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# Farmer Nutrition School Household Impact Survey

March 2020

# Farmer Nutrition School Household Impact Survey

## PREAMBLE

Despite significant progress in overall poverty reduction, Lao PDR remains one of the countries with the highest under-nutrition rates in the world, particularly for children. Under the Agriculture for Nutrition (AFN) project, WFP addresses this issue through the establishment of Farmer Nutrition Schools (FNS) at village level, targeting pregnant and nursing women and mothers whose children are under 2 years of age. FNS are semi-structured get-togethers, focusing on basic information and interactive discussions about nutrition. FNS encourage social behaviour change and communication in women and communities through practical learning sessions about household nutrition, diet diversity, basic hygiene, food preservation and processing techniques, raising fish, keeping small livestock and menu planning with nutritious foods including food grown in household gardens. After the FNS beneficiaries complete the learning sessions, they are eligible for a garden grant which they can invest in gardens and basic farming inputs and small livestock, such as chicken, ducks or fish.

To measure the impact of the FNS, WFP launched a household survey of 1,200 beneficiaries in 2020 with the aim of measuring change in knowledge and behaviour of the FNS households, and to recommend revisions in the current implementation of FNS.

## MAJOR FINDINGS

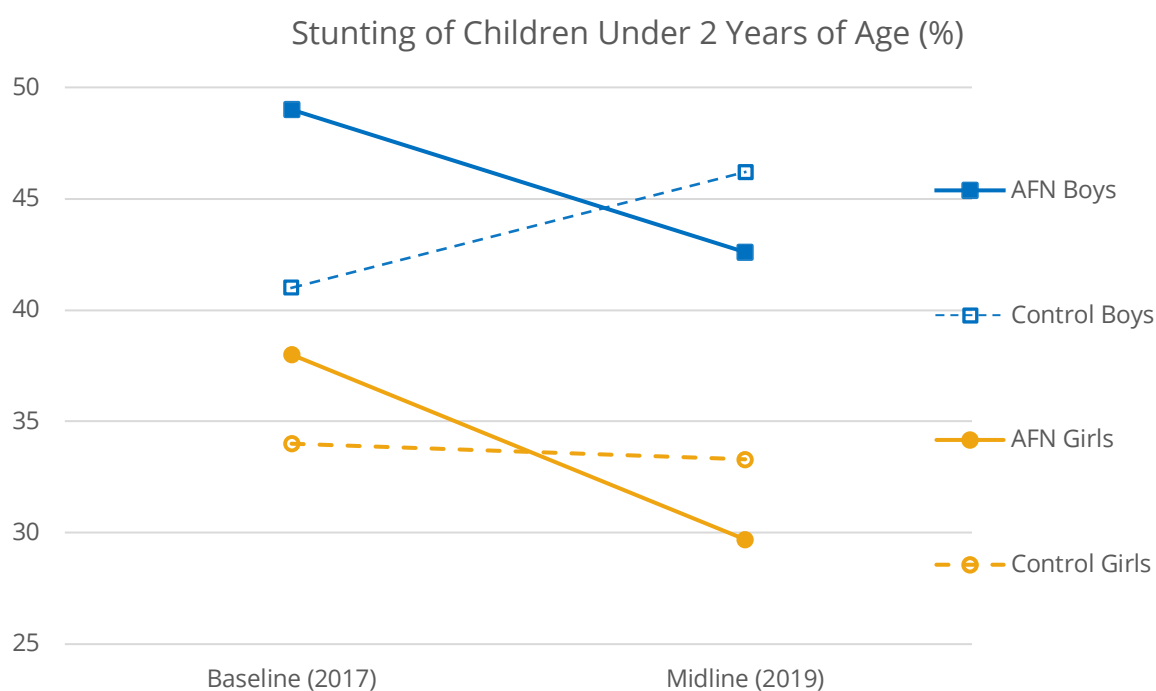
- 76% of the women who participated in FNS sessions perceived that their nutrition status improved
- 96% of the women who participated in the FNS program and received a garden grant stated that their nutritional knowledge improved, while 85% stated that their farming knowledge improved
- 90% of garden grant recipients reported that their own nutrition status improved, and 95% reported their child's nutrition status improved
- The majority of households reported that mothers and their children under 2 years of age were eating a minimum of 4 major food groups
- Two-thirds (67%) of pregnant women were eating more meals per day than before pregnancy
- A majority (85%) of pregnant women worked less during their pregnancy
- FNS had more impact on nutrition in less developed areas (such as upland areas and remote areas)

- Returns from fishponds and greenhouses had a greater impact on household incomes compared to other uses of garden grants (e.g. small animal raising and gardening)

## THE AFN MIDLINE SURVEY SAYS...

During the Agriculture for Nutrition midline survey carried out in December 2019, there was a significant decrease in stunting for children under 2 years of age as compared with the baseline from 2017.

Although the data still needs more verification, it currently suggests that the FNS support activities are particularly benefitting the youngest children as the activities specifically target pregnant women and mothers with children under 2 years of age. The World Bank supported Health Governance and Nutrition Development project (HGNDP) also covers health services for the same areas as the AFN villages, thereby promoting the convergence approach in addressing malnutrition.



# Background

## AGRICULTURE FOR NUTRITION

The Agriculture for Nutrition (AFN) project was awarded USD 38.8 million through the Global Agriculture and Food Security Programme for the period of 2016-2022. The project goal, aligned with the Government's National Nutrition Strategy 2016 -2025 and Plan of Action, is to “**contribute to reduced extreme poverty and malnutrition in the poorest communities**”. The project's development objective is “**improved and diversified agricultural production and household nutrition enhanced life prospects**”.

The project has three components focusing on enhancing agriculture practices for increased nutrition:

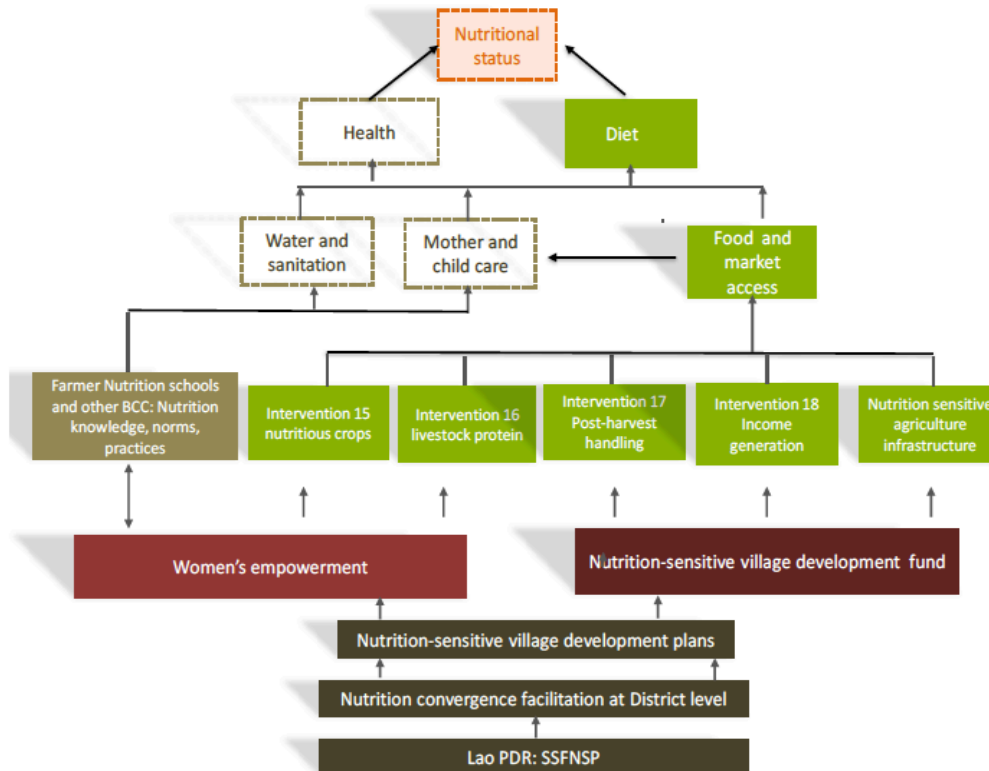
- 1) Strengthened public services covering project coordination as well as nutrition-sensitive agriculture services,
- 2) nutrition-sensitive planning which includes multi-sector district nutrition committees, village development plans and establishment of **Farmer Nutrition Schools** and garden grants, and
- 3) Investments for village agriculture infrastructure, farmer production groups and public-private investments.

AFN is implemented by the Ministry of Agriculture and Forestry, IFAD administers components 1 & 3 with USD 24 million and WFP, with a USD 6 million envelope, supports all planning activities within component 2 (not including the garden grants activity which is administered under component 3). The World Bank financed HGNDP also covers health services in the AFN villages and delivers nutrition/health services, thereby providing convergence at village level from health and agriculture sectors.

The project is implemented in 400 villages of 12 districts in four northern provinces: Oudomxai, Phongsaly, Xiengkhuang and Houaphan.

