SON LA PEOPLE'S COMMITTEE

PROVINCIAL "REDUCING EMISSIONS FROM DEFORESTATION AND FOREST DEGRADATION, AND THE ROLE OF CONSERVATION, SUSTAINABLE MANAGEMENT OF FORESTS AND ENHANCEMENT OF FOREST CARBON STOCKS IN DEVELOPING COUNTRIES" ACTION PLAN OF SON LA PROVINCE FOR THE PERIOD FROM 2017 TO 2020 TOWARDS 2030

Un-official translation by SNRM Project

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TABLE OF CONTENTS

TABLES

FIGURES

ANNEXES

MAPS

ACRONYMS AND ABBREVIATION

CPC	:	Commune People's Committee
DARD	:	Department of Agriculture and Rural Development
DPC	:	District People's Committee
FPD		Forest Protection Department
FPDP	:	Forest Protection and Development Plan
FRMS	:	Forest Resource Monitoring System
GHG	:	Green House Gas
GRDP	:	Gross Regional Domestic Product
JICA	:	Japan International Cooperation Agency
MARD	:	Ministry of Agriculture and Rural Development
NRAP	:	National REDD+ Action Programme
NTFPs	:	Non-Timber Forest Products
PFES	:	Payment for Forest Environmental Services
PPC	:	Provincial People's Committee
PRAP	:	Provincial REDD+ Action Plan
PSC	:	Provincial Steering Committee
REDD+	:	Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
SNRM	:	Sustainable Natural Resource Management
SUF	:	Special-Use Forest

PREAMBLE

1. Background

Climate change – commonly known as global warming and associated sea level rise – is one of the most serious challenges facing the human beings in the 21st century, causing property and human losses. The United Nations Framework Convention on Climate Change (UNFCCC) was signed at the 1992 World Summit on Environment and Development in Rio de Janeiro (Brazil), marking the solidarity of the world in response to the climate change. In that context, the mechanism for reducing greenhouse gas emissions from deforestation and forest degradation (REDD+) has been introduced and has attracted global and national attention for the potential contribution of the mechanism to mitigate climate change impacts.

Viet Nam is considered as one of the countries most affected by climate change. There was an estimation of 9,500 dead and missing, economic loss of 1.5% annual GDP only during the period of 2001-2010, hundreds of casualties and economic losses are estimated at USD 1.9 billion (equivalent to 1.3% of GDP) due to the impacts of climate change every year. In order to respond to that Vietnam has made strong international commitments to mitigate greenhouse gas emissions. The Government of Vietnam has developed and been implementing the National Target Program; Ministries, sectors and localities have been developing action plans to cope with the immediate and potential long-term impacts of climate change. The Prime Minister of Viet Nam signed the Decision No. 799 / QD-TTg on June 27, 2012 approving the National Action Program on "reduction of green-house gas emissions through efforts to reduce deforestation and forest degradation, sustainable management of forest resources, and conservation and enhancement of forest carbon stocks" for the period from 2011 to 2020 (NRAP), which is recently replaced by the Decision No. 419/QĐ-TTg dated April 5, 2017 that aims at contributing to global efforts to implement REDD+. In order to facilitate the implementation of the NRAP nationwide, the Ministry of Agriculture and Rural Development issued Decision No. 5414/QĐ-BNN-TCLN dated December 25, 2015 guiding Provincial People's Committees to develop PRAP.

Son La is a mountainous province located in the northwest region of Vietnam, with total natural area of 1,412,349 ha. Among the total natural area, 599,463 ha is covered by forests, accounts for 42.4%,, of which 573,593 ha is natural forest and 25,870 ha is planted forest. Son La has been implementing forestry programs and projects to sustainably protect and use the forests and forestry land, meeting the requirements of preserving rare, precious and endemic

biological resources in the northern and high mountainous sub-continent climates, regulating water resource and improving the ecological environment, creating forest products, contributing to socio-economic development and livelihoods of local people in the province.

In order to promote REDD+ and to implement the Decision No. 799 and the Decision No. 419/QĐ-TTg of the Prime Minister, the Decision No. 5414/QD-BNN-TCLN of MARD under the support of the Sustainable Natural Resource Management (SMRM) Project funded by the Japan International Cooperation Agency (JICA), the Province has developed the PRAP for the 2017 - 2020 period. The PRAP of the Province is constituted of programs and projects of forest protection and development, and integrated with the provincial FPDP, which is associated with the Forestry Sector Restructuring Scheme during the 2016 – 2020 period. It is also in line with the government's development policies and plans, and suitable with the natural and socio-economic conditions of the Province.

2. Legal basis

2.1. National Legal Documents

- The Decree No.99/2010/ND-CP dated September 24, 2010 of the Government on the PFES Policy; The Decree No. 147/2016/NĐ-CP dated November 2, 2016 of the Government amending a number of articles of the Government's Decree No. 99/2010/ND-CP;

- Decree No. 75/2015/NĐ-CP dated September 9, 2015, on mechanism and policy of forest development associated with the policy on sustainable and rapid poverty reduction and assistance to ethnic minorities for the period 2015 – 2020;

- The Resolution No. 30a/2008/NQ-CP dated December 27, 2008 of the Government, supporting program for fast and sustainable poverty reduction in 61 poor districts;

- The Resolution No. 73/NQ-CP dated August 26, 2016 of the Government approving the investment orientation of the target programs for the 2016-2020 period;

- The Decision No. 2139/QD-TTg dated December 5, 2011 of the Prime Minister approving the national climate change strategy;

- The Decision 1474/QĐ-TTG dated 5th October, 2012 issuing the National Action Plan on Climate Change for the period from 2012 to 2020;

- The Decision No.886/QĐ-TTg dated June 16, 2017 of the Prime

Minister on Sustainable Forestry Development Target Program for the 2016 – 2020 period;

- The Decision No. 1959/QD-TTg dated October 29, 2013 of the Prime Minister, approving the master plan on socio-economic development of Son La province until 2020;

- The Decision No. 1976/QD-TTg dated 30 October, 2014, approving special-use forest system of the country by 2020 with a vision to 2030;

- The Decision No. 1722/QD-TTg dated September 2, 2016 of the Prime Minister approving the national target program for sustainable poverty for the 2016-2020 period;

- The Decision No. 38/2016/QD-TTg dated 14 September 2016 of the Prime Minister promulgating a number of policies on forest protection and development, and support for investment in infrastructure construction and assignment of public-utility tasks to agricultural and forestry companies;

- Decision No. 419/QD-TTg dated April 5, 2017 of the Prime Minister approving the National Action Program on "reduction of green-house gas emissions through efforts to reduce deforestation and forest degradation, sustainable management of forest resources, and conservation and enhancement of forest carbon stocks" until 2030;

- The Decision No. 1565/QD–BNN-TCLN dated 8 July, 2013 of the Minister of MARD approving forestry sector restructuring scheme;

- The Decision No. 1757/QĐ-BNN-TCLN dated August 1, 2013 of MARD promulgating Action Plan for implementation of forestry sector restructuring scheme;

- The Decision No. 5414/QĐ-BNN-TCLN dated December 25, 2015 of MARD approving the guidelines on development of Provincial Action Plan on reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD+);

- The Decision No. 4713/QĐ-BNN-HTQT dated November 15, 2016 of the MARD approving the SNRM Project funded by Japanese Government.

2.2. Provincial legal documents

- The Resolution of the 13th Party Congress of Son La province, 2015 – 2020 term of office;

- Decision No. 3584/QD-UBND dated December 29, 2014 of Son La PPC approving the revised master plan for sustainable conservation and development of special-used forests in Son La Province up to 2020;

- The Decision No. 3585/QĐ-UBND dated December 29, 2014 of Son La

People's Committee approving the amendment of Son La FPD Planning until 2015 towards 2020;

- The Decision No. 1529/QĐ-UBND dated June 29, 2016 of the PPC approving Son La 2013-2016 forest inventory results;

- The Decision No. 66/QĐ-UBND dated January 11, 2017 approving the FPDP of Son La for the 2016-2020 period.

Part I:

OVERVIEW OF FOREST PROTECTION AND DEVELOPMENT, AND POTENTIALS FOR REDD+ IMPLEMENTATION OF SON LA PROVINCE

I. OVERVIEW OF NATURAL AND SOCIO-ECONOMIC CONDITIONS

1. Natural Conditions

1.1. Geographical location

Son La Province is in the centre of Northwest region with its natural area of 1,412,349 ha, which accounts for 4.28% of the national land and ranked as the third largest province among the 63 provinces and cities. The province is located from $20^0 39'$ to $22^0 02'$ North latitude and from $103^0 11'$ to $105^0 02'$ East longitude. The Province borders with Lai Chau and Yen Bai Provinces to the North, Thanh Hoa Province and Lao PDR to the South, Hoa Binh and Phu Tho Provinces to the East, and Dien Bien Province to the West.

1.2. Topography

Son La has complex topography characterized by rocky-mountains interwoven with hills and valleys, and 87% of its land is 25° or above in its slope. The Province is situated at an average altitude of 600-700m above sea level. There are two plateaus adjacently located in the province namely Moc Chau and Na San. Moc Chau Plateau is situated at an altitude of 1.000 - 1.050m above sea level with an area of over 20,000 ha, running along the Highway 6 from Hoa Binh Province to Yen Chau District of Son La Province. Na San – Son La Plateau is situated at an altitude of 600 – 800m above sea level with its area of approximately 15,000 ha running along the Highway 6 from Yen Chau District to Pha Din Pass, and then to Thuan Chau District.

The complex topography and fragmented landscape hinders the development of large-scale agriculture land, transportation and irrigation systems, since they will require significant investment. However, the diverse

topography and landscape also bring advantages for development of multi-sector commodity economy and diversification of agriculture. The high terrains are suitable for growing some tree species, medicinal plants and livestock. The valleys are suitable for development of tree plantations for large timbers, food crops, short-term industrial plants, livestock (e.g. cattle and poultry) and aquaculture. The Moc Chau Plateau and Na San Plateau are flat with fertile soil, and have suitable climate condition for growing tropical trees (industrial trees and fruit trees), crops and dairy farming.

1.3. Soil characteristics

There are 7 soil groups and 24 soil types which covers 1,332,390.33 ha, account for 94% of the natural area of the province. Details are as follows:

- *Oxisol:* 769,424.4 ha, 54.28% of the natural area, distributed almost throughout the Province.

- *Humicacrisols:* 503,830.48 ha, 35.54% of natural area, found in elevation of 900m above sea level.

-*Humus on high mountains*: 24,443.88 ha, 1.73% of natural area, and mainly distributed in Phu Yen District.

- *Fluvisol*: 19,171.56 ha, 1.3% of the natural area, and distributed along riversides. Rivers in Son La are short and steep so level of accretion of sediment is different among rivers. There are very few large alluvial areas.

- *Valley soil:* 8,537.74 ha, 0.60% of the natural area.

- *Black soil:* 6,923.41 ha, 0.48% of the natural area. Formed on slope sides, flat land, and low valley.

- *Arenosol:*58.82 ha, 0.004% of the natural area including 1 riverside arenosol, distributed in highland areas such as Muong La and Song Ma Districts.

1.4. Climate and hydrology

- Climate

Son La is in the tropics and has similar weather condition with other Northwest provinces with cold and dry winter, and hot, humid and wet summer. The average annual temperature is 21.2^0C, the highest temperature recorded is 41.8^0C, the lowest temperature recorded is -4.7^0C, and the temperature fluctuate among seasons and throughout a day. Average precipitation is 106.9 mm/year. Precipitation differs throughout the year; rainy season lasts for 6-7 months with the total precipitation accounting for 85% of the annual precipitation (particularly July accounts for highest volume of 369.7 mm).

In general, the climate condition of Son La province is suitable for developing diversified, intensive and ecologically sound agriculture and forestry production system. However, it is also necessary to apply measures to prevent

and mitigate adverse impacts of extreme climate, such as hot winds, frost, hail, drought, and floods in order to sustain productivity as well as people's living.

- Hydrology

Son La has an extended network of rivers and streams, and one km^2 of land contain approximately 1.2–1.8 km of river/stream as an average. The river banks are often steep and many rapids run through steep mountainous terrain and deep valleys. Da River and Ma River are the two major rivers flowing through the province, and there are 35 large streams and hundreds of small streams. Da River flows through Son La territory with a length of 250 km. In the provincial territory, the river has drainage basin of approximately 984,440ha represented by the two large reservoirs of the Northwest region namely Hoa Binh and Son La Hydropower reservoirs.

Water-flow of rivers and streams varies largely between rainy season and dry season. During the rainy season, the precipitation is high and the water-flow in the rivers and streams is strong, while in the dry season, water-flow is much weaker and many streams dry up. These characteristics lead to high needs for irrigation systems to enable efficient use of water resources and meet the demands of agriculture and people's living.

