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別冊 “COMMUNE REDD+ ACTION PLAN IN THE PERIOD
2013-2020 IN MUONG PHANG COMMUNE”

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COMMUNE REDD+ ACTION PLAN
IN THE PERIOD 2013-2020
IN MUONG PHANG COMMUNE

Dien Bien, February 2014

Abbreviations

CPC	Commune People's Committee
C-RAP	Commune REDD+ Action Plan
DARD	Department of Agriculture and Rural Development
DONRE	Department of Natural Resources and Environment
FMP	Forest Management Plan
FPDP	Forest Protection and Development Plan
GHG	Greenhouse Gas
HH	Household
LDP	Livelihoods Development Plan
MARD	Ministry of Agriculture and Rural Development
MP	Muong Phang
MPSUFMB	Muong Phang Special-Use Forest Management Board
MRV	Measurement, Reporting, and Verification
NTFP	Non-Timber Forest Product
PFES	Payment for Environmental Services
PPC	Provincial People's Committee
PRAP	Provincial REDD+ Action Plan
REDD+	Reducing Emissions from Deforestation and Forest Degradation and Conservation of Forest Carbon Stocks, Sustainable Management of Forest, Enhancement of Forest Carbon Stocks
SG	Sub-Group
VFMR	Village Forest Management Rule
VMBFMLD	Village Management Board for Forest Management and Livelihoods Development
VND	Vietnamese dong

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Introduction

Keenly aware that “acting to address climate change is a life-or-death issue”, the Vietnamese Government promulgated Decision No. 799/QĐ-TTg on 27th June 2012, thus launching a national REDD+ Action Program. This program specifies that Vietnam will implement activities designed to (i) reduce deforestation and forest degradation, (ii) help achieve sustainable management of forest resources, (iii) enhance forest carbon stocks, and (iv) conserve biodiversity. All the above will also contribute to the national goals of poverty alleviation and sustainable development. Consistent with the aforementioned Decision, the Ministry of Agriculture and Rural Development (MARD) is authorized and mandated to select at least eight provinces with high potentials for reducing emissions from deforestation and/or forest degradation. The selected provinces shall be typical representatives of different ecological regions. These provinces shall participate in REDD+ pilot projects, in compliance with specific conditions of Vietnam and support from the international community. Activities to be piloted at the provincial levels are summarized below:

- Development of provincial REDD+ action programs;
- Integration of REDD+ with other provincial plans and master plans that focus on forest protection, development, and land use;
- Incorporate REDD+ with other projects/programs on emission reductions in agriculture and other related sectors;
- Develop a pilot system of REDD+ management, coordination and operational mechanisms at the provincial level;
- Enhance awareness and technical capacity on REDD+ for relevant officers at the provincial, district and commune levels, while also creating similar awareness among forest owners and the populations of local communities;
- Identify and implement appropriate measures for reducing GHG emissions from deforestation and forest degradation, stabilizing and enhancing the forest carbon stock;
- Study the potential participatory roles in REDD+ implementation of enterprises, organizations, individuals and local communities.
- Propose and pilot a provincial forest monitoring system that includes participatory inventory, monitoring, and review of forest change along with mechanisms for financial management and benefit sharing of outcomes from REDD+ implementation;
- Develop databases and information systems for REDD+ implementation;

Pursuant to the respective Provincial REDD+ Action Plan, a commune REDD+ action plan (hereafter, C-RAP) will be prepared in each commune. In this connection, the Muong Phang commune of Dien Bien district has been chosen as one of the two areas for implementing pilot REDD+ activities. The other is Muong Muong commune of Muong Cha district.

C-RAP will show the forest management objectives to be attained: i.e. afforestation objectives, regeneration objectives, and forest protection objectives. The C-RAP will also identify livelihoods improvement objectives and plans.

Furthermore, the C-RAP will quantify the resources (land, manpower, knowledge and supports) needed to implement the plans, identify ways to efficiently use these resources in order to reduce green-house gas emissions, and increase carbon stock in the forests of Muong Phang commune during the period from 2013-2020. C-RAP shall consist of 6 parts:

- Legal basis and materials used for preparing the C-RAP
- Natural and socio-economic conditions of Muong Phang commune
- The main part of the C-RAP
- Implementation arrangements
- Implementation cost and funding sources

- Monitoring and evaluation of C-RAP implementation

I. Legal basis and documents used for preparing the C-RAP

1. Legal basis

- Law on Land, dated November 26th, 2003;
- Law on Forest Protection and Development, dated December 03rd, 2004;
- Law on Environment Protection, dated November 29th, 2005;
- Decree No. 23/2006/ND-CP of the Government, dated 3rd March 2006 on implementation of the Law on Forest Protection and Development;
- Decision No. 186/2006/QD-TTg of the Prime Minister, dated 14th August 2006, on promulgation of Forest Management Regulations;
- Decision 799/QD-TTg of the Prime Minister dated June 27th, 2012 approving the National Action Program on “Reducing Emissions from Deforestation and Forest Degradation, Sustainable Forest Management, Conservation and Enhancement of Forest Carbon” in period of 2011 – 2020;
- Decree No. 99/2010/ND-CP of the Government, dated September 24th, 2010, on the Policy of Payment for Forest Environmental Services;
- Decision No. 2284/2010/QD-TTg, dated December 13th, 2010 on implementation of Decree No. 99/2010/ND-CP of the Government, dated September 24th, 2010 on the Policy of Payment for Forest Environmental Services;
- Decision 1764/QD-BNN-HTQT of the Ministry of Agriculture and Rural Development dated July 26th, 2012 approve the Technical Cooperation Project to Pilot REDD+ in Dien Bien;
- Decision No. 1174/QD-UBND of Dien Bien PPC dated December 14th, 2012, approving the Forest Protection and Development Plan for Dien Bien district in the period of 2012 – 2020;
- Circular 05/2008/TT-BNN of the Ministry of Agriculture and Rural Development dated January 14th, 2008 providing guidance on how to make master plans on forest protection and development;
- Decision No. 147/2007/QD-TTg of the Prime Minister dated September 10th, 2007 on several policies regarding the development of production forest in the period of 2007 – 2015;
- Decision No. 66/2011/QD-TTg of the Prime Minister dated December 09th, 2011 supplementing and modifying several articles of the Prime Minister’s Decision No. 147/2007/QD-TTg (noted above) dated September 10th, 2007 on several policies on the development of production forest in the period of 2007 – 2015;
- Decision No. 106/2006/QD-BNN of the Ministry of Agriculture and Rural Development dated November 27th, 2006 promulgating guidance on the management of village community forests;
- Decision No. 161/QD-UBND of Dien Bien PPC dated March 09, 2013 on approval of the Project on planning of New Rural Development for Muong Phang Commune in the period of 2011 – 2020;

2. Used documents

- Resolution of 12th Congress of Dien Bien Provincial Communist Party of Tenure 2010-2015;
- Plan 388/KH-UBND of the Dien Bien Provincial People’s Committee dated February 20, 2013 on reviewing and completing of procedures on land allocation, forest allocation and granting certificates on forestland use rights in the period of 2013 – 2015 in Dien Bien province;

- Explanation report on Forest Protection and Development Plan of Dien Bien province in the period of 2009 and 2020, which was approved by Decision No. 2117/QĐ-UBND of Dien Bien PPC dated December 02nd, 2009;
- Report on Project of Planning for New Rural Development of Muong Phang commune of Dien Bien district in the period of 2011 – 2020;
- Report on Results of Socio-Economic survey in Muong Phang commune, implemented by the Dien Bien REDD+ Pilot Project in May, 2013;
- Planning on Conservation of Bio-Diversity of Dien Bien province toward 2020, orienting to 2030;

II. Natural and socio-economic conditions of Muong Phang commune

1. Natural conditions of Muong Phang commune

Muong Phang commune is located in the east-southeast area of Dien Bien district. It is bordered on the North by Na Nhan and Na Tau communes (Dien Bien district), on the South by Pu Nhi commune (Dien Bien Dong district), on the East by Ang Nua and Ang Cang communes (Muong Ang district), and on the West by Pa Khoang commune (Dien Bien district)..

Muong Phang commune's total area is approximately 3,456 ha characterized by three (3) different topographic features. The Eastern part of Muong Phang commune comprising about one-third of its natural area, is located on the slopes of Pu Huot mountain with elevation ranging from 880m to 1,653m and terrain gradients ranging from 30% – 35%. The Western part of the commune, also occupying about one-third of its natural area, has rolling terrain consisting of hills with average elevation ranging from 880m to 900m and average slopes ranging from 20% - 25%. The remaining or middle part of Muong Phang commune is a flat plain with conditions suitable for irrigated rice cultivation.

Muong Phang commune experiences a tropical monsoon climate with two distinct seasons - rainy and hot from April to October, and cool dry weather from November to March. In terms of hydrological features, Muong Phang commune contains the watershed of Pa Khoang lake. This lake plays a key role in retaining and supplying water for Muong Thanh paddy fields downstream, as well as four (4) small-sized hydropower plants. Additionally, part of Muong Phang comprises the watershed of Long Luong Dam which supplies water for two rice-growing areas downstream: 100 ha of irrigated paddy fields that harvest two times annually, and 150 ha of irrigated paddy fields that enjoy one harvest each year.

2. Socio-economic conditions

2.1. Demographic characteristics

The residents in Muong Phang commune belong to 3 ethnic groups, namely H'mong, Kinh and Thai. The largest group is the Thai people with 75.22% of the population. Second in number are the H'Mong people with 22.56%. The smallest group is the Kinh people with only 2.22% of the total population.

Table 2.1 Population by ethnicity and village

No	Village	Hmong		Kinh		Thai		Total	
		# of HH	# of inhabitants	# of HH	# of inhabitants	# of HH	# of inhabitants	# of HH	# of inhabitants
1	Banh					54	245	54	245
2	Bua					60	222	60	222
3	Cang 1					46	186	46	186
4	Cang 2					28	124	28	124
5	Cang 3					40	184	40	184
6	Cang 4					24	89	24	89
7	Che Can					63	328	63	295
8	Co Diu					20	83	20	83
9	Co Kho					29	101	29	101
10	Co Luong					34	140	34	140
11	Co Man 1					46	212	46	212
12	Co Man 2					26	92	26	92
13	Khau Cam					30	143	30	143
14	Long Hay	57	334					57	334
15	Long Luong 1	46	302					46	302
16	Long Luong 2	30	184					30	184
17	Long Nghiu	34	217					34	217
18	Phang 1					49	207	49	207
19	Phang 2					43	203	43	203
20	Phang 3			1	4	33	144	34	148
21	Trung Tam			27	89			27	89
22	Yen 1					40	170	40	170
23	Yen 2					50	183	50	183
24	Yen 3					18	80	18	80
25	Kha					37	162	37	162
26	Tan Binh			2	9	30	159	32	168
	Total	167	1,037	30	102	800	3,457	997	4,563

(Source: Report on results of socio-economic survey in Muong Phang commune, May 2013, Dien Bien REDD+ Pilot Project)

Survey data collected in April 2013 shows that working age people comprise 57% of the total population. Most of the working population is engaged in the agriculture and forestry sectors. Very few working age residents have received technical skills training. Consequently, they are expected to face huge challenges in understanding and applying technological skills relevant to production in the participatory implementation of livelihoods development initiatives.

2.2. Economic status

Table 2.2 Household economic conditions in Muong Phang

No	Village	Total of Households of village	Better-off		Average		Near-poor		Poor	
			# of Households	Rate (%)	# of Households	Rate (%)	# of Households	Rate (%)	# of Households	Rate (%)
1	Banh	54	5	9.26	48	88.89	0	0	1	1.85
2	Bua	60	5	8.3	49	81.7	0	0	6	10
3	Cang 1	46	0	0	23	50	6	13.04	17	36.96
4	Cang 2	28	0	0	7	25	5	17.86	16	57.14
5	Cang 3	40	0	0	14	35	15	37.5	11	27.5
6	Cang 4	24	0	0	7	29.2	4	16.7	13	54.1
7	Che Can	63	0	0	41	65.07	15	23.8	7	11.11
8	Co Diu	20	0	0	12	60	0	0	8	40
9	Co Kho	29	0	0	10	34.48	5	17.24	14	48.27
10	Co Luong	34	1	2.94	20	58.82	0	0	13	38.24
11	Co Man 1	46	0	0	40	86.95	0	0	6	13.04
12	Co Man 2	26	6	23.07	14	53.84	0	0	6	23.07
13	Khau Cam	30	3	10	17	56.7	0	0	10	33.3
14	Long Hay	57	5	8.8	33	57.9	6	10.5	13	22.8
15	Long Luong 1	46	2	4.35	29	63	2	4.35	13	28.3
16	Long Luong 2	30	4	13.3	15	50	0	0	11	36.7
17	Long Nghiu	34	0	0	21	61.8	0	0	13	38.2
18	Phang 1	49	7	14.3	33	67.3	0	0	9	18.4
19	Phang 2	43	3	7	20	46.5	9	20.9	11	25.6
20	Phang 3	34	2	5.9	17	50	8	23.5	7	20.6
21	Trung tam	27	0	0	23	85.2	1	3.7	3	11.1
22	Yen 1	40	0	0	16	40	10	25	14	35
23	Yen 2	50	0	0	22	44	8	16	20	40
24	Yen 3	18	0	0	6	33.3	5	27.8	7	38.9
25	Kha	37	4	10.8	21	56.8	0	0	12	32.4
26	Tan Binh	32	3	9.4	12	37.5	5	15.6	12	37.5
Totals and ratio		997	50	5.0	570	57.2	104	10.4	273	27.4

(Source: Report on results of socio-economic survey in Muong Phang commune, May 2013)

In general, the living conditions of most households in the commune can be described as “poor”. Around 57.2% earn what could be considered a “moderate” income. About 27.4% of the households are considered poor and 10.4% near-poor. Only around 5% are classified as better-off.

