetable retailers in Luang Prabang Meet butcher in Luang Prabang	
	13:00-15:00	From LPB to Nambak district	
	15:00-17:00	Meet with retailers in Namthoum tai village	
		Overnight in Nambak	
Sat. 7/12	08:30-12:00	Field survey in Namthoum neua village	Primary target group + Village committee/LWU/Youth Union + Local NF product shop
	13:00-17:00	Field survey in Houana village Meet retailers in Nambark	
		Overnight in Nakbark	
Sun. 8/12	08:30-12:00	Field survey in Nayang tai village	Primary target group + Village committee
	13:00-16:00	Meet traders in Nambark	
		Overnight in Nakbark	
Mon. 9/12	08:15-09:45	Meet with Nambark DNC Meet with Nambark Health Office Meet with Nambark Hospital	Dr. Somphone Dr. Sengthong
	10:00-11:00	Meet with Nambak Industry and Commerce Office	Mr. Somphone
	11:10-12:00	Meet with Nambak Agriculture and Forestry Office	Mr. Sipa
	13:00-17:00	From Nambark to Namtha	
		Overnight in Namtha	
Tue. 10/12	08:30-10:00	Meeting with CARE team (PHO/DHO) and training on the tools and data collection approach	Ms. Syvone PHO staff + DHO staff
	10:15-11:30	Meet with LNT Provincial Nutrition Committee Meet LNT PHO	Dr. Panin Dr. Khamsaeng Dr. Viladeth
	13:30-14:30	Meet LNT Provincial Industry and Commerce Office	Mr. Sengphone + Mr. Somphone + Mr. Soupasan
	14:45-15:45	Meet LNT Provincial Agriculture and Forestry Office	Mr. Manith
	16:00-17:00	Meet SEADA staff	Mr. Phengsy +Mr. Houmpheng
		Overnight in Luang Namtha	
Wed. 11/12	08:30-17:00	Field survey in Namthoung village Field survey in Kokmee village	Primary target group + Village committee
		Overnight in Luang Namtha	

Thu. 12/12	08:30-12:30	Field survey in Lakhammai village	
	13:30-17:00	Meet market vender Meet slaughter house and butcher in Namtha	
		Overnight in Namtha district	
Fri. 13/12	08:30-12:00	Meet input suppliers Meet retailers in Namtha	
	13:00-17:00	Consolidation of data and information from survey	
		Overnight in Namtha district	
Sun. 14/12	08:00-12:00	Review data, data entry formate and plan for data entry	Thiphavong + Enumerator
	14:20-15:10	From Luang Namtha to VTE (ATR602)	