2. Social-economic conditions

2.1. Economic conditions

According to the statistics in 2016, Gross Regional Domestic Products (GRDP) of Son La was VND 29,979.01 billion in total and VND 24.8 million per capita. The economic structure has been transforming to the expected direction compared to 2010. In 2016, proportion of the service sector increased from 32.87% to 43.43%, proportion of primary sector decreased from 37.84% to 30.34%, and proportion of secondary sector reduced from 29.28% to 19.58%.

- Agriculture economy

In general, food security has been ensured, and living standard of the farmers has gradually improved. Value of agriculture production in 2016 reached VND 14,992.3 billion, which was 2.1 times higher compared to 2010. Values from each ha of land for cultivation and aquaculture were VND 25.73 million and VND 96.32 million respectively. The agricultural industry (e.g. cultivation, livestock) has been shifting towards improved competitive advantages in association with product markets, especially, high-end markets.

+ *Cultivation*: According to the 2016 Statistical Yearbook, the total agriculture land of Son La was 364,891 ha. The largest area was for maize production with 162,510 ha, which accounted for 54.3% with its production output reaching 598,640 tons. The second largest area was for rice production with 51,760 ha (14.19%), followed by cassava with 32,840 ha (9%). The area

for industrial crops (perennial and annual) such as rubber, coffee, tea, sugarcane, cassava was 50,405 ha, and fruits tree was 26,660 ha. There have been a number of innovative production models with high economic values applied and replicated provincial-wide, such as innovative rice production model applying 'SRI method', sustainable maize cultivation on slope lands, grafting and renovation of the old longan and mango gardens, conversion of maize lands into fruit to orchards, and coffee cultivation model applying combination of drip irrigation and soluble fertilizers (i.e. in Phong Lai Commune, Thuan Chau District). These models have been developed in concentrated production areas and together with processing and distribution systems;

+ *Livestock:* Livestock in Son La has been developing towards production of goods. The model of linking primary farms (large-scale farming) and secondary farms (household-scale farming) has been replicating province-wide, with focus on production of quality breeds and transfer of farming techniques. The fishery industry has been developing towards efficient use of surface water. In 2016, the total area for fishery was 2,568 ha and the total output of aquatic produce reached 6,760.7 tons, of which, produce from aquaculture was 5,650 tons and from wild was 1,110 tons. The province has been expanding caged aquaculture and other models with higher economic value for salmon, paleasteindachnerisiebenrock, Bagariusbagarius, and Hemibagrus, etc. Especially, the Province has successfully developed sturgeon raising models in some suitable regions such as Da reservoir and Suoi Chieu irrigation lake.

+*Forestry:* The value of forestry production in 2016 reached VND 1,099.4 billion, a decrease of 3.27% compared to 2010. Timber logging and NTFPs harvesting occupied the biggest, accounted for 59% of the total production value of the sector, and increased by 5.74% compared to 2010. Tree planting and forest maintenance was ranked as the second, accounted for 19% of the total production value, and reduced by 2.1% compared to 2010. Forest services and other activities ranked as the third with their aggregation reached 17% of the total production value (increased by 0.78% compared to 2010), and the smallest was activity related to collection of forest products excluded timber and NTFPs with their contribution of 5% (reduced by 51.71% compared to 2010).

In the coming time, forestry sector of the Province will be developed towards: improvement of quality of forest management, protection, regeneration, reforestation and afforestation; PFES implementation; encouragement of other economic sectors to participate in development of forest plantations together with processing and distribution; and contribute to the increase of forest cover, especially the watershed protection forests of Da River which supply water to the hydropower plants in Son La, Hoa Binh and northern delta area.

- Industry, trade, and services

The values from industrial production in 2016 reached VND 8,138.72 billion, an increase of VND 4,716.19 billion compared to 2010. There are number of significant achievements such as electricity, mining, and agroforestry product processing, especially in the industrial zones in Moc Chau, Mai Son, and Phu Yen Districts which recorded remarkable results and contributed to the goals to industrialize and modernize the province.

Trade, service and tourism sectors have largely developed in terms of their quantity and quality. The total retail value in 2016 reached VND 14,821.92, which was 2.5 times higher than that of 2010. The total export value was USD 40,377 per year. It is noteworthy that the Master Plan of Moc Chau National Tourism Region Development until 2020 towards 2030 approved by the Prime Minister, is one highlight in the national tourism map and expected to attract domestic and international tourists and investors.

2.2. Cultural and social affairs

- Culture and education

Cultural and sport activities in Son La have been promoted. Tradition and identities of the ethnic groups have been retained and developed. A series of traditional festivals has revived by linking community's culture with tourism. The movement of "All people unite to build cultural life" have been developed in its quality and scale. The policies of the government are disseminated in a timely manner, creating uniformity in the society and contributing to redress social abuses.

Son La province has been progressing to realize the principle of prompt and comprehensive renovation of education and training in terms of scale and quality. The network of vocational training centers, colleges and universities have been improving and contributing to enhance the quality of human resources in the province.

Moreover, Son La is also focused on improving the quality of human resources through international cooperation programs which aim to provide advanced education and training to the people. Number of government officers were sent abroad for postgraduate and Ph.D. courses.

The education and training infrastructures and facilities have been developed to meet the demands. According to the 2016 Statistical Yearbook, the Province had 258 public pre-schools with 3,523 classes and 3,523 classrooms, and 10 private pre-schools with 73 classes and 58 classrooms. Moreover, the province had 289 primary schools with 6,148 classes, 230 secondary schools with 2,503 classes, and 32 high schools with 680 classes. There were 131,500 primary school students, 82,520 secondary school students and 27,750 high school students.

- Health

Health care services for the people have always been a priority of the government, and have received investments to develop and renovate the infrastructure and facilities. The national target programme on health, population, family planning, food safety and hygiene, preventive medicine, and health insurance has been effectively implemented, and contributing to improve the quality of health care for the people, especially for the main target groups as stipulated in policies (i.e. poor people, children under 6 years of age, ethnic minorities, elderly). According to the 2016 Statistical Yearbook data, the province had 32.45 hospital bed and 6.42 doctors/10,000 people, and 157 out of 204 communes had doctors.

- Population, ethnicity, and labour

According to the 2016 Statistical Yearbook, the population of the whole province was 1,208,200 people. The average population density was 86 people/km^2, with the highest in Son La City (323 people/km^2) and the lowest in Sop Cop District (31 people/km^2). The population growth rate was 1.46%. Most of the population (1,029,400 people, accounted for 86.35% of the total population) were living in rural areas, whilst only 162,700 people, accounted for 13.65% of the total population, were living in urban areas which is much lower than the national average of 29.6%. There were 12 ethnic groups in the province, such as Thai (54.01%); Kinh (16.29%); H'Mong (14.88%); Muong (7.65%); and the remaining 7.17% consists of Dao, Xinh Mun, Kho Mu, Khang and La Ha, etc.

The total number of workers in Son La in 2016 was 750,790 people, accounted for 61.63% of the total population. The labour force working in agriculture, forestry and fishery sector accounted for 72.7% of the total labour force, and non-agricultural sector accounted for only 27.3%.

Although the quality of agricultural and forestry labour are improving, number of sufficiently trained people are still limited.

In general, the Province has implemented the government policies as requested, and basically ensured sufficient and effective conditions to improve the livelihoods, social welfare, and living standards of the target groups. Poverty rate increased from 36.7% in 2010 to 42.80% in 2016 due to the changes in poverty criteria under the Decision No. 59/2015/QĐ-TTg dated November 19, 2015 of the Prime Minister promulgating multidimensional poverty levels applicable during 2016-2020. Shortage of job opportunities in rural and urban areas have been addressed, and number of job opportunities increased over the years (average increase of 16,800 jobs/years).

2.3. Infrastructure

- Transportation

With its central location in the Northwest, Son La Province has the largest land transportation network which connects the Northwest region with the Northeast and the Red River Delta, namely:

- National highway 6, which starts from Hanoi running through Son La to Dien Bien. This is an important main route linking the Northwest with the provinces in the Northern delta region. The Vietnamese Government has approved the plan to develop a highway which links Ha Noi- Hoa Binh – Moc Chau (Son La) and expected to bring multi-benefits to the Province in terms of transportation and trade.

- National highway 279 which connects Son La with other Northwest provinces and to Northeast region;

- National highway 37 which connects Son La with Yen Bai Province

- National highway 32 which connects Son La with Phu Tho Province

- National highway 43 which connects Son La with Long Sap border gate (Vietnam-Laos border)

- National highway 4G which originates from Mai Mon intersection of Son La City, and intersects with the national highway 6 to Song Ma District, Son La Province, with the length of 92 km.

In addition, Son La has Na San airport, and shares 250 km of border with Laos with two national border gates of Chieng Khuong and Long Sap which open opportunities for economic development, and social and culture exchanges.

- Irrigation

In recent years, irrigation system of Son La was innovated, especially in the narrow valleys and Moc Chau and Na San Plateaus. Many reservoirs and dams were completed. The total length of irrigation system has been largely extended or upgraded: 800 km of the total of 1,900 km has been upgraded to serve the needs of 80% of the production areas. Clean water supply is continuously under improvement.

In general, the infrastructures of the province have recorded significant development compared to 2010. However, in some regions, they are still insufficient and in under-supply to fulfil the needs for production of agricultural commodities. Especially the infrastructures in the concentrated and material production areas need urgent improvement.

II. FOREST PROTECTION AND DEVELOPMENT OF SON LA PROVINCE

1. State of forests and forestry land

The total area of forest and forestry land inventoried was 1,037,454 ha, of which, 966,988 ha was classified under three forest categories and 70,466 ha was classified as outside of three forest categories. The total land with forest cover was 598,997 ha (42.4% of the provincial land). Among the land with forest cover, 59,237 ha was classified under Special-Use Forests (SUFs) (accounted for 9.9%), 265,705 ha under Protection Forests (44.35%), 203,893 ha under Production Forests (34.03%), and 70,161 ha as land with forest cover outside of three forest categories (11.71%). Land without forest cover (so called bare-land) was 438,456 ha (accounted for 42.2% of the total inventoried area) - See Table 01 for details.

Table 01. State of forest and forestry land in 2016 of Son La Province

Unit: ha

No,	Items	Total	Forestry land under the three forest categories				Forests and lands outside the three forest categories
			Total	Special-use forests	Protection forests	Production forests	
Total area inventoried		1,037,454.5	966,988.4	77,631.7	464,661.0	424,696.1	70,466.0
1	Land with forest cover	598,997.7	528,836.5	59,237.0	265,705.8	203,893.8	70,161.2
1,1	Natural Forest	573,200.4	507,895.9	58,827.1	260,896.7	188,172.2	65,304.5
1,1,1	Timber forests	418,394.2	378,740.6	47,062.6	204,953.9	126,724.2	3 9,653.6
-	Rich Forests	11,756.4	11,672.3	8,550.9	2,537.5	583.8	84.1
-	Medium Forests	34,569.8	33,884.8	12,589.9	17,190.4	4,104.5	685.0
-	Poor Forests	60,110.6	56,475.1	4,611.5	38,905.7	12,957.9	3,635.5
-	Extreme Poor Forests	8,182.5	7,294.2	19.5	5017.9	2,256.8	888,3
1,1,2	Bamboo Forests	15,886.8	12,449.0	1,104.8	4,908.7	6,435.6	3,437.8
1,1,3	Mixed Wood-Bamboo Forests	138,919.4	116,706.4	10,659.8	51,034.2	55,012.4	22,213.1
1,2	Planted Forests	25,797.3	20,940.6	409.9	4,809.1	15,721.6	4,864.7
2	Land without forest cover (new planted trees)	438,456.8	438,151.9	18,394.4	198,955.3	220,802.3	304.9

Source: Son La Sub-FPD

2. Changes in forest cover the period of 2005 to 2016

2.1. Change in forest types

According to the statistics shown in the Table 02, the forest cover of the province slightly fluctuated from 574,225 ha in 2005 to 586,969 ha in 2009 and then sharply increased to 633,686 ha in 2011 and remained relatively stable until 2014 before dropping to 598,997 ha in 2016. Among the increase of forest cover during 2005 to 2016, which was 24,772 ha or equivalent to 4.52% of the forest cover of 2005, the natural forests increased 19,123 ha (equivalent to 3.45% of natural forests in 2005) and the planted forests increased 5,649 ha (equivalent to 28.3% of the planted forest area in 2005).

Changes in forest cover by forest types were due to various reasons. Planned conversions of natural forests into other land use (e.g. infrastructure, mining sites, industrial agriculture), forest fire, and forest encroachment for agriculture cultivation were the typical causes of deforestation (*details in Chapter III*). On the other hand, reforestation and forest regeneration activities have contributed to the increase of planted forests and also to the recovery of natural forests (*details in Section 3.3 and 3.4*). Moreover, changes in techniques of forest investigation and inventory, especially the use of remote sensing technology instead of manual methods have led to difference in the statistics over the years.