Infrastructure facilities serving the people of Muong Phang commune provide some (but not all) of their basic living requirements. All villages are accessible by paved roads. This makes it feasible for villagers to communicate and exchange goods regularly with other areas. Most households have electricity provided by the national distribution system, and water for daily consumption provided by public water supply systems. However, 20 households of Co Diu

village do not have access to electricity. Furthermore, 132 households of 4 villages (Co Luong, Co Man, Phang 3 and Yen 3) are not served by the public water supply systems.

2.3 Production activities

2.3.1 Cultivation

Farming is the main production activity in the commune. The principal species grown are food crops such as rice, maize, cassava, sweet potato, and edible canna. The total area of paddy fields is 154.6 ha that produce two harvests per year. The average per-capita paddy field area is 339 m². This is deemed high when compared with other communes in Dien Bien province. In 2012, the total harvested volume of rice reached 1,043 tons with an average yield of 5.4 tons /ha/year. This yield is less than the provincial average level, thus indicating room for improving the yields of paddy rice cultivation. Only about 12.9% of the harvested rice is sold for cash income. The remainder is used for household food consumption. On average, each household harvests 1,049 kg of unprocessed rice and average annual per capita harvest is 299 kg.

Statistics for 2013 show that cassava is grown on 154 ha located on the slopes of Pu Huot Mountain and on rolling hills. Both of these areas are officially classified as forestland. On the average, each household maintains about 1,513 m² for cassava cultivation.

Table 2.3 Land use status by village

#	Village	Village land by type of land use (ha)								Farmland per capita (m ²)		
		Paddy rice	Hilly rice	Cassava	Edible canna	Corn	Home garden	Fallow land	Total village land	Paddy rice	Cassava	Edible canna
1	Banh	9.18	0	3.24	3.24	0	8.1	0	23.8	375	132	132
2	Bua	7.2	0	7.8	3	0	1.2	0	19.2	324	351	135
3	Cang 1	5.52	0	1.38	1.38	0	2.3	1.84	12.4	297	74	74
4	Cang 2	2.52	0	5.32	1.12	0	1.4	1.96	12.3	203	429	90
5	Cang 3	5.2	0	5.2	3.2	0	2	0.8	16.4	283	283	174
6	Cang 4	2.88	0	3.12	1.92	0	0.72	4.8	13.4	324	351	216
7	Che Can	11.97	0	10.08	20.16	0	2.52	1.89	46.6	406	342	683
8	Co Diu	1.4	0	3.5	2.7	1	0.2	2	10.8	169	422	325
9	Co Kho	2.9	0	2.9	1.74	0	0.29	0	7.8	287	287	172
10	Co Luong	6.12	0	8.5	1.02	1.02	1.7	3.4	21.8	437	607	73
11	Co Man 1	11.04	0	9.66	4.6	0	0.46	0	25.8	521	456	217
12	Co Man 2	4.16	0	10.92	4.94	0	0.52	1.04	21.6	452	1187	537
13	Khau Cam	2.4	0	6	4.8	0	2.4	4.5	20.1	168	420	336
14	Long Hay	11.4	0	5.7	2.85	0	0.285	2.85	23.1	341	171	85
15	Long Luong 1	8.28	0	5.98	1.84	0	0.23	5.98	22.3	274	198	61
16	Long Luong 2	4.8	0	9	3	0	1.5	2.1	20.4	261	489	163
17	Long Nghiu	4.08	0	5.1	1.02	0	0.204	3.06	13.5	188	235	47
18	Phang 1	7.35	0	4.9	2.45	0	0.98	4.9	20.6	355	237	118
19	Phang 2	15.05	0	6.45	3.44	0	0.86	1.29	27.1	741	318	169
20	Phang 3	8.16	0	5.1	1.7	1.02	0.68	1.02	17.7	551	345	115
21	Trung Tam	0	0	0	0	0	0.54	0	0.5	0	0	0
22	Yen 1	6	0	9	5	0	0.8	2	22.8	353	529	294
23	Yen 2	7.5	0	10	10	4	3.5	5	40.0	410	546	546
24	Yen 3	3.06	0	1.44	0.99	0	0.36	0.54	6.4	383	180	124
25	Kha	4.07	0	7.4	7.4	0	3.7	7.4	30.0	251	457	457
26	Tan Binh	2.56	0	6.4	4.8	0	1.6	0.96	16.3	152	381	286
Totals & averages for 26 villages		154.8	0	154.1	98.3	7.04	39.0	59.3	512.6	425	330	211

(Source: Report on results of socio-economic survey in Muong Phang commune, May 2013, Dien Bien REDD+ Pilot Project)

In 2012, the total volume of harvested raw cassava was 3,676 tons with an average annual yield of 24.4 ton /ha. Edible canna (*Canna edulis*) is a new crop introduced on sloping cultivation areas of the villages several years ago. This plant requires rich soil conditions. In 2012, the total area of edible canna farmland was 96.5 ha from which 3,245 tons output were harvested.

There are diverse models currently being used on forestlands for the cultivation of cassava and edible canna. These models vary based on natural conditions, food demand and practices applied to implement the existing regulations on forest protection and forest development in each village. Three common models found by the survey are illustrated below.

Model 1: Constant cassava cultivation

Cassava cultivation	Fallow period	Cassava cultivation	Fallow period
3-4 crops	1 year	3-4 crops	1 year	

Model 2:

Edible canna	Cassava cultivation	Fallow period	Edible canna
2-3 crop	2-3 crops	2-3 years	2-3 crops

Model 3:

Edible canna	Cassava cultivation	Edible canna	Cassava cultivation
2 crops	4-5 crops	2 crops	4-5 crops

In addition to the 3 above- mentioned main food crops, a number of households also cultivate maize as a supplementary crop on the foothills. In 2012, the total area under maize cultivation was 7.14 ha, producing an output of 27 tons corn. Most of the harvested corn is used by the households for feeding pigs and poultry.

2.3.2 Animal husbandry

Animal husbandry is another livelihood activity being practiced in the commune, but with considerable variation in terms of quantity, quality and species structure. Due to limited knowledge and funds, the caring and rearing of animals is only limited to household-scale production. In general, villagers do not pay much attention to prevention of diseases, building suitable facilities, or preparing and storing enough food for livestock and poultry during the winter season. As a result, diseases spread and many of the animals die. At present, animal husbandry is only practiced to help meet the daily needs of households and still does not contribute significantly to villager`s income. In several villages, free range grazing is widespread. This practice has negative impacts on forest protection and development due to damage caused by cattle foraging in the plantations.

Table 2.4 Current status of animal raising activities in Muong Phang Commune

No	Village	Cow		Buffalo		Pig		Goat		Chicken		Duck		Fish	
		HH #	# of head	HH #	# of head	HH #	# of head	HH #	# of head	HH #	# of head	HH #	# of head	HH #	# of head
1	Banh	4	60	54	44	54	300	0	0	54	350	54	100	14	0.7
2	Bua	14	21	45	75	60	258	0	0	60	598	0	0	53	5
3	Cang 1	0	0	16	37	46	100	0	0	46	600	20	180	35	3
4	Cang 2	0	0	6	16	20	80	0	0	28	120	10	50	15	2.2
5	Cang 3	0	0	12	34	32	200	0	0	40	400	15	80	14	1.4
6	Cang 4	0	0	7	11	24	30	0	0	24	180	0	0	7	2
7	Che Can	6	30	20	40	63	130	0	0	63	1300	63	650	50	2
8	Co Diu	1	6	14	47	20	85	1	20	20	500	20	100	19	1
9	Co Kho	2	4	3	6	19	50	0	0	22	120	12	150	12	8
10	Co Luong	0	0	25	41	34	400	0	0	34	600	20	100	34	1.5
11	Co Man 1	0	0	22	35	44	230	3	22	46	275	46	250	25	3
12	Co Man 2	0	0	6	8	26	52	0	0	26	140	7	50	22	0.8
13	Khau Cam	3	3	22	68	28	130	0	0	30	2000	10	100	25	2.5
14	Long Hay	5	14	28	79	40	143	1	4	57	116	13	80	24	4
15	Long Luong 1	4	15	8	17	46	80	1	8	46	300	3	35	10	2.7
16	Long Luong 2	5	13	6	17	30	63	0	0	30	450	10	150	26	2
17	Long Nghiu	5	40	5	26	20	90	5	40	34	200	4	30	8	1
18	Phang 1	2	10	23	41	49	159	0	0	46	210	11	61	15	1.6
19	Phang 2	0	0	30	35	43	67	0	0	43	327	0	0	40	2.5
20	Phang 3	1	22	7	19	30	190	1	12	34	300	10	50	10	1
21	Trung Tam	0	0	0	0	5	54	0	0	27	330	1	0	2	0.5
22	Yen 1	0		15	27	28	150	0		10	90	12	80	20	1.5
23	Yen 2	0	0	18	40	50	100	1	10	50	1103	44	397	40	0.6
24	Yen 3	4	4	11	19	16	36	0	0	18	50	0	0	15	1
25	Kha	8	50	24	43	37	250	0	0	37	670	20	130	32	2.5
26	Tan Binh	5	23	17	48	30	54	1	26	32	810	18	200	23	1
Sum		69	315	444	873	894	3481	14	142	957	12139	423	3023	590	52

(Source: Report on results of socio-economic survey in Muong Phang commune, May 2013)

2.3.3 Aquaculture production

Fish farming provides important amounts of household income. Fish produced by the people of Muong Phang commune is well-known and favored by consumers. The normally-raised species are grass carp, common carp and major carp. One rearing cycle usually takes from 2 to 3 years applying extensive cultivation methods. In other words, the people only feed the fish very small volumes of rice bran and grass.

2.3.4 Forestry activities

a) Afforestation

Afforestation activities have only been implemented on a very small scale and with only modest results. Data published in the Dien Bien FPDP 2012 – 2020 records a total afforested land area of only 31.8 ha. This is the output achieved from planting 42.33 ha of protection forest starting 2009, using state budget funds provided through the Dien Bien district PFMB.

Fifty-one (51) households participated in the plantation activities. They received benefits in terms of cash payments for planting and 3 years of tending.

b) Regeneration

To date, only one household in Muong Phang commune has carried out regeneration activities under contract with Dien Bien district PFMB. Total area regenerated area is reported to be 100.4 ha.

c) Forest protection

Villagers have been engaged to conduct protection activities in the natural forest since 2008. Seventeen (17) households signed contracts with Dien Bien district PFMB to protect 1,561.3 ha of natural forest. The results are generally not satisfactory, and output was much less than expected. Based on the statistical data presently available, the total forested area currently existing in Muong Phang commune is only 731 ha. This means that around half of contracted area has been deforested.

d) Collection of Non-timber Forest Products (hereafter, NTFPs)

The principal NTFPs collected from Muong Phang forests are fuel wood, amliso flowers, bamboo shoots, fruits, round timber and other minor products, such as honey, bamboo stems, orchids and vegetables. Muong Phang is easily accessible via good roads. It is located near Dien Bien Phu City and close to historical tourism sites as well as Pa Khoang Lake. These comprise favorable conditions for villagers to collect NTFPs such as medicine, bamboo shoots, honey, etc., not only for daily use but for sale to the tourists. This is one of the potential solutions under consideration for increasing villager's income. At the same time however, this poses the risk that over-harvesting of NTFPs might occur, with resulting negative impacts on sustainability.

3. Forest protection and development issues and their causes

The 2012-2020 plan for the Project of New Rural Development in Muong Phang commune notes that “forested area is being decreased, forest quality is degraded, and annual investments to develop forests are showing poor results due to several gaps in forest management”. The plan cites two main drivers of deforestation; (1) acquisition of land for agriculture and (2) uncontrolled harvesting of forest products.

III. Commune REDD+ Action Plan

1. Overall goals

Overall goals of the C-RAP are to contribute to sustainable development in the commune, increase and maintain forest cover, enhance forest carbon stock, conserve biodiversity and improve livelihoods of the local people through REDD+ implementation.

2. Specific objectives

- To develop and effectively implement sustainable forest management that enhances ecosystem services including watershed protection, disaster prevention, landscape preservation, carbon sequestration, biodiversity conservation, and production of forest commodities. This objective will be pursued by increasing the forest cover from 32% to 45% by Year 2020 as targeted in the New Rural Development plan of Muong Phang Commune for the period from 2011 to 2020.
- To develop sustainable livelihoods for the local population by supporting forest management activities that contribute to poverty reduction. The goals are to increase the average income of villagers to VND 17 million per year by 2020, and to reduce the rate of poor households to 10% by Year 2020 as described in the New Rural Development plan of Muong Phang Commune covering the period from 2011 - 2020.

3. Key Tasks

3.1 Key Task for forest protection, regeneration, and afforestation

Forest protection, regeneration, and afforestation activities are to be formulated and implemented consistent with the Forest Protection and Development Plan (FPDP) and the concept and methods applied in respect of Payment for Forest Environmental Services (PFES). Promoting these activities through FPDP and PFES comprises the main tasks in C-RAP implementation. Key tasks for each forest management activity in the commune are summarized in Table 3.1 below.

