



# Fill the Nutrient Gap Lao PDR

## Summary Report



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# **Fill the Nutrient Gap**

## **Lao PDR**

### Summary Report

Vientiane

2017

# Introduction

“Fill the Nutrient Gap” (FNG), is a situation analysis and decision-making tool developed by the World Food Programme (WFP) with inputs from the University of California, Davis; the International food Policy Research Institute (IFPRI); Epicentre; the United Nations Children’s Fund (UNICEF); Harvard University; and Mahidol University. It identifies context-specific strategies for improving nutritional intake of vulnerable populations, especially during the first 1,000 days. FNG uses secondary data review and linear programming analysis to understand a country or region’s nutrition situation, compare the potential impact of interventions, and identify programme and policy entry points to ensure consumption of an adequately nutritious diet.

The FNG process in Lao PDR was led by the National Nutrition Committee (NNC) Secretariat and Department of Hygiene and Health Promotion, Ministry of Health (MoH) from February 2017. In

collaboration with WFP, MoH staff were trained in the FNG methodology and collected market price data for the Cost of the Diet (CotD) study. Additional key national stakeholders (outlined below) were engaged to define the scope of the analysis, provide and consolidate secondary data and provide input into the CotD analysis.

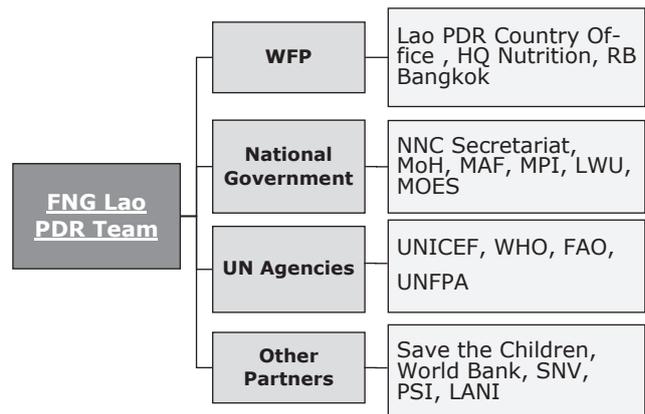


Figure 1. **Stakeholders involved in the FNG process**

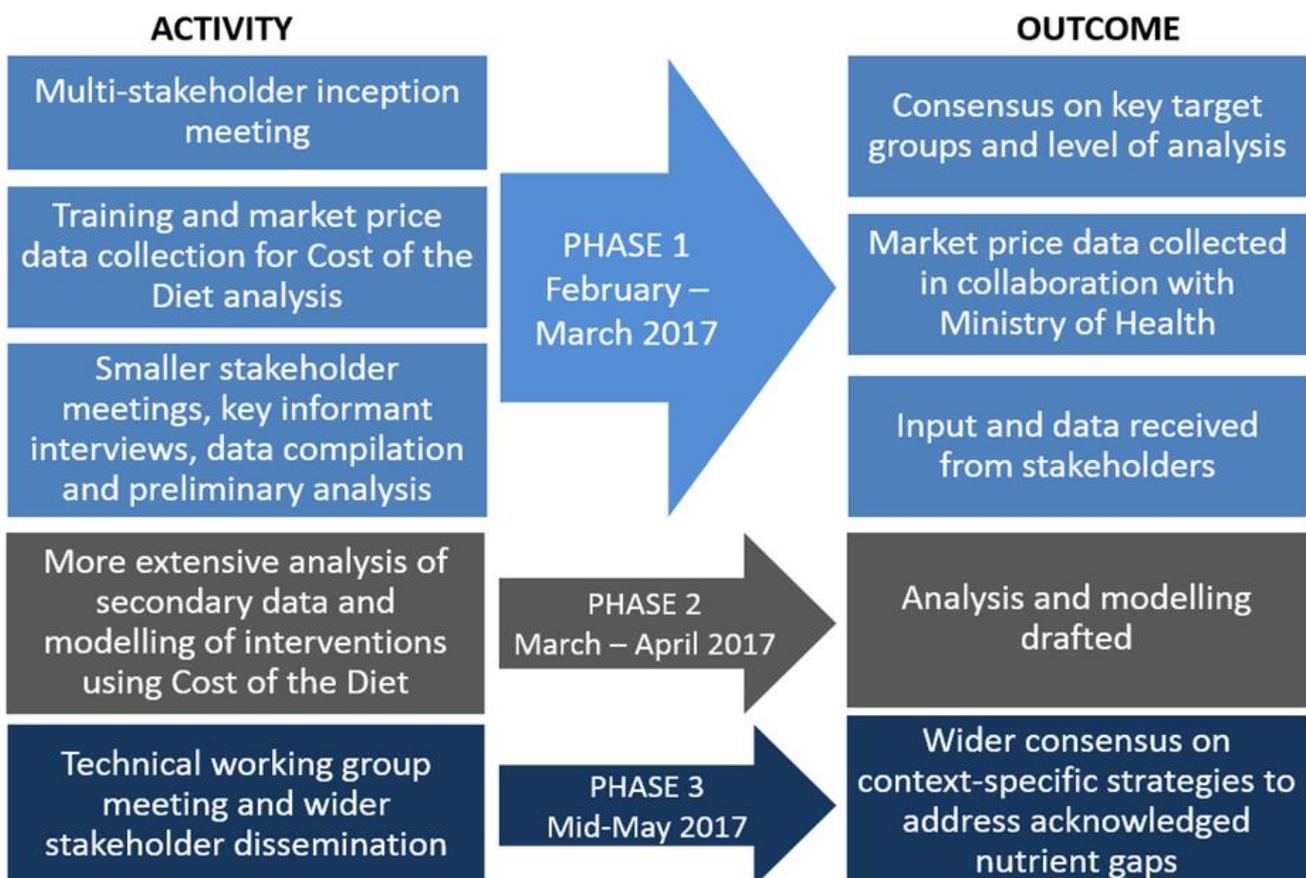


Figure 2. **The FNG process in Lao PDR**

# Fill the Nutrient Gap Analysis Key Steps

**1. Define Focus:** identify target groups and geographical and/or seasonal elements from stakeholder consultation and national nutrition data.