The AFN project pathways focus on the implementation of the four nutrition-sensitive agricultural activities within the 22 priority interventions under the National Nutrition Strategy and Plan of Action, namely (i) expanding and intensifying the production of nutritionally-rich plant-based foods; (ii) production and promotion of animal-based protein for household consumption; (iii) improved post-harvest handling and food processing to strengthen year-round food security; and (iv) promotion of income-generating activities, with a focus on women. Farmer Nutrition Schools aim to balance household food availability and utilization from agricultural production, wild food collection and purchase throughout the year, thus enabling villages to increase dietary diversity.

## Project pathways to improved household nutrition



## FARMER NUTRITION SCHOOLS

FNS began implementation in 2017. Since then, over 20,000 villagers, of which 18,025 were women, have participated in the project. FNS has now been rolled out in all the 400 AFN targeted villages. Village-level facilitators carry out the learning modalities accompanied by group cooking sessions. These FNS activities generally take place once a month, but in some villages they are organized more frequently, depending on the interest and number of participants. Typically, there are between 20-35 FNS beneficiaries who are also eligible to apply for a garden grant (which also includes small livestock). This grant assists them in addressing their nutritional needs, both through increased household consumption and income generation.

### Elements of Farmer Nutrition School sessions



The village FNS facilitator delivers four sessions to beneficiaries after explaining the initial basic parameters of the FNS setup. The first session, with videos and interactive puzzle games, covers nutrition basics, impact of malnutrition and its effect on the life cycle. The second session focuses on local food availability, food groups and family food gaps. The third session provides agriculture knowledge on how to address inadequate food availability, through food production, storage and income management. During the fourth session beneficiaries are encouraged to put their knowledge to practice and prepare a household activity plan and fill in a grant

application form and plan for technical support. Once the garden grants are approved, FNS beneficiaries implement their own project activities.

## Household survey

### SURVEY DESIGN

During January 2020, the sample of 1,200 beneficiaries was taken in the 12 AFN-targeted districts in the provinces of Houaphan, Oudomxai, Phongsaly and Xiengkhuang. Respondents were from the beneficiary households that had participated in the FNS sessions: pregnant and nursing women and mothers with children under 2 years of age. There was a purposive sampling of the villages and households where FNS had been rolled out for a longer time, i.e. 2017 and 2018, in order to measure impact of the program activities on the 'older set of beneficiaries.' Physical access was an additional factor considered; half the villages surveyed in each district having easier access to main roads and markets while the other half were more remote and/or difficult to access. The locations of the target villages can be seen in Annex 1. Furthermore, data was collected on ethnicity and agro-ecological environment of the villages.

Overall the sampling was evenly distributed throughout the 12 districts.

	Houaphan	Oudomxai	Phongsaly	Xiengkhuang	Total
AFN districts	4	2	4	2	
Villages per district	10	10	10	10	
Households per village	10	10	10	10	
<b>Totals</b>	<b>400</b>	<b>200</b>	<b>400</b>	<b>200</b>	<b>1200</b>

### PARTICIPANTS

Overall, 1,200 women participated in the survey. The number of pregnant and nursing women and mothers with children under 2 years of age covered in this survey is broken down as follows:

Beneficiary Category Breakdown	Total Numbers	Percentage (%)
Mothers with children 6-24 months of age	850	71%
Mothers with children 0-6 months of age	240	20%
Pregnant	110	9%

### FINDINGS

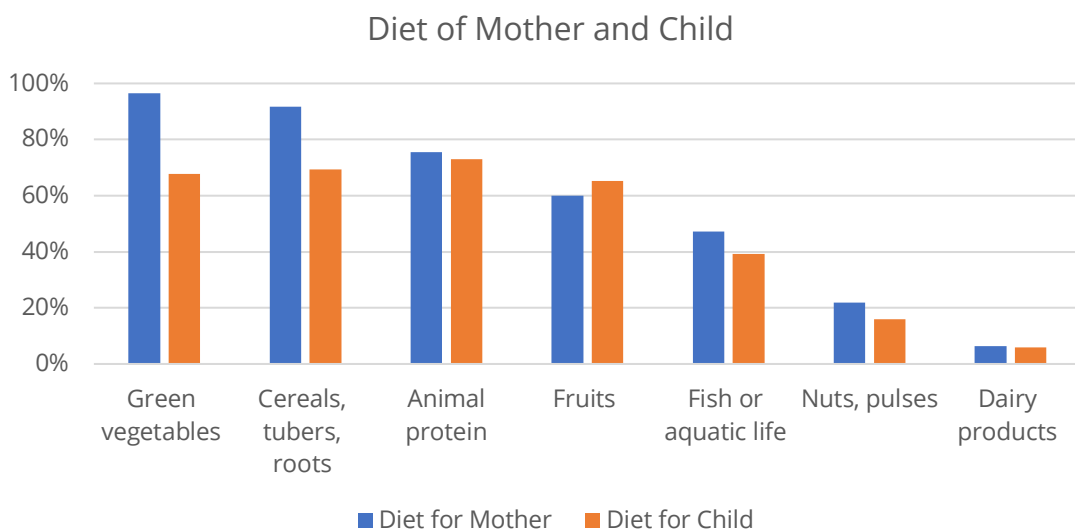
The findings of the household survey will be presented below in four main sections. The first section will focus on self-reported nutrition status and practices around nutrition of the beneficiaries. The second section will look at the usage of garden grants. The third section will focus on the impact of FNS and garden grants on the beneficiaries and include a statistical model that adds additional demographic and geographic dimensions to the survey. The final section will discuss gender and ethnicity as represented in the survey.

# Nutrition status

## FOOD CONSUMPTION OF MOTHERS AND CHILDREN UNDER 2 YEARS OF AGE

A key part of the FNS sessions focus on providing education awareness regarding nutritious feeding and increasing dietary diversity, both for the mothers and for their children under 2 years of age. Overall, most mothers themselves consumed and fed their children from at least 4 of the major food groups. The mothers had a better dietary diversity than the children, with a little over 60% of mothers consuming at least 4 major food groups, whereas only 50% of the children ate from 4 major food groups.

### Dietary diversity of mothers and children



There is, however, a considerable difference between the green vegetable consumption of mothers and of children. Close to 96% of the mothers were consuming green vegetables, whereas 68% of the surveyed children had consumed green vegetables in the 24-hr recall data (a dietary assessment tool where participants are asked to recall all food and drinks they have consumed in the previous 24 hours).

This shows that there is still room for improvement in the green vegetable intake of children under 2 years of age.

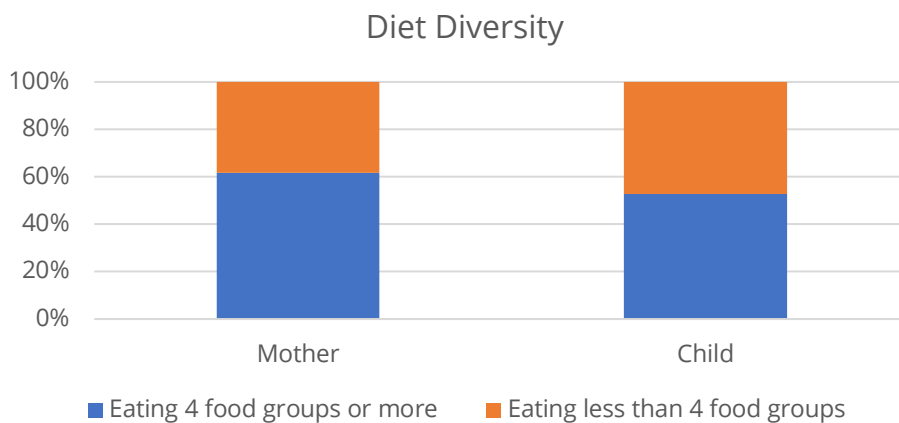


Photo: WFP Lao PDR/Jake Herrle

“I didn’t understand the connection between food and health. I just did what everybody does here - follow what our grandparents taught us”, Chan, from Naphan Village in Xieng Khouang Province says. “But now I have new knowledge, and I understand that changes are needed to protect the future of my family. I am willing to break with tradition.” In WFP-supported Farmer Nutrition Schools, women learn about importance of eating from different food groups and how to vary their diets to include all of them in their family’s daily meals. “Earlier, when my husband and I went to work in the fields, we would leave our children with my parents and leave some food for them. The health of my first child suffered and she was often sick. I wasn’t breastfeeding because I was in the fields all day. Now, with my second child, I know the importance of exclusive breastfeeding until 6 months of age and how to prevent stunting with healthy food. I decided to stay home so I could feed my baby throughout the day and my husband manages the farm alone. I am also eating more and better foods, and I have more milk for the baby,” Chan says with satisfaction.