Table 3.1 Key Tasks in forest protection and development in Muong Phang for the period from 2013 to 2020

(Unit: hectares)

No.	Villages	Activities						Total
		Forest protection	Regeneration	Regeneration & Enrichment	Production forest plantation	Tending of planted forest	Developing Forest garden	
1	Long Luong 1&2	54.6	6.1	28.1				88.8
2	Long Hay	48.5					16.5	65.0
3	Long Nghiu	38.7	123.3	15.4	4.2	4.2		181.6
4	Co Luong	38.8			11.6	11.6		50.4
5	Phang 1, 2 & 3	113.0		54.9	16.8	16.8	0.4	185.1
7	Khau Cam	62.5	1.3		29.9	29.9		93.7
8	Cang 1, 2, 3 and 4	17.1	19.7		25.1	25.1		61.9
9	Yen 1, 2 & 3	24.9						24.9
10	Co Man 1, 2	14.4					8.0	22.4
11	Banh	12.7	31.7		30.7	30.7	8.6	83.7
12	Bua	86.7	0.0		30.7	30.7	3.3	120.7
13	Che Can & Co Kho	29.2					13.2	42.4
14	Co Diu	47.3					20.7	68.0
15	Kha	145.6	39.5	2.5	32.8	32.8		220.3
16	Tan Binh	123.5	162.3	76.2	20.5	20.5		382.5
Total for whole commune		857.6	383.8	177.1	202.3	202.3	70.7	1,691.4

Note: The numbers of hectares by task and by village are based on the FPDP planning map covering 2012-2020

3.2 Key Tasks for the forest change monitoring system

The Provincial REDD+ Action Plan (PRAP) stipulates that operation of an improved Provincial Forest Monitoring System (PFMS) needs to be piloted, building on the basic features of the existing system.

In order to effectively implement an improved PFMS, it is essential to clarify the roles and responsibilities of each relevant stakeholder. This is especially imperative as regards refinement of the current forest-ranger-based monitoring system, and in terms of the crucial need for participatory involvement of villages and villagers in forest change monitoring.

Pilot implementation of an improved PFMS in Muong Phang Commune is intended to produce lessons learned for the design of an overall system that will be further replicated in the entire province from 2016 to 2020. Consequently, a review should be conducted by the middle of 2015. To help ensure successful operations of the improved PFMS, the review must study and evaluate technical and financial feasibilities, as well as cost-effectiveness in comparison with other possible PFMS options.

As noted in PFMS plans elaborated in the PRAP, it is indispensable for the following organizations and personnel to participate in forest monitoring at the commune level. Furthermore, it is essential to clarify the implementation responsibilities of each participating organization and individual.

- Villages (Villagers, Forest Owners, VMBFMLD, Patrolling teams under the VMBFMLD)
- Forest Owners (DBPFMB, SUFMB)
- Forest Rangers

The resources required to implement the PFMS need to be prepared. These resources include funds, technology, equipment, and availability of competent personnel. State funds will be utilized to implement the PFMS because forest monitoring is a routine work of the forest agency. However, there is a lack of technical skills such as capability to carry out satellite imagery interpretation and operation of GPS receivers. Additionally, key equipment requirements need to be provided including digital cameras and GPS receivers. Details relevant to these concerns are discussed below in the solutions of this report.

3.3 Key tasks for livelihood development

As noted earlier in Section 2.2 of Chapter II, most villagers live in poverty. They practice shifting cultivation within the forestland - not only for food security but also to generate cash income for daily household expenditures. Shifting cultivation almost always produces negative impacts on the forest. It is therefore crucial to develop and implement strategies and activities that will encourage the villagers to reduce shifting cultivation on areas planned for forestry. These strategies must aim at bringing about active participation of villagers in the implementation of forest management tasks. This objective can be pursued by creating alternative livelihood options and systems that support and lead to sustainable forest management.

Moreover, since Muong Phang Commune is a pilot commune for REDD+ implementation, it is necessary to build workable livelihood development models that can be replicated for other communes in the province in the future. These models should be developed, tested and refined as needed for effective application, by the middle of 2015.

3.4 Key tasks for enhancing the institutional framework for forest management and livelihoods development

The Commune Commanding Unit for Emergency Matters in Forest Protection and Forest Fire Fighting is the core unit responsible for C-RAP implementation. One of the key tasks in C-RAP implementation is the establishment of an appropriate and functional institutional framework for implementation of forest management activities, livelihood development and additional components. It is particularly significant to strengthen the institutional framework in ways that facilitate positive participation of villagers in those activities. Preparation of the institutional framework is crucially important for efficient and effective C-RAP implementation. Fundamental elements of an appropriate institutional framework include the organizational structure for implementation, funds management methods and procedures, and formulation of rules for forest management and livelihoods development activities. Moreover, as noted in the above, Muong Phang Commune is a pilot commune for REDD+ implementation. In this context, establishment of an appropriate and effective institutional framework should look forward to application of the framework for future replication in other communes of the province.

3.5 Key tasks for capacity development for CPC staffs and villagers

CPC staff, personnel of the Special Use Forest Management Board (SUFMB), forest rangers and villagers must all be directly and effectively involved in forest management and livelihoods development and the details are given in the solution.

4. Solutions

4.1 Solution for promoting forest protection, regeneration, and afforestation

Villages and households will be main the actors directly involved in forest protection, regeneration, and afforestation. In this regard, the CPC is responsible for cooperating with relevant organizations such as the Muong Phang Special Use Forest Management Board (MPSUFMB), Dien Bien Protection Forest Management Board (DBPFMB) and Dien Bien District FPD. Collaborating with one another, these several entities are tasked to assist villages in the development and implementation of village-based Forest Management Plans (FMPs) including forest protection, regeneration, and afforestation activities. The same multi-sector collaboration is needed to assist in the preparation of village level forest management rules; provide technical guidance; and help implement monitoring plans and regulations.

Programs and policies currently in force in Dien Bien province specify that protection of forested areas will be supported by procedures and mechanisms for application of the PFES scheme. On the other hand, forest development activities such as regeneration and afforestation are to be supported by FPDP. In areas where protection efforts under the PFES scheme eventually lead to a positive change in status, such that the area already qualifies for official recognition as forests, all subsequent regeneration and afforestation will be supported by the PFES scheme.

4.1.1 Forest protection under PFES and forestland allocation

Under the approved FPDP Project for Dien Bien district from 2012 to 2020 and Decision No.714/QD-UBND, 1,369.6 ha are targeted for forest protection, regeneration, and enrichment in Muong Phang commune. More than 80% of this total is located in Special Use Forest areas. These lands are therefore subject to be allocated to Muong Phang SUFMB in line with regulations pertinent to bare land areas under Special Use Forest, and in accordance with the official forestland allocation plan.

After receiving official allocation of the lands, the MPSUFMB management board is authorized to sign contracts with villages, households, and individuals to carry out forest protection activities. The villagers will be engaged to undertake regular patrolling of the areas identified for forest protection and regeneration. They will receive payment for patrolling and protecting the forest pursuant to village level regulations.

Forestlands of the commune are to be covered under the PFES scheme. Therefore, protection of forested areas will be supported with PFES payments derived from the provincial FPDF for the areas allocated to the villages, households or individuals. Funds derived from the provincial FPDF will also be used to pay for work contracted out by the Muong Phang SUFMB covering areas specified by the Management Board.

Forest allocation is an important pre-condition for proper disbursement of PFES payments to the right targets for the right purposes. Plan No. 388/KH-UBND specifies that forested areas will be allocated before the end of 2014. However, the sooner forest and forestland allocations are implemented, the more promptly PFES payments can be disbursed.

To avoid conflicts and disputes that may arise during and after the allocation of forestlands and forest protection contracts, the villagers should be encouraged and assisted to be fully involved in every step of the allocation process. These steps include reviewing the areas allocated in accordance with Decree No. 163/ND-CP, and participation in field work including the placement of markers to delineate boundaries of the allocated areas. In effect, forest allocation will convert the villagers into forest owners. They will thus be responsible for forest protection and development. At the same time, they will also become the beneficiaries derived from the forest consistent with PFES and other existing policies.

For the areas allocated and entitled to receive PFES payments, the forest owners must commit to faithfully implement forest protection measures such as forest fire management and regular patrolling to prevent illegal logging. At the end of each year, the FPDP will review all forested areas and disburse payments for the undamaged areas. If deforestation occurs, the forest owners will be required to explain the cause or causes for such occurrences. If the owners themselves caused the deforestation, they are subject to penalties as provided under current laws, rules and regulations.

It is important to link effective performance of forest protection with benefits received by the villagers. Towards these ends, there is a need to develop procedures and mechanisms governing the management and utilization of funds received from PFES payments. It is intended that part of the funds will support forest patrolling. Villagers who patrol the forest and report forest violations will be paid for their work. Another portion of the PFES payments is for public use purposes such as for construction of village roads and community buildings, and to support education. The remaining balance is intended for payment to the forest owners. It is crucial to draw up village regulations and rules governing the utilization of PFES payments. There must also be procedures established for handling conflicts or other issues that may arise. Attention to these needs will contribute to successful forest protection.

4.1.2 Forest regeneration in allocated forestlands under the FPDP

Data published in the Dien Bien FPDP for 2012 - 2020, shows a total 1,593 ha of non-forested land planned for forest development in Muong Phang commune. Of this total, 383.8 ha are currently under the “Ic” status classification. After five (5) years, this classification can be upgraded to “IIa” status if adequate forest re-growth has been achieved through natural regeneration. Forests that have evolved to this upgraded status can then be allocated to landowners along with forestland use right certificates. Plan No. 388/KH-UBND specifies that identification of forests included under the “Ic” status will be completed before the end of 2015.

The Dien Bien DPC has proposed an initiative to shorten the time required and thus expedite the progress of allocation of land and forest with a priority given to Muong Phang commune. The details of this proposed initiative are described hereunder.

The landowners who are individuals, households or villages would sign contracts with Muong Phang CPC to re-lease allocated “Ic” areas for natural regeneration. This would be done to establish a legal basis for forest development, anticipating that the bare land would evolve into forest after 5 years of natural regeneration. Under this arrangement, the contractee (Muong Phang CPC) would disburse to the contractors (landowners) a five-year payment in advance for implementing natural regeneration. As specified in the Dien Bien FPDP 2012 – 2020, the unit price for implementing natural regeneration is VND 200,000/ha/year maximum, including bank interest on any remaining balance. In turn, the contractors (landowners) would be required to prevent shifting cultivation. It is anticipated that after 5 years the regenerated forests would be sufficiently developed and thus be entitled to receive PFES payments. Once payments are disbursed, the contracts would be terminated. Bank loans with very low interest rates are envisioned as the potential funding sources for this proposed initiative. Muong Phang CPC would be the debtor, the provincial state budget for regeneration under FPDP

would be the warrantor, and the contracted land-targeted to evolve into forest status would be collateral for the loan. The source of funds to re-pay the bank loan would come from annually disbursed funds of the provincial state budget for forest regeneration. Another potential source could be international/domestic donors/investors.

If the village is the owner/contractor, any advance payments disbursed would be used as components of the Village Fund for the purpose of livelihood development. For “Ic”-bare land areas allocated within Special Use Forest boundaries, the Muong Phang SUFMB would implement the procedures summarized above, if the management board cannot control shifting cultivation on the allocated area. In this regard, it would be crucial to arrive at a consensus on arrangements between contractors and contractee.

Regeneration activities would be conducted under the FPDP. The area regenerated would be inventoried to verify the height and density of timber within the potential forests. The prescribed natural regeneration procedures are specified in Decision No. 175/QD/BNN/KHC. It would be essential to regularly check and evaluate the quality of areas zoned for regeneration. Evaluators would need to assess both the prospects for successful evolution of the forests, as well as any dangers and risks that could result in damage to the forests.

DARD would establish a team for evaluating the regenerated forests and re-classifying the same into a higher status if warranted by results. In the case of areas that are not officially part of forest lands, DARD would consult with the PPC to arrange other sources of funds for continuing regeneration work to develop such areas into forests.

4.1.3 Afforestation under FPDP and other policies

Ib and Ia bareland areas in both production forests and Special Use Forests are considered suitable for development via afforestation. Based on the FPDP, 202.3 ha is the expected output for afforestation in Muong Phang production forest areas from 2012-2020. Afforestation in production forest areas will be supported as stipulated in Decision No. 147/2007/QD-TTg and Decision No. 66/2011/QD-TTg on production forest development.

Villager awareness in respect of technical matters is crucial to successful promotion of afforestation. However, awareness alone will not be sufficient. Practically none of the Muong Phang villagers and households have funds they could use to finance afforestation. Furthermore, the land use methods they apply are in keeping with long-term traditional cultivation practices. Therefore, it will be very difficult to bring about any significant change in practices simply through technical guidance.

One of the solutions proposed to address this situation is the encouragement and promotion of investments from at home and abroad that work in collaboration with the villagers. The invested funds would be used to grow forest products for commercial sale and use. The funds would make it possible to secure materials and equipment needed to manage the forests. Investors would also help defray the costs of development using technical management assistance from consultants and the relevant administrative agencies. While focusing on forest development in Muong Phang, workable models for afforestation in production forest areas should also consider options for promoting replication in other areas of the commune. At present, afforestation in Special Use Forests is not attractive to the villagers because timber harvesting is not allowed in these areas. To help overcome this problem, the Muong Phang SUFMB will need to utilize budgets flexibly and formulate policies that encourage afforestation in the Special Use Forests. Concurrently, the PPC should prioritize the arrangement of budgets for appropriate development activities in these areas. After conditions in these areas warrant formal recognition and classification as forests, the PFES payment schemes may be applied.

