

External Final Evaluation
Enhancing adaptive capacity of women and ethnic
smallholder farmers through improved agro-
climate information in Mai and Samphanh district,
Phongsaly Province, Laos

Revised Report

Submitted in 07 March, 2022

Submitted to: CARE International in Lao PDR
Thatsaphone Songbandith, Final Evaluation Consultant

TABLE OF ACRONYMS

ACIS	Agro-climate Information Systems
AFC	Agriculture and Forestry Conservation
CBA	Community Based Adaptation
CBO	Community Based Organizations
CCA	Climate Change Adaptation
CVCA	Climate Vulnerability and Capacity Analysis
DAFO	District Agriculture and Forestry Office
DIMC	District Implementation and Monitoring Committee
DONRE	District Natural Resources and Environment
DRR	Disaster Risk Reduction
FLN	Farmer Learning Network
FDG	Focus Group Discussion
ha	Hectare
IEC	Information, Education, and Communication
IRCAF	International Research Centre for Agriculture and Forestry
IDI	In-dept Interview
KII	Key Informant Interview
LBA	Lao Biodiversity Association
LWU	Lao Women's Union
MDGs	Millennium Development Goals
MAF	Ministry of Agriculture and Forestry
MECDD	Ministry of the Environment, Climate and Sustainable Development
MOE	Ministry of Education
MOFA	Ministry of Foreign Affairs
MOU	Memorandum of Understanding
MONRE	Ministry of Natural Resources and Environment
NAFRI	National Agriculture and Forestry Research Institute
PAFO	Provincial Agriculture and Forestry Office
PONRE	Provincial Natural Resources and Environment
PSC	Provincial Steering Committee
VSLG	Village Savings and Loans Group

Table of Contents

TABLE OF ACRONYMS	1
I. EVALUATION SUMMARY	4
II. PROJECT OVERVIEW	6
III. METHODOLOGY	7
3.1 Evaluation Purpose	7
3.2 Evaluation process	8
3.3 Sampling & data collection instruments	8
3.4 Limitations	9
IV. PROJECT EVALUATION	9
4.2 Relevance	11
4.3 Effectiveness	15
4.4 Efficiency	18
4.5 Achievement/Impact	19
4.6 Challenges	25
4.7 Sustainability	26
4.8 Key Lessons learned	27
V. RECOMMENDATIONS	28
VI. CONCLUSION	29
ANNEX 1: Summary table of project status	32
ANNEX 2: Evaluation Tools	35
ANNEX 3: ToR, Inception report	35
ANNEX 4: CARE Global and Supplementary Indicators for measure change	35

List of Tables

Table 3: General demographic information..... 9

Table 4: Direct and In-Direct Beneficiary participated in the In-Depth Interviews (IDI) 10

Table 5: Level of relevance (A score of 1-5 (1= very low relevance level | 5= very high relevance level). . 12

Table 6: *Level of relevance and useful on the weather and agriculture information* 13

Table 7: Accessible and easy to the weather forecast, agriculture advisory 14

Table 8: Effectiveness Level..... 16

Table 9: Level satisfaction of Comparing yield this year and last year and the agricultural advice from other farmers 17

Table 10: Effectiveness Level 18

Table 11: Level of knowledge improvement 20

Table 12: weather forecast, agriculture advisory..... 20

Table 13: Successful level of the project activities..... 25

List of Figures

Figure 1: Age and Ethnicity of Respondent 11

Figure 2: Education..... 11

Figure 3: Total Income in 2021..... 11

Figure 4: The weather information before starting season or not..... 13

Figure 5: Bulletin (weather forecast, agriculture advisory)..... 14

Figure 6: Climate services are relevant to farm and crops..... 15

Figure 7: DRR preparedness in the community after received storm notice letter from DMH 19

Figure 8: Opportunity to participate in the process of developing the weather forecasts 21

Figure 9: Trust & satisfied the climate services 21

Figure 10: Adapted farming practices based on the agro-climate advisories 22

Figure 11: Level of understanding the climate services and adapt the farming practices 22

Figure 12: The external support for farming 23

Figure 13: Using the climate adaptation to take an action..... 23

I. EVALUATION SUMMARY

The Agro-Climate Information for the Adoption of Resilient Farming Practices by Women and Ethnic Minority Farmers (ACIS2) is implemented by CARE International in Lao PDR. The project financed by the Ministry of the Environment, Climate and Sustainable Development (MECDD) in Luxembourg, is designed to support poor and vulnerable households in remote, rural areas and to enable women and ethnic minority farmers in Mai and Samphanh districts (Phongsaly province) to better anticipate risks and opportunities related to climate variability thus improving their response through participatory and equitable agro-climatic planning. The project's aim is to contribute to SDG 13 by increasing climate resilience of women and ethnic minority farmers in northern Laos.

The purpose of the evaluation was to determine the project's success in implementing activities and in attaining the project's goals and expected results. The ACIS2 has implemented a wide variety of activities to increase the resilience of ethnic communities to climate change and climate variability. The project has been successful in achieving its objectives and expected results. Project provide the weather forecast and agriculture advisory and support for cardamom production, intercropping galangal, pineapple, fruit trees, bee keeping, vegetable gardening, improved rice production and support to women's savings and loans groups which has resulted in reducing the impact of climatic hazards and improving farmers' incomes.

The project is highly relevant due to the need for ethnic communities living in remote mountainous environments to have coping strategies which address climate change and climate variability. The project's objectives and activities are relevant at the national, district, and village level and suited to the priorities and policies of the Lao Government. ACIS2 contributes to the government's objective of reducing the number of 'priority poor' districts in the Northern provinces through the project's goal of increasing communities' resilience to climate variability and change by promoting livelihood diversification and income generation activities. The project is supporting the Lao Government in meeting the SDG 13-increasing climate resilience of women and ethnic minority farmers in northern Laos.

Farmers are pleased with the opportunities provided by the project and are adopting new climate change adaptation practices promoted by the project. Farmers expressed satisfaction with trainings conducted by the project; and skills and understanding acquired through training are being put into practice. Activities implemented in villages are sustainable because farmers can readily see improvements and the potential for improvement in their lives by adopting project interventions. The benefits of the project will continue after the project ends.

Men's attitudes and behavior towards women have changed dramatically because of gender training and their understanding that in order to move out of poverty, men and women must work together. Men now realize that women can make valuable contributions as decision-makers in the family and community. Project staff have helped women to increase their self-esteem, confidence and promote to leadership positions within the farmer learning network. Both, men's and women's attitudes and behavioral changes are permanent and will most likely evolve into greater empowerment of women.

The high degree of acceptance and adoption by farmers of the various climate change adaptation options demonstrate the project's achievement and sustainability. Farmers will continue to be positively impacted into the future from their participation in project supported interventions. CARE's long-term commitment and extensive experience implementing development projects in Phongsaly are the primary reasons for the success of the project.

The project should be extended to a next phase in order to build on the successes of ACIS2 and to further advance CARE's support to women and ethnic minority farmers. The continuation of the project would take advantage of existing capacity within CARE and local stakeholders. A next phase would allow for: 1. further monitoring of activities, 2. scaling up of successful interventions, and 3. extending into additional villages. The success of ACIS2 in creating sustainable improvements in farmers' lives can be accredited to the dedication and capacity of the project's managers and staff. Project staff have developed the trust of communities required to motivate farmers to engage in new activities.

II. PROJECT OVERVIEW

CARE International in Laos has been working on climate change projects for 3 years to empower poor and marginalized people, particularly women and girls, to act on the climate crisis at all levels and to build knowledge for global change. Through its projects, CARE Laos has gained substantial experiences in analyzing climate threats and vulnerability, as well as adaptation planning processes.

The project called “Agro-Climate Information for the Adoption of Resilient Farming Practices by Women and Ethnic Minority Farmers” is a project financed by the Ministry of the Environment, Climate and Sustainable Development (MECDD) in Luxembourg, with a project duration of four years (1st January 2018 to 31st December 2021, with a project extension to the 31st March 2022). Project activities were conducted in 12 villages by targeting 3’868 direct beneficiaries out of poor and vulnerable households in Mai and Samphanh of Phongsaly in Laos.

This project supports poor and vulnerable households in remote, rural areas to:

1. Enable women and ethnic minority farmers in Mai and Samphanh districts (Phongsaly province) to better anticipate risks and opportunities related to climate variability.
2. Improve their response through participatory and equitable agro-climatic planning.

SDG 13 – Increasing climate resilience of women and ethnic minority farmers in northern Laos

This project is implemented by:

- **CARE in Luxembourg** which is responsible for the administrative management and monitoring of the project by ensuring that donor’s requirements, terms and conditions are respected and met.
- **CARE International in Laos** which ensures global project leadership by implanting project activities in the field and is accountable to CARE in Luxembourg for reporting.
- **Government line departments** which are taking over facilitation roles for long-term development and invest into institutional capacity building and networking through implementation of project activities.

Scope of the project

The overall project purpose is to “increase resilience of women and ethnic minority farmers in northern Laos” based on the following expected outcomes (4 Results):

- Result 1** Encourage farmer representatives to organise themselves into learning networks for community engagement and knowledge exchange on climate smart agriculture.
- Result 2** Improve farming practices through participatory scenario planning
- Result 3** Strength capacity of service providers to better understand and address needs for climate change adaptation of remote ethnic women and their communities

Result 4 Enhance access for women to information and greater women’s influence on farming decision making

III. METHODOLOGY

The final evaluation took a mix-method approach of quantitative and qualitative instruments and methods from both, secondary and primary data. The secondary data reviewed to shape the structure and questions to be deployed in the data collection instruments. The primary data was gathered with all key stakeholders in the project, including beneficiaries, implementors (government partners as well as project staff) at district and provincial levels, and the management committee at the central level.

3.1 Evaluation Purpose

The **purpose** of the Final Evaluation was intended to provide project accountability by focusing particularly on:

- Assessed the project’s performance in regard to the project’s specific objectives and results, including assessment on achievements and problems
- Generated lessons learned from activity implementation to improve further programming, including project partnership and government convergent practices
- Assessed and evaluated the CARE approaches to the project (CARE Markers: Gender, Resilience and Governance)
- The final evaluation **aimed** to provide CARE LUX and CARE LAOS with detailed information about the overall project performance based on achievements related to the project’s logical framework and selected CARE global supplementary indicators for measuring change.