**2. Policy Analysis:** determine if there is an enabling environment for access to and availability of nutritious foods, and identify relevant entry points and platforms for increased availability of and access to nutrients.

**3. Analysis of Nutrient Availability and Access:** analyse factors such as local preferences and dietary practices, market access, affordability of nutritious diet (based on local foods) and estimate nutrient gaps for key target groups and analyse context-appropriate interventions to fill nutrient gaps.

**4. Recommendations for interventions** to fill nutrient gaps, identify roles for different sectors and stakeholders and public platforms for policy and programmes.

## 1. Define Focus

### Key target groups

The key target groups for analysis were identified by stakeholders based on the malnutrition characteristics across Lao PDR.



#### CHILDREN (6-23 MONTHS)

- ◆ Stunting affects 36 percent among children under 5 (Fig. 3 and 5). It has decreased over the past 20 years, but remains high in northern and southern provinces. The 2017 target set by the National Assembly is 34 percent.
- ◆ Wasting affects 9.6 percent of children under 5 (above 14 percent in 3 provinces) (Fig. 4 and 5).
- ◆ Anaemia: 25 percent among children under 5
- ◆ Variation in undernutrition by geographic location and ethnicity.



#### ADOLESCENT GIRLS (10-19 YEARS)

- ◆ Among adolescent girls aged 15-19, 18 percent were pregnant or had already given birth.
- ◆ Among women aged 20-24, 18 percent gave birth before the age of 18



#### PREGNANT AND BREASTFEEDING WOMEN

- ◆ Anaemia affects 40 percent of pregnant women, 30 percent of breastfeeding women.

## 2. Policy Analysis

An enabling policy environment provides entry points for nutrition interventions across different sectors. In Lao PDR the existing key policies and programmes by entry point are:

### National policy and legal framework

- i) National Nutrition Strategy 2025 and Plan of Action for 2016-2020
  - ◆ It is multi-sectoral, aligned with the Sustainable Development Goals (SDGs), and prioritizes reduction in rates of stunting in children under 5.
  - ◆ There is high level political commitment, but local implementation is challenging.
- ii) Lao PDR became a member of the Scaling Up Nutrition (SUN) movement in 2011. There is a designated SUN focal point.
- iii) A national food fortification strategy and action plan in process of development.
  - ◆ There has been mandatory salt iodisation since 1995.
  - ◆ Rice fortification is being considered but will take time to implement due to the challenges resulting from the high levels of household/ individual rice production.

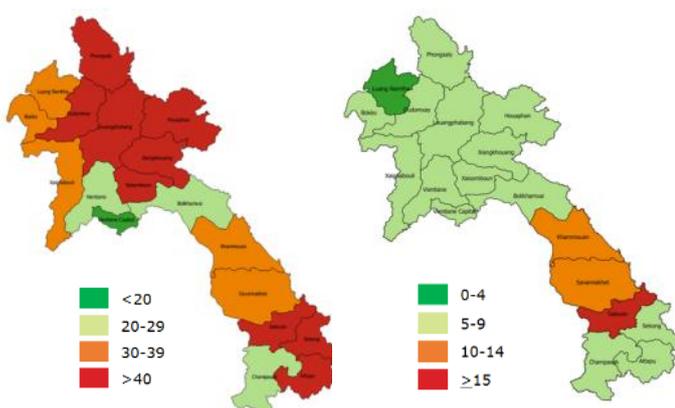


Figure 3. **Stunting prevalence in children <5 by province**      Figure 4. **Wasting prevalence in children <5 by province**

Ministry of Health & Lao Statistics Bureau 2012;  
Ministry of Health (MoH) 2016

### School feeding

There is a National School Meals programme.

School gardens are also being piloted in some districts as part of the Government's home-grown school feeding initiative.

### Strategic partnerships and



Figure 5. **National trends in undernutrition prevalence in children under the age of 5 (MoH 2016)**

### programmes to increase Availability and access to nutritious foods

#### STUNTING PREVENTION PROJECT

WFP supports the Ministry of Health in the implementation of the stunting prevention project through capacity building of communities and raising awareness. Pregnant and lactating women and children 6-23 months are also provided with a small quantity Lipid-based Nutrient Supplement (SQ-LNS) (Nutributter™) through the health system. Since 2012 it is being implemented in 1100 villages of Oudomxay, Luangnamtha and Sekong provinces.

#### THE 1000 DAY PROJECT

This is public-private partnership that began in 2012 between the Government of Lao, UNICEF, and Minerals and Metal Group (MMG). The project provides in-kind SuperKid multi micronutrient powder (MNP) to children 6-23 months at no cost and subsidized provision for children 2-5 years. It also provides malnutrition screenings and education sessions in selected provinces.