There are various options available for appropriate development in Special Use Forests. For example, there are two wooden and bamboo products processing factories in Dien Bien province. These types of investments can help motivate villagers to plant and harvest products for sale to the factories, thereby earning household income. Proposed activities and an implementation schedule covering forest protection, forest regeneration, and afforestation are in Appendix 1- Table 1.

4.2 Solution for establishing and operating a forest change monitoring system

4.2.1 Establishing and piloting an improved forest change monitoring system

1) Structure of a communal level forest change monitoring system under PFMS

Close cooperation and collaboration need to be established between forest rangers and the VMBFMLD in order to achieve effective performance and operation of an improved forest change monitoring system. The essential components of a commune-level forest monitoring system are illustrated below in Figure 4.1.

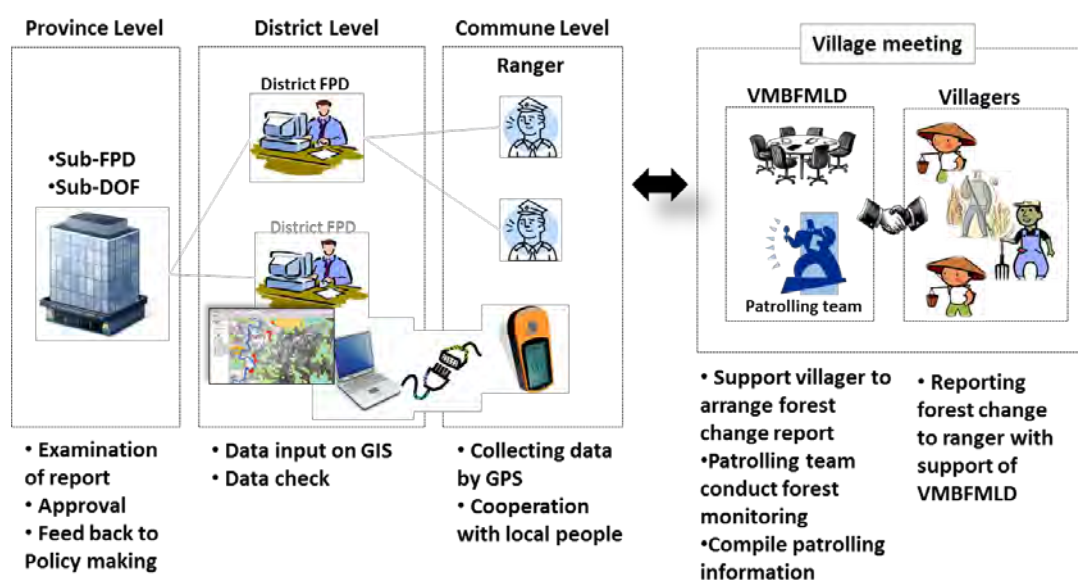


Figure 4.1 The Forest Monitoring System

2) Monitoring subjects

Design of an improved PFMS would be based on the existing PFMS. Consequently, the improved PFMS would follow existing government policies related to forest monitoring. According to the policies, the monitoring subjects are defined as follows:

- Forest area decreased
- Forest area increased
- Amount of change
- Cause of change (deforested, afforested, and regenerated)

3) Implementation responsibilities

Responsibilities of each relevant institution involved in implementation of the improved forest change monitoring system are presented hereunder on Table 4.1. Field notes and modalities for each reporting are elaborated in detail in the PFMS manual.

Table 4.1 Operations of the improved forest change monitoring system at the commune level. Responsibilities of each relevant institution

DEPARTMENT/ SECTION/ GROUP	IMPLEMENTATION	Interval	
Villages	<ul style="list-style-type: none"> Monitor, detect and report forest changes to the forest rangers Submit reports through commune events such as CCU meetings and/or monthly CPC meetings Any emergency event should be reported immediately. 	Monthly	
	Villagers	Check the forest increase/decrease in areas they are responsible for managing according to the village FMP	Occasionally
	Forest Owners (Village, households, and individuals)	Check the forest increase/decrease of his/her/their owned forest area other than the implementation area of the village FMP	Monthly, Occasionally
	Patrolling team	Patrol protected forest areas and report to VMBFMLD if forest changes are observed	Occasionally
	VMBFMLD	Record the data on the forest increase/decrease reported by villagers and forest owners in the reporting formats	Monthly
MPSUFMB	<ul style="list-style-type: none"> Monitoring Special Use Forest areas and supervising activities at the village level and report directly to CPC 	Monthly	
Forest Rangers	<ul style="list-style-type: none"> Measure forest changes in response to reports from the villagers conduct random sampling in the field. Report forest change data to the CPC and the District-FPD with appropriate evidence. Raise awareness of villagers in cooperation with the relevant institutions 	Monthly Occasionally	

4.2.2 Review of the piloted forest change monitoring system under PFMS

By the middle of 2015 the commune, in cooperation with the district FPD and MPSUFMB, shall undertake a review and evaluation of the improved forest change monitoring system focusing on the following areas: (1) technical and financial feasibilities of the system, and (2)

comparative cost-effectiveness of the system compared with other possible options including satellite-image-based change detection.

(1) Technical and financial feasibilities

Forest rangers are responsible for implementing a major part of the current forest monitoring system. However, each ranger is assigned a relatively wide area to manage and there are many hectares of forests to be monitored in Muong Phang commune. These factors make it difficult to implement the PFMS smoothly and correctly. Also, there is a considerable range of variability in the technical capabilities of individual rangers. Capacity building measures are needed to help achieve higher standards of monitoring skills and expertise. Insufficient capabilities and the wide expanse of areas each ranger must monitor, have a direct impact on accurate evaluation of patrolling and reporting activities at the village level. To help address this concern, the introduction of high-resolution satellite imagery is planned for inclusion in the review process.

(2) Cost-effectiveness

Before model cases of PFMS are fully scaled-up to the provincial level, it is essential to check their feasibility and cost-effectiveness. As mentioned above, the introduction of high-resolution satellite imagery for cross-checking PFMS results is planned during the review process. Accurate interpretation of high resolution satellite imagery makes it possible to accurately detect forest changes. This work can cover the whole pilot area at the same time that ground-level observations are being conducted in the field. Thus, satellite imagery interpretation can be used to verify the data from field surveys carried out under the PFMS. Then, PFMS implementation costs and satellite data procurement costs can be compared. This approach is planned for implementation toward the end of 2015. The procurement of satellite data and the methodology needs to be confirmed at that time, taking into consideration costs and availability of the data.

In the existing PFMS, forest degradation and regeneration are not included among the subjects to be monitored. Current government policies do not require monitoring of these two conditions. This might be due to the fact that, from a technical perspective, measurement and evaluation of forest degradation and regeneration require certain levels of expertise that villagers and rangers may not necessarily. Among others, the assessment of forest quality involves the design and implementation of plot surveys. However, forest degradation and regeneration are widespread and comprise major forest management challenges in the pilot area. Therefore, the possibility and feasibility of studying forest degradation and regeneration as part of forest quality change monitoring should be explored and assessed by middle 2015. Lessons derived from the review process can make positive contributions toward productive revision of the PFMS.

4.3 Solution for promoting livelihood development for the villagers

Agricultural crop cultivation, animal husbandry, and other production activities provide options for improving local livelihoods. As set forth in the village-based Livelihoods Development Plan (LDP), support should be provided consistent with the following basic principles:

- Only those villagers committed to forest protection, and/or development of new forests, as stipulated in the village forest management plan should be provided with support for livelihood development. In addition, the forest protection commitments of villagers should be specified in the regulations/agreements they sign governing participation in livelihood development activities.

- Livelihood development activities should not adversely affect the surrounding environment and natural resources.
- The activities supported and implemented should not only increase income and food production but also contribute to reduced use of forest resources to finance household expenditures and consumption.
- The villagers should play a central role in planning, implementation, monitoring, and evaluation of livelihoods development activities that they undertake.
- Livelihoods development should not only focus on investment support but also capacity building and awareness raising of the villagers and other relevant stakeholders.
- Support should be provided in an open and transparent manner taking social equality fully into account.
- Livelihoods development activities should be selected with due consideration of natural and socio-economic conditions in the commune and village. Due to the existence of 26 villages in the commune, the selection of activities to be supported should also consider the issue of capability for efficient implementation.
- Support to livelihoods development should promote the utilization of locally available resources.
- Costs and benefits, investment requirements needed, and associated risks, and marketability, should be fully considered before the selection of activities to support.

The village-based Livelihoods Development Plan (LDP) also states that support should be provided to villagers in the following steps:

- Step 1: Analyze various available resources and existing livelihoods development activities in the village.
- Step 2: Formulate a village-based Livelihoods Development Plan (LDP).
- Step 3: Set up sub-groups by activity, analyze each activity proposed in the plan, and prepare an operational rule for each activity.
- Step 4: Facilitate the formulation of annual implementation plans for each activity.
- Step 5: Provide technical guidance, training, and extension service for livelihood development activities during their implementation.
- Step 6: Undertake monitoring and evaluation of livelihood development activities.
- Step 7: Encourage and facilitate repayments to the village fund in the case of small-scale loan systems, and verifiable animal/material transfers to the next household in the case of animal/material rotation systems. Then further advances will be made to other households in the village.

Nine (9) livelihood development activities are tentatively planned in this commune. The most popular activity is vegetable gardening. The second most popular is utilization of Lao stoves. The third is pig raising and growing of fruit trees. The fourth is fish farming. In sum, vegetable cropping, Lao stove, pig raising, fruit trees, fish farming, and mushroom growing will be planned for more than 10 villages in this commune. The planned activities for each village are shown on Table 4.2.

Table 4.2 List of activities by village in Muong Phang commune

Village	Bua	Ban Banh	Cang 1	Cang 2	Cang 3	
Pig	●	●	●	-	●	
Chicken				-		
Fish	●	●	●	-	●	
Fruit trees	●		●	-	●	
Vegetables		x ●	●	-	●	
Mushroom		●	●	-	●	
Fodder	●		●	-	●	
Lao stoves	●	●	●	-	●	
Biogas				-		
Village	Cang 4	Che Can	Co Kho	Co Điu	Co Luong	
Pig		●	●			
Chicken					●	
Fish	●	●	●		●	
Fruit trees	●	●	●		●	
Vegetables	●	●	●	●	●	
Mushroom		●				
Fodder	●					
Lao stoves	●	●	●		●	
Biogas				●		
Village	Co Man 2	Co Man 1	Kha	Khau Cam	Long Hay	
Pig		●	●		●	
Chicken			●			
Fish		●		●		
Fruit trees	●	●		●		
Vegetables	●		●	●	●	
Mushroom			●	●		
Fodder				●		
Lao stoves		●		●		
Biogas						
Village	Long Luong 1	Long Luong 2	Long Nghiu	Phang 1	Phang 2	
Pig		●	●	●	●	
Chicken						
Fish				●	●	
Fruit trees				●	●	
Vegetables	●	●	●	●	●	
Mushroom		●		●	●	
Fodder				●	●	
Lao stoves				●	●	
Biogas						
Village	Phang 3	Tan Binh	Yen 1	Yen 2	Yen 3	Total
Pig	●	●	●	●		17
Chicken						2
Fish	●	●	●	●		16
Fruit trees	●	●	●	●		17
Vegetables	●	●	●	●		23
Mushroom	●	●	●	●		15
Fodder	●		●			9
Lao stoves	●	●	●	●	●	19
Biogas		●				2

Note: Corrections and additions to this list are to be made as appropriate in the course of C-RAP implementation.

In addition to the topics listed above, Long Luong Lake located nearby with a water storage capacity of about 1 million m³, has conditions suitable for aquaculture production or fish raising by households living around the lake. Water began to accumulate behind Long Luong Dam in May of 2013. It has the capacity to provide water for 100 ha of paddy fields that can produce two crops per year, and 150 ha where one paddy harvest annually is feasible.

Supporting mechanisms will be needed due to the shortage of staff currently involved in the activities. There is only a limited number of extension workers available at the commune level. Therefore, extension workers at the district level should be also deployed in order to provide sufficient extension services to the villagers.

Setting up a revolving fund management system is another essential ingredient for effectively carrying out livelihood development activities. The control of village funding through the VMBFMLD characterizes implementation under the present management system. Monitoring the use of funds by CPC staff and other administrators is important. The submission of annual financial reports by the VMBFMLD to the CPC is one of the measures needed to efficiently monitor financial operation.

As noted in Table 4.2 above, many villagers are interested in animal husbandry. In this connection it is relevant to consider the potential risks involved, with particular attention of infectious animal diseases (e.g. blue ear disease for pigs, and bird influenza). Necessary measures should be taken to prevent these diseases.

As mentioned in Key Task 3.3, workable models to enhance livelihood development should be developed through pilot implementation by the middle of 2015, for future replication at other communes in the province. The results of livelihood development activities in Muong Phang should be reviewed at the middle of 2015. After 2016, implementation of workable livelihood development models will continue in this commune until 2020. Implementation schedules are shown in Appendix 1- Table 3.