Table 02. Changes in forest cover by forest types over the period 2005-2016

Unit: ha

Year	Land with forest cover	of which	
		Natural forests	**Planted forests**
2005	574,225.2	554,076.9	20,148.3
2006	584,849.8	563,046.9	21,803.0
2007	583,031.4	560,441.9	22,589.5
2008	583,495.5	559,898.0	23,597.5
2009	586,969.8	562,860.2	24,109.6
2010	625,785.4	602,009.6	23,775.8
2011	633,686.8	609,554.3	24,132.5
2012	635,231.4	611,635.5	23,595.9
2013	635,935.1	610,523.9	25,411.2
2014	633,714.0	608,440.7	25,273.2
2015	599,463.1	573,593.1	25,870.0
2016	598,997.7	573,200.4	25,797.3

Source: Son La Sub-FPD

2.2. Changes in forest cover by three forest categories over the period 2010- 2016

According to the statistics shown in the Table 03, the forest cover of SUFs decreased from 2010 to 2013, then sharply increased during 2015 – 2016, resulting in an increase of 9,490 ha (equivalent to 19.07% of the area in 2010) over the 6 years. Meanwhile, the forest cover of Protection Forests slightly increased between 2010 and 2012, and then began to decline between 2013 and 2014 and sharply dropped in 2016, resulting in decrease of 74,249 ha (equivalent to 21.84% of the area in 2010) over the 6 years. The Production Forest slightly fluctuated between 2010 and 2014 and sharply decreased in 2016, resulting in a decrease of 31,069 ha (equivalent to 13.22% of the area in 2010) over the 6 years.

Such fluctuation in forest cover of the three forest categories can be explained by three main reasons: 1) the orientation of planning for three forest categories of the province (planning for expansion and sustainable development of SUFs as in accordance with the Decision No. 3584/QD/UBND dated December 29, 2014); 2) changes in forest cover due to the impacts of natural factors, and socio-economic development over periods (forest fire, illegal logging, and illegal forest conversion into other land uses, etc.); and 3) errors contained in forest inventory.

Table 03. Changes in forest cover by three forest categories over the period 2010 -2016

Unit: ha

Year	Land with forest cover	Special-use Forests	Protection Forests	Production Forests
2010	625,785.4	49,746.6	339,955.1	234,963.6
2011	633,686.8	49,653.2	343,652.7	239,178.5
2012	635,231.4	49,208.5	350,268.7	234,428.5
2013	635,935.1	48,483.1	346,172.3	239,812.0
2014	633,714.0	50,820.6	345,277.9	236,142.8
2015	599,463.1	59,371.3	265,886.3	204,026.7
2016	598,997.7	59,237.0	265,705.8	203,893.8

Source: Son La Sub-FPD

3. Achievements of forest protection and development over the 2005 - 2016 period

3.1. Forest management and protection

Forest management and protection has been carried out under the direction and involvement of multi-sectors at different levels, and achieved outstanding results over the 2005-2015 period as follows:

- ***Review the planning for three forest categories***: following the Instruction No. 38/CT-TTg of the Prime Minister, Son La Province completed reviewing the planning of three forest categories, which offers a foundation for the planning and development of annual plans and longer-term plans for forest protection and development. Son La PPC approved the results of forest inventory by three categories as stipulated in the Decision No. 2955/QD-UBND dated December 17, 2007, which recorded the total forestry land under three forest categories as 934,039 ha.

- ***Implementation of forest and forestry land allocation***: Forest and forestry land allocation in the province was implemented based on the Decree No. 01/CP, 02/CP, and No. 163/CP of the Government. During 2001-2006, the whole province basically completed the allocation of forests and forestry lands to different forest owners for their long-term use and management, along with forestry development goals, with the total allocated area of 917,772.2 ha. Land Use Certificates (LUC) has been granted to 2,018 organizations, 2,407 village communities, 54,692 households and individuals with the total area of 785,623 ha, and the rest, which is 132,149 ha, has been allocated to number of organizations without issuance of certificates.

- ***Establishment of Forest Management Boards***: During1999-2016, six forest management boards have been established (four management boards for SUFs, one for nature reserve and one for protection forest) under the forest management mechanism stipulated in the Decision No. 08 / QD-TTg of the Prime Minister. The six management boards own a total area of 78,207.7 ha.

- ***Forest resource change monitoring***: The Province has been paying serious efforts to the forest resource monitoring as in conformance with the Decision No. 2833/QD-UB dated November 29, 2002 of Son La PPC on forest resource monitoring in the province.

- ***Implementation of forest fire prevention and fighting***: Forest fire prevention and fighting has been carried out by multi-sectors at different levels and forest owners every year, by following the instruction of the PPC. In order to mainstream forest fire prevention and fighting throughout the province, the province has established a Provincial Steering Committee, 11 district/city Steering Committees, 206 Commune Steering Committees, and 1,850 Village Forest Patrolling Teams. In addition, the Province has implemented a project to

improve the capacity of forest rangers on forest fire prevention and fighting as in accordance with Decision No. 02/QĐ-TTg dated January 2, 2007 of the Prime Minister.

- ***Implementation of forest protection contracting***: The area of existing forests contracted for protection is 223,042 ha per year (about 37% of total forest area in the province) with an average budget of 6,195.5 million per year. Budget support for forest protection and management is still low: VND 50,000/ha/year in 2005; VND100,000/ha/year during the 2007-2010 period; and VND 200,000/ha/year during the 2011-2016 period. Despite the low contract fee, Program 661 attracted more than 45,944 forest owners who were organizations, individuals, households and communities to register for forest management and protection under their contracts. Many communities and households who made good achievements in forest protection and management were those who participated in the projects such as forest management and protection model in Tu Nang Commune and Chieng Hac Commune of Yen Chau District; Hat Lot Town and Na Ot Commune of Mai Son District; Chieng Yen commune of Moc Chau District, and Gia Phu Commune of Phu Yen District;

- ***Implementation of community-based forestry activities***: In recent years, the province implemented participatory community forest management models under the Da River Social Forestry Project, and another community-based model in Muong Lang Commune and Muong Do Commune of Phu Yen District, Phieng Cam Commune and Na Ot Communes of Mai Son District under the pilot project on Community Forestry by VNFOREST.

3.2 PFES Implementation

Son La is one of the two pioneer provinces in the country which piloted the implementation of PFES as in accordance with the Decision No. 380/QD-TTg of the Prime Minister. With the support from GIZ (Germany), the province piloted the program in 9 districts and cities during 2008 – 2010, and from 2011 onward, this policy has been applied throughout the province, along the basin of Da River and Ma River. The average total fee collected under PFES is VND 100 billion per year.

According to the 2016 Socio-Economic Development Plan of Son La, the PFES is applicable to 609,191.2 ha, with a total amount of VND 99.8 billion, of which 509,777.3 ha managed by households and individuals, and 99,413.8 ha managed by organisations. These organisations can be both forest owners and non-forest owners. For those who are non-forest owners, they manage the forests under the assignment of the government. The highest payment rate is VND 269,000/ha (along the Da River Basin) and the lowest is VND 38,800/ha (along the Ma River Basin). PFES is a significant financial source that supports the local authorities and forest owners to sustainably use and manage forest resources.

3.3. Results of forest regeneration

Provincial forest regeneration target for the 2011-2014 period was 180,000 ha/year. Target areas for forest regeneration were mainly Ic bare-lands in the nature reserve and 'important' and 'critically important' watershed protection forests. As the result, 85,962 ha of Ic land in 2008 were restored into forests by 2014.

Since 2015, the Province has been concentrating on regenerating 94,038 ha of forests, mainly in 'critically important' areas, and funding has been allocated from the FPDP and other programs/projects.

3.4. Results of afforestation and reforestation

The total area planted for afforestation and reforestation during 2005-2016 was 52,549.8 ha, with an average of 4,777.2 ha per year.

The total investment capital for afforestation and reforestation during 2011-2016 was over VND1,401,284 million, of which, funding from the state budget was VND 670,716 million, equivalent to 40.1% of the total investment (89% of the fund was from the Investment Fund for Development and the Central Source of Business Expenditure for Economic Development and 11% from the local fund), and funding from other sources was VND 730,568 million, equivalent to 59.9%.

4. Shortcoming and challenges

4.1. Shortcomings

- Forest fire, illegal forest conversion into cultivation lands, and illegal logging;

- In general, the effectiveness of forest protection by contracted households and individuals is low, therefore, effective solutions need to be identified.

- The productivity and quality of forest plantations are not high. Small timbers consist the majority of the products from forest plantations. Development of multi-purpose plantation forests and large timber production models have not been carried out properly yet.

- Contribution of the forestry sector to poverty reduction has not yet met its expectation. Employment and income generated by the forestry sector are still low nor stable.

4.2. Challenges

- Challenges related to natural and socio-economic conditions

- The topography of the province is not competitive for timber production due to rocky soil, small rivers and streams which separate the terrains into small pieces, steep slopes, inconvenient transportation, and poor soil fertility;

- The climate is becoming increasingly complex with drought, extreme cold, and forest fires which cause great damages to forestry production.

- Many of the people, especially the ethnic minority groups, are still in low living conditions with low education level. Shifting cultivation is largely practiced by ethnic minority groups, especially those who live in remote, isolated and border areas.

- The forest production has a long production and business cycles but generate low incomes and profits. The forest plantation business is less competitive compared to many other agriculture crops, thus motivate people to use their lands for agriculture.

- The output markets for plantation wood has not yet developed to promote forest plantations; concentrated areas for the production of timbers to supply for processing industry are under-developed;

- The forests have been under pressure by the demands of land for socio-economic development, national defence and security which cause conversion of natural forests into other land use, such as irrigation, hydropower plants, resettlement areas, and roads.

- Challenges related to policies

- The technical standards and cost norms for the forestry activities have not been reviewed and adjusted to the current situation, and not effectively support the needs of the sector;

- Decree 99/2010/ND-CP of the Government on PFES has inadequacies in the level of payment to the forest owners.

- Challenges related to implementation arrangement

- Although the forest change monitoring has been carried out annually, the forest inventory (NFI&S) has not been implemented every five years;

- There is a shortage of equipment and tools for the forestry officers to execute their tasks. Funding allocated from the central and provincial budgets are unstable. These are causing low effectiveness in their performance and also causing difficulties in satisfying the required quality and accuracy of the forest inventory.

- The capacity to plan and manage forestry lands remains inappropriate while the forest owners do not seriously comply with the plans, resulting in low implementation quality of projects and programs, and ineffective attract investments for forest development. .

- Forests and forestry land data of DARD and DONRE are inconsistent;

III. IDENTIFICATION OF DRIVERS, BARRIERS AND POTENTIAL AREAS FOR REDD+ IMPLEMENTATION

1. The overall process

Identification of drivers of deforestation and forest degradation, barriers to forest carbon stock enhancement, and potential areas for REDD+ implementation was done integrally. Basically, the process included three main steps as follows:

- Step 1: Preparation of background information through review of secondary data, and spatial analysis

- Step 2: Field verification through consultations at district level (with participation of commune representatives).

- Step 3: Provincial consultation to further analyse and verify the drivers and barriers, PRAP activities, and potential areas

1.1. Preparation of background information through review of secondary data and spatial analysis (Step 1)

Step 1 includes review of secondary data and spatial analysis[1]with an aim to provide background information and inputs for the steps to follow. In particular, the secondary data analysis was done through collection and research of national and provincial documents and scientific articles related to forest management, protection and development in Son La Province as well as the Northwest provinces, to initially learn about the drivers and barriers.

The spatial analysis process (figure 2) has used various remotely sensed input data and materials. A set of national level data[2], namely 2005, 2010, 2015 forest status maps, were overlaid to identify forest changes over the two periods of 2005 - 2015 and 2010 – 2015. Then the results were combined with the latest forest inventory data of the province in order to map out potential areas based on the developed criteria (Table 04). Commune was used as the unit for analysing the potential areas.

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[1]Report on mapping potential areas for REDD+ implementation in Hoa Binh, Son La, Dien Bien, and Lai Chau Provinces, (2016), Vu Tien Dien et all.