### Social protection

Social protection schemes are being developed, but with limited coverage.

### 3. Analysis of Nutrient Availability and Access

Although a wide range of nutritious foods are available in Lao PDR, household access to nutritious foods is changing due to decreasing access to land and forests, and shifts in agricultural production. Economic access is a key barrier to households consuming a nutritious diet and is likely to worsen as market reliance increases as a result of decreased land and foraging capacity and continued limited alternative income opportunities. Shocks are primarily natural, related to weather or failed crops. In 2015, late and unpredictable rains impacted 65 percent of all households nationally, while rodent infestation and floods also contributed to loss of both rice and cash crops for many households.

#### Availability

- ◆ Rice is the dominant staple: households consume from their own production, which are complemented by purchases during lean seasons (Fig.6).
- ◆ Annual rice shortages are common before harvest.
- ◆ Specialized nutritious foods (SNF), including fortified infant cereals, are not widely available in local markets; those that are found are imported (Cerelac, Lactogen).

#### Access

- ◆ Own production and non-timber forest products (NTFPs) are important sources of food for households, particularly cereals and vegetables (own production) and foraged animal protein (Fig. 6).
- ◆ Consumption and dietary diversity are lowest in upland areas and among rural households.
- ◆ Access to land and forests is increasingly limited, and forest biodiversity is decreasing.
- ◆ Market access is poor, particularly during the rainy season (May–October): only one third of villages nationally have 'temporary produce' markets.

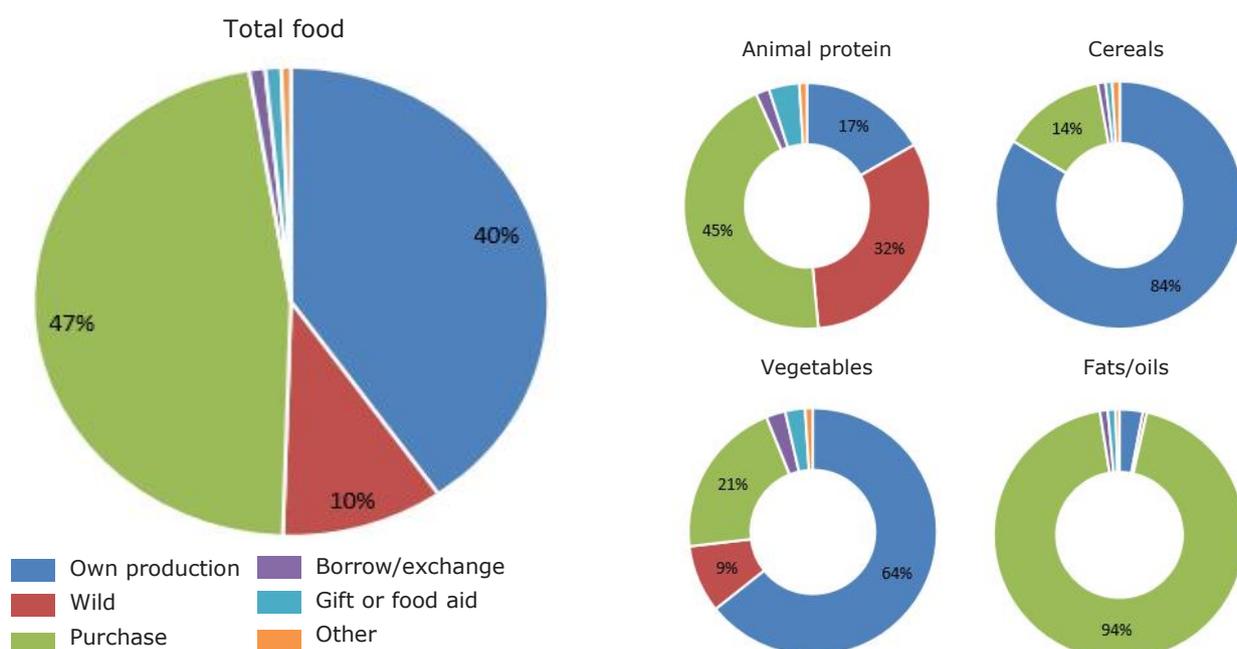


Figure 6. Sources of food by 7 day recall (Ministry of Agriculture and Forestry 2013)

## Nutrient intake

- ◆ Nearly all children are breastfed, but practices are suboptimal: early initiation is 40 percent, only 40 percent of children under 6 months are exclusively breastfed, and the average duration is 20 months.
- ◆ Minimum Meal Frequency (MMF) is met by 43 percent of children 6-23 months
- ◆ Minimum Dietary Diversity (MDD) is met by only 16 percent of children 6-23 months.
- ◆ Minimum Dietary Diversity for Women (MDD -W) is met by 36 percent of non-pregnant women and 44 percent of pregnant women.
- ◆ Lao diets are generally dominated by a large share of rice and other staples.
- ◆ Micronutrient supplementation coverage may be constrained by limited supplies at health centres (Tab. 1).

## Local preferences and practices

- ◆ Food restrictions postpartum are widely practiced: women commonly limited to diet of rice, salt, ginger/galangal for up to 1 month.
- ◆ Cost and time constraints make women return to work soon after giving birth impacting breastfeeding and complementary feeding;
- ◆ Key influencers are husbands,

- ◆ grandmothers, and health workers.
- ◆ Barriers include women’s lack of time, cost of appropriate foods and insufficient knowledge about nutrition.