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### Number of food groups consumed per group

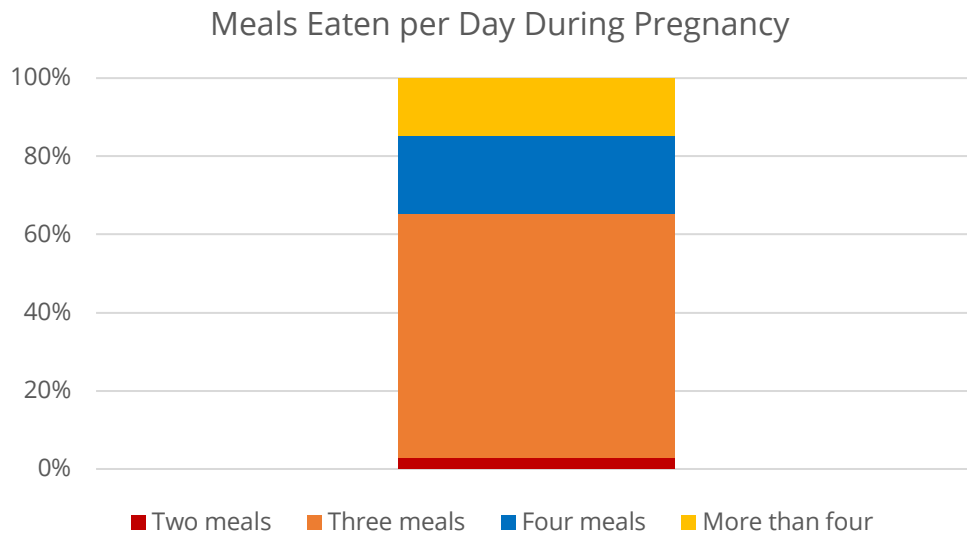


### FREQUENCY OF MEALS DURING PREGNANCY

Nearly two-thirds of pregnant women were found to be eating more meals per day than before they were pregnant. The importance of eating more during pregnancy is a behaviour change message incorporated in the FNS nutrition sessions.



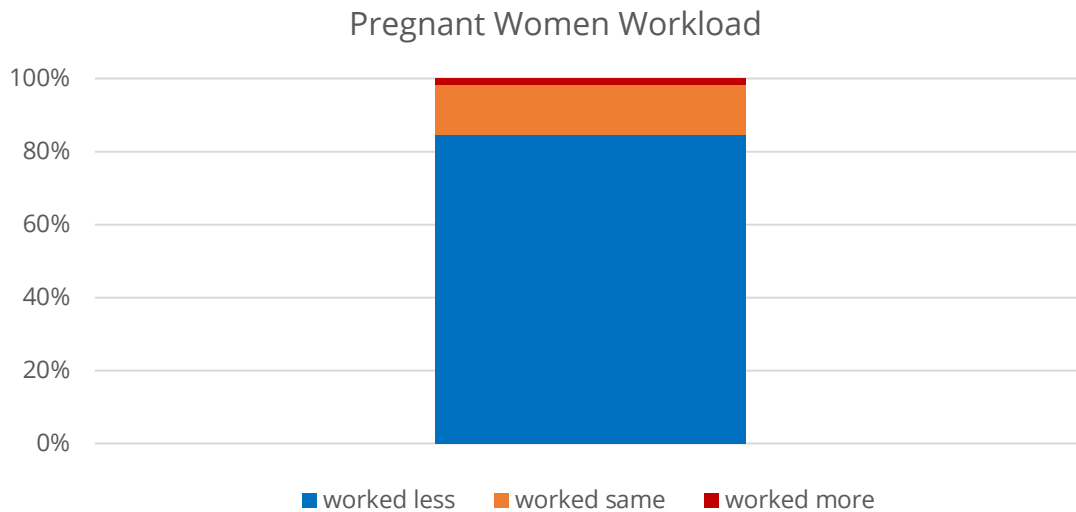
## Number of meals eaten per day during pregnancy



## WORKLOAD OF PREGNANT WOMEN

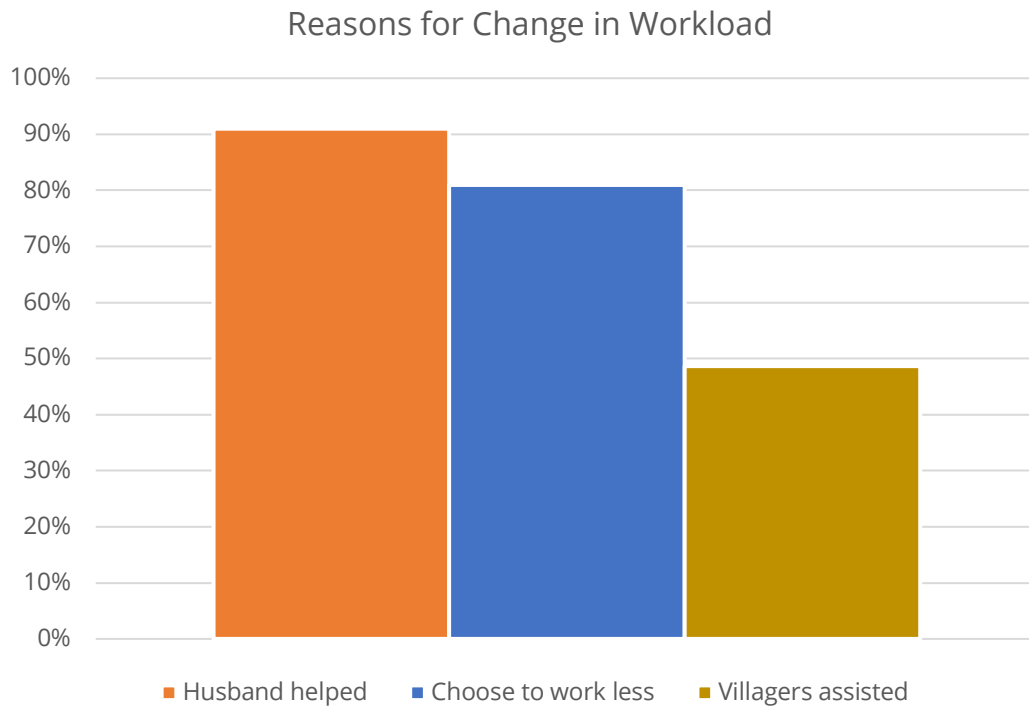
Questions were asked about women's work practices during their pregnancies. The majority of pregnant women (85%) stated that they worked less since joining FNS.

### Changes in women's workload during pregnancy



When asked why they were working less (multiple responses were allowed), a majority of women said that the husband helped out more during the pregnancy, followed by their own choice to work less during their pregnancy.

## Reasons for change in workload during pregnancy



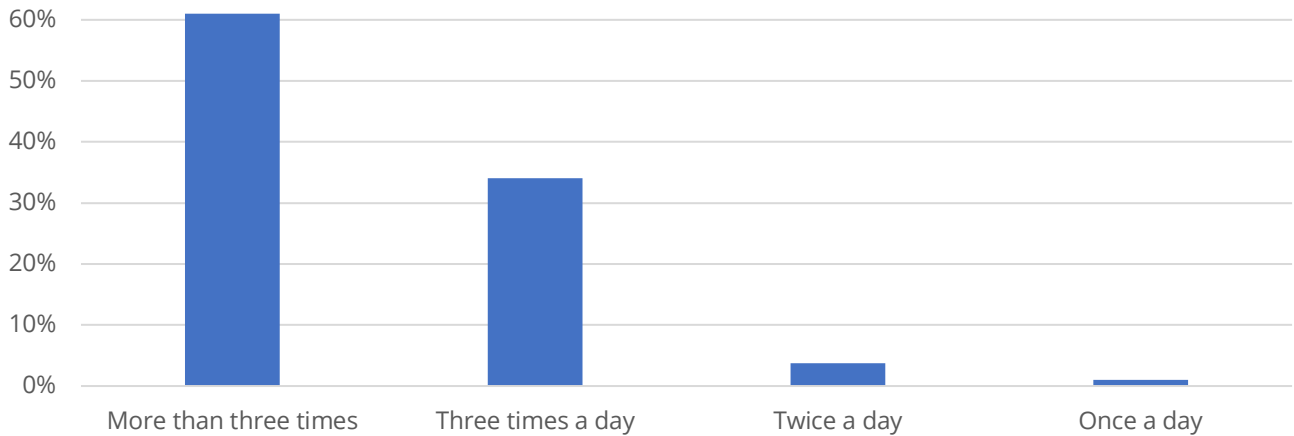
## WATER AND HYGIENE

As part of FNS, the households are also made aware of good hygiene practices, as a part of good health and nutrition. This includes the importance of clean drinking water and basic hand washing practices.

The majority reported washing their hands at least three times a day.

### Frequency of daily hand washing

### Daily Hand Washing



In order to ensure that drinking water is “safe” 94% of households reported that they boil their water and 19% reporting ‘buying’ drinking water (multiple answers were allowed).

More information is required about appropriate hygiene practices and the material in the FNS sessions would need to be more tailored to emphasize the importance of good hygiene practices.