The **objectives** of the final evaluation are as followed:

- **Relevance** – the extent to which the project suited the priorities and policies of the target group and the donor’s requirements
- **Effectiveness** – the extent to which the project’s specific objective and results have been achieved
- **Efficiency** – the extent to which the project achieved maximum results with given resources (including project strategies and approaches)
- **Challenges** – assessed how and to what extent the project has effectively addressed the challenges faced by the target communities (relevancy)
- **Lessons Learned** – assessed processes/procedures for capturing and documenting activities’ lessons learned on a continuous basis, including feedback mechanisms for stakeholders and programme participants
- **Impact (Changes)** – identified significant positive and negative long-term changes in the life of beneficiaries as a result of project intervention, directly or indirectly.
- **Sustainability** – assessed whether benefits of the project are likely to be continued after the project’s end

- **CARE approaches** – assessed the project’s incorporation of CARE approaches based on the three CARE markers (Gender, Resilience and Governance)

3.2 Evaluation process

<p>Preparation 25 Dec 2021-10 Jan 2022</p>	<p>Field data collection 17-26 Jan 2022</p>	<p>Data analysis and report 1 -10 Feb 2022</p>
<ul style="list-style-type: none"> ▪ Inception meeting, and a serious follow-up discussion on expectations, sample, data collection instruments ▪ Desk reviews of all related documents, including suggestions provided by CARE staff ▪ Arrangement with the MOFA, PAFO, PONRE and DAFO, DONRE for the filed data collection ▪ Informing sampled villages and participants ▪ Training of evaluation team members 	<p>Conducted interviews with the following participants:</p> <ol style="list-style-type: none"> 1. PAFO 2. PONRE 3. DAFO 4. DONRE 5. Care Staff 6. Village Authorities 7. Member of FLN 8. Women direct and in-direct beneficiaries 	<p><i>Quantitative:</i></p> <ul style="list-style-type: none"> ▪ once completed data-entry (KOBO Toolbox), data cleaning process was taking place prior to producing data presentation in different forms (tables, graphs, charts and others) <p><i>Qualitative:</i></p> <ul style="list-style-type: none"> ▪ Transcription of information to identify patterns ▪ Summarization of information of case studies

3.3 Sampling & data collection instruments

Both quantitative and qualitative data collection instruments were deployed in this evaluation:

Quantitative

- In-Depth Interview (IDI) with farmer women of direct (50%) and in-direct (15%) beneficiaries/village)

Qualitative

- Focus Group Discussion (FGD) with women and men members of FLN and Village authorities
- Case study interview with women and men direct beneficiaries
- Key Informant Interview with KII with PAFO, PONRE, DAFO, DONRE and Care staffs

The evaluation covered 6 villages out of total 12 villages – Based on the purposive sampling accordingly of the Project’s evaluation criteria data and the CARE global supplementary indicators, data was collected using a population sample by specifically considering local diversity (gender, ethnicity,

location, etc.) with a sample size of the maximum proportion of 50% as the value indicator for the sample size.

The total number of participants involved in the evaluation is 358 people (76% of women and 24% of men), across different levels (provincial, district and village level), which is summarized as follows:

- 9 KII with PAFO, PONRE, DAFO, DONRE and Care staffs (men and 1 female participation);
- 226 IDI (171 Direct and 55 In-Direct beneficiaries (8 men and 218 women participation);
- 18 FDG with village authorities, male member of FLN and Female member of FLN (71 men and 48 women participation) and
- 4 cases study with indirect beneficiaries of one per villages (1 man and 3 women participation).

3.4 Limitations

- COVID-19 situation and town lockdown during the data collection impacted some aspects of the planned field data collection and the way the data was collected as follows: Travel restriction – face-to-face data collection to Samphanh district was cancelled and shifted to collecting data via phone calls. Only a few face-to-face interviews in Mai district were possible, but the team needed to test themselves as a negative result result of COVID-19 was required before visiting the villages.
- A number of women interviewed only speak their local dialect. Interviews with these women were translated from Lao to the local dialect. Therefore, local translators were recruited to facilitate and to translate local dialect during the interview at the village level.
- Within some villages, the direct beneficiaries were not present during field visit, as they left for seeking jobs in other provinces. Therefore, the team had interviewed men direct beneficiaries instead of women.

IV. PROJECT EVALUATION

Planned field data collection and the way the data was collected has been implemented as follows: due to travel restrictions, face-to-face data collection within Samphanh district was cancelled and shifted to collecting data via phone calls.

4.1 Village Population & Respondent Table 3 below depicts the population information of the 6 selected villages. Within the whole population of 1,493 people, the sex ratio between male and female is equal – women (736 people, 49.3%) and men (757 people, 50.7%). The main ethnicity is Lao Seng, Khmu, Akha and Phousang. Farming, mostly upland rice planting, and raising animals, are the main source of livelihoods.

Table 1: General demographic information

District	Village name	Basic information					Ethnicity	Main Occupation	Distance from town
		No of HH	No of Family	Population	Women	Men			
Mai	Chomcheo-Kao	25	32	144	67	77	Lao seng	Farming and rising animals	30 Km
	Huayloth-Omtruem	66	77	370	178	192	Akha+Khmu		22 Km
	Huayphouk	31	40	167	91	76	Khmu		20 Km
	Ban Noy	54	74	360	192	168	Akha		27 Km
	Sub-Total	176	223	1,041	528	513			
Samphan	Phouxang-Kao	32	46	257	116	141	Akha Phousang	Farming and rising animals	35 Km
	Namthuag	35	47	195	92	103	Khmu		40 Km
	Sub-Total	67	93	452	208	244			
Total:		243	316	1,493	736	757			

Table 4 below, at the village level, shows that 226 people as (76% Direct and 24% In-Direct Beneficiary) representatives from the 6 sampled villages participated the in the final evaluation. The sex ratio between participating female (96%) and male (4%), they were 194 (86%) the member of farmer learning network.

Table 2: Direct and In-Direct Beneficiary participated in the In-Depth Interviews (IDI)

Participants	Indirect Beneficiary		Total Indirect Beneficiary		Direct Beneficiary		Total Direct Beneficiary		Grand Total			MFLN
	Male	Female	N	%	Male	Female	N	%	Male	Female	Total	
Mai		33	33	23%	3	105	108	77%	3	138	141	109
Ban Noy		4	4	13%	2	24	26	87%	2	28	30	24
Chomcheo-Kao		12	12	43%	1	15	16	57%	1	27	28	18
Huayloth-Omtruem		11	11	21%		42	42	79%	0	53	53	44
Huayphouk		6	6	20%		24	24	80%	0	30	30	23
Samphanh	4	18	22	26%	1	62	63	74%	5	80	85	85
Namthuag		11	11	27%		30	30	73%	0	41	41	41
Phousangkao	4	7	11	25%	1	32	33	75%	5	39	44	44
Grand Total	4	51	55	24%	4	167	171	76%	8	218	226	194 (86%)

Figure 1 below: almost all (N=201, 89%) of respondents were age 18-49 years and some (N=22, 10%) were age >= 50 year. There were more than half (N=118, 52%) were Khmu, N= 74, 33% were Ahka and N=26, 11% were LaoSeng.

Figure 1: Age and Ethnicity of Respondent

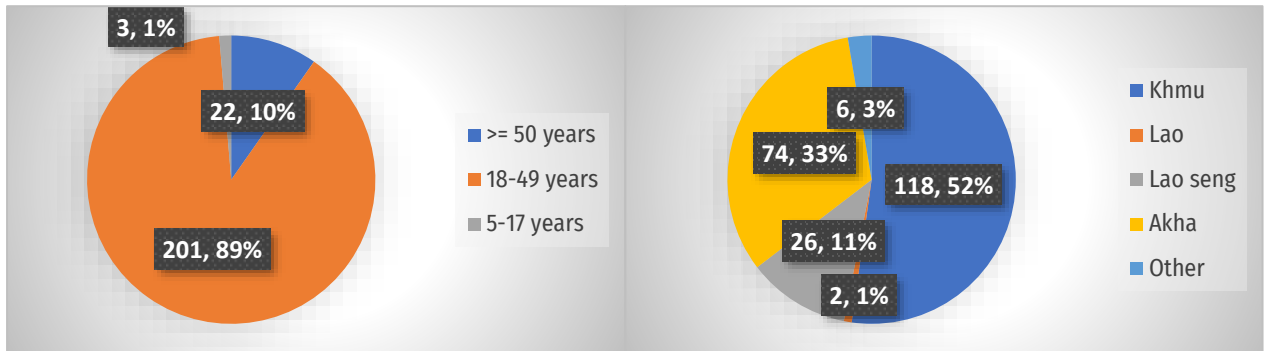


Figure 2: Education

Figure 2: in terms of education it seemed that the participant in these two districts had very low levels of education, with no (37%) and/or only primary school (38%). Some had Lower Secondary (14%), Upper Secondary (8%) and Technical / Vocational (4%) education.

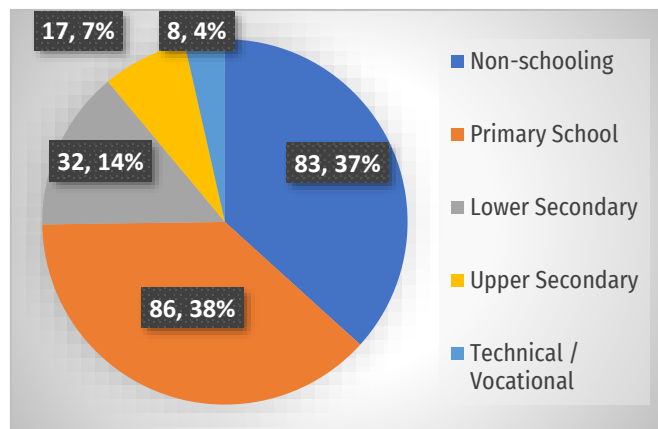
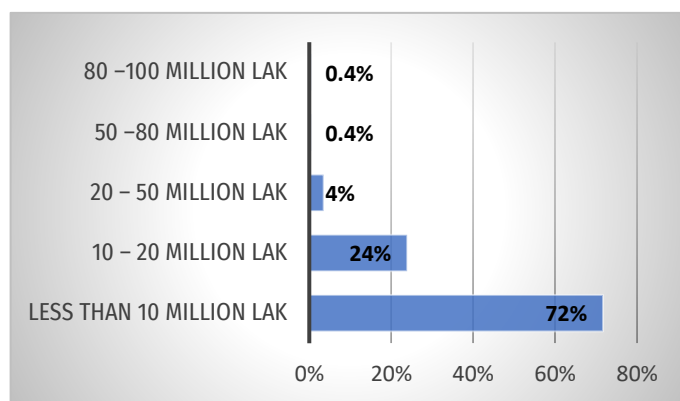


Figure 3: Total Income in 2021

Figure 3: the total income in 2021, whereas the majorities (72%) of respondents said that they had less than 10 million Lak, 24% had income between 10-20 million Lak, and a few (4%) had 20-50 million Lak. It is interesting that one person (0.4%) said that she had an income of 50-80 million Lak and 0.4% said that they also had income between 80-100 million Lak, which they emphasized that they had bought the agriculture product and NTPFs from farmers and then sold to traders (including Chinese).