4.4 Establishing and strengthening institutional frameworks

4.4.1 Establishing and strengthening institutional frameworks at the commune level

At the commune level, the Commune Commanding Unit for Emergency Matters in Forest Protection and Forest Fire Fighting will play a central role in C-RAP management and implementation. C-RAP management and coordination mechanisms are shown on Figure 4.2. The following functions should be added to current roles and responsibilities of the Commanding Unit, and the functions should be clearly understood by the VMBFMLD.

- 1) To execute C-RAP in the promotion of sustainable forest management
- 2) To guide and assist establishment and operation of the VMBFMLD
- 3) To guide and assist preparation of village-based FMPs and LDPs
- 4) To discuss with CPC the incorporation into C-RAP of other relevant projects in the commune to achieve the targets set in C-RAP
- 5) To report monitoring and updating on forest and forestland change to CPC
- 6) To review and revise C-RAP as appropriate
- 7) To review C-RAP implementation for lessons learnt
- 8) To periodically report results of implementation performance regarding emergency matters to the district commanding unit

The following are members of the Commanding Unit:

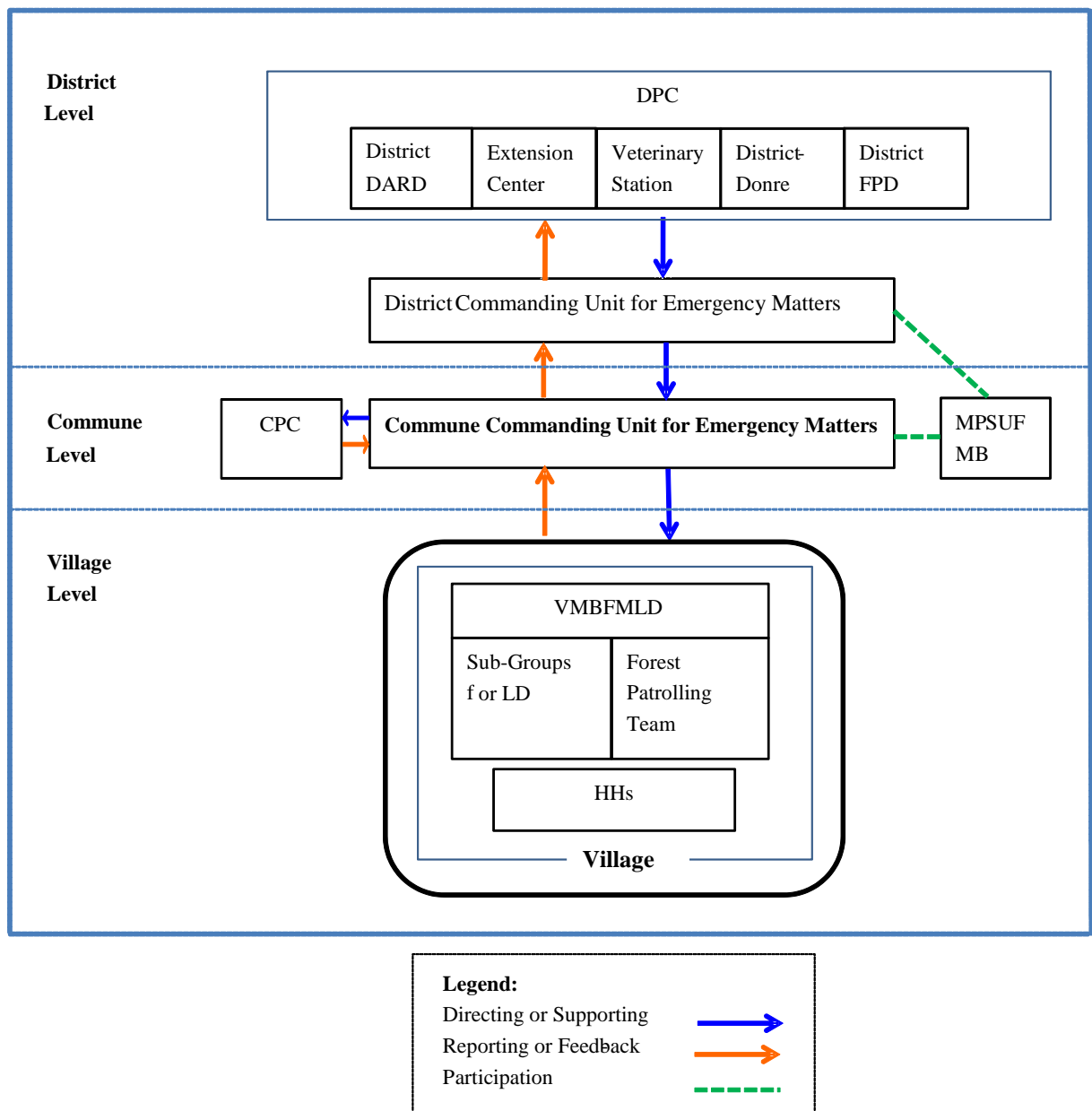
- A CPC representative as head of the Commanding Unit
- A commune forest ranger serving as deputy head.
- Other members include representatives of the commune communist party, land

administration officer, agriculture extension agent, officer in charge of agriculture and forestry, commune police officer, and every village head. Representatives from the district including the District People's Committee (DPC) and SUFMB can be included as observers at regular meetings.

Given the shortage of human resources such as extension staff in the CPC, it will be difficult to implement dissemination activities for forest management and livelihoods development in all the villages, relying only on CPC staff. Muong Phang Commune has 26 villages. Thus, in addition to difficulties related to limited CPC staff, neither would it be possible for commune officials by themselves to efficiently assist all village-level planning and implementation. Recognizing these issues, attention to enhancement of skills at the district level is imperative. The relevant divisions at the district level that will be involved in supporting village-level activities include the Forest Protection Division, the Agriculture and Rural Development Division, Veterinary Station, and the Extension Station.

- For forest management activities, assistance teams should include the district-FPD rangers assigned to each commune and the concerned SUFMB officers.
- For livelihoods development activities the concerned teams should be composed of officers from the District Agriculture and Rural Development Division, the Extension Center, and the Veterinary Station.

Figure 4.2 Management and coordination mechanisms for C-RAP implementation



4.4.2 Establishing and strengthening the institutional framework at the village level

The institutional framework for village level C-RAP implementation is shown below.

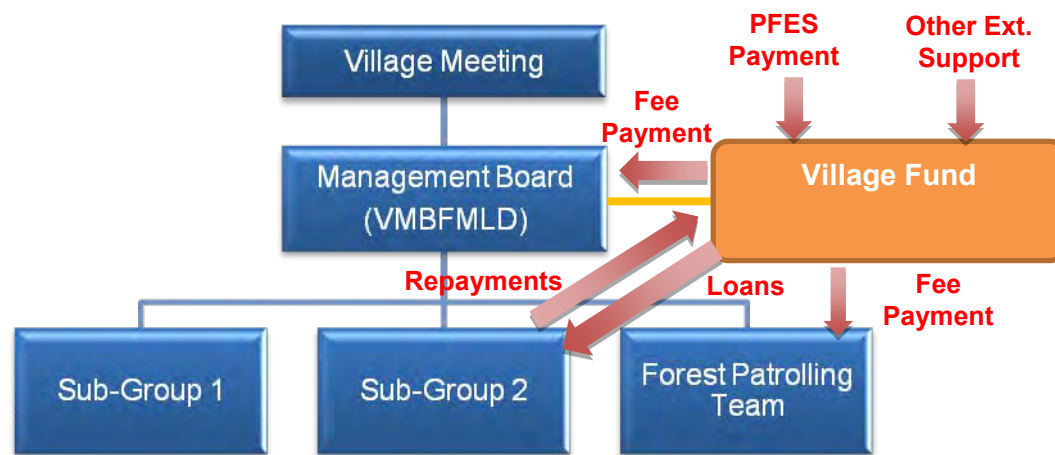


Figure 4.3 Institutional frameworks to implement C-RAP at village level

Each village will set up a VMBFMLD to coordinate forest management and livelihood development activities. If a village already has an organization specializing in forest management, that organization will be used to organize and coordinate these activities. The VMBFMLD's tasks and responsibilities are as follows:

- 1) To coordinate forest management and livelihoods development activities;
- 2) To ensure that all village forest management regulations and plans are strictly followed by the villagers;
- 3) To coordinate sub-groups formulated for key livelihoods activities such as animal raising;
- 4) To ensure that all village livelihood activities are implemented according to the existing regulations and plans as well as technical requirements;
- 5) To ensure that animal revolving and loan systems are working properly;
- 6) To operate and manage the Village Fund;
- 7) To handle violations of forest management or livelihoods development related rules and regulations in coordination with the Commune People's Committee; and
- 8) To coordinate with the Commune People's Committee and forest rangers.

VMBFMLD roles and functions must be clearly spelled out in the VMBFMLD Charter.

The VMBFMLD membership includes the following:

- 1) Head: Manage and lead implementation of forest management and livelihoods development activities; and manage the budget.
- 2) Vice Head: Assist the head in activity management; and act as chairperson when he/she is absent.
- 3) Secretary: Take records; and keep budget.
- 4) Accountant: Keep and maintain accounting books and reports.

Sub-Groups should be organized for each livelihood activity such as raising chickens or vegetable gardening. These sub-groups will be responsible for implementation of their respective activities, including repayments if necessary. In addition, Forest Patrolling Teams should be established to carry out forest protection and regeneration activities, and also to

implement some of the tasks included in forest change monitoring under the PFMS as mentioned in Section 4.2.

Tentatively, main sources of the village fund will be repayments and management fee contributions by villagers through the implementation of livelihood development activities, and PFES payments for forest protection and regeneration activities. Other ongoing and forthcoming support from government, donor agencies, NGOs, and others can also be pooled and utilized through the village fund.

Money deposited in the village fund shall be utilized for:

- Management costs of the VMBFMLD
- Payments to the forest patrolling teams
- Other forest management activities
- Improvement of village common infrastructure
- Small-scale loans provided for livelihoods development

The VMBFMLD will consider and decide on the manners of utilization for this fund. Activities and a schedule for developing such a system at commune and village levels are described in Appendix 1 - Table 4.

4.4.3 Strengthening Management of the Special Use Forest Management Board

In Muong Phang Commune, the Special Use Forest areas will be allocated to the MPSUFMB. To efficiently contribute to sustainable forest management, the MPSUFMB shall be strengthened in ways that enable it to provide effective support to villagers involved in SUF management under forest protection contracts. In this context, the following are specific measures should be taken:

- 1) Clarification of SUF boundaries
The boundaries of Special Use Forest areas should be delineated and marked on the ground with poles and/or other appropriate indicators so that villagers can clearly recognize their specific Special Use Forest areas. Delineation marking and the specific assignment of responsibilities will facilitate reduction and prevention of encroachment by shifting cultivators and illegal loggers.
- 2) Improving the organizational structure
Decree No. 117/2010/ND-CP, defines the SUFMB as a state organization assigned with the functions and responsibilities of forest owner and management of Special Use Forests. Therefore, the SUFMB should;
 - develop a code of practice involving forest management activities such as patrolling for the SUF
 - take initiatives to become involved in the provision of forestry services to assist local residents in developing agriculture and forestry
 - train villagers in SUF protection and develop an adequately competent workforce at commune and village levels
 - be given professional training to improve management and technical skills
- 3) Improving awareness on forest protection
Education and orientation of villagers is essential in order to raise awareness on the importance of forest protection and sustainable management. The SUFMB should provide support for villagers living inside the SUF and in surrounding areas so that all understand their rights and obligations, including the relevant laws and regulations on forest

protection and development as well as the penalties that may be imposed if they violate these laws/regulations.

- 4) Supporting improved forest management and livelihoods development
In order to reduce encroachments for shifting cultivation, the SUFMB should prioritize the development of sustainable livelihood opportunities for the villagers. As forest owner, and as set forth in prevailing policies, the SUFMB will receive funds from the PFES. Effective management and utilization of these funds can help improve sustainable village livelihood. A part of the funds received can be used to pay villagers contracted to carry out forest patrols.

Activities and schedules for developing institutions at village commune, and MPSUFMB levels are described in Appendix 1 - Table 4.

4.5 Solutions for strengthening CPC staff and villager capacities in forest management and livelihoods development

Solutions are discussed hereunder in response to Key Task 3.5 which focuses on promoting capacity development for CPC staff and villagers.

4.5.1 Raising awareness of CPC staff, villagers, and other relevant stakeholders

- Awareness raising workshops will be conducted for key CPC officers and others directly involved in forest management and protection to deepen their understanding of the negative impacts and potential risks posed by deforestation and forest degradation. Workshop presentations will also explain rights, responsibilities, costs and benefits of involvement in REDD+ implementation. Other items on workshop agendas will include PRAP and C-RAP operations; existing policy options; and participatory forest management.
- Similar awareness raising workshops will also be conducted for villagers. Village level workshops will echo the topics noted above; i.e. highlighting the negative impacts and potential risks posed by deforestation and forest degradation; detailing of forest protection and regeneration activities; and explaining rights, responsibilities, costs and benefits of involvement in REDD+ implementation. To help ensure good attendance, awareness raising workshops for villagers will take place during free times in between cropping schedules.
- Study tours will be organized and carried out for representatives of key agencies and village leaders to acquaint them with lessons learnt in other areas on effective implementation practices for forest protection and development, and combining forest development with livelihoods development.
- In addition to workshops and study tours, the themes mentioned above may be widely disseminated by other means such as leaflets, radio and TV, posters, movies, signboards, and incorporation in the agendas of community events.