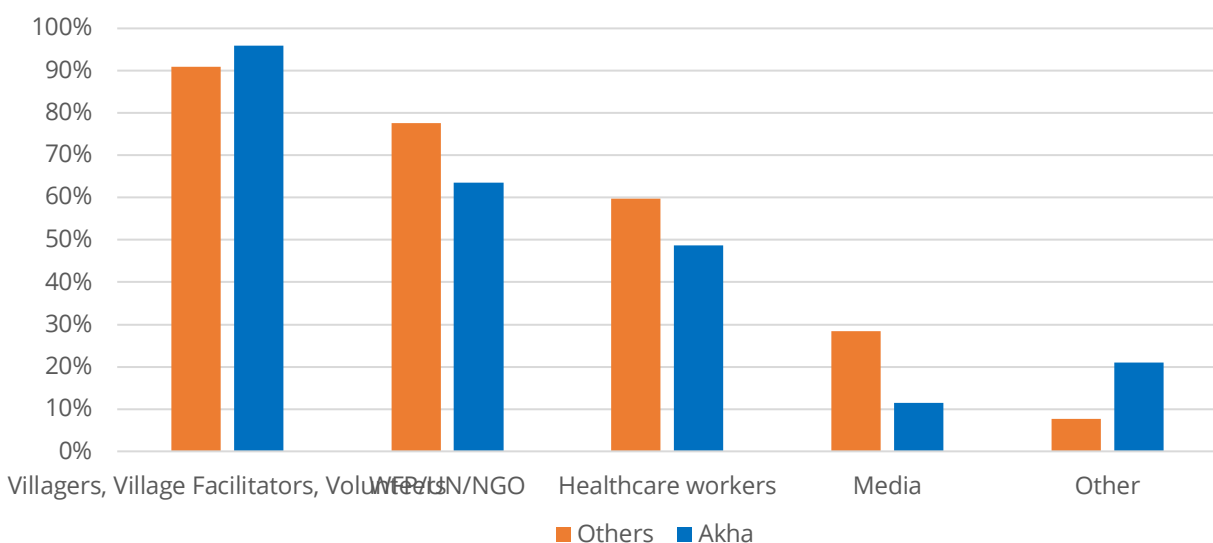
### NUTRITION INFORMATION

The main source of information regarding nutrition for respondents are the local village facilitators and volunteers (92%), followed by external projects sources (75%).

The Akha ethnic group, however, has a different pattern of nutritional knowledge provision, relying more on sources from within the village and less so on external sources.

### Difference in nutritional information sourcing between Akha and Others

#### Source of Information on Nutrition



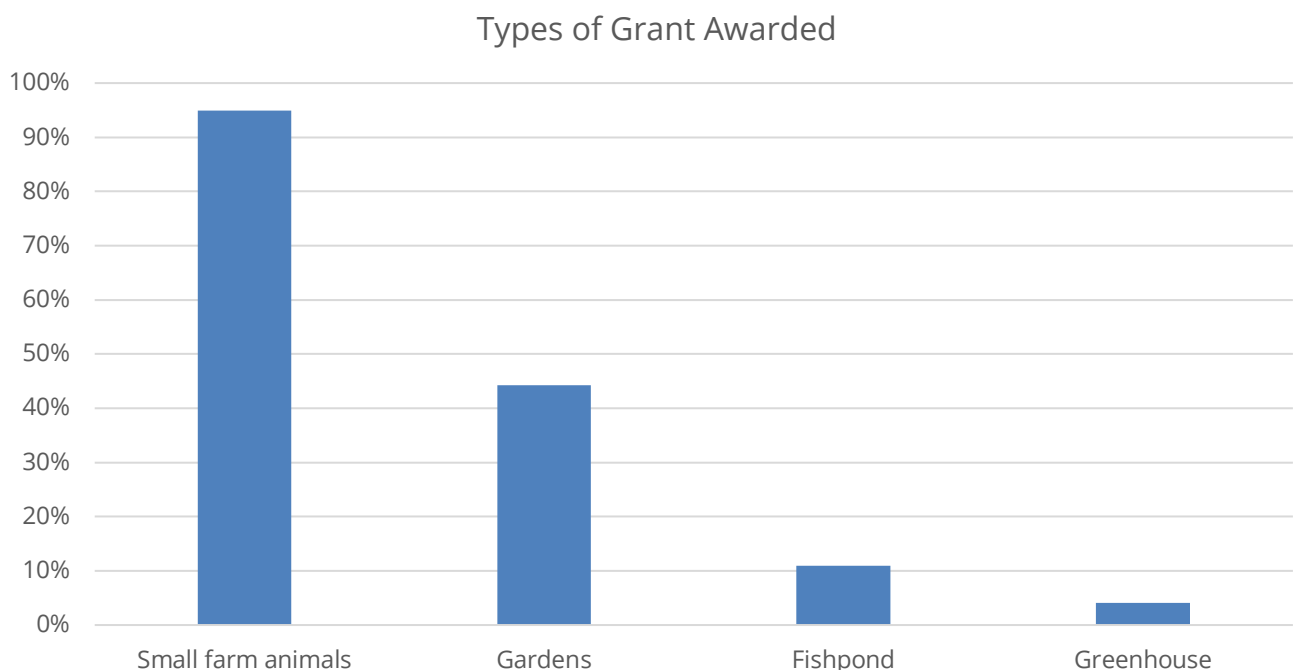
# Garden Grants

## GARDEN GRANTS

Through the FNS, garden grants are awarded to those households where one beneficiary attended the course and submitted an application for funding of various activities to help improve their nutritional status. Grants are valued up to a maximum of LAK 1 million (approximately USD 120) and can be a mix of activities including gardening and raising small livestock. Beneficiaries choose what activity they want to participate in.

The types of projects the grants supported were: raising small farm animals (95%), followed by planting seeds for a garden (44%), starting a fishpond (11%) and setting up a simple greenhouse (4%).

### Projects supported by garden grant

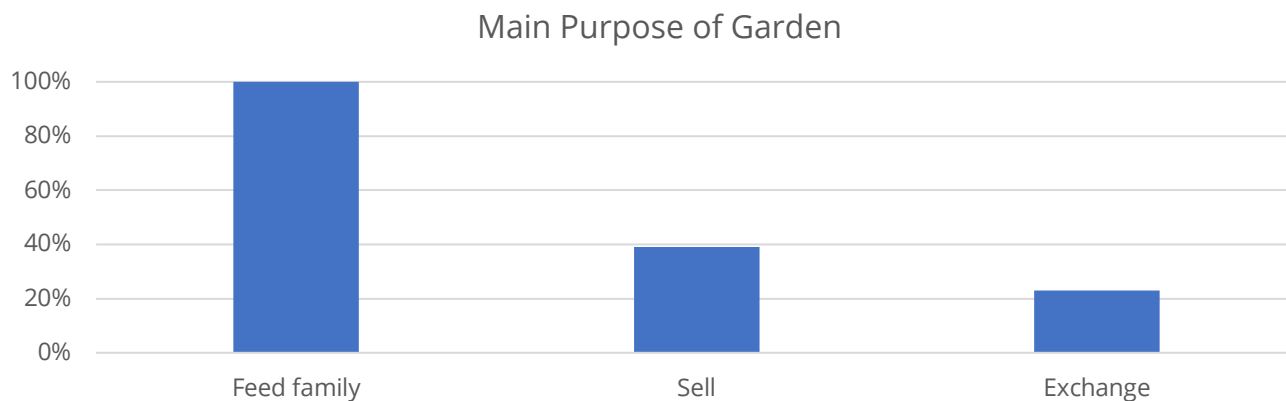


## GARDENS

The FNS program provides information on agriculture and food sources, including discussions on household food production, foraging from nature, and market access and the challenges of finding nutritious food from each of these sources. Participants are also encouraged to design their own garden as part of the sessions. At the time of the survey 84% of households had a garden.

Respondents noted that the main purposes of the garden were: all respondents stated to feed their families, followed by selling the produce to others (39%) and exchanging with others (23%).

### Main purpose of household gardens by category



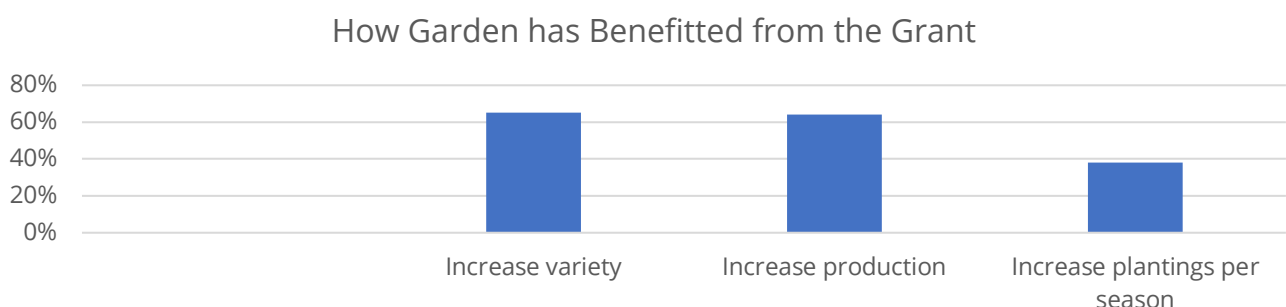
The increased variety of crops grown in the garden reflect a more nutritious diet. FNS sessions cover growing diverse and nutritious food as well as seasonal crops. The sessions also teach participants how gardens can be sustained and produce more for household consumption all year round.