4.2 Relevance

The project is highly relevant due to the needs of ethnic communities living in remote mountainous environments to have coping strategies which address climate change and climate variability.

The project's objectives and activities are relevant at the national, district, and village level and suited to the priorities and policies of the Lao Government. ACIS2 contributes to the government's objective of reducing the number of 'priority poor' districts in the Northern provinces through the project's goal of increasing communities' resilience to climate variability and change by promoting livelihood diversification and income generation activities. The project is supporting the Lao Government in meeting the SDG 13-increasing climate resilience of women and ethnic minority farmers in northern Laos.

The project is closely linked to the government's *Action Plan on Climate Change for 2013-2020*, particularly the initiatives on: 1) strengthening institutional and human resource capacities on climate change and 2) enhancement of adaptive capability for coping with climate change. The project has made a substantial contribution by training both, district staff and farmers. The project's design and approach are relevant by providing numerous climate change adaptation options, which address farmers' needs. Information from both district authorities and farmers confirms that the project is having a positive impact on improving living conditions in target villages. Farmers explicitly identified significant improvements in their lives from the many activities promoted in their villages.

All participants, PAFO, PONRE, DAFO and DONRE and three CARE project staffs, Village authorities, member of FLN and three CARE project staffs, reported that the project aligns itself to the Country's strategy and vision and therefore the Project's overall goal is relevant to the needs of the MAF/MONRE/LWU. Moreover, the Project has been able to support the role of the MAF/MONRE/LWU, the project has been relevant and useful for community and farmer's requirement, and the project has been relevant and useful to women by meeting women farmers' needs. Interesting that there is no anybody mention 1-3 categories (very low to moderate).

Table 3: Level of relevance (A score of 1-5 (1= very low relevance level | 5= very high relevance level).

Relevance Level	CARE Staff	DAFO/DONRE	PAFO/PONRE	Grand Total	
The project align itself to the Country's strategy and vision					
Very high relevance	2	2	1	5	56%
High relevance	1	2	1	4	44%
Very low relevance				0	-
The relevance level of the Project's overall goal to the needs of the MAF/MONRE/LWU					
Very high relevance	2	2	1	5	56%
High relevance	1	2	1	4	44%
Very low relevance				0	-
The Project has been able to support the role of the MAF/MONRE/LWU					
Very high relevance	2	1	1	4	44%
High relevance	1	3	1	5	56%
Very low relevance				0	-
The project been relevant and useful for you and your office requirement					
Very high relevance	2	1	1	4	44%
High relevance	1	3	1	5	56%
Very low relevance				0	-

The project been relevant and useful for community and farmer's requirement					
Very high relevance	2	1	1	4	44%
High relevance	1	3	1	5	56%
Very low relevance				0	-
The project been relevant and useful to women and meeting women farmers' needs					
Very high relevance	3	2	1	6	67%
High relevance		2	1	3	33%
Very low relevance				0	-

Figure 4: The weather information before starting season or not

The interview with farmer women and men (IDI), almost all (N= 215, 95%) of the respondents mention that they received the weather information before or on time starting the season.

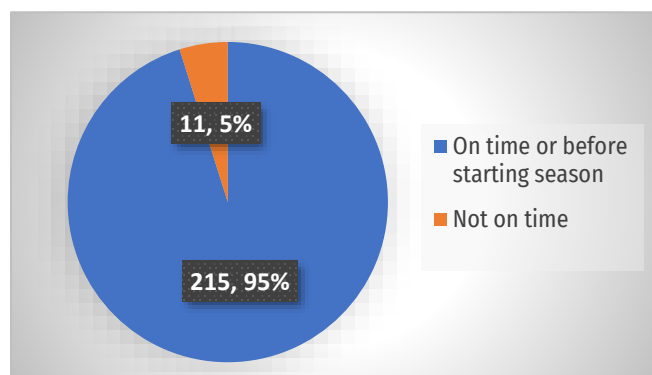
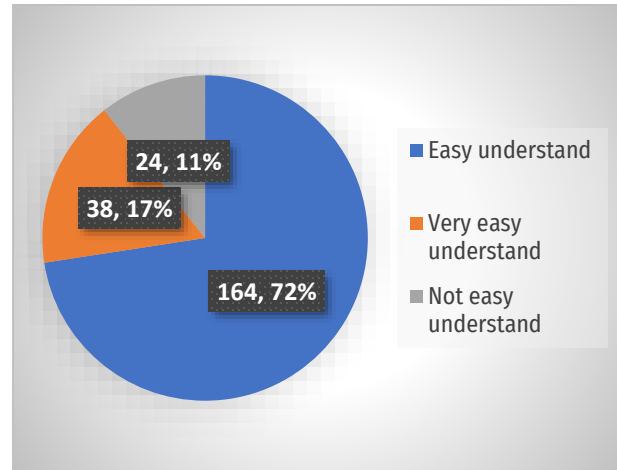


Table 6 below indicates the result of the IDI at the village level, the key findings identify the average level of relevance and usefulness, whereas 47% of respondents reported, that the weather and agriculture information provided by the project is likely “relevant” and 51% is “very relevant and useful” to them. As for the FGD with men and women member of the FLN, it is significant that they almost had shared the information of agriculture techniques with other farmers after training. Only a few (2%) women said that they were shy and did not have confidence to share the information with other people. On the responses “relevant and useful” versus “very relevant and useful” –it is good that it is somewhat relevant and useful, but there is still room for improvement to make it more relevant and useful, which many women may say the information is relevant and useful even if it is not very useful because they do not want to disappoint the interviewer.

Table 4: Level of relevance and useful on the weather and agriculture information

Level of relevance and usefulness of the weather and agriculture information	Not relevant and useful		Relevant and useful		Very relevant and useful	
	N	%	N	%	N	%
1. The weather information and bulletin relevance and useful to your farming	2	1%	101	45%	123	54%
2. Share weather information with other farmers	6	3%	104	46%	116	51%
3. Share weather information with the CBOs group	6	3%	103	46%	117	52%
4. The agricultural advice from other farmers is relevance and useful to you	4	2%	107	47%	115	51%
5. Share the agricultural advice with other farmers	6	3%	107	47%	113	50%
6. Share the agricultural advice with the CBOs group	7	3%	109	48%	110	49%
Average	2%		47%		51%	
	98%					

Figure 5: Bulletin (weather forecast, agriculture advisory)



Based on the interview with farmer women and men (IDI), the majority (N= 164, 72%) of respondents mentioned that the Bulletin (weather forecast, agriculture advisory) was easy to understand, while N=38, 17% said it was very easy to understand. However, there were some (N=24, 11%) of them who said it was not easy understand due to it is too technical word, it would be good if it uses public speaking or local word.

Table 7 below indicates the result of the IDI at the village level, the key findings identify the average level of accessible and easy, whereas design & presentation and the meaning or information in the bulletin (weather forecast, agriculture advisory) are majorities (71%) likely **“accessible and easy”**, while 23% **“very accessible and easy”** to the farmers at target villages. However, (6%) of respondents said it was not accessible and easy to them particularly women farmer due to all information provided in Lao language by the project. As they are belonging to ethnic communities, almost all of the women could not speak the Lao language, and therefore they needed someone to translate for them and thus they were facing difficulties to access and to understand. Many of those who said it was “accessible” actually still had challenges to access and understand the information (if not related to language, then still may be barriers related to content, how to use/understand the format and information, level of understanding for hearing the sound versus seeing the pictures, etc.)

For those who could not read Lao language, they asked someone or men to read Lao for them. The project staff in 2 districts and together with the DAFO, DONRE also reported that they had developed the MP3 voice clip in 5 different local ethnic languages (Lao, Khummu, Akha-Loma, Akha-Mouchi, Akha-Phouxang languages) and provided the MP3 voice clip composed of weekly and monthly weather forecast, monthly agriculture advisory and other useful information. The MP3 clip had spread out within the community due to public loud-speakers ensuring that ethnic women who did not understand and read Lao language could access to the information (DAFO, DONRE, CARE project staff) and Village authorities.

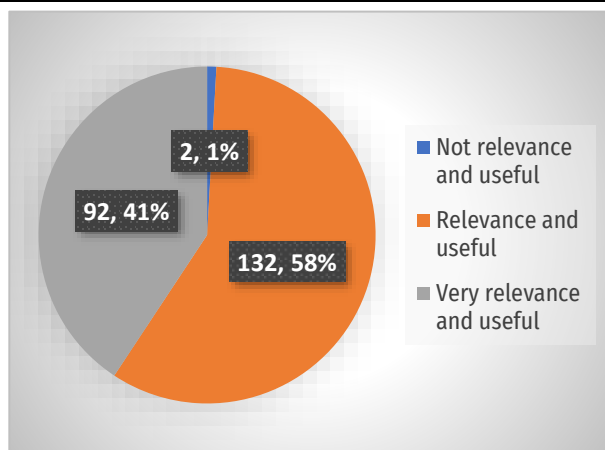
Table 5: Accessible and easy to the weather forecast, agriculture advisory

Accessible and easy to the weather forecast, agriculture advisory	Not accessible and easy		Accessible and easy		Very accessible and easy	
	N	%	N	%	N	%
The language used in the bulletin (weather forecast, agriculture advisory) make it accessible and easy for everyone to understand	24	11%	170	75%	32	14%

The design and presentation for the bulletin (weather forecast, agriculture advisory)	9	4%	156	69%	61	27%
Meaning or information is related to agriculture and useful	6	3%	154	68%	66	29%
Average	6%		71%		23%	
			94%			

Figure 6: Climate services are relevant to farm and crops

Figure 6 indicates that there were more than half of the respondents (58%) who reported that the climate services were relevant and 41% of them said it was very relevant and useful to their farm and crops.