4.5.2 Building capacity of CPC staff, villagers, and relevant stakeholders

Proposed training to build capacities is presented thematically on Table 4.3 below. However, additional themes may be included as appropriate based on requirements that emerge during implementation.

Table 4.3 Training themes and involved organizations

Theme	DPC officials	MCPFMB officials	District rangers	CPC officials	VMBFM LD	Forest Patrolling Team	Sub-group for LD	key Villagers
Skills in identifying villagers' needs	X	X	X	X				
Facilitation skills including participatory planning, implementation, monitoring, and evaluation of FMP and LDP	X	X	X	X				
Participatory forest and forestland allocation and contracting	X	X	X	X				X
Forest change monitoring		X	X	X				
Forest patrolling and protection						X		X
Methodologies and skills in analyzing strengths, weaknesses, opportunities, and threats (SWOT) for the production activities for captive use and the marketing of products	X			X			X	X
Financial analysis of cultivation and animal husbandry	X			X			X	X
Techniques of cultivation and animal husbandry (e.g., techniques of fruit trees cultivation, chicken raising, and others)							X	
Management of VMBFMLD	X			X	X			
Management of the Village Fund	X			X	X			

Note: "DPC officials" are staff of relevant sections at the district level.

Activities under Solution 4.5; the number of training courses, schedules and responsible parties, are summarized in Appendix 1 - Table 5.

IV. Implementation arrangements

The organizations to be involved in C-RAP implementation, and their respective roles and responsibilities are listed below.

(1) District People's Committee (DPC)

- To support management of C-RAP implementation
- Assignment of extensionists, veterinary staff, DARD staff, forest rangers, and others to support activities at the commune level

(2) District Commanding Unit for Emergency Matters on Forest Protection and Forests Fire Fighting (DCU)

- To supervise C-RAP implementation at the commune level within the district;
- To provide CCU with advice on C-RAP implementation

(3) Muong Phang Special Use Forest Management Board (MPSUFMB)

- To assist CCU and villagers in C-RAP implementation, building the systems through which the SUFMB can send their staff for instructions and training on implementations methods and activities for forest management
- To contract with villages, households, and individuals to carry out forest protection, regeneration, and afforestation in forests and lands allocated to the MPSUFMB

(4) Commune People's Committee (CPC)

- To support management of C-RAP implementation
- To assign appropriate personnel as member of the CCU (below)

(5) Commune Commanding Unit for Emergency Matters on Forest Protection and Forest Fire Fighting (CCU)

CCU responsibilities are already detailed in the chapter 4.4.1- "Establishing and strengthening institutional framework at the commune level".

(6) Village Management Board for Forest Management and Livelihoods Development (VMBFMLD)

VMBFMLD responsibilities are elaborated in the chapter 4.4.2 "Establishing and strengthening institutional framework at village level".

In addition to the organizations listed above, forest rangers should assist VMBFMLD implementation of forest management as advisers and as supporters. Furthermore, each village involved in C-RAP, and the households in those villages, should all cooperate on activities contained in village development plans in order to help successfully achieve intended outcomes of the activities.

V. Implementation costs and funding sources

1. Implementation costs

Cost estimates for implementing activities specified in the C-RAP are presented in the tables below. None of these tables include estimates for personnel costs.

Table 6.1 Forest protection and development costs

Unit: 1,000 VND

No	Items	Year								Total
		2013	2014	2015	2016	2017	2018	2019	2020	
1	Forest protection									
	Amount (ha)	731,1	731,1	731,1	731,1	731,1	731,1	731,1	731,1	
	Cost norm (1000 VND/ha)	200	200	200	200	200	200	200	200	
	Total sum (1000 VND)	146,220	146,220	146,220	146,220	146,220	146,220	146,220	146,220	1,169,760
2	Forest regeneration									
	Amount (ha)	412,8	412,8	412,8	412,8	412,8	412,8	412,8	412,8	
	Cost norm (1000 VND/ha)	200	200	200	200	200	200	200	200	
	Total sum (1000 VND)	82,560	82,560	82,560	82,560	82,560	82,560	82,560	82,560	660,480
3	Regeneration and enrichment									
	Amount (ha)				174,2	174,2	174,2	174,2	174,2	
	Cost norm (1000 VND/ha)				500	200	200	200	200	
	Total sum (1000 VND)				87,100	34,840	34,840	34,840	34,840	226,460
4	Afforestation in production forest area									
	Amount (ha)		50	50	152,3	202,3	202,3	202,3	202,3	
	Cost norm (1000 VND/ha)		2,820	200	2,820	200	200	200	200	
	Total sum (1000 VND)		141,000	10,000	429,486	40,460	40,460	40,460	40,460	742,326
5	Development of forest gardens									
	Amount (ha)	89,6	89,6	89,6	89,6	89,6	89,6	89,6	89,6	
	Cost norm (1000 VND/ha)	500	200	200	200	200	200	200	200	
	Total sum (1000 VND)	44,800	17,920	17,920	17,920	17,920	17,920	17,920	17,920	170,240
	Grand total	273,580	387,700	256,700	763,286	322,000	322,000	322,000	322,000	2,969,266

Table 6.2 Livelihood development costs

Unit: 1,000 VND

No	Activity of support	2013	2014	2015	2016	2017	2018	2019	2020	Total
I	Direct support									
1	Fuelwood-efficient stoves									
	Amount (number of HHs involved)	300	300	400						
	Cost norm (1000 VND/HH)	50	50	50						
	Total sum (1000 VND)	15,000	15,000	20,000						50,000
2	Animal raising (support of animals)									
	Amount (initial investment)	350								
	Cost norm (1000 VND/HH)	2,800								
	Total sum (1000 VND)	980,000								980,000
3	Animal raising (support of materials)									
	Amount (number of supported pigs)	350								
	Cost norm (1000 VND/HH)	1,000								
	Total sum (1000 VND)	350,000								350,000
4	Animal raising (support to the planting of grass for fodder)									
	Amount (number of HHs involved)		450							
	Cost norm (1000 VND/HH)		100							
	Total sum (1000 VND)		45,000							45,000
5	Fruit tree planting									
	Amount (number of HHs involved)		750							
	Cost norm (1000 VND/HH)		100							
	Total sum (1000 VND)		75,000							75,000
6	Vegetables growing									
	Amount (number of HHs involved)		900							
	Cost norm (1000 VND/HH)		50							
	Total sum (1000 VND)		45,000							45,000
7	Producing commercial products				520,000					520,000
II	Indirect support									
1	Training workshops at village level									
	Number of workshops	260	78		52	26	26	26	26	
	Cost for a workshop	520,000	156,000		104,000	52,000	52,000	52,000	52,000	988,000
2	Total sum (1000 VND)									
	Study tour	52								
	Number of tours	400,000								400,000
3	Total sum (1000 VND)				650,000					650,000
	Market search, trial production and registration and sale of products	2,265,000	336,000	20,000	1,274,000	52,000	52,000	52,000	52,000	4,103,000

2. Funding sources

Funding sources for each forest protection and development activity are indicated below.

Table 6.3 Sources of funding for each forest protection and development activity and cost-funding balances
Unit: 1,000 VND

No	Activity	Funds needed to implement C-RAP	Sources and amount of potential funds		Balance (Potential amounts needed)	Potential sources of funding to fill the gaps
			State budget	FPDF		
	Total	7072266	1872386	2266880	- 2933000	Support from other financial resources involving REDD+ funds
I	Forest protection and development	2969266	702386	2266880	0	
1	Forest protection	1169760	0	0	0	
2	Natural regeneration of forest	660480	0	0	0	
3	Forest regeneration with supplementary planting	226460	87100	0	0	
4	Afforestation in production forest area	742326	570486	0	0	
5	Development of forest gardens	170240	44800	0	0	
II	Livelihood development	4103000	1170000	0	- 2933000	
1	Direct support	2065000	520000	0	- 2933000	
2	Indirect support	2038000	650000	0	- 2933000	

3. Financial solutions

The tables above provide illustrative examples of cost estimates and funding requirements. Comparing the estimated amount of funds required, with the amount of funds currently understood to be available, it is apparent that only 58.53% (equal to VND 4,139 million) of the amount needed for implementation can be met from existing funding sources. This indicates a shortfall of 41.47% (equal to VND 2,933 million) that needs to be addressed. The principal strategy to be considered for overcoming the shortfall is locating and attracting external financial resources. Additionally, the CPC may seek sponsors through organizing workshops and study tours. It may also develop a website to disseminate news about the potentials for commune level forest development and activities in the commune. Well-prepared presentations on the web site may help encourage and promote investment.

VI. Monitoring and evaluation C-RAP implementation

Implementation of forest management and livelihood development activities will be reviewed annually, and annual plans for the succeeding year will be prepared each December, based on results of the annual reviews. The monitoring of activities will be conducted periodically but ad-hoc monitoring can be implemented at any time. C-RAP itself will be reviewed in 2015. This review will seek to determine whether or not each target value, concept, and methodology included in the plan is appropriate or whether revisions are needed. This review work will contribute to building workable models for replication in other communes in the province. A comprehensive evaluation will be conducted in 2020 for preparation of the subsequent REDD+ plan starting from 2021. In addition to the regular review in 2015 and the comprehensive evaluation in 2020, the C-RAP can be revised at anytime if specific needs arise.

Appendix: Activities under the solutions

Table 1. Schedule of promoting forest protection, regeneration and afforestation

Activity	Implementation schedule								Responsibility
	2013	2014	2015	2016	2017	2018	2019	2020	
Identify the boundary of villages in the field and on the map	X*	X							DARD, District- DARD, District- DONRE District-Sub FPD, MPSUFMB
Clarify the location and the boundary of forestland of the commune in the field and on the map	X	X							
Identify the people who are managing or using forestland as well as the area and boundary of their land (in the field and on the map)		X							
Improve the procedure for allocation, grant of use rights certification or contracting forest management activities		X							DPC, CPC, MPSUFMB, Villagers
Introduce on payment policies and benefits that the villagers will receive when they carry out activities of forest protection, forest regeneration, afforestation and forest tending	X	X							MPSUFMB, CPC, Villagers
Prepare plans of forest protection, forest regeneration, afforestation and forest tending through villagers` participation	X	X							
Implement activities of forest protection, forest regeneration, afforestation and forest tending		X	X	X	X	X	X	X	Villagers

(*This activity has partially been held)

Table.2 Schedule for operating forest change monitoring

Activity	Implementation schedule								Responsibility
	2013	2014	2015	2016	2017	2018	2019	2020	
Strengthening field survey skills (GPS and GIS operation, remote sensing analysis and identification of forest type)	X			X			X		District- Sub- FPD SUFMB CPC VMBFMLD Rangers Villagers
Strengthening operation of the forest information database system (compiling the field data, GIS operation and remote sensing analysis, random sampling grids)	X	X		X	X		X		
Strengthening the skills of villagers on recording and reporting forest change of the field with cooperation of VMBFMLD	X	X	X	X	X	X	X	X	

Table3. Schedule of promoting agricultural crop cultivation, animal husbandry and other production activities

Activity	Implementation schedule								Responsibility
	2013	2014	2015	2016	2017	2018	2019	2020	
Identify available resources and potential products in the village	X	X							CPC , Villagers
Prepare livelihoods development plan and its village`s regulation	X								
Analyze feasibility of planned activities	X								
Prepare detailed operational plan for each village	X	X							
Provide technical support for livelihoods development activities	X	X	X						
Implementing the livelihoods activities	X	X	X	X	X	X	X	X	Villagers

Table4. Schedule of establishing and strengthening institutional framework for forest management and livelihoods development

Activity	Implementation schedule								Responsibility
	2013	2014	2015	2016	2017	2018	2019	2020	
Issue a decision on the functions and tasks to the Commune Commanding Unit		X							CPC
Start activities directed by the Commune Commanding Unit		X							CPC
Support to the setting up of VMBFMLD and issue a decision in recognition of VMBFMLD establishment as well as their tasks and functions	X	X							CPC, Villagers
Collect and analyze information to clarify the appropriateness, gaps, effectiveness, and sustainability of the mechanism for coordination, management and supervision of activities at commune level		X	X						DPC, CPC, villagers, MPSUFMB
Review for the outcomes of the implementations by the proposed institutional framework			X						

Table5. Schedule of developing capacity in the level of awareness, technique, and knowledge on forest management and livelihoods development for CPC staffs, relevant organization staffs, and villagers

Activity	Implementation schedule								Responsibility
	2013	2014	2015	2016	2017	2018	2019	2020	
Training on how to plan for forest management activities and livelihood development activities for CPC officials and other relevant officials	X*	X							DARD, DPC, SUFMB
Training on skills in identifying villagers' needs	X	X							CPC
Study tours for representatives of CPC and villagers		X	X						DARD, DPC, and CPC
Training on financial analysis of forest management and livelihood development for villagers		X		X					CPC, DPC
Training on forest change monitoring for villagers		X		X					District Sub-FPD
Training on forest patrolling & protection for villagers		X		X					
Training on techniques of forest management activities and livelihood development activities for villagers		X	X	X					DPC, CPC

(*This training has been partially held)

Note: Corrections and additions to this activity plan are to be made as appropriate in the course of conducting C-RAP.