[2] The Study on Potential Forests and Land Related to "Climate Change and Forests" in The Socialist Republic of Vietnam, (2012), JICA
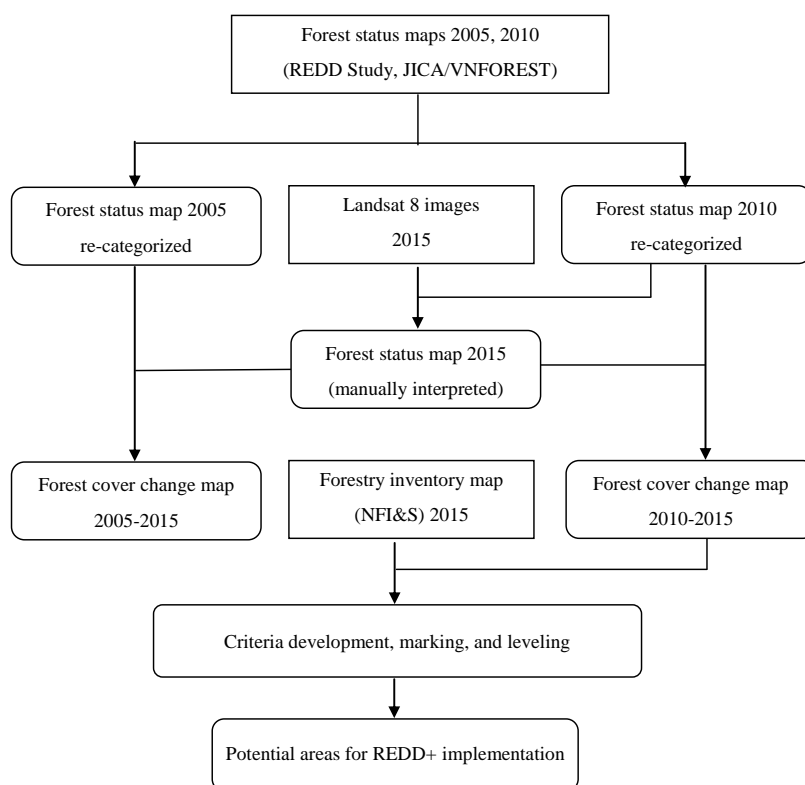
Figure 01. Diagram of the spatial analysis

In addition to the criteria shown in Table 04, other criteria, such as accessibility, geographical connectivity, and existing forestry projects and programs were taken into account for the final selection of potential areas.

Table 04. Criteria for potential areas selection for REDD+ implementation under the spatial analysis

No.	Potential areas	Criteria
1	Reducing deforestation	- Large remaining forest area - High deforestation rate - Large rich and medium forest area
2	Reducing forest degradation	- Large rich and medium forest area - High forest degradation rate

3	Increasing forest carbon stock	- Improve forest quality
		  + High forest restoration rate
		  + Large poor, mixed, and regrowth forest area
		  + Located in PFES areas
		  +Located in protection forest and SUF areas
		- Increase forest area:
		  + Ia bare-land area of production and protection forests
		  + Ic bare-land area of protection, production forests, and SUFs
		  + Communes targeted for afforestation and regeneration in the provincial FPDP 2012 – 2020

Then the PRAP TWG conducted a preliminary analysis on the drivers/barriers, developed a set of solutions to address the drivers/barriers (PRAP activities), and identified potential areas to implement the PRAP activities.

1.2. Field verification through consultations at district and commune levels (including villages)[3](Step 2)

Step 2 was carried out in order to ensure sufficient participation of the local stakeholders and incorporate their insights into the process. A series of meetings were held at the districts and communes which were identified as the potential areas in Step 1. With a technical backstopping by a third-party consultant and in collaboration with independent third-party facilitators, the PRAP TWG, organized 5 meetings at district level, and 281 representatives from districts and communes were consulted.

1.3. Provincial consultation to further analyze and verify the drivers and barriers, PRAP activities, and potential areas (Step 3)

The Step 3 was a step to integrate all the analysis and findings from the previous steps and verify them at the provincial level. It also had an importance to ensure the resulting concept of the PRAP is in harmony with the overall socio-economic development agenda of the province. This was done through a provincial consultation workshop with the participation of 23 participants from relevant departments, district authorities and forest management boards. Through this process, further insights regarding the drivers/barriers (i.e. time of occurrence, frequency, and impacts), PRAP activities and potential areas were collected.

2. Results of analysis

2.1 Drivers and barriers

a) Main drives of deforestation and forest degradation

- *Illegal and unsustainable logging in natural forests (driver of forest degradation)*

Despite the attention and unremitting efforts by the authorities at different levels and the forest rangers to protect all forests, illegal logging in natural forests still remain as a challenge to the forest protection and management in Son La. Illegal logging largely and widely occurred until 2009. However, since 2010 the trend seemed to have decreased both in scale and intensity, and instead, became more sophisticated, cunning and difficult to detect and handle.

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[3]Details are available in the Synthesis report on consultation workshops held at district and provincial level of Son La by Nguyen Quang Tan, 2016.

According to the synthesis reports of Son La Sub-FPD, during 2005-2016, 764 cases of illegal logging were detected and handled, of which, administrative fine was applied to 750 cases and criminal punishment was applied to 14 cases. These mainly happened in some hotspots such as Thuan Chau District and Quynh Nhai District, and mainly in the SUFs and watershed protection forests where rare and high-value timber species such as *Fokienia*, *Burretiodendronhsienmu*, and *Fagraeafragrans*, etc., could be found.

Most of the violations for commercial purposes were either conducted or supported by the local people. Usually the mechanism is that those who plan to log and sell illegal timbers incite the local farmers during their farming off-season to have their hands in illegal logging for ad-hoc revenue.

Illegal logging of timber for domestic use (e.g. building houses, making furniture, cages, cooking, and heating, etc.) are also difficult to capture. However, in many cases, this is related to the subsistence needs of the local people, thus, sometimes difficult to strictly apply sanctions.

Other underlying causes include ineffective communication and dissemination regarding forest protection (lack of skills and tools), failure in encouraging the local people to use materials alternative to timber, and weakness in law enforcement.

- Forest fire (driver of deforestation and forest degradation, and barrier to enhancement of forest carbon stock)

According to the statistics from Son La Sub-FPD, there was an average of 134 forest fires/year during 2010-2016 that burnt 2,392 ha of forests. Most of the forest fires occurred in production and protection forests located in Sop Cop, Song Ma, Thuan Chau, Quynh Nhai, and Muong La Districts. Despite increasing efforts of the competent task forces in recent years, the frequency of forest fires has not decreased. In 2016, there were 29 forest fires which damaged 919.4 ha of forests.

The increase of forest fires is said to be caused by combination of extreme weather conditions, such as frosts and drought, and human activities, such as upland field burning for agriculture, burning for charcoal production, and field burning for grazing.

The challenges to prevent forest fires and mitigate their impacts include shortage of the number of forest rangers to fully execute their tasks; lack of forest fire fighting equipment in their number and capacity; low awareness of the local people, especially those who live in remote areas; and ineffective intersectoral collaboration among different entities.

- Encroachment of natural forests for cultivation (driver of deforestation and forest degradation)

During 2006 - 2016, total natural forests deforested for cultivation was 1,195.4 ha. The causes of encroachment of natural forests for cultivation can be classified into two types: large-scale forest clearing of 0.5 to 2.3 ha; and small-scale forest clearing. These events take place almost everywhere in the province, but more in areas where ethnic minority groups are living and poverty rate is high, as people are more dependent to land and forest resources, alternative livelihood options are limited, and road access to product markets are limited. Sop Cop, Song Ma, Chau, Quynh Nhai, Muong La, and Van Ho are the typical districts.

Local government have taken various measures to reduce deforestation of natural forests for cultivation, such as awareness raising and dissemination of regulations to raise the sense of responsibility of people on forest protection. At the same time stricter sanctions have been applied in some cases to handle violations. However, the problem is yet far from being under full control, especially under the growing demand for agricultural land driven by increase in population. The situation is being exacerbated by the degrading soil condition after intensive use of agricultural land, and low application rate of high-productivity cultivation techniques.

- Planned forest conversion into other land use (driver of deforestation, degradation)

During 2005-2016, in order to facilitate achievement of socio-economic development targets, security and defence, Son La PPC granted permission to many corporates and entities to convert forests for implementing development projects. This includes, 34 hydropower plants (1,802.22 ha of forests converted); 8 construction works for commercial purposes (160.17 ha); and 13 public projects such as roads (324.53 ha). In total, 55 projects have been implemented, mainly in Muong La, and Sop Cop Districts.

The newly converted areas often improve access by the local people to neighbouring forests which make those areas higher in the risks of further encroachment, therefore, forest protection in such areas require particular attention.

Offset planting for the converted forests is a requirement under the government regulation, however, it has not been implemented with an expected speed and quality. According to the data of the Sub-FPD, only 783.17 out of 2,286.92 ha have been offset planted so far and public projects are among the lowest in its performance. This seems to be caused by insufficient management and supervision of the project owners' compliance to the policy.

It is possible to say that the first solution to be done is avoiding conversion of forests (especially, the high stock forests) to project development right from the initial steps of project formulation, and this requires strong inter-sectoral cooperation and coordination.

By following the Instruction No. 13-CT/TW dated January 12, 2017, the province will restrict the forest conversion to other land use in the future. However, some planned projects in the period 2017 - 2020 are considered to affect the forests, such as road construction, electrical grid, and mining in Quynh Nhai District; and Xuan Nha hydropower project in Van Ho District.

b) Main barriers to forest quality and area enhancement

Forest development in general and planted forest improvement in particular remain below expectation due to the barriers as follows:

- *Limited silviculture facilities and techniques*

The network of nursery gardens, forest roads, and forest product processing facilities has not been effectively invested, which is considered as barrier to improve capacity to supply seedlings. Meanwhile, under-developed silviculture facilities are costing high transportation costs. In addition, techniques for tree planting, tending and forest protection of the local people are insufficient, resulting in a low survival rate of planted trees.

- *Impractical land-use planning*

Land-use planning in the province has several shortcomings. Particularly, the land designated for forestry is large but the investments to forestry development is below demand, the need of land for agriculture production kept increasing while the land for agriculture production is limited. As a consequence, forests and forestry land is converted to upland cultivation by the local people. Land acquisition is not an easy event though fund is available for forest development.

- *Other barriers*

In some localities, there are no active participation of local authorities, particularly in monitoring and supervision to the local people's compliance with the law and regulations on forest protection and development. Moreover, awareness raising for local people to stop free grazing and improper use of fire in forests (cause of forest fires) has not been implemented well. A complete forest product supply and distribution network is not yet available since there are limited partnerships between the enterprises and farmers, and between enterprises and processing companies. Linkage between them and the output market is also limited.

According to the results of analysis and consultations, Sop Cop, Song Ma, Thuan Chau and Quynh Nhai are considered to have higher potential for planted forest development owing to the existence of large bare-land areas.

Regarding forest regeneration, the Province has been facing a number of difficulties, particularly, inadequacy of the current policies which offer low subsidy to incentivize the local people to participate in forest regeneration, and limited capacity of local people in tree planting and forest maintenance. In addition, the planning of three forest categories remain inadequate; the funding for FPDP implementation is limited; the forest and forestry land allocation is incomplete. These are also seen as the barriers to forest protection and regeneration. By having large regenerating bare-land area (DT2), Sop Cop, Thuan Chau, Muong La, Quynh Nhai, Song Ma and Van Ho Districts are considered as suitable regions for carrying out regeneration and restoration of forests.

2.2. PRAP activities

The PRAP activities consist of specific Solution Packages which address each of the key drivers, and a provincial-wide cross-cutting Solution Package. Under the Solution Packages, a list of Solutions and activities are designed with specific target location, timeline, fund source, etc. The full detail is described in Part II and Annex 01.

2.3. Potential areas for REDD+ implementation

The potential areas for REDD+ implementation in Son La Province include 35 target communes located in 6 districts. Details are shown in the table 05:

Table 05. List of target communes for REDD+ implementation in Son La Province

No.	Districts	Communes	Selection criteria		
			Deforestation	Forest Degradation	Enhance carbon stock in forests
1	Sop Cop (7 communes)	Muong Va	X		X
2		Nam Lanh	X		X
3		Pung Banh	X		X
4		Muong Leo	X		X
5		Muong Lan	X		X
6		Sam Kha	X		X
7		Dom Cang			X
8	Song Ma (6 communes)	Huoi Mot	X		X
9		Nam Ty	X		X
10		Chieng So			X
11		Muong Cai	X		
12		Muong Hung	X		
13		Nam Man	X		X

No.	Districts	Communes	Selection criteria		
			Deforestation	Forest Degradation	Enhance carbon stock in forests
14	Thuan Chau (8 communes)	Chieng Bom	X	X	
15		Ban Lam	X		X
16		Muong Bam			X
17		Nam Lau	X	X	
18		Muong E	X		X
19		Phong Lai	X		X
20		Co Mạ		X	
21		Long Hẹ		X	X
22	Quynh Nhai (5 communes)	Muong Gion	X	X	X
23		Ca Nang	X	X	X
24		Muong Giang	X	X	X
25		Pac Ma Pa	X	X	X
26		Muong Sại	X	X	X
27	Muong La (6 communes)	Chieng Cong	X		X
28		Chieng Lao	X		X
29		Nam Pam	X		X
30		Ngoc Chien	X		X
31		Nam Gion	X		X
32		Hua Trai	X		X
33	Van Ho (3 communes)	Tan Xuan			X
34		Chieng Xuan			X
35		Xuan Nha			X
Total	35 communes		27 communes	9 communes	30 communes

Part II: OBJECTIVES, SCOPES, AND CONTENT OF PRAP

I. OBJECTIVES

1. General objectives

- Reduce greenhouse gas emission, enhance forest carbon stock, and contribute to achieve the objectives of climate targets of the National Target Program Responding to Climate Change, National REDD+ Action Program, and other related national policies;

- Firmly protect the existing forest areas, contribute to the protection of water sources, ecosystems, biodiversity conservation, sustainable development, and increase the forest cover of the province to 50% by 2020.