<b>Vitamin A</b>	<b>Children 6-59 months</b> 60 percent (coverage)
<b>Iron Folic Acid</b>	<b>Pregnant Lactating Women</b> Took any dose: 50 percent Took more than 90 doses: 25 percent

**Table 1. Vitamin A and Iron and Folic Acid supplementation (Source: Ministry of Health and Lao Statistics Bureau 2012)**



## 4. Modelling and Illustrating Dietary Improvement

Affordability modelling/illustrating and intervention recommendations were informed by the secondary data on availability and access, actual nutrient intake and influencing cultural factors. Results from linear programming analyses were used to examine whether optimised diets with locally available foods could meet nutrient needs for target groups.

A Cost of the Diet (CotD) analysis was conducted using primary data on market prices collected in five provinces (Phongsaly, Oudomxay, Vientiane Capital, Savannakhet and Sekong) and secondary data on household composition and expenditure from the Lao Expenditure and Consumption Survey (LECS) 5. The cost of diet (CotD) software calculates the lowest cost locally available diet that meets nutrient needs when adjusted to incorporate local staple foods. This is known as the Staple-Adjusted Nutritious Diet (Nutritious /SNUT). The staple in all provinces was sticky rice.

Modelled households were based on the average household size for each province and comprised 5-7 members in all provinces: a child of 12-23 months, a child of 6-7 years, a girl of 14-15 years, a lactating woman, and an adult man. Additions were a child 10-11 years in Oudomxay and Sekong and a woman of 60 in Sekong.

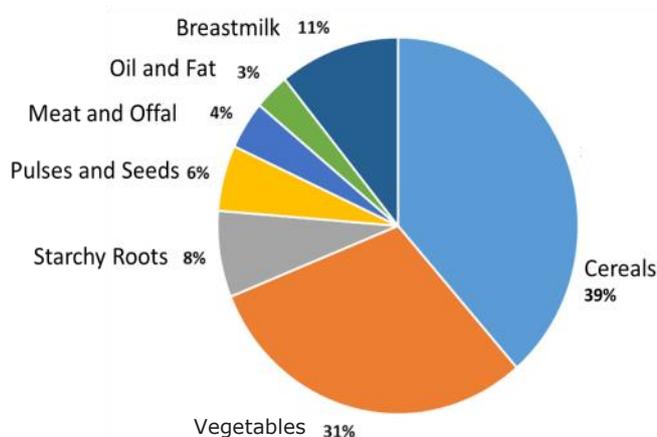


Figure 7. **Quantity of each food group in nutritious/ SNUT diet**

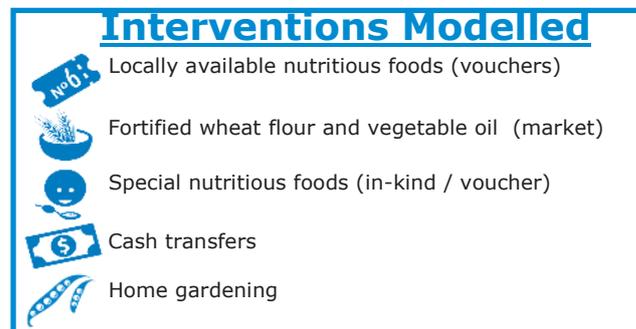


Figure 8. **Interventions modelled for dietary improvement**

Food availability was not found to be a barrier to household consumption of the nutritious/SNUT diet. Blood, offal, green leafy vegetables, seeds, and pulses and fish were identified as inexpensive and available food rich in nutrients (Fig. 7).

- ◆ The average daily household cost of the nutritious / SNUT diet was LAK 28,000 (US\$ 3.35), ranging from LAK 24,503 (US\$ 2.98) in Savannakhet to LAK 88,649 (US\$10.80) in Sekong.
- ◆ Average non-affordability of nutritious diet was 45 percent, ranging from 17 percent in Vientiane Capital to 95 percent in Sekong.
- ◆ The lactating woman and an adolescent girl were the most expensive individuals, due to increased requirements during these life cycle periods.
- ◆ For the non-breastfed child 12-23 months, the cost of nutritious/SNUT was 52 percent higher than for a breastfed child.
- ◆ High consumption of unhealthy snack foods could increase the cost of nutritious / SNUT diet for this child by 45 percent.
- ◆ Pregnancy during adolescence increased the cost of nutritious/ SNUT for the adolescent girl by 13 percent and lactation by 19 percent.

To improve the affordability of the nutritious/SNUT diet, interventions were modelled/illustrated including vouchers for locally available nutritious fresh foods, market introduction of fortified rice and oil, specialised nutritious foods (SNFs), micronutrient supplements, and home gardening interventions. Cash transfers to the household of US\$45, US\$35 and US\$23 were also modelled/

micronutrient supplements, and home gardening interventions. Cash transfers to the household of US\$45, US\$35 and US\$23 were also modelled/illustrated.

The most effective interventions based on global best practices for each target group were as follows.