4.3 Effectiveness

A Farmer Learning Network (FLN) were established in the first year of the project (2018), with 24 farmers from 12 villages (7 villages from Mai and 5 villages from Samphanh Districts). The members of the FLN had received the training and access to knowledge on climate change, climate smart agriculture techniques, leadership and facilitation skills, and had participated in the Participatory Scenario Planning (PSP) and exchange their experiences (e.g. results of yields, details of improved practices) through regular meetings as appropriate to the season. The effectively that they learned the training content on making bio-composting used for their crop to improve the soil quality and learned on making herbicides used as insecticides. The farmer stated that “the training is very useful for us for improving upland products and improving soil quality, this can produce from locally available materials and leftover from kitchen to make bio composting and use as ingredient of herbicides and they will bring the lesson learned and experience from the training to disseminate to other members from the FLN in their village”.

The members of the FLN had organized the FLN to engage the community and to transfer knowledge to farmers by farmer-to-farmer information exchange through village meeting, small group meeting and in-person talking, which emphasized women involvement at any activity occurring in the village, on job coaching women, and encourage and promote women into leadership positions and take senior roles within the FLN. Women members of the FLN had an important role to play in improving crop yields, which women is the main labour usage for any agriculture activities from the preparing stage (planning base information service, crop selection), implementation stage (improve land, planting and caring), harvesting stage (planning base information service).

The FLN had collaborated and worked together in the village, and between villages, whereas they had exchanged between farmer groups 1) on farmer group management and agriculture technical for climate change adaptation; 2) Exchange visits on lessons learned between farmer groups (with other projects

outside the CARE target village); 3) Exchange visit on vegetable products and selling; and 4) Exchange lessons learned on beekeeping group management and honey marketing.

The project team and together with government counterparts (DAFO, DONRE and LWU) from 2 districts conducted Participatory Scenario Planning (PSP) workshops for 12 target villages within the Mai and Samphanh districts. There were three PSP workshops organized including a: Pre-PSP, Mid-PSP and Post-PSP season. As a result of the workshop: 100% of participants stated that “they had gained more experience compared to the previous year”.86% of the participants understood each process of the PSP and 86% of the participants showed that they can facilitate the workshop with the FLN by themselves (annual report 2020).

The project team supported the FLN to conduct an annual reflection workshop in order to exchange lessons learned on agricultural production and climate information services. All 100% of the participants reported that the climate information from DMH is very important for upland agriculture, and about 70-85% of farmers in the target villages utilized climate information for upland farming planning. In 2021 the upland rice products in each village were increased more compared to normal year in the past and last year (annual report 2021). The upland rice and paddy rice products this year is increased comparing to last year (average the upland rice products FY2019 was 0.5 T/ha, FY2020 was 2.8 T/ha) (annual report 2020).

Table 8 below indicates the response of KII, which found that 56% of participants reported that Project’s key activities had contributed to the overall goal of the project with very high effectiveness, and 44% with high effectiveness; 44% said that the project has been operated with high effectiveness and 56% with very high effectiveness; The capacity building activities for the member of FLN is very high relevance (44%) and high relevance (56%); The training workshops delivered by the trained trainers is very satisfied (67%) and satisfied (33%); The project had addressed the specific needs of women is very high relevance (44%) and high relevance (56%). *(A score of 1-5 (1= very low relevance level | 5= very high relevance level).*

Table 6: Effectiveness Level

Effectiveness Level	CARE Staff	DAFO/DONRE	PAFO/PONRE	Grand Total	
Project’s key activities had contributed to the overall goal of the project					
Very high relevance	3	1	1	5	56%
High relevance		3	1	4	44%
Very low relevance				0	-
The project has been operating effectively					
Very high relevance	3	2		5	56%
High relevance		2	2	4	44%
Very low relevance				0	-
The project’s progress					
Very high relevance	3	2	1	6	67%
High relevance		2	1	3	33%
Very low relevance				0	-

The project's achievements					
Very high relevance	1	1	1	3	33%
High relevance	2	3	1	6	67%
Very low relevance				0	-
The capacity building activities for the MFLN					
Very high relevance	2	1	1	4	44%
High relevance	1	3	1	5	56%
Very low relevance				0	-
Satisfaction on the training workshops delivered by the trained trainers					
Very satisfied	2	2	2	6	67%
Satisfied	1	2		3	33%
Un-satisfied				0	-
Effectively has the project addressed the specific needs of women					
Very high relevance	2	1	1	4	44%
High relevance	1	3	1	5	56%
Very low relevance				0	-

In the past women never or dare to attend any events occur in their village (including village meeting, training from the project) and no power in their family and women were mostly lack of knowledge on the weather information and the agriculture technical. After project implemented in their village, the project provided the gender training and encourage women to involve in any project process and project activities, particularly engage into the member and leadership of FLN. Therefore, women had more chances to access the weather information and the agriculture advisory, then they set up the plan for planting and harvesting, selected suitable crops, had shared more decision-making amongst couples, and husbands also helped their wife with work (take care of children, collect water and firewood and domestic work). Women had more time to talk and share information with their neighborhood and they had more opportunities to attend and to share their ideas in the village meeting than in the past. (village authorities, men and women FLN)

Table 9 below shows out that 65% of respondent (IDI) satisfied their yield this year comparing to last year, while 31% of them reported moderate satisfaction and a few (4%) were dissatisfied. 69% of respondents said that they were satisfied with the agricultural advice from other farmers, while 29% of them said that they have a moderate level of satisfaction.

Table 7: Level satisfaction of Comparing yield this year and last year and the agricultural advice from other farmers

Level of Satisfaction	Dissatisfied		Moderate		Satisfied		Grand Total
	N	%	N	%	N	%	
Comparing yield this year to last year	9	4%	69	31%	148	65%	226
The agricultural advice from other farmers	5	2%	65	29%	156	69%	226

Based on all the FGD with Village authorities, men and women member of the FLN, all participants reported that the average of upland rice and paddy rice products this year were increased comparing to

last year (average the upland rice products FY2020 was 0.3-0.5 T/ha and FY2021 was 2.8-3 T/ha) due to good preparations during planting and harvesting, and no lost or damaged by climate change compare to the past. They also mentioned that they always received the agriculture advisory from the project team and the DAFO to support them technically. This led to the result that they could access to the agro-climate information service on time and the majority of them were satisfied with the weather forecast information receiving from DAFO, DONRE and the project staffs.

The women farmers also got the external support for their farming in quarterly. They received the weather information from Government extension workers (79%), and received the agricultural advice from NGO workers (61%).

4.4 Efficiency

CARE is the lead agency implementing the project together with DONRE, DAFO, and LWU. CARE is operating projects in Mai and Samphanh districts of Phongsaly province for more than 10 years. CARE has established productive working relationships with provincial and district government officials. The long-term presence in the province makes CARE acutely aware of conditions faced by farmers. This experience has facilitated the efficient project implementation in villages.

CARE provided technical training to government staff on agricultural production techniques and setting up farmer learning networks. The government staff from DONRE, DAFO, and LWU participated in trainings and joined project staff in the field, thereby increasing their capacity and quality of their work. Both CARE and government staff reported that they have a positive and constructive working relationship. The members of farmer learning networks received the training on climate change, climate smart agriculture techniques including training on inter-cropping in upland area, training on vegetable garden techniques in off-season, training on rainy-season vegetable planting techniques in greenhouse, leadership and facilitation skills, and they had participated in the Participatory Scenario Planning (PSP) and exchanged their experiences (e.g. results of yields, details of improved practices) through regular meetings as appropriate to the season.

The KII emphasized that the project had been operated highly (56%) and very efficiency (44%); The project's budget and resources had been efficiently allocated to implement activities aiming to produce intended outcome, highly (56%) and very efficiency (44%) . *(A score of 1-5 (1= very low relevance level | 5= very high relevance level).*

Table 8: Effectiveness Level

Effectiveness Level	CARE Staff	DAFO/DONRE	PAFO/PONRE	Grand Total	
The efficiency level of the project in relation to project's overall goal					
Very high relevance	1	2		3	33%
High relevance	2	2	2	6	67%
Very low relevance				0	-
The project has been operated efficiently					
Very high relevance	2	2		4	44%

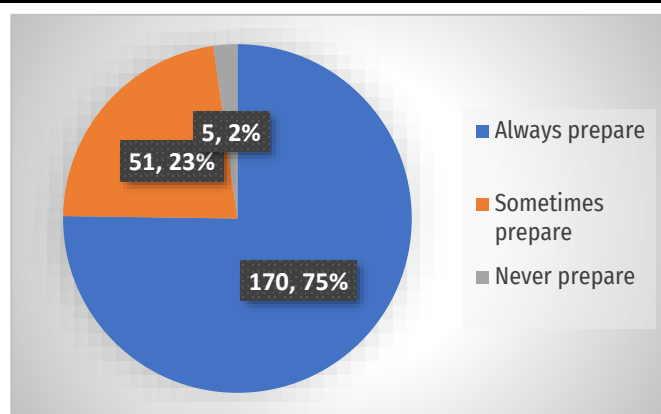
High relevance	1	2	2	5	56%
Very low relevance				0	-
The Project's budget and resources been efficiently allocated to implement activities to produce intended outcome					
Very high relevance		3	2	5	56%
High relevance	3	1		4	44%
Very low relevance				0	-

4.5 Achievement/Impact

R1. Encourage farmer representatives to organise themselves into learning networks for community engagement and knowledge exchange on climate smart agriculture.