### Overall the variety of foods grown in the garden were:

Vegetables (green leafy, tomatoes, carrots, pumpkin)	99%
Herbs and Spices (galangal, lemongrass, coriander)	89%
Fruits (lemons, papayas, oranges)	51%

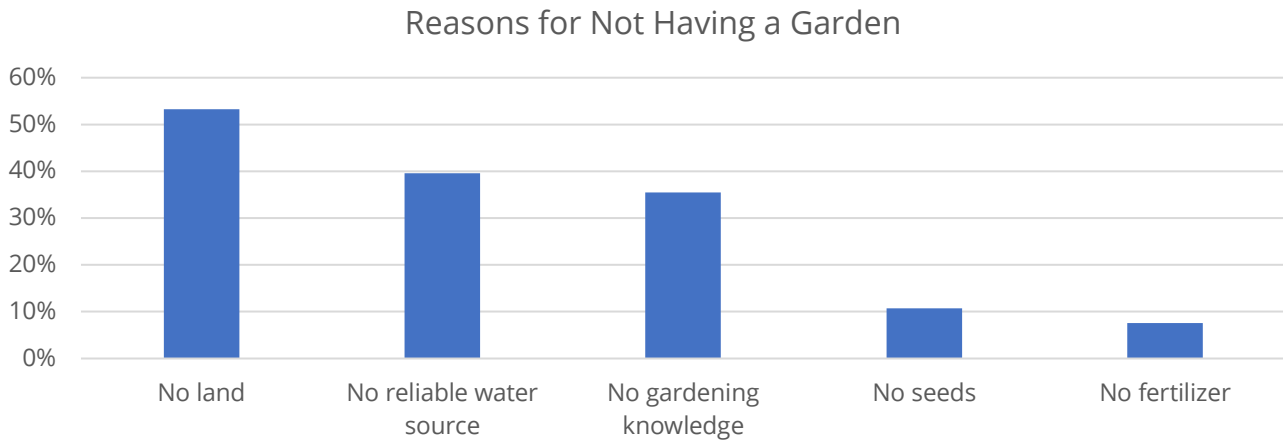
The households were asked how their gardens have benefitted from the grant. The biggest impacts on the garden were increased variety of crops (65%), increase in production (64%), followed by an increase in the number of planting cycles per season (38%).

### Different benefits of grant to garden



Those without a garden (16%), were asked for reasons for not having one. 53% of the respondents reported they did not have sufficient land. 40% reported no reliable water source and 36% stated they had no gardening knowledge (these are areas AFN can work more on).

## Reasons for not having a garden split by category

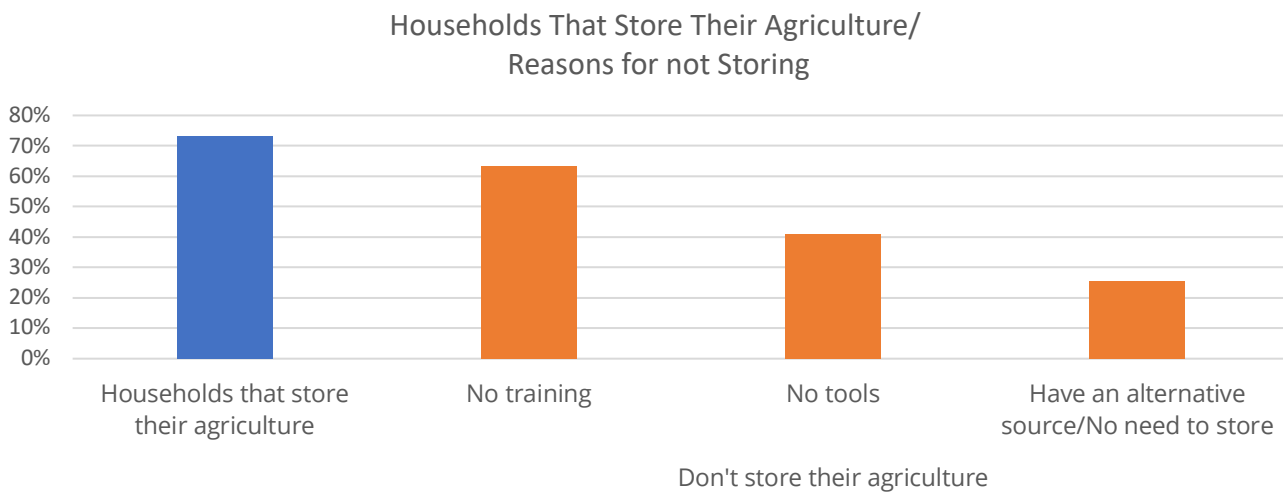


The FNS curriculum includes food processing and storage as a way to mitigate shortages in the lean season and provide access to food all year round. Villagers were asked if they store any of their agricultural products and, if they didn't, for the reasons as to why not.

Overall 73% stated they do store their agriculture products.

Reasons for not storing were reported as: no training (63%); no tools (41%); and an alternative source is available, hence there is no need for food storage (26%).

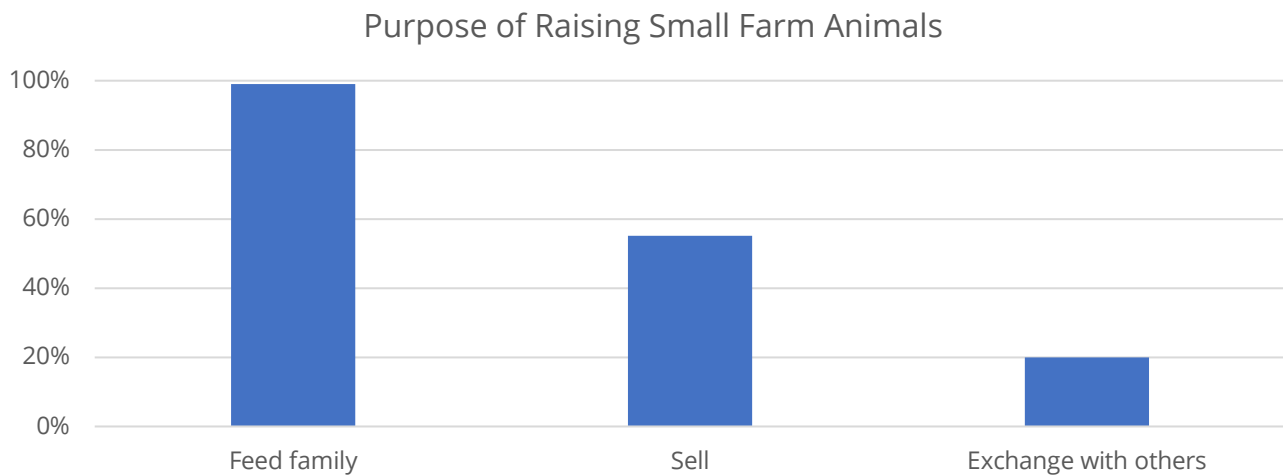
## Percentage of households storing food and reasons for not storing food



## RAISING SMALL FARM ANIMALS

The survey also looked at the number of households keeping small livestock and the main purpose of raising the livestock. Nearly all respondents (99%) reported the main purpose of this was to feed their families. Small livestock raised as a result of the grants, however, were more often sold (55%) than garden outputs (39%).

## Reasons for raising small livestock



## Impact of the farmer nutrition school and garden grant

The respondents were asked questions about changes they perceived after joining the Farmer Nutrition School and receiving the garden grants.

Of those that participated in the FNS program (1,200)

- 76% of respondents thought that their nutrition status improved.

The perception of improved nutrition status amongst those that received garden grants (916) were much higher (see below) indicating that, with the grant they had the means to act following their FNS sessions;