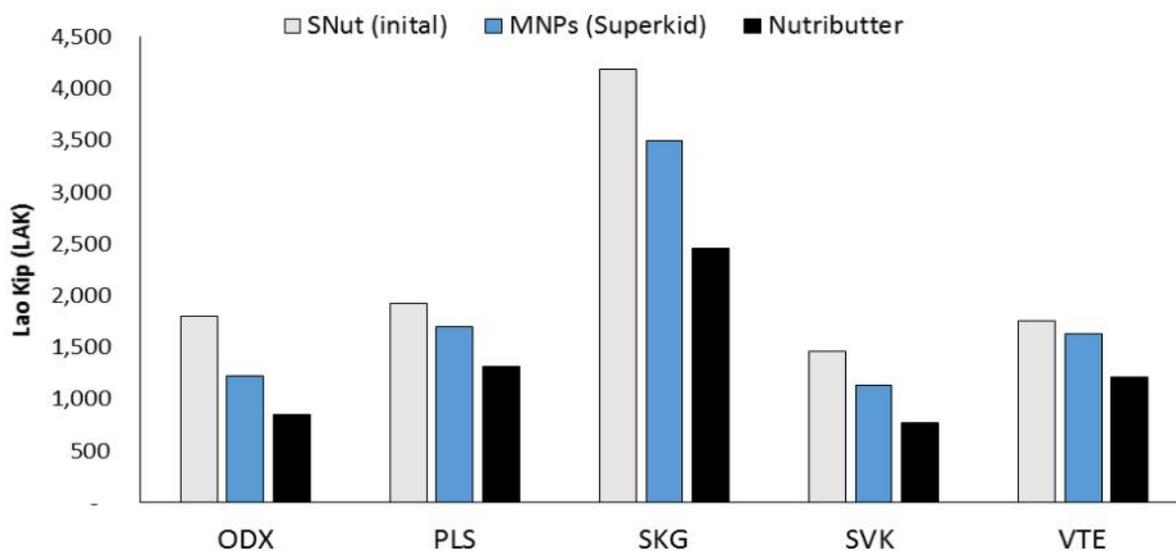
- ◆ Children 6-23 months: Of the two specialized nutritious foods (SNFs) modelled, vouchers or in-kind provision of 20g of Nutributter were most effective, reducing the daily cost of nutritious/SNUT for the child by as much as LAK 1,732 in Sekong (Fig 9).
- ◆ Adolescent girls: Provision of Micronutrient Tablets (MMT) was most effective at reducing the cost of nutritious/SNUT in Oudomxay (26 percent reduction), Sekong (25 percent) and Savannakhet (16 percent). Fresh food vouchers were most effective in Phongsaly and Vientiane Capital (Fig 10).

- ◆ Pregnant Lactating Women: Voucher or in-kind provision of 1g MMT per day were most effective in Oudomxay, Sekong and Savannakhet; provision of Nutributter or energy bars was most effective in Phongsaly. MMTs, Nutributter and fresh food vouchers were similarly effective in Vientiane Capital (Fig 11).

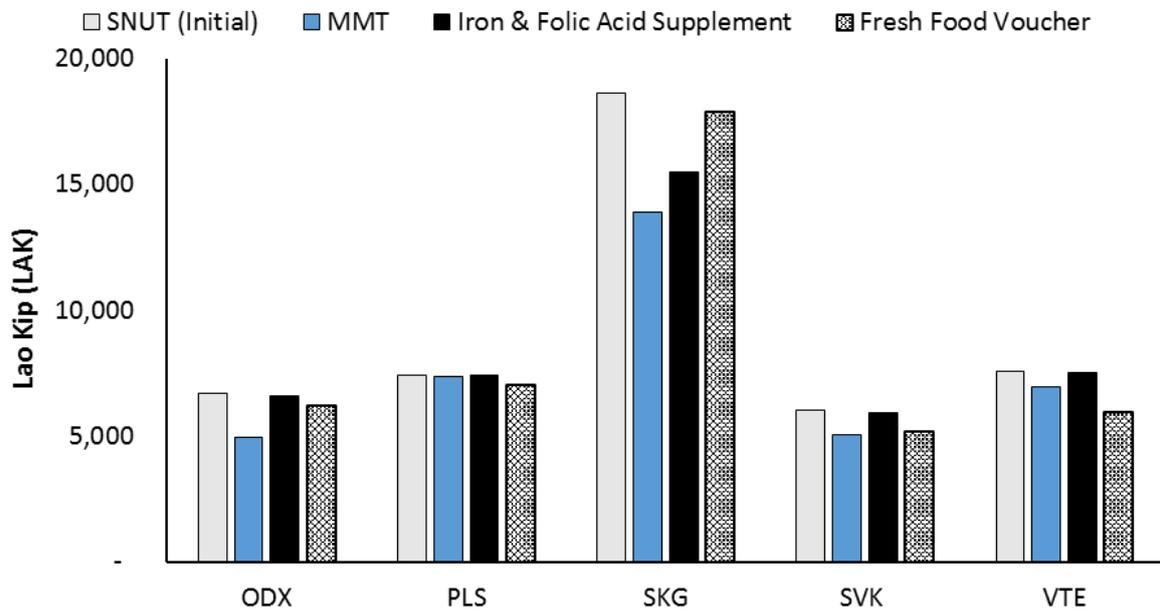
The illustrations/ modelling are based on the internationally available best practices and local food costs and preferences. These interventions were combined to form packages, as shown in Figures 12 and 13. The modelled/illustrated diets are theoretical and would need to be accompanied by complementary behaviour change interventions. A next step would be to estimate programming costs from the non-market based options.