- Improve the value of forest associated with effective implementation of forestry sector restructuring; set priority to fruit production on slope lands, NTFPs, multi-purpose trees to increase income for the local people; contribute to gradual improvement of household economics and replace low productivity agriculture crops with environmentally friendly forest trees.

- Promote inter-sectoral coordination in balancing forest protection and development with other socio-economic development objectives, particularly agriculture and infrastructure development; forest development should be in association with sustainable forest use in order to create benefits for users, promote forest product processing and trading, contribute for forest product output market development; enhance core role of enterprises and cooperatives in forest development, forest product processing and distribution; create jobs, improve incomes for the local people, contribute to poverty reduction; contribute to national security and defence linked with environmental protection.

2. Specific objectives

In order to achieve the general objectives, the PRAP has identified specific objectives that aim to address the drivers of deforestation and forest degradation, and remove the barriers to the enhancement of forest carbon stocks. The specific objectives of the Son La PRAP are as follows

2.1 During 2017 - 2020

a) Objectives as of the FPDP for the period of 2016 – 2020 (the Decision No. 66/QD-UBND dated January 11, 2017)

+ Increase the forest cover rate from 42.3% in 2015 to 50% in 2020;

+ Effectively protect 599,463 ha of existing forests and increase the forest area of the province to 706,104 ha by 2020;

+ Achieve 106,600 ha of forest regeneration;

+ Achieve 27,000 ha of large-scale forest plantations and planting of 1 million trees through scattered tree planting. Achieve targets of offset planting for converted forest areas during the period 2010 – 2015 (1,503 ha), and for newly converted forest area during 2016 – 2020;

+ Increase PFES values (it is expected to reach VND 120-150 billion/year.)

b) Objectives for the target areas

+ Forested (survival) rate reaches 85%, income from forest reaches VND 60 million/ha by the end of 2020;

+ Protect the existing natural forests in terms of stock and area, restore 30% of the poor forests into medium forests by 2020.

+ Forest fires per year reduce by 10% or more compared to the 2010 – 2015 period;

+ Area of forests encroached for cultivation reduce by 70% compared to the 2010 – 2015 period;

+ Fully implement offset planting to compensate the converted forests over the two periods of 2010 – 2015 (1,503 ha) and 2016 – 2020;

+ Improve effectiveness of the FRMS;

+ Raise awareness on REDD+

2.2. During 2021 – 2030

- Focus on management and protection of the existing natural forests and increase the forest cover of the province by 0.2% per year;

- Implement REDD+ in the province and integrate REDD+ activities into sustainable forest development program;

- Effectively implement the national policies on PFES and forest protection and development by efficiently using the investment capital received.

II. SCOPES, OBJECTS, AND DURATION

Son La PRAP is developed on a principle to maximize and optimize coordination among different sectors and administrative units. In particular, policies, funds, technical capacity and other resources are coordinated in order to pursue utmost benefits to the stakeholders and effectively address forest management related issues.

1. Scope

Son La PRAP constituted of two components (I and II) that will be implemented in the potential areas.

2. PRAP Implementers

- Related departments/agencies

- People's committees of districts, city, communes, wards, and towns that have forests.

- Organizations, households, individuals, communities who participate in PRAP implementation.

3. Duration

Son LaPRAP will be implemented during the 2017-2020 period towards 2030.

III. CONTENTS OF PRAP

Son La PRAP consists of two components:

Component 1 (forest protection and development activities) is mainly taken from the provincial FPDP for the whole province during the period from 2017 to 2020 with consideration of available financial capacity to define 6 suitable districts for implementation; and

Component 2 which defines the additional activities to be implemented in the potential areas to support Component 1 in order to achieve the targets of the Son La PRAP.

1. Component 1: Forest Protection and Development Activities

The forest protection and development activities during the 2017 – 2020 period are integrated into the PRAP, which are forest protection, forest development, and other related activities summarized as follows (*details are as in the Annex 01*):

a) Forest Protection

- Forest protection contracting

+ For existing natural forests and newly planted forests

+ Volume: 154,732 ha.

- Forest fire prevention and fighting

+ For existing natural forests and newly planted forests

+ Volume: 605,405.4 ha (599,463.1 ha of existing natural forests, 5,943.2 ha of newly planted forests in 2016)

b) Forest development

- Afforestation/reforestation

+ For bare-land (DT1) and recently logged forest plantations

+ Volume: 4,306.9 ha

- Forest regeneration

+ For bare-lands (ĐT2)

+ Volume: 253ha

c) Other related activities

+ Scattered tree planting

+ Volume: 813,000 trees

2. Component 2: Additional activities

The consultation workshops at provincial, district, and commune levels identified 5 main drivers and barriers of deforestation, forest degradation, and enhancement of forest carbon stock. Those are:

1. Ineffective forest plantation development;

2. Illegal/unsustainable logging in natural forests;

3. Forest fires;

4. Encroachment into natural forests for cultivation;

5. Forest conversion into other land use.

On that basis, five solution packages, 18 solutions and 47 activities have been identified to address and remove these drivers and barriers. In addition, a province-wide cross-cutting solution package (i.e. awareness raising on REDD+, support for forest resource monitoring) is added and will be implemented in the entire province in order to enhance PRAP implementation (*details are as in the appendix 01*). The solution packages are described as in Table 06 below:

Table 06. PRAP solution packages by priority districts

No.	Solution packages	Sop Cop	Song Ma	Thuan Chau	Quynh Nhai	Muong La	Van Ho
1	Enhance the effectiveness of af/reforestation	x	x	x			x
2	Promote forest protection and sustainable use of forest resources			x	x		
3	Control forest fire	x	x	x	x	x	
4	Control conversion of forests to upland fields	x	x	x	x	x	x
5	Mitigate impacts of forest conversion into other land use (road construction, hydropower plants development, etc.)	x				x	
6	Province-wide Cross-cutting solution package	x	x	x	x	x	x

a) Solution package 1: Enhance the effectiveness of af/reforestation

- REDD+ target: Enhance forest carbon stock

- Solutions:

+ Solution 1: Ensure technical correctness in tree planting and tending

+ Solution 2: Ensure that the seedlings are of high quality and suitable to the site conditions

+ Solution 3: Improve management of timber logging and replanting (production forests)

+ Solution 4: Support improvement of market for plantation wood

+ Solution 5: Support development of silviculture infrastructures

- Potential areas: Sop Cop District (Muong Va, Nam Lanh, Dom Cang, Pung Banh, Muong Leo, Sam Kha, Muong Lan), Song Ma District (Huoi A, Nam Ty, Chieng So, Nam Man, Muong Cai, Muong Hung), Thuan Chau District (Chieng Bom, Nam Lau, Ban Lam, Muong Bam, Co Ma, Long He, Muong E, Phong Lai), and Van Ho District (Chieng Xuan, Tan Xuan, Xuan Nha).

**b) Solution package 2*:* Promote forest protection and sustainable use of forest resources to reduce illegal/unsustainable use of natural forests

- REDD+ target: Reduce deforestation and forest degradation

- Solutions:

+ Solution 1: Promote the use of alternative materials and advanced (energy saving) technology

+ Solution 2: Develop and strengthen community forest management

+ Solution 3: Enhance law enforcement

+ Solution 4: Enhance the effectiveness of awareness raising and communication on the benefits of forests to the local people

+ Solution 5: Enhance the capacity of local people in forest maintenance

+ Solution 6: Improve the forestry and agroforestry livelihoods of the local people

- Potential areas: Thuan Chau District (Chieng Bom, Nam Lau, Ban Lam, Muong Bam, Co Ma, Long He, Muong E, and Phong Lai), and QuynhNhai District (Muong Gion, Muong Giang, Pac Ma Pa Khinh, and Muong Sai).

**c) Solution package 3*:* Control forest fire

- REDD+ target: Reduce deforestation and forest degradation, enhance forest carbon stock

- Solutions:

+ Solution 1: Control the use of fire in upland farming

+ Solution 2: Strengthen cooperation and coordination on fire prevention and fighting in border areas

+ Solution 3: Enhance the capacity for fire prevention and fighting

- Potential areas: Sop Cop District (Muong Va, Nam Lanh, Dom Cang, Pung Banh, Muong Leo, Sam Kha, Muong Lan), Song Ma District (Huoi Mot, Nam

Ty, Chieng So, Nam Man, Muong Cai, Muong Hung), Thuan Chau District (Chieng Bom, Nam Lau, Ban Lam, Muong Bam, Co Ma, Long He, Muong E, Phong Lai), Quynh Nhai District (Muong Gion, Ca Nang, Muong Gian, Pac Ma Pa Khinh and Muong Sai), Muong La District (Chieng Cong, Chieng Lao, Nam Pam, Ngoc Chien, Nam Gion, and Hua Trai).

d) Solution package 4: Control conversion of forests to upland fields

- REDD+ target: Reduce deforestation and forest degradation

- Solutions:

+ Solution 1: Enhance agricultural livelihoods of the local people

+ Solution 2: Address unpractical issues on land use planning, forests and forestry land allocation

- Potential areas: Sop Cop District(Muong Va, Nam Lanh, Dom Cang, Pung Banh, Muong Leo, Sam Kha, Muong Lan), Song Ma (Huoi Mot, Nam Ty, Chieng So, Nam Man, Muong Cai, Muong Hung), Thuan Chau District(Chieng Bom, Nam Lau, Ban Lam, Muong Bam, Co Mạ, Long He, Muong E, and Phong Lai), Quynh Nhai District (Muong Gion, Ca Nang, Muong Gian, Pac Ma Pa Khinh, and Muong Sai), Muong La District (Chieng Cong, Chieng Lao, Nam Pam , Ngoc Chien, Nam Gion, and Hua Trai), and Van Ho District (Tan Xuan, Chieng Xuan, Xuan Nha).

e) Solution *package* 5: Mitigate impacts of forest conversion into other land use (road construction and hydropower plants development)

- REDD+ target: Reduce deforestation and forest degradation

- Solutions:

+ Solution 1: Improve the quality of offset planting

+ Solution 2: Enhance protection of forests adjacent to newly converted areas

- Potential areas: Sop Cop (Muong Va, Nam Lanh, Sam Kha, Pung Banh, Muong Lan, Muong Leo), Quynh Nhai (Muong Gion, Ca Nang, Muong Giang, Pa Ma Pha Khinh, Muong Sai), and Muong La District (Chieng Cong, Chieng Lao, Nam Gion, Nam Pam, Ngoc Chien, Hua Trai)

e) Solution package 6: Province-wide cross-cutting solutions package

- REDD+ target: Support the implementation of PRAP through cross-cutting activities targeting the entire province.

- Solutions:

+ Solution 1: Improve the provincial Forest Resource Monitoring System (FRMS)

+ Solution 2: Conduct awareness raising and capacity building on REDD+

- Potential area: Entire province

IV. REQUIRED BUDGET FOR PRAP IMPLEMENTATION

1. Required budget by activity

Total estimated budget for Son La PRAP implementation during the 2017-2020 period is VND **219,822.4** million (*details in Annex 01*).

a) Component I: Forest protection and development activities

Total estimated budget is VND**176,941.6** million, of which,

+Forest protection, fire prevention and fighting activities require VND **21,610.5** million, which will be funded by the PFES (VND **20,395.5** million)**,** ODA (JICA 3) (VND **1,215** million).

+ Forest development activities require VND **155,331.1** million, which will be funded by the State budget through the Forest Protection and Development Program (VND **29,580** million), local budget (VND 2,370 million), private sector (VND **102,775.7** million) and ODA (JICA 3) (VND 21,820.4 million).

b) Component II: Additional activities

Total estimated budget is VND **42,880.8** million, of which,

+ **Solution package 1** (Enhance the effectiveness of forest plantation): VND **12,359** million.

+ **Solution package 2** (Promote sustainable use of forest resources): VND **3,392.3** million.

+ **Solution package 3** (Forest fire control): VND**22,333.4** million

+ **Solution package 4** (Control conversion of forests to upland fields): **VND 3,327.3** million.

+ **Solution package 5** (Mitigate impacts of forest conversion into other land use (road construction and hydropower plants development): VND **0,** since the activities will be either integrated with other solution packages or implemented as regular duties of the agencies/departments.

+ **Solution package 6** (Province-wide cross-cutting solutions package): VND**1,268.9** million.

+ **Monitoring and Evaluation**: VND 200 million.