Figure 7: DRR preparedness in the community after received storm notice letter from DMH

The figure 7 indicates the DRR preparedness within the community. After having received a storm notice letter from the DMH, 75% of the respondents said that they were always prepared, while 23% of them said that they were sometimes prepared due to they were ignore the noticed, did not follow the advice and they thought it might not serious impact to them.



The result of the FGD with village authorities and men and women members of the FLN, shows that "they received information on time, for instant the notice of the storm would be coming soon, they prepare for prevention such as they moved their livestock to the safe place, not harvest during that noticed period time of storm coming, therefore they were not any effected from storm". They were very happy that they could safe their livestock and production, as before the project, they all were affected and they had lost many things.

Table 11 below indicates the result of the IDI at the village level. The key findings identify that 89% of respondents had **"well knowledge"** in a) Establishing a FLN group and related group management, b) Organic vegetable planting techniques (in rainy season and off season), c) How to improve soil quality, d) Water management for vegetable planting in dry season, e) Market demand and survey type of vegetable that market need in each period, f) Inter-grated vegetable planting, g) Market demand and product quality required from market, and h) Marketing problem and other issue. This means it is a very good impact to the farmer as the result from the project. However, there were 6% of respondents who said that they had little knowledge and 5% of them didn't know as they were not members of FNL, not direct beneficiaries, and they had attended only a few project's activities.

Table 9: Level of knowledge improvement

Knowledge about each of the following topics	Don't know		Know a little		Know well		Grand Total
	N	%	N	%	N	%	
a. Establish FLN group and group management	5	2%	13	6%	208	92%	226
b. Organic vegetable planting technique (in rainy season and off season).	4	2%	23	10%	199	88%	226
c. How to improve soil quality	9	4%	13	6%	204	90%	226
d. Water management for vegetable planting in dry season.	9	4%	16	7%	201	89%	226
e. Market demand and survey type of vegetable that market need in each period.	12	5%	15	7%	199	88%	226
f. Inter-grated vegetable planting	7	3%	14	6%	205	91%	226
g. Market demand and product quality required from market	20	9%	8	4%	198	88%	226
h. Marketing problem and other issue	20	9%	9	4%	197	87%	226
Average	5%		6%		89%		226

ER2. Farming practices are improved through Participatory Scenario Planning (PSP) integrating weather forecast and Dynamic Crop Calendar (DCC)

Table 12 below indicates the result of the IDI at the village level. Key findings identify that 32,4% of respondents were satisfied at moderate level and 62.1% of them were satisfaction” level, which means that there is a good reflection from farmers at the target villages of the project. However, there were 5% of respondents who said that they were dissatisfied. However, the majority of women said that they were happy that the project team converted information from official language to local ethnic languages, as some women who reported “easy to understand” still had barriers such as Lao language and use of technical words. (FGD with women).

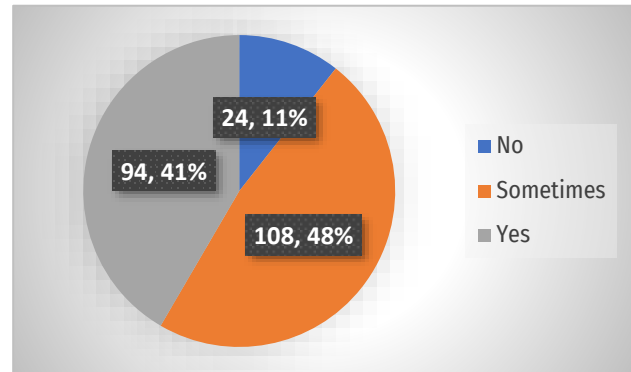
Table 10: weather forecast, agriculture advisory

Level of Satisfaction	Dissatisfied		Moderate		Satisfied		Grand Total
	N	%	N	%	N	%	
Bulletin (weather forecast, agriculture advisory)	10	4%	79	35%	137	61%	226
The language use for the bulletin (weather forecast, agriculture advisory) and how easy it is to understand	17	8%	77	34%	132	58%	226
The design and presentation for the bulletin (weather forecast, agriculture advisory)	15	7%	76	34%	135	60%	226
Meaning or information is related to agriculture and useful	11	5%	74	33%	141	62%	226
The weather forecast from DMH and agriculture advisory help me to planting on time	13	6%	67	30%	146	65%	226

The often of weather information you received	8	4%	70	31%	148	65%	226
The ease of applying the weather information to your farming activities	13	6%	70	31%	143	63%	226
Average	5.5%		32.4%		62.1%		226
			94.5%				

Figure 8: Opportunity to participate in the process of developing the weather forecasts

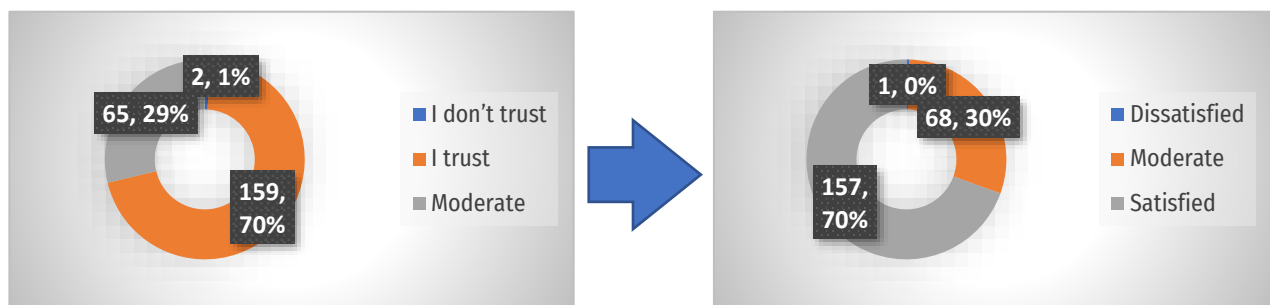
Figure 8 indicates that nearly half (N=108, 48%) had the opportunity to participate in the process of developing the weather forecasts, while 41% of respondents had sometimes this opportunity and only a few (N=24, 11%) had no opportunity to participate in the process of developing the weather forecasts.



The weather forecast was developed in quarterly at the district level, which the two representatives of FLN (1 female and 1 male) from each village participation together with district authorities, then the project team together with district authorities and two members of FLN transfer the information through the women meeting, FLN meeting, village meeting, at the bulletin village loud speaker. In term of participation, farmers would share their knowledge, feedback and comments during these meeting and in the feedback and comment box, and then the project team and district would be improved and send back to the village. Moreover, the project team also have conducted the weather forecasts evaluation in quarterly, based on the finding result therefore the project team would be able to improve and develop the weather forecast accordingly the farmers feedback and comment.

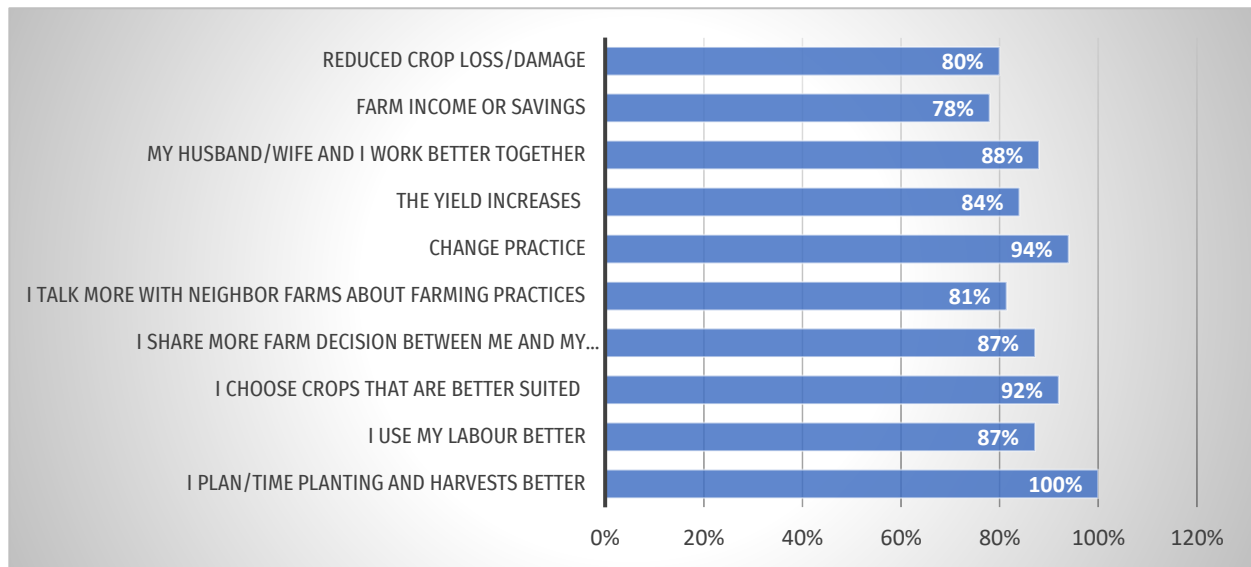
Figure 9 below indicates that the majority (70%) of respondents trusts and is satisfied with the climate service, while 30% of respondents are satisfied, and 29% trust at moderate level the climate service.