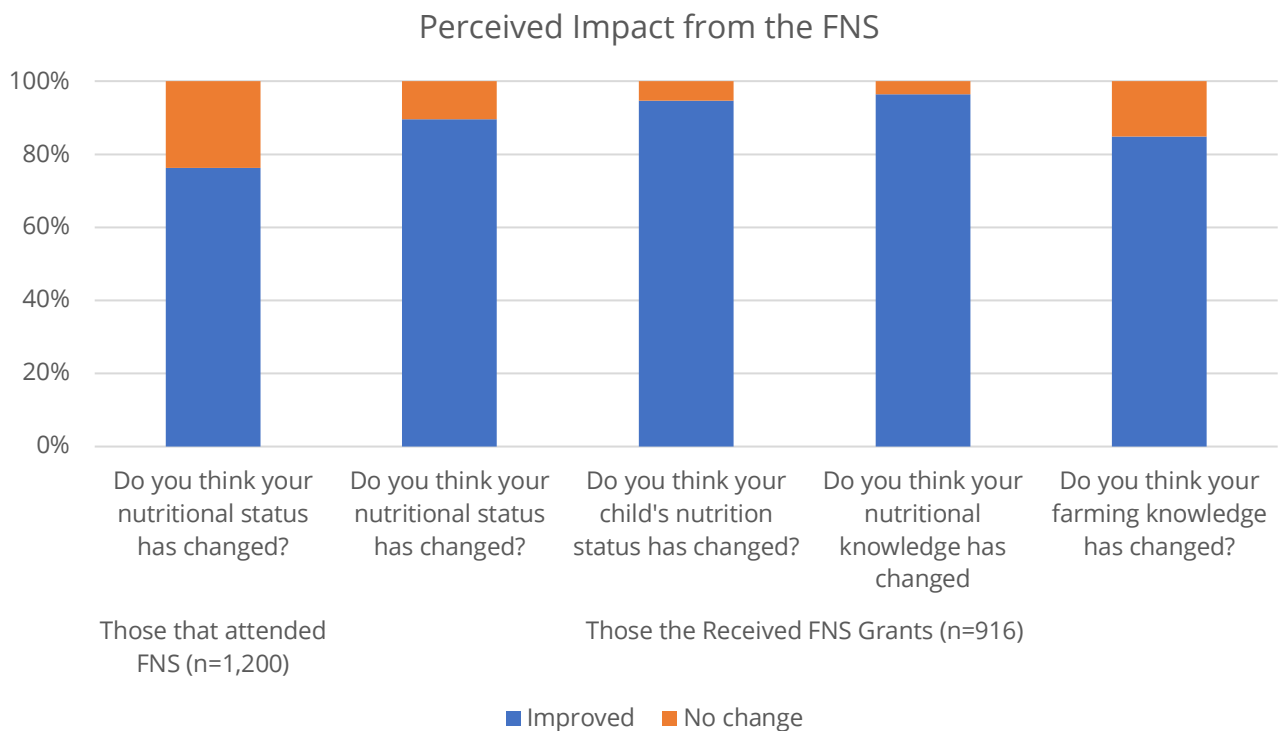
- 90% of the respondents thought that their own nutrition status improved.
- 95% of the respondents thought that their child's nutrition status improved.
- 96% of the respondents thought their nutrition knowledge improved.
- 85% of the respondents thought their farming knowledge improved.



Photo: UN in Lao PDR/Olga Nilova

Dao Keopasert is a Village Facilitator at Houaychai Village, Oudomxai Province. She leads sessions in the village's Farmer Nutrition School. "The garden grants have really made a difference. The women and families have started planting a variety of vegetables, understanding slowly through the information we share at the Farmer Nutrition School that eating the same vegetables all the time may not give our bodies all we need. The grants have also enabled people to buy and raise small animals, which again helps to make our food more varied." Dao says that women used to be skinny, even through pregnancy. Now, with mothers and children eating better, everyone is healthier and stronger. "I have noticed that the children learn better when they eat better," Dao smiles.

## Perceived Impact on nutrition of FNS after participating and receiving a grant

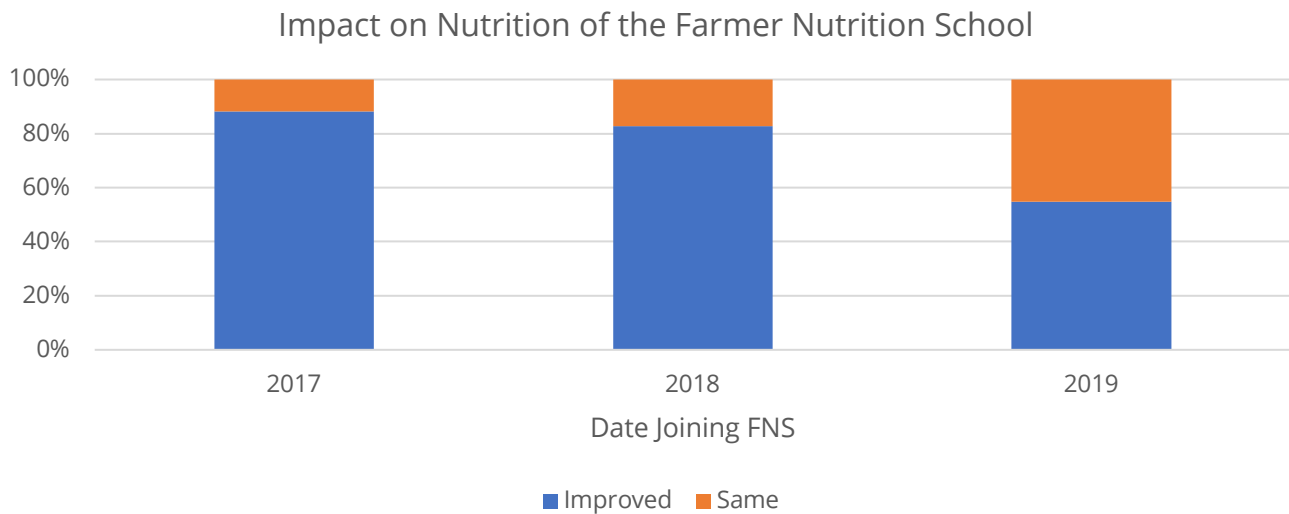


## LENGTH OF PARTICIPATING IN FNS AFFECTING IMPACT ON NUTRITION AND INCOME

The impact of the FNS can be seen more evidently in the beneficiaries that have joined earlier and participated a longer time in the project.



## FNS impact on nutrition based on length of time participating in project

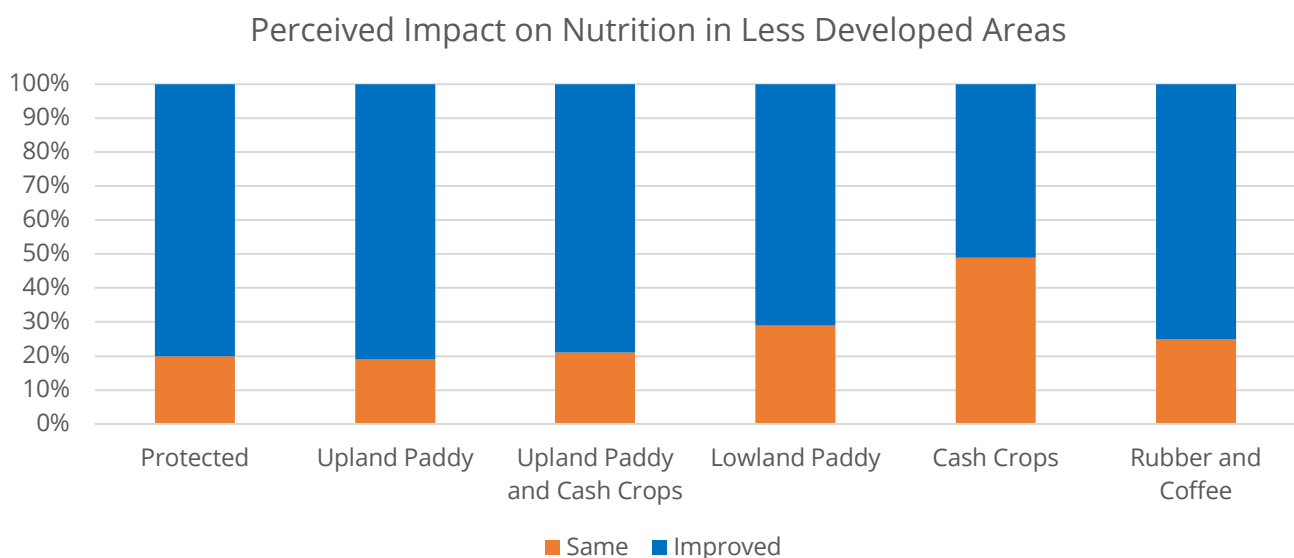


In order to study determinants of impact on nutrition and on income, a statistical model was developed to explain the differences in perceived impact on nutrition (“Do you think your nutritional status has changed after joining FNS”) and perceived impact on income (“How do you think your household income has changed due to financing of the project by the grant?”). Some of the key findings are discussed below.

## FARMER NUTRITION SCHOOL IMPACT ON NUTRITION BASED ON DEVELOPMENT LEVEL OF BENEFICIARY ENVIRONMENT

FNS has more impact on nutrition for those beneficiaries who live in less developed areas (protected and upland paddy environments).

### FNS impact on nutrition split by livelihood area



FNS beneficiaries perceived improved nutritional status if they were living in villages that are more remote and have less access to district centres/markets.

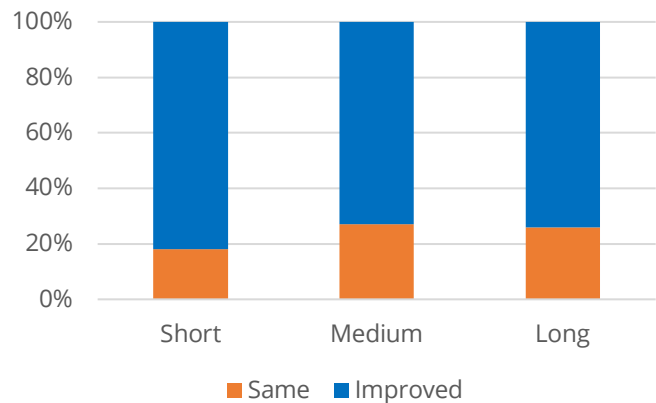
### FNS impact on nutrition based on distance to district centres

Other village level factors further heighten the impact of FNS on nutrition: higher poverty rates, and small or medium size of the village population all increase the likelihood that the beneficiary perceives improved nutrition.