2. Total estimated budget by funding sources

Budget demand for Son La PRAP implementation during the 2017-2020 period is VND **219,822.4** million (*details in Annex 01*), which will be funded by specific funding sources as in the following table:

Table 07. Funding sources

Unit: million VND

No.	Funding sources	Total	Percentage
1	State budget	29,580	13.5.
2	Local budget	9,675.2	4.4
2	ODA	34,383.6	13.8
3	PFES	30,395.5	15.6
4	Others	115,788.2	52.7
Total		219,822.4	100

3. Feasibility of fund sources for PRAP implementation

The PRAP is designed to harmonize the available and prospective funds from forestry and and other sectors. In order to make the financial plan as feasible as possible, the source and the amount of available funds were carefully examined, and the scale of activities were adjusted in order to balance with the fund availability.

The feasibility study results are shown in Table 08. The total of avaialable fund source with high feasibility is VND 210,846.1 million (Component I: VND 176,941.6 million, equivalent to 100% of the total budget demand; component II: VND 42,880.8 million, equivalent to 79% of the total budget demand), equivalent to 96% of the total budget demand for PRAP implementation. The fund gap is VND 8,976.3 million, account for 4% of the total budget demand and it expects to be mobilized from domestic and international investment.

Table 08. Feasibility of the fund sources for PRAP implementation

Unit: million VND

Item	Total estimated budget	High feasibility fund sources							Feasibility
		Sub-total	State budget	Local budget	PFES	ODA	Private sector	Others	
Component I	**176,941.6**	**176,941.6**	**29,580.0**	**2,370.0**	**20,395.5**	**21,820.4**	**102,775.7**	**-**	**100%**
Forest protection	21,610.5	21,610.5	-	-	20,395.5	1,215.0	-	-	100%

Item	Total estimated budget	High feasibility fund sources							Feasibility
		Sub-total	State budget	Local budget	PFES	ODA	Private sector	Others	
Forest development	155,331.1	155,331.1	29,580.0	2,370.0	-	20,605.4	102,775.7	-	100%
Component II	**42,880.8**	**33,904.5**	**-**	**5,414.6**	**8,000.0**	**12,563.1**	**6,971.8**	**955.0**	**79%**
Solution package 1	12,359.0	9,172.4	-	1,186.7	-	5,985.7	2,000.0	-	74%
Solution package 2	3,392.3	2,470.0	-	561.8	-	1,173.3	-	735.0	73%
Solution package 3	22,333.4	17,686.0	-	2,066.6	8,000.0	2,647.6	4,971.8	-	79%
Solution package 4	3,327.3	3,327.3	-	1,599.6	-	1,727.7	-	-	100%
Solution package 5	-	-	-	-	-	-	-	-	100%
Solution package 6	1,268.9	1,148.9	-	-	-	1,028.9	-	120.0	91%
Monitoring and Evaluation	176,941.6	100.0	-	-	-	-	-	100.0	
Total	**219,822.4**	**210,846.1**	**29,580.0**	**7,784.6**	**28,395.5**	**34,383.6**	**109,747.4**	**955.0**	**96%**

V. IMPLEMENTATION ARRANGEMENT

1. Responsibilities of the State Management Agencies

1.1. Department of Agriculture and Rural Development

DARD is a standing agency cum focal point of contact for PRAP implementation. Main tasks of DARD as below:

- Collaborate with related departments/agencies to announce and implement PRAP;

-Develop and implement annual plans; improve and operate the FRMS of the province;

-Direct its subordinates to guide, speed up the work, and support other related agencies to implement PRAP within its scope of authority and mission.

-Work with the related agencies to review and collect annual funding demands in order to plan for integration of funding for PRAP implementation.

-Develop periodic reports on PRAP implementation and submit to PPC for their information on progress and/or for solutions if needed.

1.2. Department of Natural Resource and Environment

- Coordinate with DARD to implement and monitor PRAP implementation, especially, to land-use related issues at different levels.

- Lead and cooperate with DARD and other agencies to implement key tasks related to PRAP like the Plan No. 388/KH-UBND dated February 20, 2013 of the PPC; complete forestry land use planning, plans of hydro power plants, infrastructure development; formulation of policies on land which are suitable to the conditions of the Province to attract enterprises to invest in the development of agroforestry production

- Providing necessary information and data related to the planning and implementation of PRAP such as maps, information on land use planning, etc.

- Ensure that PRAP implementation is in alignment with provincial and national climate change programs.

1.3. Department of Planning and Investment

+ Cooperate with Department of Finance to allocate State budget provided through programs and projects, and ODA fund to integrate into PRAP implementation.

+ Collaborate with DARD and DOF to develop the necessary mechanisms and policies on PRAP implementation.

1.4. Department of finance

- Allocate annual non-profit business capital for districts, towns, city, and other units to implement PRAP.

- Coordinate with Department of Planning and Investment, and DARD to develop financial management mechanism of projects and programs on REDD+.

-Collaborate with the related departments and agencies to check and monitor compliance with financial management regulations.

1.5. Other related departments and agencies

Implement communication activities, within scope of responsibility, to raise awareness, capacity, and gender equality, and to motivate participation of ethnic minorities to REDD+ activity implementation; integrate REDD+ implementation into other related projects and programs under its scope of management.

1.6. Responsibilities of District People's Committees

- Raise awareness of people on REDD+ and develop annual detail plans for PRAP implementation in the province.

- Motivate and integrate resources of programs and projects to implement PRAP in the province.

- Develop periodic reports on PRAP implementation progress, and propose solutions to address issues to DARD.

- Participate and follow principles of monitoring and evaluation.

1.7. Responsibilities of Forest Management Boards

- Depending on the functions and powers of the unit, coordinate with DPCs, and CPCs to implement PRAP.

- Arrange and integrate local resources (programs, projects) into PRAP implementation

1.8. Responsibilities of CPCs

- Participate in REDD + awareness raising activities for local people; Collaborate with relevant agencies to develop a detail PRAP implementation plan.

- Arrange and integrate local resources (programs, projects) into the implementation of PRAP.

- Monitor PRAP implementation, pay attention to negative impacts on local people and proposing necessary solutions.

- Participate and follow principles of monitoring and evaluation.

2. Responsibilities of political, social, non-government organizations and businesses.

- Depending on their functions and duties, they are encouraged to actively participate in activities related to the PRAP, especially in the fields of information sharing, education and communication; support and call for community participation in implementing REDD + activities as well as share experience accumulated through REDD+ implementation.

- Forestry companies are encouraged to coordinate with DARD, DPCs and CPCs to carry out PRAP activities within the scope of allocated forest and forestry land; Make sure their businesses are legal and in harmony with PRAP's objectives.

- Social and political organizations, NGOs/INGOs, scientific research institutions and enterprises are encouraged to participate in the independent monitoring and evaluation to the implementation of the PRAP.

VI. MONITORING AND EVALUATION

1. Monitoring and evaluation arrangement

- DARD plays leading role and coordinates with other departments, agencies in monitoring and evaluation (M&E) to PRAP implementation; motivating political, social, and NGOs/INGOs, scientific research institutions, and private sectors to participate in for the independent M&E. The M&E process shall be carried out as follows:

1.1. Annual monitoring and reporting

The implementation of PRAP will be monitored and reported annually to the FPDP Steering Committee with specific content as follows:

- Implementation process based on the Results Framework (*details are as in the item 3.1-Result framework*).

- Impacts (benefits and risks) associated to the implementation based on Environmental and Social Benefits and Risks Assessment Framework (*details are as in the item 3.2-Social and environmental benefits and risks assessment framework*).

- Financial transaction results and other notable issues to be reported.

1.2. Evaluation

At the end of its implementation period (2017 - 2020), the PRAP will be evaluated with the participation of stakeholders concerned evaluation activities for PRAP implementation will be implemented by the end of 2017-2020. The results of the evaluation and recommendations for future activities will be reported to the FPDP Steering Committee with the following content:

- Evaluation of the overall achievements based on the Results Framework; Achievements based on the indicators of the result frame.

- Evaluation of the impacts (benefits and risks) associated to the implementation of the PRAP based on the Social and Environmental Benefits and Risks Framework Benefits and risks effects based on benefits, environmental and social risks framework.

- Financial transactions of the whole period and other notable issues to be evaluated and other related issues.

Note: In order to ensure the comprehensiveness of the assessment, a supplementary in-depth assessment activity may be added. Such assessment can be carried out by the parties involved in PRAP implementation or an independent party (third party).

2. Scope of monitoring and evaluation

M&E activities of PRAP will mainly be conducted for the component 2 in the prioritized areas since the component 1 implementation will be monitored and evaluated as in accordance with the provincial FPDP.

3. Monitoring and evaluation framework

The M&E framework of Son La PRAP is constituted from the result and social and environmental benefits and risks assessment framework that developed through the following three main steps:

- Step 1: Draft M & E framework (version 1).

-Step 2: Conduct provincial consultation workshops with relevant provincial departments, agencies, and district representatives.

- Step 3: Conduct district and commune consultation workshops[4].

The results of the social and environmental benefits and risks assessment framework at the step 2 were discussed and consulted with stakeholders at district and commune levels. The achieved results in Step 3 will be synthesized and discussed, thereby formalizing the formal M&E framework.

3.1. Result Framework

The Result Framework is developed to ensure activities of PRAP will be implemented as plan. The Framework constituted by baseline data, result indicators, and means of verification. The baseline data is ground for starting the process of monitoring and evaluation. It is not necessary that every singly activity has baseline data as it depends on activity itself and available information of the province. The result indicators show quantitative target to be achieved. Result indicators should be identified carefully to ensure that it is achievable during the project duration, and verifiable at lowest cost and with simplest way. Means of verification used to verify the gained results against the result indicators. It should be noted that, since additional activities designed under Component II are to be implemented only in the targeted locations, the result indicators are designed for those targeted locations (Table 1 shows the targeted locations of each activity). A summary of the Results Framework described as in the below Table 09 *(details are as in the annex 02).*

Table 09. Summary of the Results Framework

No.	Solution packages	Baseline data	Result indicators	Means of verification
1	Enhance the effectiveness of af/reforestation	During the 2010-2015 period, average survival rate of planted forests at the time of harvest was 75-80%, with the value of VND 55 million/ha	By the end of 2020, the survival rate reaches 85%, and the value reaches VND 60 million/ha	1. Annual report on acceptance of tree planting results by the Sub-FPD and priority districts 2. Statistical yearbooks of the province and priority districts
2	Promote forest protection and sustainable use of forest resources	1. Total 'Poor Forest' area in 2015 was 12,769 ha, 'Medium Forest was 17,694 ha, rich forest was 6,401 ha 2. By the end of 2016, total natural forest stock of the natural forests was 13,053 m^3, forest area was 219,097 ha	1. 30% of 'Poor Forest' area become medium forests by the end of 2020 2. Maintain the existing forest area and stock (no decrease compared to the baseline value)	Report on FPD of Sub-FPD in priority districts Annual forest change data Forest inventory data (5 years)

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[4] Details are as in the provincial, district and commune consultation minutes, TWG for PRAP in Son La Province, 2016.

No.	Solution packages	Baseline data	Result indicators	Means of verification
3	Control forest fire	1. During the period of 2010-2016, average number of forest fire recordedwas52 cases/year). 2. During the period of 2010-2016, the average area damaged by forest fire was 201 ha/year	The average number of forest fires and the damaged areas reduce 10% or more during the period 2017-2020.	Forest fire records
4	Control conversion of forests to upland fields	During the period of 2010-2015, the average area of forest converted into upland field was 268 ha/year	During the period 2017-2020, the forest area encroached for cultivation reduces by 70%.	Report on annual FPDP of forest rangers
5	Mitigate impacts of forest conversion into other land use (road construction and hydropower plant development, etc.)	During the period of 2010-2015, offset planting reached 783 ha (equivalent to 34.2% of the planned area)	Offset planting target for the period of 2010-2015 (1,503 ha) is completed. 100% of the newly converted areas are also off-set planted during the 2016-2020 period.	Offset planting acceptance reports
6	Provincial-wide cross cutting solution package	See Annex 02	See Annex 02	See Annex 02

3.2. Environmental and Social Benefits and Risk Assessment Framework

The Social and Environmental Benefits and Risk Assessment Framework contains 6 elements like benefits, measures for benefit enhancement, benefit and risk monitoring measures, risk mitigation measures, and risk monitoring measures. Purpose developing the Social and Environmental Benefits and Risk Assessment Framework is to ensure that PRAP implementation is environmentally sound and can enhance positive impacts, or co-benefits to the socio-economy, while it avoids or mitigates any negative affects to the extent possible, follow international approved safety principles during development and implementation of REDD+ related activities.