Figure 9: Trust & satisfied the climate services



ER3: Strengthened capacity of service providers to better understand and address needs for climate change adaptation

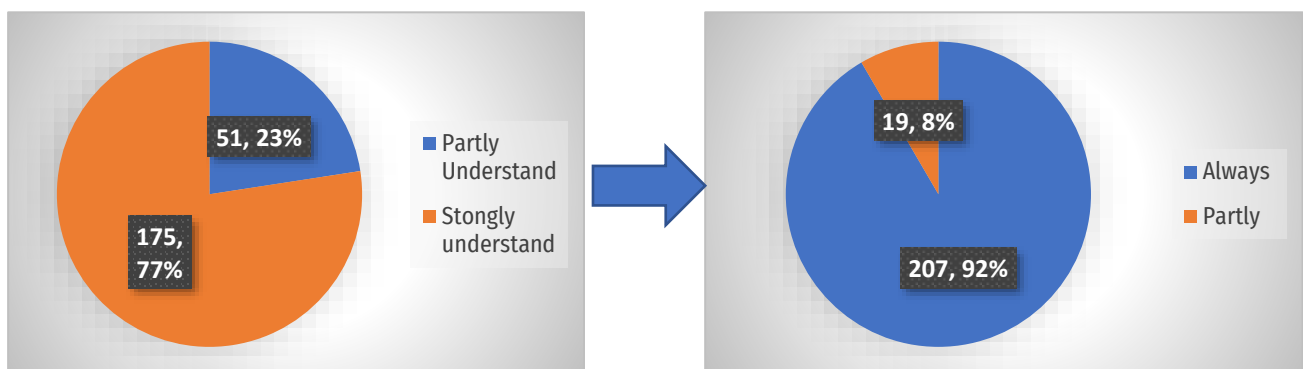
Figure 10: Adapted farming practices based on the agro-climate advisories



The figure 10 indicates that almost all of the respondents (IDI) had adapted their farming practices based on the agro-climate advisories, as followed in detail followed: 100% plan/time planting and harvests better, 87% used labour better and 81% talked more with neighbor farmers about farming practices. Almost all (94%) had changed their practices, choose the appropriate crop species/ varieties (92%), had income from farming or savings (78%), had increases the yield (84%), reduced crop loss/damage (80%), and reduced expenses (79%). Interesting is that almost all of the respondents (IDI) 87% shared more farming decisions between husband and wife, and husband/wife had worked better together (88%). Normally particularly at the ethnic community, only men as the leader of the family have influenced or powered for any decision making in the family. In the past, women had no power for any decision making in the family, they worked hard individually in the farm, domestic work and collect the NTPFs.

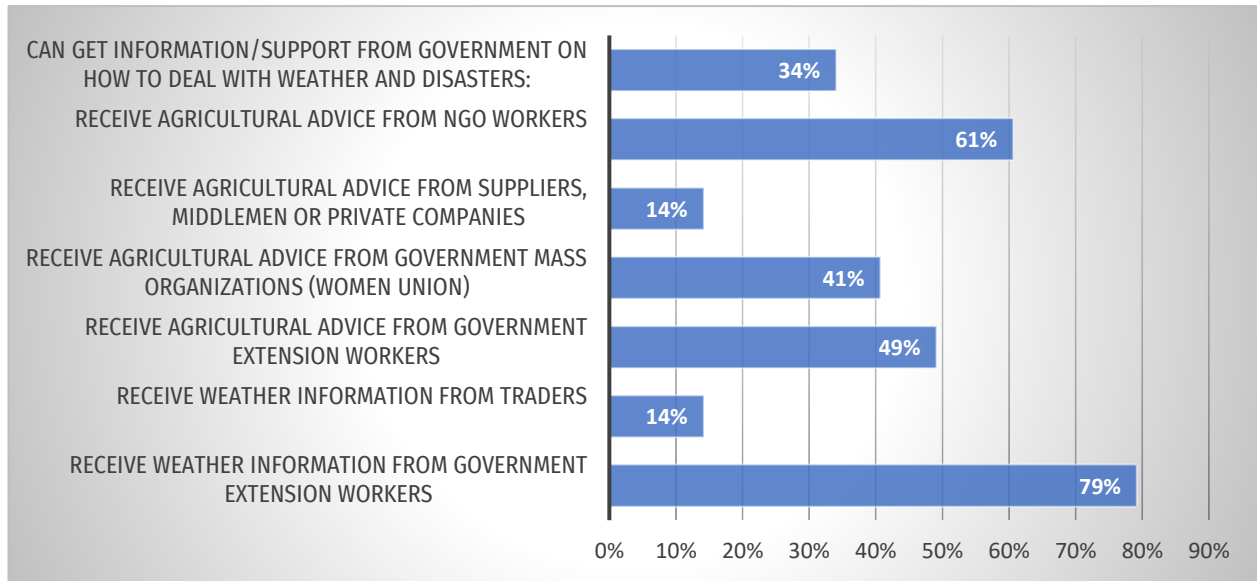
Figure 11 below indicates the level of understanding to the climate services and adapt to farming practices. Based on the result of the IDI at the village level, the majority of respondents (77%) have strong understanding and 23% have a partly understanding of the climate service from DONRE/project team. As per result, almost all of the respondents (92%) have changed and fully adapt the farming practices, while 8% of them had partly adapted the farming practices.

Figure 11: Level of understanding the climate services and adapt the farming practices



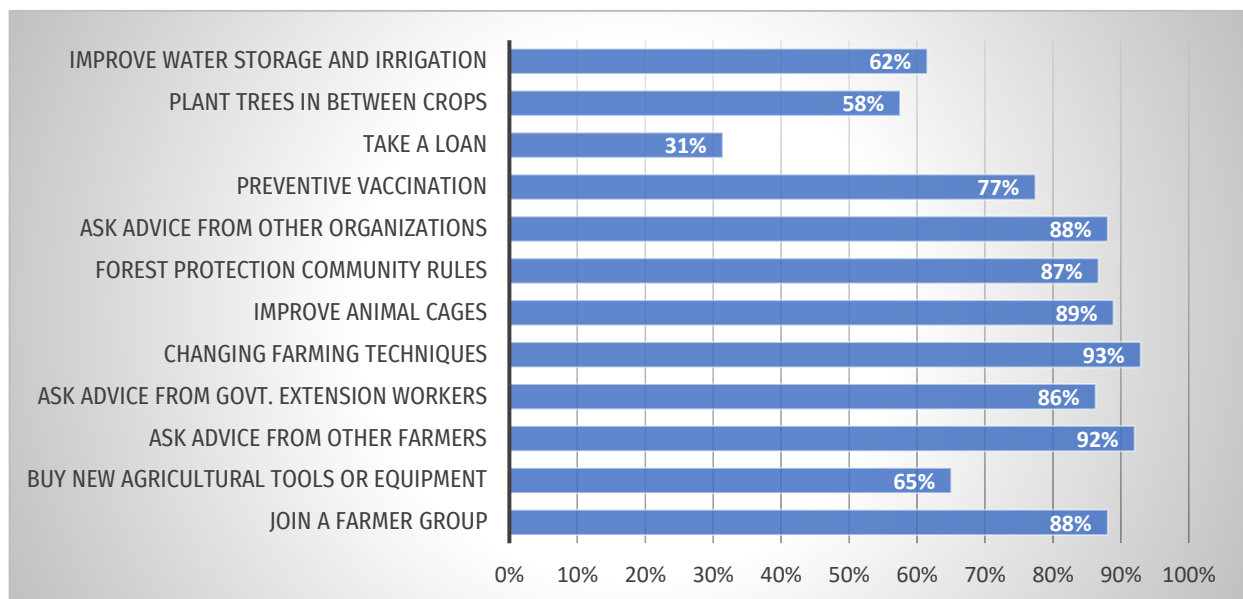
ER4 Enhanced women access to information and influence on farming decision making

Figure 12: The external support for farming



The women farmers had also gotten external support for their farming, whereas they received the weather information from Government extension workers (79%), received the agricultural advice from NGO workers (61%), received the agricultural advice from Government extension workers (49%), received agricultural advice from Government mass organizations (Women Union) (41%), got information/support from Government on how to deal with weather and disasters (34%), received the weather information from traders (14%), and received the agricultural advice from suppliers, middlemen or private companies (14%).

Figure 13: Using the climate adaptation to take an action



As per IDI result, it is impressive that the majority of respondents reported that they used the climate adaptation to take action for their farming. Almost all (93%) of them had changed farming techniques. 92% of them had asked for advice from other farmers, most of respondents (89%) also had improved their animal cages. 88% of them had joined a farmer group and asked advice from other organizations (88%). In addition, most of the respondents (87%) mentioned that they had set the rules of forest protection within their community, they had asked for advice from Government extension workers (86%), they had vaccination to prevent their livestock (77%), they had bought the new agricultural tools or equipment (65%), they had improved the water storage and irrigation for their farming (62%), they had planted the trees in between crops (58%) and some of them had taken a loan from saving (31%).

The result from the FGD with male members of the FLN in Phousangkao of Samphan district shows that, they “ got yields about 30-35 bags for upland rice field in 2019; in 2020 the yield was increase that we got 80-90 bags and the yields 2021 we got 100-120 bags for upland rice field.” The same as the FDG with village authorities at Ban Chomcheo-Kao of Mai district, reported that “we got only 42-50 bags 2019, in 2020 the yield was increased and we got 80-100 bags and we got 115 bags of paddy rice in 2021. This year the yield was increase more because of very good weather and plus of they had used the climate information and agriculture technical advisory to their firming”.

For livestock raising, fortunately this year there was not any disease outbreak and no animal died. This is because the farmers had followed the agricultural advisory and vaccination suggestions and they could sell some of their cattle (FDG with women member of FNL in Houyphouk village of Mai district.

Three CARE project staff and six government staff (PAFO, PONRE, DAFO and DONRE) completed an assessment questionnaire, which asked respondents to rate the project activities using the following criteria:

- *3 = Very successful – this activity has had a significant impact on improving farmers' lives*
- *2 = Moderately successful – this activity has had a medium impact on improving farmers' lives*
- *1 = A little successful – this activity has had a small impact on improving farmers' lives*
- *0 = Not successful – this activity has not improved farmers' lives*
- *NF = Not familiar – I am not familiar with the impact of this activity*

All participants PAFO, PONRE, DAFO and DONRE and three CARE project staffs reported that the project activities had been successful from the “Moderately successful” and “Very successful” level. The activity for Participatory Scenario Planning is the highest success scores of 100%, followed 89% of activity for Produce local seasonal weather forecasts in collaboration with the Department of Meteorology and Hydrology, (DMH) and PONRE, then 78% of the activity for Train Members of Farmer Learning Networks and enable access knowledge on climate change, climate smart agriculture techniques, leadership and facilitation skills, including Participation in Participatory Scenario Planning and exchange of experiences. More than half (56%) of the activity for Analyze gender profile in agro-climate information services and related farming practices and provide meaningful recommendations for required women empowerment. 33% of the activity such as 1) Linking Local Authority and local service providers through the networks to ensure demand driven technical support and co-learning opportunities; 2) Develop seasonal dynamic crop calendar with NAFRI, including advice on best agricultural practices; 3) Members of the FLN will share and discuss with their fellow farmers on the advisories and weather forecasts in their own villages through meetings and other communication tools (loudspeakers, bulletins, etc); and 4) Regular revision of advisories based on updated weather forecasts and dynamic crop calendar. 22% of the activity for

Annual reflective learning on the accuracy of the advisories and related communication mechanism (farmers provide feedback to concerned authorities including DONRE, DAFO, DMH and NAFRI).