Examples of Village Management Plan in the Muong Phang Commune

Co Liu Village

Long Hay Village

Long Luong 1 Village

Long Luong 2 Village

Long Nghiu Village

Current Status of Forests and Forestlands and Priority Activities to be implemented

Location: Co Liu Village, Muong Phang Commune, Dien Bien District

Formulated date:

10/6/2013

Place (local name)	Area (ha)	FPDP Parcel ID	Current Status	Reasons	Priority Activities to be Implemented
Đồi Đỉnh 10	30 ha	KNB-7	-Forest is protected well. -Some forest areas were lost. -Some forest areas were degraded.	-Managed by households; -Deforestation for getting cultivation land; -Unsuitable exploitation.	Patrol & protect forest.
Pú Pá Khá	6 ha	KNB-7	Forest is protected well.	Managed & protected by households.	Patrol & protect forest.
Đông Sên	20 ha	VR-3,4	Forest is protected well.	Marvelous forest area of the village.	Forbidden forest
Pú Đỉnh	3 ha	NR-2	Forest is protected well.	Plating forest of government	Patrol & protect forest.

VILLAGE FOREST MANAGEMENT PLAN

Location: Co Liu Village, Muong Phang Commune, Dien Bien District

*Formulated date:
10/6/2013*

No	Activity	Implementation Year					Target Location	Output (Target Area)	Responsibility	Needed Supports
		2013	2014	2015	2016	2017				
1	Restructure forest protection team.	X					At the village	7 people	Villagers	Budget for implementing
2	Forest patrol & protection	X	X	X	X	X			Forest patrol team & villagers.	Budget for implementing
3	Discuss with CPC & DPC about afforestation plan (Profit sharing mechanism)	X								
4	Afforestation (If CPC & DPC agreed)		X	X	X	X			Villagers	-Seedlings -Technique
5	Monitor forest changing	X	X	X	X	X			Villagers	
6	Monitor results of project activity	X	X	X	X	X			Village Management Board	

Muong Phang, / /2013

**Village head
Approved by the CPC**

Analysis of Existing/Existed Activities

Location: Co Liu Village, Muong Phang Commune, Dien Bien District

*Formulated date:
10/6/2013*

Activity Name	Current Status	Advantages to the Villagers	Existing Issues	Unmanageable Risks	Potential Improvements
BUFFALO	-High quantity. (2/3 HHs are raising. 2 to 3 ones per HH) -Simple cages	Easy to sell out; get animal force & dung.	No raising places; disease.	Cold weather; disease.	
PIG	Grow up slowly; lack of food & technique; disease; simple cages.	Easy to sell out; get food for HHs; vaccine injection.	Lack of budget & technique.	Disease	Borrow money; agricultural extension service.
CHICKEN, DUCK, FRENCH DUCK	Raise with small scale.	Have raising places; easy to sell out; get food for HHs.	Lack of budget & technique; no cages; no agricultural extension service; no good raising models.	Disease	-Improve food; borrow money; agricultural extension service.
FISH	Have many ponds; have water resource and market. disease.	Have many ponds; get food for HHs. easy to sell out.	Lack of fingerings; lack of food and budget.	Disease	-Improve disease protection; clean the pond; plant grass.
PADDY RICE	Low productivity; disease; lack of water; swamp field mainly; local seeds.	Get food for HHs	Lack of technique & water; paddy field is alum; local seeds were degraded.	Disease; mice destroyed crops.	-Use lime; improve paddy field; use manure and new seeds.

CASSAVA	Low productivity; poor soil; local seeds; easy to sell out.	Easy to sell out; get for animals; material for making wine.	Low productivity		Use more fertilizer.
EDIBLE CANNA	Low productivity; poor soil; easy to sell out.	Easy to sell	Disease; lack of technique.		Use more fertilizer.

Identification of Existing but Un-/Under-utilized Resources

Location: Co Liu Village, Muong Phang Commune, Dien Bien District

Formulated date: 10/6/2013

Type	Resources Available in the Village
Human resource	Available labor force. (There are four people who graduated from University and collage but they are unemployed.)
Natural resource	Animal dung resource.

VILLAGE LIVELIHOODS DEVELOPMENT PLAN

Location: **Co Liu Village, Muong Phang Commune, Dien Bien District**

Formulated date:
10/6/2013

No	Activity	Implementation Year					Villager's Contribution	Assistance Needed
		2013	2014	2015	2016	2017		
1	PIG	X	X	X	X	X	Cage; food; labor days	Seed animals, technique; studytour; a part of food.
2	CHICKEN DUCK; FRENCH DUCK	X	X	X	X	X	Cage; food; labor days	Technique; seed animals; food; studytour.
3	FRUIT TREE		X	X	X	X	Land; fertilizer, labor force;	Technique; seedlings
4	FODDER GRASS		X	X	X	X	Land; fertilizer, labor force;	Technique; seedlings, studytour
5	VEGETABLE	X	X	X	X	X	Land; fertilizer, labor force;	Technique; seedlings
6	BIOGAS		X	X	X	X	Land; labor force;	Technique, construction materials, studytour.

Muong Phang, / /2013

Village Head

Approved by the CPC

Current Status of Forests and Forestlands and Priority Activities to be implemented

Location: Long Hay Village, Muong Phang Commune, Dien Bien District

Formulated date:
7/6/2013

Place (local name)	Area (ha)	FPDP Parcel ID	Current Status	Reasons	Priority Activities to be Implemented
Đồi Lâm Trống (Chung Do Dua)	48 ha	KNB-9	Forest is degraded; some forest areas were lost.	Cut trees for making houses; collected firewood too much; destroy forest for getting cultivation land.	Forest protection & patrol
Chung Khỏ Na	3,5 ha	VR-0	Forest is degraded	Planning of Long Luong Lake area.	Forest protection & patrol
Nhệ Lái			Protected forest well	Managed and protected by HHs	
Khu rừng trong bản (Forest area inside the village)	1 ha	VR-1	Protected forest well	Managed and protected by HHs	

VILLAGE FOREST MANAGEMENT PLAN

Location: Long Hay Village, Muong Phang Commune, Dien Bien District

*Formulated
date: 7/6/2013*

No	Activity	Implementation Year					Target Location	Output (Target Area)	Responsibility	Needed Supports
		2013	2014	2015	2016	2017				
1	Set up forest protection team	X					At the village	5 people	Villagers	Cooperate with commune police and forest rangers.
2	Patrol forest	X	X	X	X	X	Chung Dò Dua Nhẹ Lái		Villagers	Cooperate with commune police and forest rangers.
3	Monitor forest changing	X	X	X	X	X	Chung Dò Dua Nhẹ Lái		Villagers	Cooperate with commune police and forest rangers.
4	Monitor results of project activities.	X	X	X	X	X	At the village		Villagers	
5	Studytour	X					Inside Dien Bien Province			

Muong Phang, / /2013

**Village Head
Approved by the CPC**

Analysis of Existing/Existed Activities

Location: Long Hay Village, Muong Phang Commune, Dien Bien District

Formulated date:
7/6/2013

Activity Name	Current Status	Advantages to the Villagers	Existing Issues	Unmanageable Risks	Potential Improvements
BUFFALO/COW	Low quantity; develop well	Get animal force	No raising places	Disease; stolen	Plant fodder grass; vaccine injection
FISH	Many HHs raise fish; develop not well; lack of technique.	Many ponds; easy to sell out.	Lack of technique; lack of budget	Disease	Technical training
CHICKEN/DUCK	Develop well; disease	Get food; easy to sell out	Lack of technique; disease	Disease; stolen	Technical training; making cages
PIG	Many HHs raise pig; disease; free animal raising	Get food; easy to sell out	Lack of animal food; lack of budget for making cage; no vaccine injection; bad seed animal.	Disease; stolen	Technical training; vaccine injection; borrow money.
PADDY RICE	Plant a lot but one crop per year only.	Get food for HHs	Disease; lack of technique and good seeds	Disease; destroyed mice by	Technical training; making cages; completing irrigation system; good seeds.
CASSAVA	High productivity	Easy to plant and sell out; get food for people and animals	Lack of labor force & technique; poor soil		Technique & fertilizer
EDIBLE CANNA	Plant a lots; low productivity by poor	Easy to plant & sell out.	Use a lot of labor days; soil is poor after three years of		

	soil.		cultivating.		
VEGETABLE	Plant in small areas	Service HHs and sell out.	Lack of seeds and technique; bad weather.	Bad weather	Technique & garden
FRUIT TREE	Plant in small areas	Service HHs and sell out.	Lack of seedlings and technique		Technique & seedlings

Identification of Existing but Un-/Under-utilized Resources

Location: Long Hay Village, Muong Phang Commune, Dien Bien District

Formulated date:
7/6/2013

Type	Resources Available in the Village
Human resource	There are two months of leisure after harvest time per year
Natural resource	-Not much animal dung; -Straw is available but hasn't been used yet.

VILLAGE LIVELIHOODS DEVELOPMENT PLAN

Location: Long Hay Village, Muong Phang Commune, Dien Bien District

Formulated date:
7/6/2013

No	Activity	Implementation Year					Villager's Contribution	Assistance Needed
		2013	2014	2015	2016	2017		
1	FISH		X	X	X	X	Pond; labor days; food.	Technique; fingerings; study tour
2	PIG	X	X	X	X	X	Cage, labor days; animal medicines	Technique; seed animal; study tour
3	PADDY RICE		X	X	X	X	Paddy field, labor days; water	Technique; seeds; fertilizer; insecticide
4	FRUIT TREE		X	X	X	X	Land and labor days	Technique; seedlings; fertilizer; insecticide; Study tour

Muong Phang, / /2013
Village Head
Approved by the CPC

Current Status of Forests and Forestlands and Priority Activities to be implemented

Location: Long Luong 1 Village, Muong Phang Commune, Dien Bien District

Formulated date:

4/6/2013

Place (local name)	Area (ha)	FPDP Parcel ID	Current Status	Reasons	Priority Activities to be Implemented
Núi cây Dẻ (Hazel mountain)	10 ha	KNB-2	Hazel forest is degraded. Some forest areas were lost.	Cut trees for making and repairing houses; Collected firewood too much;	Patrol & protect forest.
Khu Pá Hươi	4 ha 4 ha	KNB-6 NR-3	Forest is degraded. Some forest areas were lost.	Cut trees for making houses (Thai villagers). Collected firewood too much.	Set up forest patrol team.
Đường Kéo pháo (cannon pulled road - Forest)	2 ha	IB-8	Cultivate on upland.	Changed purpose of using land to cultivate on upland.	Cultivate on upland.
Rừng sắt (Arrow forest)	8 ha	KNB-8	Forest is degraded.	Excessive exploitation	Set up forest patrol team.
Đầu nguồn hồ Lọng Luông (Watershed area of Long Luong Lake)	100 ha (belong to four villages)	NR-2, NR-4, NR-5. IB-5, KN+3	Cultivate on upland; bare land, bare hills, and mountains.	Cultivate on upland.	Cultivate on upland; Households agreed to afforest on this land area.
Mùa A Vàng	10 ha	KNS+4, KN+3, KNS, KN+2, KN+0	Forest is protected and developed well.	Managed and protected by villagers.	HHs develop schedule of forest protection and patrol.

VILLAGE FOREST MANAGEMENT PLAN

Location: Long Luong 1 Village, Muong Phang Commune, Dien Bien District Formulated date: 4/6/2013

No	Activity	Implementation Year					Target Location	Output (Target Area)	Responsibility	Needed Supports
		2013	2014	2015	2016	2017				
1	Set up forest protection team	X					At the village	01 team (7-8 people)	Villagers	
2	Discuss with DPC & CPC on future afforestation plan (Sharing benefit mechanism)	X								
3	Afforestation (If DPC & CPC agreed)		X	X	X	X	Watershed area of Long Luong Lake.	100 ha	Villagers	-Seedlings, -Technique
4	Forest patrol and protection; Monitor forest changing	X	X	X	X	X	-Núi cây Dẻ -Khu Pá Hươi -Rừng Mạch Chá	10 ha 8 ha 8 ha	Patrol team and villagers	
5	Monitor results of project activities.	X	X	X	X	X			Village Management Board	
6	Training on improving villagers' capacity of forest protection and development	X	X	X	X	X	At the village		Villagers	-Village Management Board -Project

7	Visit some successful models of forest protection and management in and out Dien Bien Province.	X	X					03 study tours	Villagers	Project
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Muong Phang, / /2013

Village Head

Approved by the CPC

Analysis of Existing/Existed Activities

Location: Long Luong 1 Village, Muong Phang Commune, Dien Bien District

Formulated date:
4/6/2013

Activity Name	Current Status	Advantages to the Villagers	Existing Issues	Unmanageable Risks	Potential Improvements
PIG	Develop well; small quantity of pigs; happened disease	Get food and sell out	No experience; disease always happen; lack of food; no pig cages.	Disease; lost by stolen.	Technique, vaccine, seed animal; cages.
CHICKEN	High quantity; happened disease.	Raising places is far from the village (upland) to avoid disease; get food and sell out.	No chicken cages; lack of budget and food; no vaccine.	Disease; lost by stolen; weather	Technique, vaccine, new seed animal;
DUCK	Small quantity and undeveloped; no technique; destroy paddy farm.	Less disease than chicken	No cages and place for raising; lack of technique; no vaccine		
COW/BUFFALO	Small quantity; develop not well.		No raising place; use much labor days; bad weather; no vaccine.	Disease	Seed animal; technique of fodder grass and animal raising.
FISH	Many ponds; develop well	Many ponds; get food and sell out; no disease	Water resource was polluted by using insecticide; no technique.	Grass carp has disease; bad weather and water resource.	Training on technique of fish raising; manage water resource.