## Cost of diet modelling/illustration

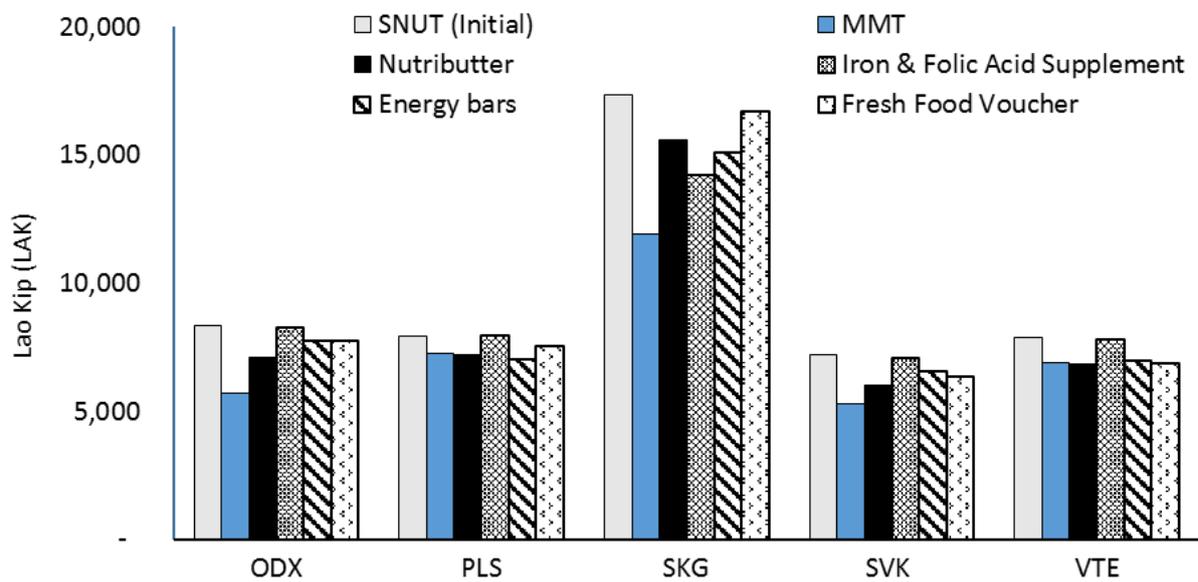
Average cost of Nutritious /SNUT diet for key target groups in Phongsaly (PSL), Oudomxay (ODX), Vientiane Capital,(VTE) Savannakhet (SVK) and Sekong (SKG) provinces of Lao PDR with different interventions



**Figure 9 shows provision of Nutributter through a voucher or in-kind was the most effective at reducing the cost of the nutritious /SNUT diet in all provinces. Nutributter contains calcium and therefore addresses a key limiting nutrient for this age group.**



Figures 10 and 11 show provision of micronutrient tablets (MMT) was the most effective in reducing the cost of the nutritious/ SNUT diet of the adolescent girls and PLW s respectively in most provinces



Figures 11. Cost of Nutritious /SNUT diet for a lactating woman with different interventions

## Cost of diet modelling/illustration

Packages of household level interventions and potential effect on economic access to nutrients for vulnerable groups.

Fortified rice and oil made available on the market somewhat reduced the cost of the nutritious /SNUT diet and improved micronutrient intake. They were slightly more effective than home gardening (vegetables, small animals and fruit), which only slightly reduced costs because of low yields. However, small animal production was most effective in reducing the cost of a nutritious diet in Phongsaly, Sekong and Savannakhet. Home vegetable gardens were most effective in Oudomxay and Vientiane Capital.

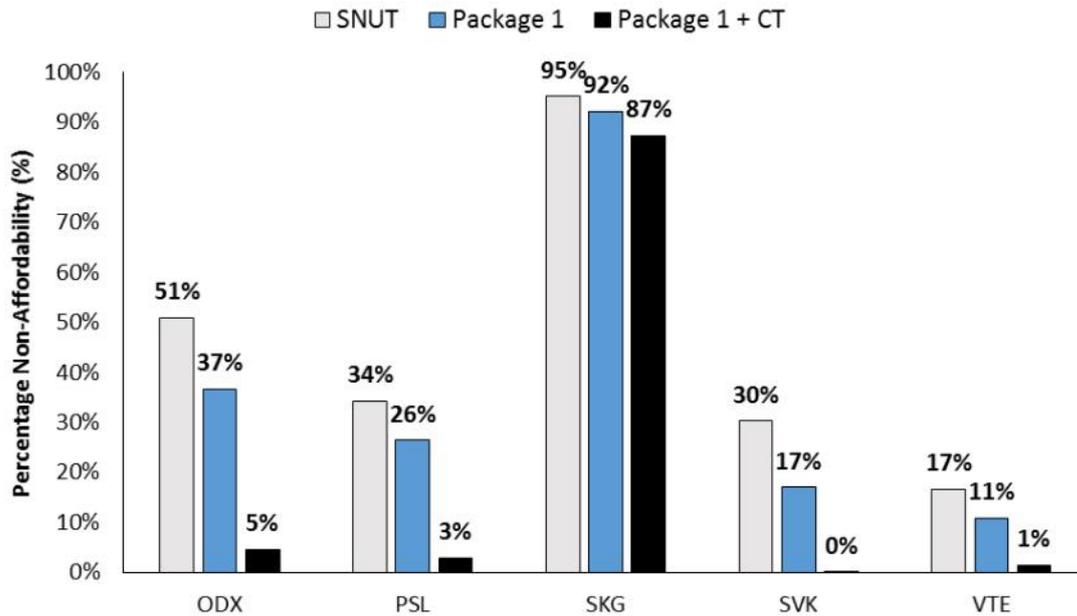


Figure 12. **Non-affordability of the nutritious /SNUT diet with Package 1: Nutributter for the child under 2, MMT for the PLW and adolescent girl, energy bars for the school age child, cash transfer of US\$45**

Interventions were combined to form packages aimed at target groups. Results show (Fig. 12 and 13) that a combined package plus a cash transfer has the greatest impact on improving the affordability of the nutritious / SNUT diet. Package 1 with a cash transfer was most effective in Oudomxay, Sekong and Savannakhet. Both packages with a cash transfer were equally effective in Phongsaly and Vientiane Capital. Findings show the possibility of improving household's economic access to nutrients through food-based interventions provided by the public sector, in combination with the market.