A summary of the Environmental and Social Benefits and Risk Assessment Framework is as described in the Table 09 below *(details are as the Annex 03).*

Table 10. Social and Environmental Benefits and Risks Framework

No.	Solution packages/ solutions/activities	Benefits	Risks
1	Enhance the effectiveness of af/reforestation	1. Anti-erosion 2. Reduce the risk of flash floods 3. Raise awareness of the local communities on forest protection and development 4. Reduce poverty, contribute to income regeneration 5. Clarify land and forest resource ownership and rights	1. Conflict of interests over land use (for cropping) 2. Economic loss of the tree growers if plantation wood market is not available 3. Risk of biodiversity loss (due to monoculture) 4. Risk of replacement of natural forest by plantation
2	Promote forest protection and sustainable use of forest resources	1.Conserve biodiversity 2. Ensure equity in the use of forest resources	1. Conflict with the local traditions (building wooden house, burning wood for heating...) 2. Conflict with the livelihoods of local poor, forest dependent people 3. Conflict between law enforcement bodies and the local people 4. Risk of deforestation and forest degradation in other places (displacement)
3	Control forest fire	1. Conserve biodiversity 2. Prevent environmental pollution 3. Anti-erosion and protect water resource 4. Prevent flash floods 5. Reduce economic and human losses 6. Enhancement of the local people's awareness on forest fire prevention	1. Livelihoods of the local people being affected due to the restriction on fire use. 2. Conflict between law enforcement bodies and the local people on fire use 3. Decrease of upland farms available for agriculture production due to the restriction on fire use. 4. Creating flammable materials, which may trigger forest fires (more woody debris left on forest ground because of success in reducing forest fire)

No.	Solution packages/ solutions/activities	Benefits	Risks
4	Control conversion of forests to upland fields	1. Conserve biodiversity 2. Anti-erosion 3. Prevent flash floods 4.Raise awareness of the local communities on forest protection and development 5. Reduce poverty, contributing to improving people's income 6. Clarify forest resource use rights	1. Conflict with the local tradition in upland farming 2. Conflict with other land uses 3. Conflict between law enforcement bodies and the local people 4. Conflicts between people from outside of the target communes with those in the target communes
5	Mitigate impacts of forest conversion into other land use (road construction and hydropower plant development)	1. Awareness of the project owners and the local people on compliance with the law on forest protection and development 2. Generate wage incomes for the people participating in offset planting	1. Conflicts between the law enforcement bodies and the project owners
6	Provincial-wide cross cutting solution package	Not applicable	Not applicable

Currently, the national Safeguard Information System (SIS) is being developed by the central government with a principle to meet international requirements. After the completion of SIS system, provinces may need to review and revise the Social and Environmental Benefits and Risks Framework to ensure it is aligned with the national SIS. The province may also be requested to provide information to the SIS through the implementation of PRAP.

ANNEXES AND MAPS

Annex 01. Synthesis of Son La PRAP during the 2017-2020 period

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
I	**Component 1: Forest protection and development**							**174,572.2**	**20,395.5**	**29,580.0**	**2,370.0**	**19,451.0**	**102,775.7**	**-**	**-**	
1	**Forest protection**							**21,610.5**	**20,395.5**	**-**	**-**	**1,215.0**	**-**	**-**	**-**	
1.1	*Forest protection contracting*	*Target communes and districts*	*2017 - 2020*	*FPDP Fund*	*Sub-FPD*	*ha*	*154,732*	*21,610.5*	*20,395.5*	*-*	*-*	*1,215.0*	*-*	*-*	*-*	
2	**Forest development**							**152,961.7**	**-**	**29,580.0**	**2,370.0**	**18,236.0**	**102,775.7**	**-**	**-**	
2.1	*Forest regeneration*							*1,752.0*	*-*	*-*	*-*	*1,752.0*	*-*	*-*	*-*	
2.2	*Afforestation, forest maintenance*					*ha*	*4,026.9*	*148,839.7*	*-*	*29,580.0*	*-*	*16,484.0*	*102,775.7*	*-*	*-*	
2.2.1	SUF and protection forest	Target communes and districts	2017 - 2020	Priority District PCs	Sub-FPD	ha	1,556.0	42,171.5	-	25,687.5	-	16,484.0	-	-	-	JICA 3, FPDP
2.2.2	Production forest	Target communes	2017 - 2020	DPCs	Sub-FPD	ha	865.0	3,892.5	-	3,892.5	-	-	-	-	-	JICA 3, FPDP

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
2.2.3	Offset plantation	Target communes	2017 - 2020	DPCs	Sub-FPD	ha	1,605.9	102,775.7	-	-	-	-	102,775.7	-	-	Enterprises
2.3	*Scattered tree plantation*	*Target communes and districts*	*2017 - 2020*	*Priority District PCs*	*DARD (Sub-FPD)*	*Tree*	*813,000.0*	*2,370.0*	*-*	*-*	*2,370.0*	*-*	*-*	*-*	*-*	**Local budget**
II	**Component 2: Additional activities**							**73,603.9**	**40,000.0**	**557.0**	**15,837.7**	**10,429.3**	**4,000.0**	**-**	**2,780.0**	
1	**Enhance the effectiveness of forest plantation**							**13,786.0**	**-**	**557.0**	**2,373.3**	**5,985.7**	**4,000.0**	**-**	**870.0**	
1.1	*Ensure technical correctness in tree planting and tending*						*4,842.0*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
1.1.1	Intensify monitoring of tree planting to make sure that all laborers involved get proper technical guidance	Target communes and districts	2017 - 2020	Priority District PCs	Sub-FPD	ha	2,421.0	-								Regular task of Forest rangers, Regular task of forest rangers, FPD project MB, and Management Board of Protection ForestsDistrict FUs
1.1.2	Conduct (regular) inspection of the tree tending	Target communes and districts	2017 - 2020	Priority District PCs	Sub-FPD	ha	2,421.0	-								Regular task of Forest rangers

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
1.1.3	Monitor the changes of weather (through forecast) to take proper care of and provide seedlings for plantation at the right time	Forestry nursery gardens	2017 - 2020	Sub-FPD	DPCs	garden	12.0	-								Regular task of forest rangers (issuance of document and reminding)
1.2	***Ensure that the seedlings are of high quality and suitable to the site conditions***							*1,427.0*	*-*	*557.0*	*-*	*-*	*-*	*-*	*870.0*	
1.2.1	Conduct spatial and time specific design of tree planting for household groups, taking into account the difference in elevation of the planting sites	Target communes and districts	2017 - 2020	Priority District PCs	Sub-FPD	ha	2,421.0	-	-	-	-	-	-	-	-	FPDP (included into the item 1.1.1)

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
1.2.2	Check and monitor the quality of seedlings through its chain of custody	Forestry nursery gardens	2017 - 2020	Sub-FPD	DPCs	garden	12.0	*1,427.0*	-	557.0	-	-	-	-	870.0	FPDP
1.3	***Improve management to forest logging and replanting after harvesting (production forests)***							***173.3***	***-***	***-***	***173.3***	***-***	***-***	***-***	***-***	
1.3.1	Strengthen monitoring of logging and replanting	Priority districts	*2017 - 2020*	*Sub-FPD*	*Target DPCs, CPCs*	District	2.0	*173.3*			173.3					PSC implements the FPDP
1.3.2.	Encourage replantation and provide information about suitable forest tree species for replantation	Priority districts	*2017 - 2020*	*Sub-FPD*	*Target DPCs, CPCs*	District	4	-								Regular task of Forest rangers

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
1.4	*Support improvement of market for plantation wood*						*4.0*	*6,200.0*	*-*	*-*	*2,200.0*	*-*	*4,000.0*	*-*		*-*
1.4.1	Support development of small scale wood processing suitable to household/ household group	Target communes and districts	2017 - 2020	Priority District PCs	Sub-FPD	Model	4.0	*6,000.0*			2,000.0		4,000.0			Provincial budget and HHs' equity
1.4.2	Promote investment in material supply region and forest product processing facilities	Provincial level	2017 - 2020	DPI	Sub-FPD, DPCs	Works hop	2.0	*200.0*			200.0					Provincial budget
1.5.	*Support for silviculture development*							*5,985.7*	*-*	*-*	*-*	*5,985.7*	*-*	*-*		*-*
1.5.1	Road construction and nursery garden development	Target communes of JICA 3	2017 - 2020	DARD	DPCs, Sub-FPD			*2,406.0*	-	-	-	2,406.0	-	-	-	JICA3
1.5.2.	Other activities to support forest protection and development	Target communes of JICA 3	2017 - 2020	DARD	DPCs, Sub-FPD			*3,579.7*	-	-	-	3,579.7	-	-	-	JICA3

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
2	**Promote sustainable use of forest resources**							**2,344.0**	**-**	**-**	**749.0**	**125.0**	**-**	**-**	**1,470.0**	
2.1	*Promote the use of alternative materials and advanced (energy saving) technology*						*636.0*	*125.0*	*-*	*-*	*-*	*125.0*	*-*	*-*	*-*	**SNRM**
2.1.1	Support the use of alternative materials (fuel saving stoves)	Muong Gion Commune	2017 - 2020	DARD	DPCs, Sub-FPD	House hold	500.0	*125.0*				125.0				SNRM
2.1.2	Conduct awareness raising and communication on the use of alternative materials	Target communes and districts	2017 - 2020	DARD	DPCs, Sub-FPD	Cours e	136.0	*0.0*								Regular task of Forest rangers
2.2	*Develop and strengthen community forest management*						*24.0*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local commun ity	Others	Resources
						Unit	Quantity			State budget	Local budget					
2.2.1	Develop and implement community forest management regulation (including patrolling, benefit sharing, collection of forest products...)	Target communes	2017 - 2020	DPCs, CPCs	District FUs	Comm une	12	-								Regular task of Forest rangers
2.2.2	Develop and run forest protection and development fund (based on PFES payment) to incentivise local people in forest protection	Target communes	2017 - 2020	DPCs, CPCs	District FUs	Fund	12									Regular task of Forest rangers
2.3	*Enhance law enforcement*							-	-	-	-	-	-	-	-	-
2.3.1	Identify hotspots of illegal forest logging and clearing for cultivation	Entire province	2017 - 2020	District FUs	Sub-FPD	Distric t	12									Regular task of Forest rangers

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
2.3.2	Perform additional forest patrolling to detect and handle illegal forest logging and smuggling	Entire province	2017 - 2020	District FUs	Sub-FPD	District	12	-								Regular task of Forest rangers
2.3.3	Inspect and handle violations	Entire province	2017 - 2020	District FUs	Sub-FPD	District	12	-								Regular task of Forest rangers
2.4	*Enhance the effectiveness of awareness raising and communication on forest benefits to local people*						*266.0*	*749.0*	*-*	*-*	*749.0*	*-*	*-*	*-*	*-*	
2.4.1	Assess the effectiveness of communication and awareness raising	Target communes	2017 - 2020	Sub-FPD	CPCs	House hold	240.0	*12.0*			12.0					Provincial budget, Regular task of forest rangers, PFES

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
2.4.2	Provide training in communication for local officers and forest rangers	Entire province	2017 - 2020	Sub-FPD	CPCs	Class	4.0	*137.0*			137.0					Provincial budgetRegular task of Forest rangers
2.4.3	Purchase communication equipments (projectors)	Thuan Chau and Quynh Nhai Districts	*2017 - 2020*	*Sub-FPD*	*Target DPCs, CPCs*	Item	10.0	*120.0*			120.0					Provincial budget, Regular task of forest rangers, PFES
2.4.4	Provide communication and awareness raising in different forms and with different contents for local people	Target communes and districts	*2017 - 2020*	*Sub-FPD*	*Target DPCs, CPCs*	Comm une	12	*480.0*			480.0					Provincial budget, Regular task of forest rangers, PFES
2.5	***Enhance the capacity of local people in forest maintenance***							**480.0**	-	-	-	-	-	-	**480.0**	
2.5.1	Provide training and guidance in forest tending	Target communes	2017 - 2020	Priority District PCs	Sub-FPD	Comm une	12	*480.0*							480.0	Other related projects

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
2.5.2	Conduct regular inspection and provide support to local people in forest tending and protection	Target communes	2017 - 2021	Priority District PCs	Sub-FPD	Commune	12	-								Regular task of Forest rangers
2.6	***Improve the forestry and agro-forestry livelihoods for local people***							***990.0***	***-***	***-***	***-***	***-***	***-***	***-***	***990.0***	
2.6.1	Set up forestry and agro-forestry models suitable to produce various products	Target communes and districts	2017 - 2020	Priority District PCs	DARD (Sub-FPD)	Model	12	*870.0*	*-*	*-*	*-*	*-*	*-*	*-*	870.0	Extension Centers
2.6.2	Organise training for local people on forest livelihood development	Target communes and districts	2017 - 2020	Priority District PCs	Sub-FPD	Class	12	*120.0*							120.0	Extension Centers
3	**Control forest fire**							**53,733.4**	**40,000.0**	**-**	**11,085.8**	**2,647.6**	**-**	**-**	**-**	
3.1	***Control the use of fire in upland farming and forest uses***							***1,383.3***	***-***	***-***	***1,383.3***	***-***	***-***	***-***	***-***	