### IMPACT ON INCOME

Overall, 67% of households saw their income increase, 30% of households' income stayed the same, and 3% of households stated that their income decreased.

Perceived Impact of the FNS by Travel Time to District Centre



### FACTORS AFFECTING IMPACT ON NUTRITION AND INCOME

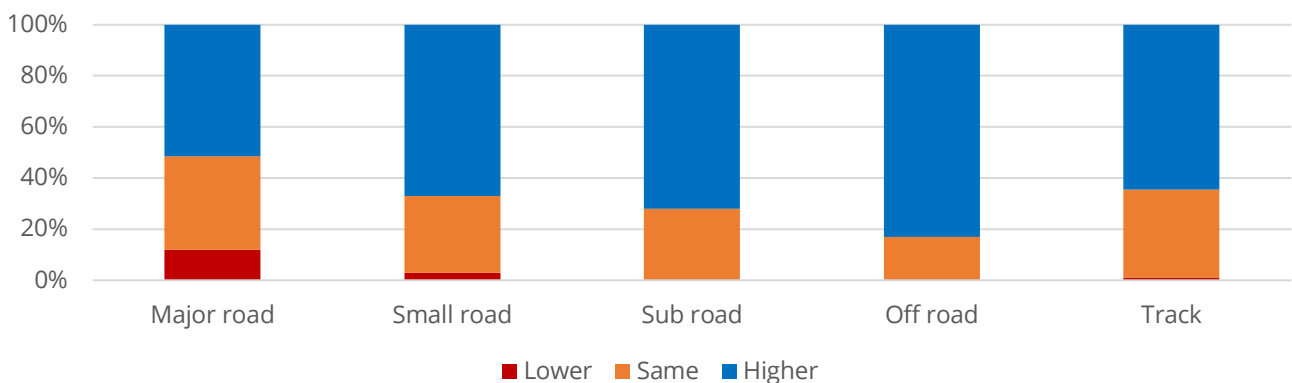
There is a clear impact of the project on nutrition (76% of respondents report improved nutrition status since joining the FNS) and on income (67% report an increased income because of the grant).

The Phounoi ethnic group reported to have the highest impact on income with 93% stating increased incomes, while only 54% of the Hmong ethnic group reported to have increased incomes. Further analysis is needed to understand the different dynamics between the two ethnic groups.

If a beneficiary lives in a village that is difficult to access, they are more likely to report increased income from the grant.

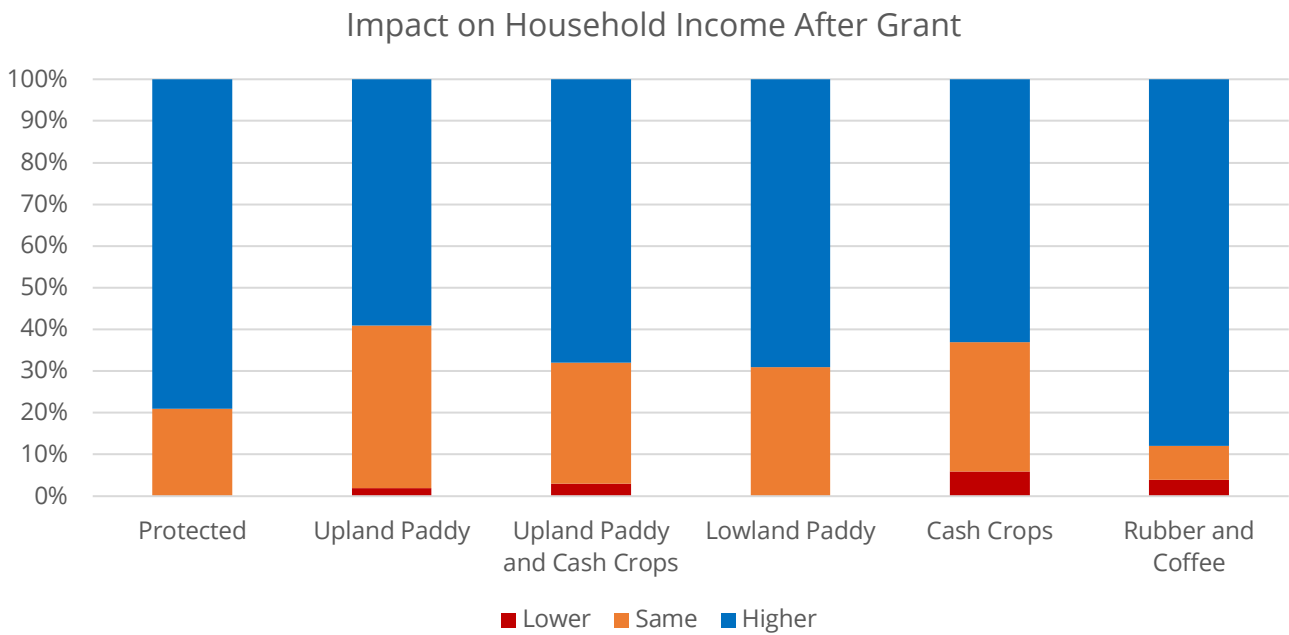
### FNS impact on income split by road access

Impact of FNS on Incomes in Remote Under-developed Areas



It seems that beneficiaries who live in areas that are focused on rubber and coffee plantation more often experience increased income from the garden grant. This might be linked to beneficiaries having more commercial possibilities and greater market exposure.

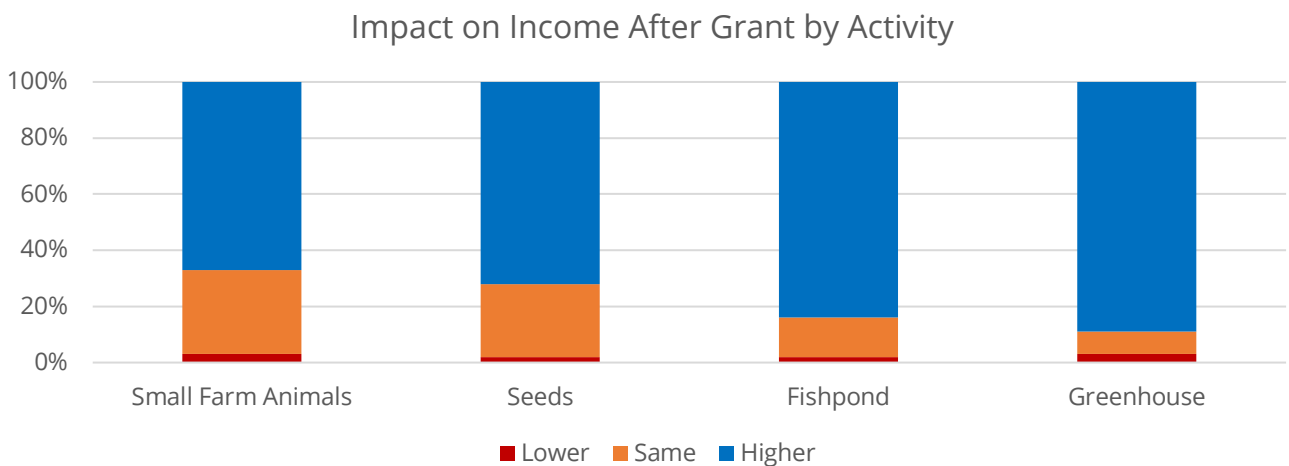
## Grant impact on households split by livelihood zone



## TYPE OF GRANT DOES NOT AFFECT NUTRITION BUT DOES IMPACT INCOME

The choice of how to use the grant does not matter for the nutrition impact of FNS – beneficiaries report similar improvements, regardless if they used their grant for small farm animals, seeds, fishponds or greenhouses. However, the choice of how to use the grant seems to impact income. When garden grants were used for fishponds and greenhouses, they had a more positive impact on income.