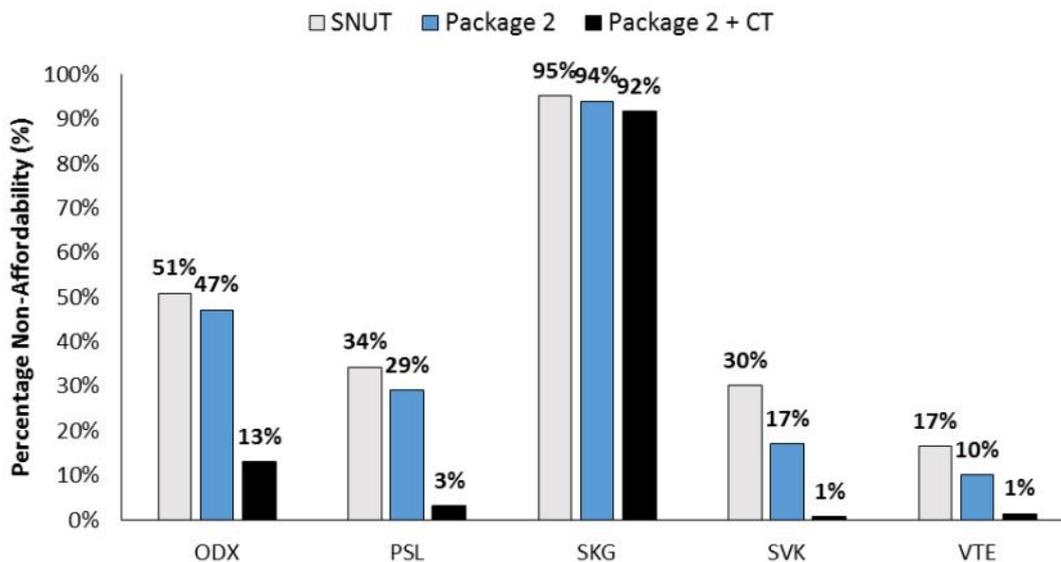


Figure 13. **Non-affordability of the nutritious /SNUT diet with package 2: vegetable gardening and fresh food voucher for PLW and adolescent girl (ODX / VTE); small animal production and fresh food voucher for PLW and adolescent girl (PSL / SKG / SVK); cash transfer of US\$45 in all provinces**

## 5. Summary of Key Recommendations

### 1. Ensure optimal duration of exclusive breastfeeding for children aged 0-5 months and the demand for, availability of, and access to nutritious and safe foods for children 6-23 months.

- ◆ Consider a social safety net cash transfer aimed at the first 1,000 days, possibly with a nutrition conditionality.
- ◆ Develop fortified complementary foods in partnership with the private sector.
- ◆ Promote specialised nutritious foods and micronutrient powders, as well as affordable and nutrient-rich local foods, through social and behaviour change communication.

### 2. Develop targeted strategies to improve the nutrient intake of adolescent girls (10-19 years)

- ◆ High rates of adolescent pregnancy in Lao PDR increase the nutrient requirements and vulnerability of girls in this age group.
- ◆ Tailor nutrition, family planning, and sexual and reproductive health services for this age group to improve dietary diversity and awareness of delaying marriage and pregnancy.
- ◆ Scale up nutrition-specific interventions such as provision of multi-micronutrient tablets or iron and folic acid supplementation.
- ◆ Consider entry points that target girls who are both in and out of school (provision of supplements /food and social behaviour change communication).
- ◆ Sensitize general population on adolescent nutritional and reproductive health.

### 3. Develop targeted strategies to improve the nutrient intake of pregnant and lactating women

- ◆ Nutrition-specific interventions should deliver a combination of micronutrient supplements and balanced protein energy supplements, along with nutrition education and infant and young child feeding messages.
- ◆ Consider social safety nets providing supplements, food vouchers, or cash with a conditionality for antenatal care.

### 4. Explore food fortification strategies for new commodities

- ◆ Lao Food fortification strategy and action plan to be drafted and implemented as a priority.
- ◆ Fortification of rice, the main staple, has great potential to improve micronutrient status. Supply of fortified rice to school meals programme could be a potential entry point for community sensitization.
- ◆ Other possible vehicles are noodles and condiments such as oil, fish sauce and soya sauce.
- ◆ Another possibility is local production of fortified complementary foods for children under 2 and balanced protein energy supplements for PLW .
- ◆ Fortification will require public-private collaboration and can be informed by the limiting nutrients identified in the CotD analysis.
- ◆ A commodity landscape analysis to assess the food processing chain will be required.