Table 11: Successful level of the project activities

Result	No. of Act.	Activity	Rating score				
			NF	2	%	3	%
Result 1	Activity 1	Organize Farmer Learning Networks	-	5	56%	4	44%
	Activity 2	Train Members of Farmer Learning Networks and enable access knowledge on climate change, climate smart agriculture techniques, leadership and facilitation skills, including Participation in Participatory Scenario Planning and exchange of experiences	-	2	22%	7	78%
	Activity 3	Linking Local Authority and local service providers through the networks to ensure demand driven technical support and co-learning opportunities.	-	6	67%	3	33%
Result 2	Activity 1	Produce local seasonal weather forecasts in collaboration with the Department of Meteorology and Hydrology, (DMH) and PONRE	-	1	11%	8	89%
	Activity 2	Develop seasonal dynamic crop calendar with NAFRI, including advice on best agricultural practices.	-	6	67%	3	33%
	Activity 3	Conduct Participatory Scenario Planning	-			9	100%
	Activity 4	Members of the FLN will share and discuss with their fellow farmers on the advisories and weather forecasts in their own villages through meetings and other communication tools (loudspeakers, bulletins, etc).	-	6	67%	3	33%
	Activity 5	Regular revision of advisories based on updated weather forecasts and dynamic crop calendar	-	6	67%	3	33%
Result 3	Activity 1	Annual reflective learning on the accuracy of the advisories and related communication mechanism (farmers provide feedback to concerned authorities including DONRE, DAFO, DMH and NAFRI).	-	7	78%	2	22%
Result 4	Activity 1	Analyze gender profile in agro-climate information services and related farming practices and provide meaningful recommendations for required women empowerment.	-	4	44%	5	56%

4.6 Challenges

- Language may be a barrier for those who cannot read Lao language. However, the women farmers asked to someone or men who could read Lao for them. On the other hand, the project staff in two districts and together with DAFO, DONRE had developed the MP3 voice clip in five different local ethnic languages (Lao, Khummu, Akha-Loma, Akha-Mouchi, Akha-Phouxang languages) and provided the MP3 voice clip composed by weekly and monthly weather forecast, monthly agriculture advisory and other useful information. The MP3 clip had spread out on the community public loud-speakers ensuring that ethnic women who did not understand and read Lao language could access to the information. Good adaptation, but also there may be a challenge even if they can listen to it, but they can't see the pictures/graphs/calendars, so this may limit understanding.

If there are not people who understand the bulletins there to show the women and explain to them, then it still may be challenging to understand

- During the rainy season, some villages could not be accessed, so some farmers did not participate in some project's activities, such as: Houaycha and Phuenti in Mai district.
- Some farmers are still concerned about the COVID-19 outbreak, therefore they did not join the project implementing activities (especially women), as they thought that they were more vulnerable than men and they had children with them to take care, as well as elderly family members. Therefore, they came to the conclusion that they needed to protect themselves.
- Many people who received the training on maintenance and writing broadcasting news, had left the villages for the Bokeo province for job opportunities such as farming, restaurant service and entertainment venues. In this regard these villages had resulted in less effectiveness for the news broadcasting. Thereupon, the project had provided refresher training for new persons who replaced the ones who left.

4.7 Sustainability

- The DMH produces the seasonal weather forecasts and disseminated to PONRE/DONRE and NAFRI on a quarterly basis (in March, July, October and December). In addition, the DMH has developed a mobile application, where daily and weekly forecasts are publicly accessible.
- The FLN leader had coordinated directly with the District Office of natural Resources and Environment (DONRE) and the FLN members were trained on how to use and maintain the village loud-speakers for the dissemination of information and forecasts updates (on a weekly basis, or in case of early warning system for potential extreme weather events).
- FLN members had received the trainings and how to access knowledge on climate change, climate smart agriculture techniques, leadership and facilitation skills.
- The project had provided the on-vegetable garden techniques in Off-Season. After the training, farmer have acquired an understanding on cropping techniques, caring and preservation of crop seeds. And the training on rainy-season vegetable planting techniques in greenhouse. The farmers know the techniques for building greenhouses with local materials and guidance for practical construction. They also know how to select the type of vegetables suited to the season, know how to prepare the land and sow vegetable seeds. They know how to grow and take care of their planted vegetables.
- The project had provided to the FLN training on how to build the beehives and transmitted beekeeping technical skill. Thereafter, the FLN members were able to provide the beehives to direct beneficiary. After the training the farmers had the skills for beekeeping, so they planned to extend the beehives income season. They had collected some honey this year for families and shared the products among members of the FLN. Moreover, they expected to collect more honey which would be sold in the upcoming season.
- The farmers have adapted their farming practices based on the agro-climate advisories, which includes 1) better planning on planting and harvesting, 2) better use of labour for farming, and 3) better selected suitable crops.

- The farmers have shared more decision making amongst couple, and increasingly shared the information and discussion new practices within households and neighbor.

4.8 Key Lessons learned

- To establish the organization of the FLN in each village for community engagement and knowledge transfer through farmer-to-farmer information exchange. After project provided gender training, farmer understand and see the improamnt role of women inframing, therefore the FLN mainly focuses on women involvement and encourages women to take the leader and key roles within the FLN. The FLN also collaborated and worked together within the village, as well as between villages to exchange the farmer group management and agriculture technical for climate change adaptation.
- The FLN has an annual reflection workshop to exchange their practiceand to apply the agricultural production and climate information services.
- Members of the FLN had received the training and access to knowledge on climate change, climate smart agriculture techniques, leadership and facilitation skills, and participated in the Participatory Scenario Planning and exchanged their experiences (e.g. results of yields, details of improved practices) through regular meetings as appropriate to the season.
- In collaboration with the Department of Meteorology and Hydrology, (DMH) and PONRE, the project produced local seasonal weather forecasts prior to each season. DHM produced the monthly and seasonal weather forecasting bulletins. These were utilized for the PSP with local communities of two districts (Mai and Samphanh) before the season started. The local authorities from DONRE, DAFO and village communities had been trained on loud-speaker system management, and report writing.
- The Participatory Scenario Planning (PSP) are conducted in Pre-, Mid-, and Post season thus enabling communities to explore potential future changes, their associated impacts and develop locally relevant action plans, which are then turned into agriculture advisories that can be communicated to farmers. These include suggested crop types, advice on when to plant, and how to prepare for extreme weather.
- Members of the FLN shared and discussed with their fellow farmers on the advisories and weather forecasts in their own villages through meetings and other communication tools (village loud speakers and bulletins).
- The FLN has the capacity to regularly monitor and record data (log-book) on the actual weather, which includes actual daily rainfall, number of rainy days in the month, approximately start and end of the rainy season (monsoon) and any natural hazard (weather, pest, disease, etc.) in their village.
- The village loud-speaker activities are very useful for farmers particularly ethnic women who could not read and do not understand the Lao language. The audio recorded provides the weather forecasting information and also includes the information of agriculture technical in multi-local language. The project staff, DAFO, and DONRE developed the MP3 voice clip in different local ethnic languages.

- Annual reflective learning on the accuracy of the advisories and related communication mechanism (farmers provide feedback to concerned authorities including DONRE, DAFO, DMH and NAFRI)
- DAFO, DONRE, LWU and CARE staff had regular visits in each village in order to discuss with the FLN about the progress and challenges of seasonal farming practices (e.g. weeding, water management). However, the FLN has the opportunity to share the affection to their crops and livestock by disease and pest outbreak, which they need the support on how to resolve the problem.

V. RECOMMENDATIONS

- The project should be extended to next phase in order to build on the successes of ACIS2 to further advance CARE's support to rural ethnic women. The continuation of the project would take advantage of existing capacity within CARE and government counterparts. A next ACIS3 phase would allow for: 1) further monitoring of activities, 2) scaling up of successful interventions, and 3) extending into additional villages.
- Stakeholders, FLN and beneficiaries engagement needs to strengthen the enabling environment, also bringing women farmers to the heart of decision-making while empowering them to assume new responsibilities. There are still many women were not yet fully involved in the project's activities due to they had multi work, for e.g.: after worked on farm, domestic work, vegetable garden, take care children and elder in the family, which they had no time to attend the project's activities. Moreover, almost all women could not read and write the Lao language, so it is difficult to lead the FLN and attend the meeting with the project. Activities focusing on improving market access will guarantee that beneficiaries can take advantage of present and new market opportunities such as school foods , etc. Increased and diversified food production reduced post-harvest losses, climate proofing investments, and other risk mitigation measures will not be sustainable in the long-term without adequate market outlets.
- The project needs to increase technical capacity and income generating activities for women farmers, allowing them to continue the activities after project completion. In-kind labor contributions by local communities in soil and water conservation, farmer field schools, land restoration and post-harvest activities will support ownership. The private sector, either for provision of financial services or on farm incentives will support sustainability across the food value chain. Implementation of community tailored adaptation measures should be incorporated in risk reduction plans and aligned with government development plans and extension programs to ensure long-term sustainability and community's ownership.
- FLN and village committees need to be strengthened to ensure good management and regular maintenance of collective climate-proofing technologies. In addition, they will be tasked for monitoring the achievements during project implementation and ensuring continuity of interventions. After project end, the government will provide support to the facilities and structures established.

VI. CONCLUSION

CARE has been working with ethnic communities in the remote highlands of Phongsaly and is implementing projects for more than a decade in: poverty reduction; livelihood support; water and sanitation; mother and child health care; natural resource management; and women's empowerment. CARE's long-term commitment and extensive experience implementing development projects in Phongsaly is the primary reasons for the success of the project. The project has gained considerable momentum in promoting adaptation strategies to counter climate variability and promoting women's empowerment.

Project success is highly dependent on implementers' commitment, motivation, competences, and skills. The success of ACIS2 in creating sustainable improvements in farmers' lives can be accredited to the dedication and capacity of the project's managers and field staff. Through this experience, they have toned their skills enabling them to effectively institute positive change in villages.