## Impact on income after grant by activity



# Gender and Ethnicity

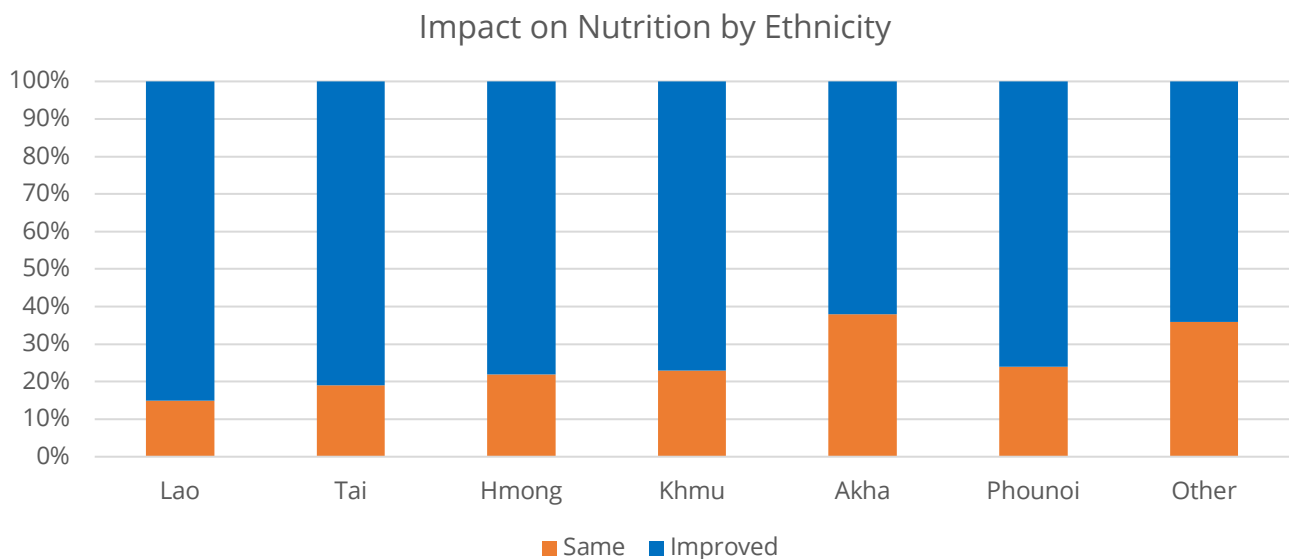
## GENDER

While the target of the FNS are pregnant and nursing women and mothers with children under 2 years of age, the sessions have evolved to accommodate other women and, occasionally, men. There are 1,213 village facilitators in the AFN targeted 400 villages, 78% of which are women.

## IMPACT BY ETHNICITY

The data below shows significant differences between ethnicities in their perception of nutrition improvements. Lao and Tai groups reported over 80% improvement in their nutrition status, whereas a little over 60% of Akha reported such improvement. Anthropometric results of the AFN midline survey carried out in December 2019 corroborates this, as they showed Lao and Tai ethnicities having higher Household Dietary Diversity Score than other ethnic groups.

### FNS impact on nutrition by ethnicity



Akha respondents reported having the lowest average income of USD 69 per capita in the AFN midline survey, compared with the Lao and Tai ethnicities who had the highest income with averages of USD 491 and USD 512 per capita, respectively. Akha respondents report a lower proportion for improved nutrition from the FNS grant - this finding needs further investigation. Since the Akha rely relatively more on 'other villagers' than on external sources for information on nutrition compared to other ethnic groups, it would be important to have a deeper understanding of the dynamics in order to formulate more appropriate measures on nutrition among the Akha.



Photo: WFP Lao PDR/Vilakhone Sipaseuth

**Chansouk** is a member of the Oman ethnic group in Phongsaly Province. In her community, men have a voice, she says, while women are voiceless and don't take the lead on decision making.

In 2017, Chansouk was among the first to volunteer to become a Village Facilitator for the World Food Programme's Farmer Nutrition Schools programme that supports pregnant and breastfeeding mothers and children under two years to eat more nutritious diets. Less than two years later she is one of the most effective and confident facilitators.

Today, she has her own garden where she is planting plenty of vegetables. She also raises animals such as chickens and pigs to meet her protein needs. In addition, she has invented many different kinds of food processing and preservation techniques which she has shared with her community, such as sausage making and dry cured pork production.

## Summary

After three years of operation of FNS in the AFN villages, clear trends can be observed. Most women who participated in the FNS program stated that their nutritional and farming knowledge increased. Most women who received garden grants reported an increase in their own and their children's nutrition status. The majority of households reported consuming more than 4 of the major food groups. Two-thirds of pregnant women are eating more meals and working less than before pregnancy. These are all promising positive developments, and these changes indicate that the women felt that FNS and garden grants had a noticeable impact on their nutrition and financial wellbeing.

Nevertheless, the survey also showed that the information provided during FNS did not translate into action in all households surveyed, and that there are particular differences between ethnicities. This provides an area for improvement in the FNS project design in order to allow WFP to reach all beneficiaries, particularly those who are most at risk of food insecurity, in a more nuanced manner.

## Suggestions from the Beneficiaries

The respondents were asked open-ended questions on what improvements could be made to the FNS. Some of their suggestions were:

- ✓ More training for raising small livestock and food processing techniques
- ✓ More picture books and more videos in ethnic languages
- ✓ Longer demonstration times and more cooking menus
- ✓ More cooking supplies, blackboards and additional furniture, toys for childcare and water/washing facilities for village nutrition centers

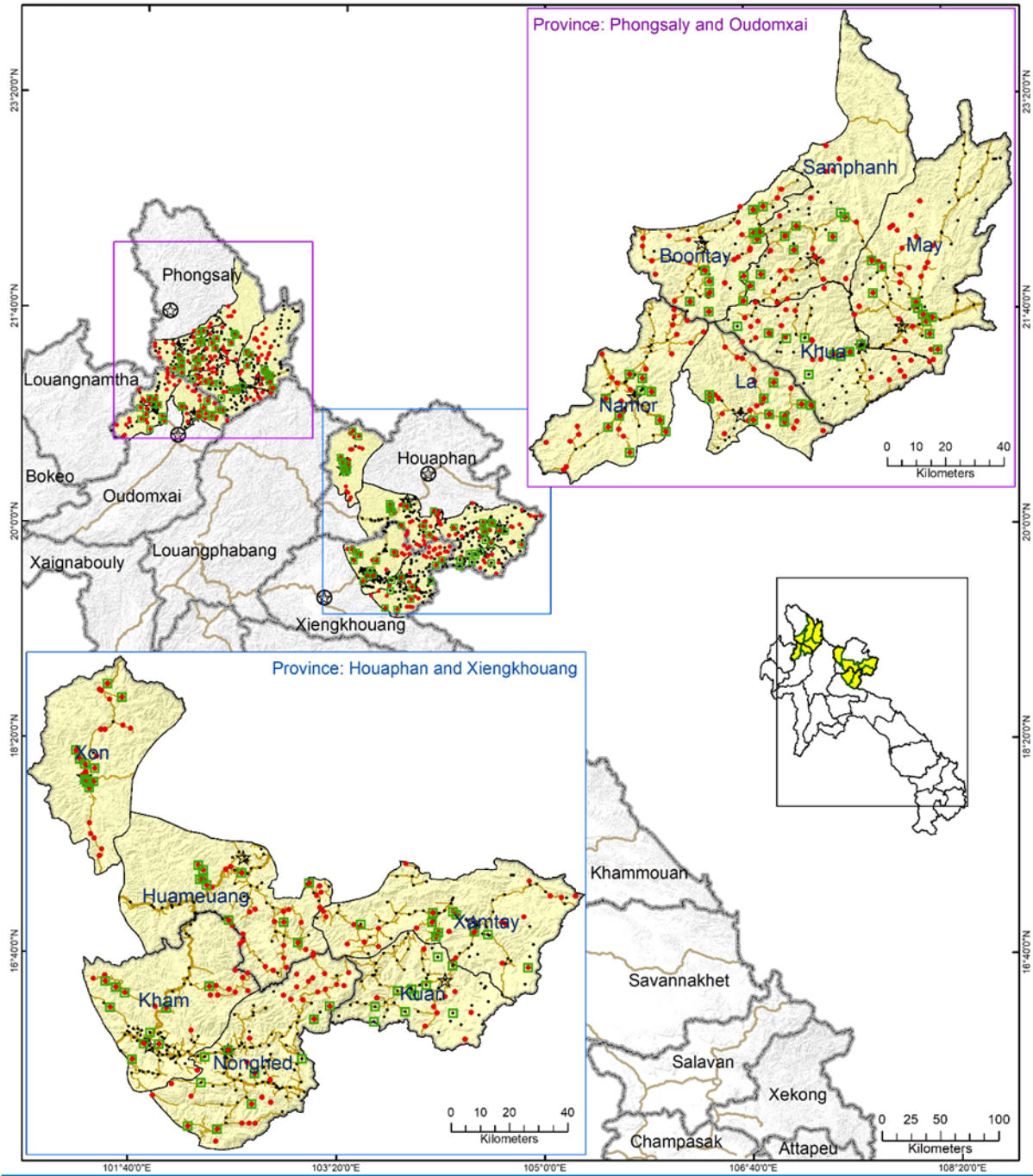
In the imminent phase of FNS, these requests will be reviewed and accommodated to the extent possible under the purview of the project.

# Annex 1

## Map of survey locations and other AFN locations in districts



### Visited Village Phongsaly, Oudomxay, Xiengkhouang and Huaphanh Provinces



Date Created: 03 Mar 2020  
 Contact: [wfp.lao@wfp.org](mailto:wfp.lao@wfp.org)  
 Website: [www.wfp.org](http://www.wfp.org)

#### Legend

- Village visited
- AFN programme operation village
- Other village location
- Provincial capital
- District capital
- Main road
- Small road
- Provincial boundary
- District boundary



Data Sources:  
 - Lao National Statistics Bureau  
 - Lao National Geographical Department  
 - WFP Lao PDR

The boundaries and names and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Map/Information Management (MIS)  
 A3 Map PHS visited villages 03Mar2020

## **WORLD FOOD PROGRAMME**

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