## 5. Improve awareness and behaviours to encourage better nutrient intake through a communication for behaviour change strategy

- ◆ Messages include the importance of: nutrition through life cycle, particularly for vulnerable groups; dietary diversity; fortified foods; healthy snack foods for young children; food safety during storage and preparation; reduced physical activity during pregnancy; potential harm of postpartum food restrictions; water, sanitation and hygiene promotion.
- ◆ Key target groups are adolescents, pregnant and lactating women, other caretakers, men and household heads, and other key community influencers.
- ◆ Key entry points: mass media, schools, Lao Women's Union.

## 6. Ensure a combination of nutrition-specific and sensitive interventions across different sectors

The importance of collaboration across health, education, agriculture, social protection and infrastructure sectors was emphasized throughout the FNG process.

- ◆ Health sector: improve micronutrient supplementation coverage and increase awareness of nutritious diets, link food and health systems, provide adolescent-friendly services and vaccination and water, sanitation and hygiene programmes.
- ◆ Education sector: increase nutrition-sensitivity of school lunch programme, schools as entry point for micronutrient supplementation for adolescent girls, restrict sale and consumption of processed unhealthy snack foods in schools, integrate nutrition and reproductive health into national curriculum.
- ◆ Agriculture: support diversification of household production, establish food processing groups for women to generate income, strengthen farmer-market links, monitor and protect

access to non timber forest products, define nutrition-sensitive agriculture in District Development Plans.

- ◆ Social protection: Use cash transfers or vouchers to improve economic access to nutritious foods, entry points include health system and schools.
- ◆ Infrastructure: Improved road networks to improve physical access to markets and nutritious foods, improved transportation and trade of goods (which could reduce prices).

## 7. Maintain and expand political commitment

- ◆ Disseminate National Nutrition Strategy to 2025 and Plan of Action for 2016-2020 at local administrative levels.
- ◆ Develop and implement a social and behaviour change communication strategy and action plan.
- ◆ Determine the vision for nutrition for 2020-2030.
- ◆ Establish legislation to regulate and ensure nutritious and safe food in schools
- ◆ Develop a statutory maternity pay and leave policy.
- ◆ Review National Nutrition Strategy and Plan of Action in 2018. This will help to identify areas which will need more effort to reach the ultimate objectives.

## 8. Establish a technical working group to translate the initial FNG recommendations into more detailed actions to be prioritised by different government sectors and stakeholders through specific investment/budget allocation

- ◆ Following the multi-stakeholder launch in September 2017, a smaller multisectoral technical meeting with key partners will allow for in-depth discussion of the full FNG report and of how it may inform areas of programming.

## 9. Conduct additional research to fill data gaps

The following data gaps have been identified:

- ◆ Micronutrient status of vulnerable groups; anaemia prevalence; minimum dietary diversity and minimum acceptable diet for children under 2; minimum dietary diversity score for women; nutritional status of adolescent girls; consumption of manufactured snack foods; price, nutrient content and safety of complementary foods, factors affecting food choices of care givers
- ◆ Establish a multisectoral nutrition surveillance system to guide the evidence based policy process.
- ◆ Continue capacity building for Government in data collection and analysis.



## List of Acronyms

ANC	Antenatal Care		Investment
ASF	Animal source food	NGO	Non-governmental organization
CFSA	Comprehensive Food Security Assessment	NNC	National Nutrition Committee
CFSVA	Comprehensive Food Security and Vulnerability Analysis	NNSPA	National Nutrition Strategy and Plan of Action
CotD	Cost of the Diet	NTFP	Non-Timber Forest Product
DHS	Demographic and Health Survey	ODX	Oudomxay Province
FAO	Food and Agriculture Organization of the United Nations	PLW	Pregnant and Lactating Women
FNG	Fill the Nutrient Gap	PPP	Public-private partnership
FNSS	Food and Nutrition Security Survey	PSI	Populations Services International
HQ	Headquarters	PSL	Phongsaly Province
IFPRI	International Food Policy Research Institute	RB	Regional Bureau
IYCF	Infant and young child feeding	RNI	Recommended nutrient intake
LAK	Lao kip	RVS	Risk and Vulnerability Survey
LANI	Lao American Nutrition Institute	SBCC	Social and behaviour change communication
Lao PDR	Lao People's Democratic Republic	SDGs	Sustainable Development Goals
LWU	Lao Women Union	SKG	Sekong Province
LCAAS	Lao Child Anthropometry Assessment Survey	SNF	Specialized Nutritious Food
LECS	Lao Expenditure and Consumption Survey	SNUT	Staple-adjusted nutritious diet
LSIS	Lao Social Indicator Survey	SQ-LNS	Small Quantity Lipid-based Nutrient Supplement
MAD	Minimum acceptable diet	SUN	Scaling Up Nutrition
MAF	Ministry of Agriculture and Forestry	SVK	Savannakhet Province
MDD	Minimum dietary diversity	UNICEF	United Nations Children's Emergency Fund
MDD-W	Minimum Dietary Diversity for Women	USD	US dollar
MICS	Multiple Indicator Cluster Survey	VTE	Vientiane Capital
MMF	Minimum meal frequency	WASH	Water Sanitation and Hygiene
MMG	Minerals and Metal Group	WFP	World Food Programme
MMT	Multiple Micronutrient Tablets	WHO	World Health Organization
MNP	Micronutrient Powder	WRA	Women of Reproductive Age
MoES	Ministry of Education and Sports		
MoH	Ministry of Health		
MPI	Ministry of Planning and		



For more information, please refer to the  
“Fill the Nutrient Gap Report Lao PDR” full report or contact  
Department of Hygiene and Health Promotion, Ministry of Health or  
World Food Programme Country Office in Lao PDR

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