EDIBLE CANNA	Plant a lot; its high productivity; main income by cash.	Keep seedling easily; small investment.	Use much labor days; soil is coming poor so quick.		Combined cultivation with soyabeen and peanut.
CASSAVA	Plant a lot with high productivity.	Suitable soil; easy cultivation and sell out; low investment; get food for animal; keep seedling easily.	Use much labor days; no new seedling; destroyed by cows and buffaloes.		New seedling; follow village regulation strickly.
PADDY RICE	Plant a lot but low productivity	Enough land for cultivation; high labor force.	Lack of water; seed with low productivity.		Climate
VEGETABLE	Many HHs plant but small areas.	Get food; keep seeds by themselves.; weather.	Small cultivation area; no technique; lack of water.		Training on techique of plating vegetable; seeds.

Identification of Existing but Un-/Under-utilized Resources

Location: Long Luong 1 Village, Muong Phang Commune, Dien Bien District

Formulated
Date: 4/6/2013

Type	Resources Available in the Village
Human resource	<ul style="list-style-type: none">-Labor force is available;-There are four months of leisure after harvest time per year;-Most villagers of the village have finished primary school.
Natural resource	<ul style="list-style-type: none">-High land area but soil is poor;-A lot of animal dung;-Straw is available after harvesting.

VILLAGE LIVELIHOODS DEVELOPMENT PLAN

Location: Long Luong 1 Village, Muong Phang Commune, Dien Bien District

Formulated
date: 4/6/2013

No	Activity	Implementation Year					Villager's Contribution	Assistance Needed
		2013	2014	2015	2016	2017		
1	FISH	X	X	X	X	X	Pond; labor days.	Technique; fingerings
2	PIG	X	X	X	X	X	Cage; labor days.	Technique; seed animal
3	FRUIT TREE		X	X	X	X	Land; labor days.	Technique; seedlings
4	VEGETABLE	X	X	X	X	X	Land; laborsdays.	Technique; seeds
5	SOYBEEN		X	X	X	X	Land; labor days.	Technique; seed

Muong Phang, / /2013
Village Head
Approved by the CPC

Current Status of Forests and Forestlands and Priority Activities to be implemented

Location: Long Luong 2 Village, Muong Phang Commune, Dien Bien District

Formulated date: 5/6/2013

Place (local name)	Area (ha)	FPDP Parcel ID	Current Status	Reasons	Priority Activities to be Implemented
Đồi cây Dẻ (Hazel Hill)	12 ha	KNB-5	II-b Forest is degraded.	Cut trees for making houses; destroy forest for getting cultivation land (Na Tau people cut trees)	-Forest patrol and protection; -Support budget for forest protection.
Cạnh ao ông Dền (Nearby Mr. Dền's pond)	1 ha	IB-7	Managed by Mr. Dền's HH of Long Hay Village.	Cut trees for making houses (Thai villagers). Collected firewood too much.	
Đồi Chung Súa (Chung Súa Hill)	6 ha	IB-4	II-b+TN Forest is protected well	Forest is protected and managed well by five HHs.	-Support budget for forest protection; -Improve awareness of villagers; -Follow village regulation.
Núi Làm Trống (Drum Mountain)	1,5 ha	KNB-9	II-a Forest is degraded; some forest areas were lost.	Cut trees for making houses; Destroy forest to get cultivation land.	Support budget for forest protection.

VILLAGE FOREST MANAGEMENT PLAN

Location: Long Luong 2 Village, Muong Phang Commune, Dien Bien District

Formulated date: 5/6/2013

No	Activity	Implementation Year					Target Location	Output (Target Area)	Responsibility	Needed Supports
		2013	2014	2015	2016	2017				
1	Set up forest protection and management team	X					At the village	8 people	Villagers	Cooperate with forest rangers
2	Patrol and protect forest	X	X	X	X	X	-Hazel Hill -Chung Sua Hill, -Drum Mountain		Villagers	Cooperate with forest rangers
3	Afforestation		X	X	X	X	Watershed area of Long Luong Lake	96 ha	Villagers	-Seedlings -Technique -Budget
4	Monitor forest changing	X	X	X	X	X	-Hazel Hill -Chung Sua Hill, -Drum Mountain	19.5 ha	Villagers	Cooperate with forest rangers
5	Monitor results of project activities.	X	X	X	X	X			Village Management Board	

Muong Phang, / / 2013

Village Head

Approved by the CPC

Analysis of Existing/Existed Activities

Location: Long Luong 2 Village, Muong Phang Commune, Dien Bien District

*Formulated date:
5/6/2013*

Activity Name	Current Status	Advantages to the Villagers	Existing Issues	Unmanageable Risks	Potential Improvements
FISH	Many HHs raise (20 HHs); Develop well	Water resource; sell out easily.	Disease; lack of budget and technique.	Stolen; disease; landslide of pond edge.	Training on technique of fish raising.
COW/BUFFALO	Many HHs raise; Develop well	cow is raised easily; disease is happened rarely.	Disease (scabies, worm, etc)	Stolen; cold weather	Making cage; good feed; vaccine
PIG	Many HHs raise; Develop well	Food available; easy to sell out; get food for HHs.	Disease; lack of technique.	Stolen; disease	Vaccine; experience
CHICKEN/DUCK	Many HHs raise; Develop well	Get food for HHs; easy to raise and sell out; available animal food (cassava, maize..)	Disease; no technique; weather	Stolen	Vaccine; technique
GOAT	Not many HHs raise; Develop well	Easy to raise; develop well; available food.	Disease. bad weather	Stolen; cold weather	Suitable raising method
FRENCH DUCK	Develop well	Easy to raise; develop well; available food.	Disease, lack of technique.	Stolen	Make cage; Technique training
CASSAVA	Plant a lot; Develop well	Low investment; low labor days; easy to keep seed; no disease & easy to sell out.	Soil is poor quickly; lack of technique.		Technique training

EDIBLE CANNA	Plant a lot; Develop well	Easy to plant and sell out; get food for animals.	Soil is poor quickly; lack of technique.		
PADDY RICE	Plant a lot (one crop per year only)	Get food for HHs; trained on technique of cultivation; easy to keep seed.	A lot disease; applied technique not well; lack of budget for investment.	flood; natural risk	Technique training
FRUIT TREE	Develop well (plum, pear, mango...)	Low labordays; easy to sell out	Seedling with low productivity; bad weather, lack of budget for investment	Weather (storm, hailstone, etc)	New seedlings with high productivity

Identification of Existing but Un-/Under-utilized Resources

Location: Long Luong 2 Village, Muong Phang Commune, Dien Bien District

Formulated date:
5/6/2013

Type	Resources Available in the Village
Human resource	<ul style="list-style-type: none">- Labor force is available; (50% of village population is main labor age);- There are two months of leisure after harvest time per year-About 50% of villagers has finished primary school.
Natural resource	<ul style="list-style-type: none">-A lot of cultivation land;-Available animal dung but not use regularly;-Straw is not available.

VILLAGE LIVELIHOODS DEVELOPMENT PLAN

Location: Long Luong 2 Village, Muong Phang Commune, Dien Bien District

Formulated date:
5/6/2013

No	Activity	Implementation Year					Villager's Contribution	Assistance Needed
		2013	2014	2015	2016	2017		
1	FISH	X	X	X	X	X	Pond; labor days; food.	Technique; fingerings; studytour
2	GOAT (8/19HHs)	X	X	X	X	X	Cage, labor days; follow village regulation strictly.	Technique; seed animal
3	PIG (7/19HHs)	X	X	X	X	X	Cages, food; labor days.	Technique; seed animal
4	FRUIT TREE	X	X	X	X	X	Land, labor days, fertilizer	Technique; seedlings
5	PADDY RICE		X	X	X	X	Land, labor days , fertilizer	Technique; seed; fertilizer
6	VEGETABLE	X	X	X	X	X	Land, labor days.	Technique; seeds (mushroom)

Muong Phang, / /2013

Village Head

Approved by the CPC

Current Status of Forests and Forestlands and Priority Activities to be implemented

Location: Long Nghiu Village, Muong Phang Commune, Dien Bien District

Formulated date: 6/6/2013

Place (local name)	Area (ha)	FPDP Parcel ID	Current Status	Reasons	Priority Activities to be Implemented
Sán Phóng	6 ha	KNB-1	Managed by two HHs; forest is developed well from straw grass area.	Protect well; suitable exploitation	Continue to protect forest
Mạy Chá	30 ha	KNB-4 KNB-8 KNS-1	Managed by the village Mr. Chu' forest has been developing well for 10 years.	Protect well; Did not destroy forest for getting cultivation land.	Continue to protect forest
	7 ha	KNB-7	HHs; forest is degraded;		
	90 ha	KNS-5, 7, 0, 4, 8, Nr-10, la-0	Village manages forest Forest is degraded	Exploitation Forest fire Destroy	Forest protection; forest regeneration
	40 ha	KN-0, 1, la-3, 4, Nr-13, 14	Upland area Fallowed land	Poor land; low productivity of the crops.	Afforestation
	40 ha	KNS-9, 3, 6 NLa-0 + KNB-3	Upland cultivation, animal raising place, bare land	Soil is richer Upland area	Afforestation (KNS-6, 3) Raising place (KNS-9) Afforestation (NLa-0 + KNB-3)

VILLAGE FOREST MANAGEMENT PLAN

Location: Long Nghiu Village, Muong Phang Commune, Dien Bien District

Formulated
date: **6/6/2013**

No	Activity	Implementation Year					Target Location	Output (Target Area)	Responsibility	Needed Supports
		2013	2014	2015	2016	2017				
1	Set up forest protection team	X					At the village	10 people	Villagers	Cooperate with CPC and forest rangers
2	Patrol forest	X	X	X	X	X	Sán Phóng Mạ Chá	41 ha	Villagers	
3	Afforestation		X	X	X	X			Villagers	Seedlings, technique and fertilizer.
4	Monitor forest changing	X	X	X	X	X	Sán Phóng Mạ Chá		Villagers	
5	Review results of project activities	X	X	X	X	X				
6	Studytour	X	X				Inside Dien Bien Province		Villagers	

Muong Phang, / /2013

Village Head
Approved by the CPC

Analysis of Existing/Existed Activities

Location: Long Nghiu Village, Muong Phang Commune, Dien Bien District

Formulated date: 6/6/2013

Activity Name	Current Status	Advantages to the Villagers	Existing Issues	Unmanageable Risks	Potential Improvements
FISH	Develop well	Water resource; easy to sell out.	Disease; lack of technique	Natural risks	Technique Studytour
BUFFALO/COW	Develop well; disease	Have raising places; labor force	Lack of technique; No agricultural extension service.	Disease	Technique Mutual communication system
GOAT	Develop well (4/36 HHs) Lack of budget	Easy to raise; available food	Lack of technique; need a lot of labor days; destroy crops.	Disease Stolen	Technique Raising follow village regulations.
CHICKEN/DUCK	Develop well; disease	Have raising places; available food; low labor day	No cage; lack of technique; disease	Stolen Bad weather	Technique Extension service
PIG	Develop well; seed animal is available in the village	Available food resource; cages	Lack of technique; lack of budget for making cages	Stolen	Technique Buid fixed cages
PADDY RICE	Lack of water; disease (4.1 ha of paddy area per 36 HHs)	Supported seeds by government	Lack of technique; Disease	Disease; rain & flood	Technique Limited cutting tree; use green manure; new seed with high productivity

CASSAVA	Low productivity; poor land; no manure.	Easy to keep seed; low labor days.	Lack of technique; No fertilizer	Soil was erosion	Technique Raise animal follow village regulations strickly
MAIZE	Cultivate on upland	Not much disease	Lack of technique; bad weather	Stolen; weather	Technique; studytour
EDIBLE CANNA	Develop well	Easy to keep seed and plant; high productivity.	Lack of technique; bad weather	Weather	New seed
VEGETABLE	Develop well	Seeds; fertilizer	Use a lot of labor days	Weather	Technique; studytour
FRUIT TREE	Develop well	Good weather	Lack of technique;	Disease	Technique

Identification of Existing but Un-/Under-utilized Resources

Location: Long Nghiu Village, Muong Phang Commune, Dien Bien District

Formulated date:
6/6/2013

Type	Resources Available in the Village
Human resource	Labor force is available
Natural resource	-Animal dung is available; -Straw is available.

VILLAGE LIVELIHOODS DEVELOPMENT PLAN

Location: Long Nghiu Village, Muong Phang Commune, Dien Bien District

Formulated date:
6/6/2013

No	Activity	Implementation Year					Villager's Contribution	Assistance Needed
		2013	2014	2015	2016	2017		
1	FISH		X	X	X	X	Pond; labor days; food.	Technique; seed animal; studytour
2	GOAT		X	X	X	X	Cage, labor days, raising places; animal medicines	Technique; seed animal
3	PADDY RICE		X	X	X	X	Land; labor days; fertilizer; insecticide; water resource	Technique; seed
4	VEGETABLE	X	X	X	X	X	Garden; labor days; water resource; fertilizer.	Technique; seeds
5	MUSHROOM	X	X	X	X	X	Labor days; straw. other materials	Technique; seed; studytour
6	FRUIT TREE		X	X	X	X	Labor days; fertilizer; insecticide.	Technique; seedlings

Muong Phang, / /2013

Village Head
Approved by the CPC