Influencing change requires trust from community members. Farmers are very familiar with project staff and readily named the project staff coming to their village. Farmers consistently said that the project staff is regularly in their villages and often sleeps in their villages. Project staff have developed the trust of communities required to motivate farmers to engage in new activities. One woman in Ban Noy, Mai stated, *"I am so happy with the help I have received from the staff I could hug them."*

Project staff's commitment to community development work is evident in the time they spend in the field. They often work beyond office hours (during evenings, on weekends, and when farmers are available at night in villages). In addition to doing an excellent job working with and inspiring farmers, their endurance to live under difficult conditions in districts indicates their sincere concern for helping the poor. Often the commitment of NGO project staff is less than optimal in Laos. CARE is fortunate to have such dedicated and capable staff implementing their projects in Phongsaly. The project's success can be directly attributed to the commitment, motivation, competence, and skills of project management and field staff.

The farmer, almost all (95%) received the weather information before or on time before starting the season. 47% of respondents reported, that the weather and agriculture information provided by the project is likely "relevant" and 51% is "very relevant and useful" to them. level of accessible and easy, whereas design & presentation and the meaning or information in the bulletin (weather forecast, agriculture advisory) are majorities (71%) likely "accessible and easy", while 23% "very accessible and easy" to the farmers at target villages. However, (6%) of respondents said it was not accessible and easy to them particularly women farmer due to all information provided in Lao language by the project. As they are belonging to ethnic communities, almost all of the women could not speak the Lao language, and therefore they needed someone to translate for them and thus they were facing difficulties to access and to understand. Many of those who said it was "accessible" actually still had challenges to access and understand the information (if not related to language, then still may be barriers related to content, how to use/understand the format and information, level of understanding for hearing the sound versus seeing the pictures, etc.)

The project has been operated very high effectively and efficiency. The project's budget and resources had been efficiently allocated to implement activities to produce intended outcome. All participant satisfied the training workshops delivered by the trained trainers and the project had addressed the specific needs of women. In the past women never or dare to attend any events occur in their village (including village meeting, training from the project) and no power in their family and women were mostly lack of knowledge on the weather information and the agriculture technical. After project implemented in their village, the project provided the gender training and encourage women to involve in any project process and project activities, particularly engage into the member and leadership of FLN. Therefore, women had more chances to access the weather information and the agriculture advisory, then they set up the plan for planting and harvesting, selected suitable crops, had shared more decision-making amongst couples, and husbands also helped their wife with work (take care of children, collect water and firewood and domestic work). Women had more time to talk and share information with their neighborhood and they had more opportunities to attend and to share their ideas in the village meeting than in the past.

During the period of the project implementation (three years 2018-2021), the project had been achieved to provide the capacity building the key partners (DAFO, DONRE and LWU) through the several training and study tour, which included as 1) the training on Climate Vulnerability and Capacity Analysis; 2) training on rainfall data collection, temperature, summary of weather reports and rainfall, meteorological data generation; 3) training on data entry, taking photos and writing case study; 4) Training on Participatory Scenario Planning; 5) Training on data collection at end of the season; 6) Study tour and exchange the bee keeping activity; 7) Study tour and exchange the group management the Vegetable garden techniques; and 8) Study tour and exchange the group management the livestock, household model and Vegetable garden techniques.

The Organize Farmer Learning network (FLN) was established in the first year of the project (2018), which there were 24 farmers from 12 villages in Mai and Samphanh Districts. The member of FLN had received the training and access to knowledge on climate change, climate smart agriculture techniques, leadership and facilitation skills, and had participated in the Participatory Scenario Planning (PSP) and exchange their experiences (e.g. results of yields, details of improved practices) through regular meetings as appropriate to the season. Almost all 91% timing planting/harvests, 84% had increases the yield, 80% reduced crop loss/damage (IDI).

The DRR preparedness within the community. After having received a storm notice letter from the DMH, 75% of the respondents said that they were always prepared, while 23% of them said that they were sometimes prepared due to they were ignore the noticed, did not follow the advice and they thought it might not serious impact to them. 32,4% of respondents were satisfied at moderate level and 62.1% of them were satisfaction" level, which means that there is a good reflection from farmers at the target villages of the project. However, there were 5% of respondents who said that they were dissatisfied. However, the majority of women said that they were happy that the project team converted information from official language to local ethnic languages, as some women who reported "easy to understand" still had barriers such as Lao language and use of technical words. Nearly half (N=108, 48%) had the opportunity to participate in the process of developing the weather forecasts, while 41% of respondents had sometimes. Both women and men involved in the process of developing the weather forecasts and

any project implementation at the village level. Interesting that almost all of the respondents (IDI) 87% shared more farm decision between husband and wife, and husband/wife had worked better together (88%). They all support women and girls come involving any project's activities and any events occurred in their villages, which they did not against women and girls as before in the past.

In tern of level of understanding to the climate services and adapt to farming practices. Based on the result of the IDI at the village level, the majority of respondents (77%) have strong understanding and 23% have a partly understanding of the climate service from DONRE/project team. As per result, almost all of the respondents (92%) have changed and fully adapt the farming practices, while 8% of them had partly adapted the farming practices.

Stakeholders, FLN and beneficiaries engagement needs to strengthen the enabling environment. The project needs to increase technical capacity and income generating activities for women farmers, allowing them to continue the activities after project completion.

ANNEX 1: Summary table of project status

The project's overall objective contributes to SDG 13 by increasing climate resilience of women and ethnic minority farmers in northern Laos.

	Logic of intervention	Objectively verifiable indicators	Status	Assessment
Global objective(s)	Contributes to SDG 13 by increasing climate resilience of women and ethnic minority farmers in northern Laos			
Project objective (specific objective)	Women and ethnic minority farmers in Mai and Samphanh districts, (Phongsaly Province) are able to better anticipate and respond to risks and opportunities from climate variability through participatory and equitable agro-climatic planning	At least 75% of farmers in participating villages confirm reduced crop losses or increased productivity, derived from improved agro-climatic planning	<p>Annual report 2021:</p> <ul style="list-style-type: none"> - 98% of women and 96% of men the yield more increase productivity. <p>Final evaluation:</p> <ul style="list-style-type: none"> - 91% timing planting/harvests, 84% had increases the yield , 80% reduced crop loss/damage. 	Achieved
Result 1	Farmers' representatives from 12 villages are organized in Learning Networks for community engagement and knowledge exchange on climate smart agriculture planning	<p>1.1 At least two farmer learning networks are established and functional.</p> <p>1.2 75% of farmers, particularly women from participating villages receiving and understanding information on forecasts and advisories from members of FLN.</p>	<p>1.1 Establishment of FLNs were completed since the first year of the project (2018), 1 network in Mai and 1 network in Samphan (<i>Annual report 2021</i>).</p> <p>1.2 <i>Annual report 2021:</i></p> <ul style="list-style-type: none"> - 78% of women and 91% men received weather forecast information (member of FLN) and 67% of women and 77% of men received weather forecast information. <p>Final evaluation:</p> <ul style="list-style-type: none"> - 95% received the weather information before or on time starting the season. - 72%) mentioned the Bulletin (weather forecast, agriculture advisory) was easy 	Achieved

			understand and 17% said very easy to understand.	
Result 2	Farming practices are improved through participatory scenario planning integrating weather forecast and dynamic crop calendar	<ul style="list-style-type: none"> Most farmers in participating villages adopt climate smart agriculture techniques and practices based on information from the advisories (dynamic crop calendar, scenario planning and weather forecasts) (supporting indicators: composting, multiple cropping, inter-cropping, biological control). 	<p>Final evaluation: 100% plan/time planting and harvests better, 90% had chosen crops that were better suited, 87% used burr better, 81% talked more with neighbor farms about farming practices, 94% changed the practices, choose the appropriate crop species/ varieties (92%), timing planting/harvests (91%), shared decision making (80%), had income from farm or savings (78%), had increases the yield (84%), reduced crop loss/damage (80%), reduced expenses (79%), husband/wife had worked better together (88%) and had Learnt from neighbor (79%).</p>	Achieved
Result 3	Strengthened capacity of service providers to better understand and address needs for climate change adaptation of remote ethnic women and their communities	<ul style="list-style-type: none"> Service providers (from national to local levels) make information available in suitable formats for next level users (language, communication methods, etc.) Downscaled climate projections (seasonal and weekly) are available and explained for FLN. 	<p>Annual report 2021: Samphan, 75% of women and 93% of men, and Mai, 80% of women and 88 % of men felt very satisfied in understanding and usefulness of bulletin</p> <p>Final evaluation: 94% report, the language used, design & presentation and the meaning or information in the bulletin (weather forecast, agriculture advisory) were mostly likely “accessible and very accessible and easy” to the farmers at target villages.</p> <p>Annual report 2021: The Department of Meteorology and Hydrology has provided the weather information included monthly, quarterly and seasonal weather forecasting including bulletin.</p> <p>Final evaluation:</p>	Achieved

			The DRR preparedness in the community after received storm notice letter from DMH, 75% always prepared, while 23% sometimes prepared.	
Result 4	Enhanced access for women to information and greater women's influence on farming decision making	<ul style="list-style-type: none"> • Equal representation (50:50) of women and men in the farmer learning network. • Community information sharing uses appropriate messaging and means of communication for women and marginalized groups • At least 50% of women in target villages express satisfaction with access to information and influence on decision making 	<p>Annual report 2021: Equal representation since establishment: one man and one woman were selected per village as FLN members (total 24 people 12 women)</p> <p>Using loud speakers with five different ethnic languages and using more pictures and symbol on bulletin where every farmer can equally access to the information.</p> <p>Annual report 2021: Mai: 91% of Men and 90% of Women and Samphanh: 90% of men and 75% of women satisfaction with access to information and influence on decision making</p> <p>Final evaluation: 95% of respondents reported, they were satisfied on the weather forecast and agriculture advisory from "Moderate" level to "Satisfaction" level, which this means the good reflection from the farmer at target villages to the project.</p>	Achieved

ANNEX 2: Evaluation Tools



EVALUATION
TOOLS-E (Final).doc

ANNEX 3: ToR, Inception report



LAO8080 ToR -
Final Evaluation (cle



Inception Report
ACIS II.docx

ANNEX 4: CARE Global and Supplementary Indicators for measure change



CARE Approaches
and CARE global su