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Unit	Quantity	Total budget (VND million)	PFES	State budget	Local budget	ODA	Private sector	Local community	Others	Resources
3.1.1	Conduct (regular) patrol and inspection to remind local people to comply with existing regulations on use of fire	Target communes	2017 - 2020	Sub-FPD	Target DPCs, CPCs	Commune	31									Regular task of Forest rangers
3.1.2	Conduct awareness raising and communication on the importance of forest and fire prevention and combat	Priority districts	2017 - 2020	Sub-FPD	DPCs	District	5	*216.7*			216.7					PSC implements the FPDP
3.1.3	Apply strict sanctioning of those who cause forest fire	Priority districts	2017 - 2020	Sub-FPD	Target DPCs, CPCs	District	5	*1,166.6*			1,166.6					PSC implements the FPDP
3.2	*Strengthen cooperation and coordination in fire prevention and fighting in border areas*						*20*	*40,500.0*	*40,000.0*	*-*	*500.0*	*-*	*-*	*-*	*-*	

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
3.2.1	Develop annual regulations for coordination in forest protection and management, fire prevention and fighting	Target communes and districts	2017 - 2020	Sub-FPD	CPCs, DPCs, PPC, frontier posts, etc.	District	20	-								Regular task of Forest rangers
3.2.2	Develop and implement annual plan for forest protection, fire prevention and fighting	Target communes and districts	2017 - 2020	UBND District	CPCs, DPCs, PPC, frontier posts, etc.	District	20	-								Regular task of Forest rangers
3.2.3	Conduct regular patrol and inspection for timing information	Target communes and districts	2017 - 2020	CPCs	DPCs, Forest rangers	District	5	*40,500.0*	40,000.0		500.0					PFES, Steering Committee for forest fire prevention
3.3	*Enhance capacity for fire prevention and fighting*							*11,850.1*	*-*	*-*	*9,202.5*	*2,647.6*	*-*	*-*	*-*	

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
3.3.1	Build firebreaks	Target communes	2017 - 2020	Sub-FPD	Target DPCs and CPCs	km	236.75	*7,102.5*			7,102.5					Offset planting cost paid by hydropower plant owners
3.3.2	Provision of equipment and tools for forest fire prevention and fighting	Target communes	2017 - 2020	Sub-FPD	Target DPCs and CPCs	District	5	*4,220.0*			2,000.0	2,220.0				JICA 3, Provincial budget
3.3.3	Set up local standing teams for fire prevention and combat for early detection and extinguishment	Target communes	2017 - 2020	CPCs	DPCs, District FUs	Commune	31	-								Regular task
3.3.4	Conduct study tours to forest fire prevention and fighting model	Sub-FPD	*2017 - 2020*	Sub-FPD	District FUs for special-use forests	Tour	1	*100.0*			100.0					Local budget
3.3.5	Conduct forest fire fighting rehearsals	Target communes of JICA 3	2017 - 2020	Sub-FPD	Target communes	Commune	10	*427.6*				427.6				JICA 3

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
4	**Control conversion of forests to upland fields**							**2,271.7**	-	-	**1,599.6**	**672.1**	-	-	-	
4.1	*Enhance the agricultural livelihoods for local people*							*672.1*	*-*	*-*	*-*	*672.1*	*-*	*-*	*-*	
4.1.1	Select models	Target communes of JICA 3	2017 - 2020	DARD	CPCs, Forest rangers	*Time*	*6*	*191.8*				*191.8*				JICA 3
4.1.2	Support for establishment of turnover fund	Target communes of JICA 3	2017 - 2020	DARD	CPCs, Forest rangers	*Time*	*6*	*480.3*				480.3				JICA 3
4.1.3	Facilitate access to (formal) credit for livelihood development for local peop	Target communes	2017 - 2020	Department of Finance	DPI, CPCs	Comm une	34									Regular task of Forest rangers
4.2	*Address the key issues in land use planning, forests and forestry land allocation*						*12*	*1,599.6*	*-*	*-*	*1,599.6*	*-*	*-*	*-*	*-*	

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
4.2.1	Review the FLA process, asses forest conditions after FLA, and make recommendations on (re)allocating forest and land	Entire province	2017	DARD(Sub-FPD)	Departments/ agencies, DPCs	District	12	-								Provincial budget District
4.2.2	Review and revise the land use plan to fit with local conditions, publicize the plan widely	Entire province	2017	PPC, DPCs	DARD (Sub-FPD), DONRE, DOF, other departments/a gencies	District	12	*1,599.6*			1,599.6					Provincial budget District
4.2.3	Publicize the plan widely	Entire province	2017	PPC, DPCs	DARD (Sub-FPD), DONRE, DOF, other departments/a gencies	District	12									Regular task of Forest rangers
5	**Mitigate impacts of forest conversion into other land use**							-	-	-	-	-	-	-	-	
5.1	*Improve quality of the offset planting*							-	-	-	-	-	-	-	-	

60

| STT | Solution packages/ solutions | Location | Time | Leading agencies | Cooperating agencies | Targets | | Total budget (VND million) | PFES | Other funding sources | | ODA | Private sector | Local commun ity | Others | Resources |
						Unit	Quantity			State budget	Local budget					
5.1.1	Make sure that off-set planting meet quality and time requirements	Target communes	2017 - 2020	Forest rangers	CPCs, DPCs, Departments, Agencies	Comm une	7	-								Regular task of Forest rangers
5.1.2	Intensify the monitoring and inspection of forest conversion and off-set planting	Target communes	2017 - 2020	Forest rangers	CPCs, DPCs, Departments, Agencies	Comm une	7	-								Regular task of Forest rangers
5.2	*Enhance protection to forests bordered with newly converted areas*							-	-	-	-	-	-	-	-	
5.2.1	Identify hotspots of deforestation	Target communes	2017 - 2020	Forest rangers	CPCs, DPCs, Departments, Agencies	Comm une	34	-								Regular task of Forest rangers
5.2.2	Perform additional forest patrolling and strictly apply sanctions to handle violations	Target communes	2017 - 2020	Forest rangers	CPCs, DPCs, Departments, Agencies	Comm une	34	-								Regular task of Forest rangers

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
6	**Cross cutting solution package**							*1,268.9*	*-*	*-*	*30.0*	*998.9*	*-*	*-*	*240.0*	
6.1	*Improve FRMS*							*544.9*	*-*	*-*	*30.0*	*514.9*	*-*	*-*	*-*	
6.1.1	Provide tools for forest change monitoring	Provincial and district levels	2017 - 2018	Sub-FPD	DPCs, CPCs	Item	100	*420.0*				420.0				SNRM
6.1.2	Training for replication of the FRMS	Provincial and district levels	2017 - 2018	Sub-FPD	DPCs, CPCs	Time	12	*124.9*			30.0	94.9				FORMIS, SNRM
6.2	*Raise awareness and build capacity on REDD+*							*724.0*	*-*	*-*	*-*	*484.0*	*-*	*-*	*240.0*	
6.2.1	Share PRAP implementation experiences with other provinces, particularly those in the Northwest	Provincial level	2017 - 2020	Sub-FPD	DPCs, CPCs	*Works hop*	*4*	*484.0*				484.0				SNRM
6.2.2	Conduct awareness raising in REDD+ and PRAP for concerned officers	Provincial level	2017 - 2020	Sub-FPD	DPCs, CPCs	*Works hop*	*6*	*120.0*							120.0	

STT	Solution packages/ solutions	Location	Time	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other funding sources		ODA	Private sector	Local community	Others	Resources
						Unit	Quantity			State budget	Local budget					
6.2.3	Share successful REDD+ models at district level	Provincial level	2017 - 2020	Sub-FPD	DPCs, CPCs	Works hop	6	120.0							120.0	
7	**Ensure the implementatio n of PRAP monitoring and evaluation**							200.0	-	-	-	-	-	-	200.0	
7.1	*Conduct annual M&E of PRAP implementatio n*	*All target commune s of the priority districts*	*2017 - 2020*	*DARD*	*DPCs, Departments, agencies*	*Report*	*6*	*60.0*							*60.0*	
7.2	*Conduct assessment of PRAP implementatio n for the period of 2017- 2020*	*All target commune s of the priority districts*	*2017 - 2020*	*DARD*	*DPCs, Departments, agencies*	*Meeti ng*	*7*	*140.0*							*140.0*	

Annex 02. Monitoring and Evaluation Framework of Son La PRAP – Result framework

No.	Solution Packages/ Solutions/Activities	Baseline data	Result indicators	Means of verification
1	**Enhance the effectiveness of af/reforestation**	**During the 2010-2015 period, average survival rate of planted forests at the time of harvest was 75-80%, with the value of VND 55 million/ha**	**By the end of 2020, the survival rate reaches 85%, and the value reaches VND 60 million/ha**	**1. Annual report on acceptance of tree planting results by the Sub-FPD and priority districts 2. Statistical yearbooks of the province and priority districts**
1.1	Ensure technical correctness in tree planting and tending	NA	Ensure 90% households participate in forest planting correctly apply techniques in planting and tending	Acceptance note of forest planting carried out by project owners
1.2	Ensure that the seedlings are of high quality and suitable to the site conditions	100% of the seedlings were inspected at the time of supply in 2016.	Maintain the rate of 100% of the seedlings were inspected before planting	1. Report on FPD of forest rangers 2.Certificate of seedling originals
1.3	Improve management to forest logging and replanting after harvesting (production forests)	100% households carried out forest replantation after forest logging	100% households carried out forest replantation after forest logging during the 2017 – 2020 period	Report on forest logging and replanting
1.4	Support improvement of market for plantation wood	01 bamboo processing facility in Moc Chau	Ít nhất có thêm 01 nhà máy/ vùng nguyên liệu và 24 cơ sở chế biến được hình thành vào cuối năm 2020.	1. Annual report of Department of Industry and Trade 2. Report on supporting the development of wood processing facilities
1.5	Support for silviculture development	NA	Ensure at least 3 nurseries, 32km (footpaths and motorbike roads combined with forestry roads) and other silvicultural facilities will be built in priority areas during 2017-2020.	JICA3 Project Implementation Report

No.	Solution Packages/ Solutions/Activities	Baseline data	Result indicators	Means of verification
2	**Promote forest protection and sustainable use of forest resources**	**1. Total 'Poor Forest' area in 2015 was 12,769 ha, 'Medium Forest was 17,694 ha, rich forest was 6,401 ha** **2. By the end of 2016, total natural forest stock of the natural forests was 13,053 m^3, forest area was 219,097 ha**	**1. 30% of 'Poor Forest' area become medium forests by the end of 2020** **2. Maintain the existing forest area and stock (no decrease compared to the baseline value)**	**Report on FPD of Sub-FPD in priority districts** **Annual forest change data** **Forest inventory data (5 years)**
2.1	Promote the use of alternative materials and improved (energy saving) technology	Not applicable	By the end of 2020, 20% of the households in the target communes uses alternative fuel/ materials other than firewood.	1. Survey report on uses of alternative fuel/materials; 2. Statistical yearbooks; Assessment of impacts from PRAP implementation in 2016-2020
2.2	Develop and strengthen community forest management	More than 500 cases of violations to village forest management regulations in 2016	Reduce at least 10% of the total of violations to village forest management regulations in 2020	Record of violations
2.3	Strengthen law enforcement	400 forest patrolling conducted in 2016.	At least 15% of additional forest patrolling will be conducted	1. Report from legal and inspection unit (of Sub-FPD) and FPUs in priority districts 2. Report from each violation case (prepared by CPC, field forest ranger, and others)
2.4	Enhance the effectiveness of awareness raising and communication on forest benefits to local people	Not applicable	At least 95% of the HHs in the target communes received information and raised awareness on annual forests protection and development policies in 2020	Monthly report from district FPUs
2.5	Enhance the capacity of local people in forest maintenance	About 150 training classes for HHs in 2016	At least 90% of HHs received training on annual planting and tending in 2020	Report on implementation of forest rangers

No.	Solution Packages/ Solutions/Activities	Baseline data	Result indicators	Means of verification
2.6	Improve the forestry and agro-forestry livelihoods for local people	Not applicable	At least one improved livelihood model will be developed in each target commune for the period 2017-2020.	1. Report on livelihood development support 2. PRAP impact assessment to target groups
3	**Control forest fire**	**1. During the period of 2010-2016, average number of forest fire recordedwas52 cases/year).** **2. During the period of 2010-2016, the average area damaged by forest fire was 201 ha/year**	**The average number of forest fires and the damaged areas reduce 10% or more during the period 2017-2020.**	**Forest fire records**
3.1	Control the use of fire in upland farming and forest uses	29 cases of improper use of fire in upland farming and forest uses	The number of related fire use pose a 50% reduction in forest fires by 2020.	Forest fire records
3.2	Strengthen cooperation and coordination in fire prevention and fighting in border areas	Annual forest fires in the border areas during the period 2010-2016 was about 15 cases.	Average annual forest fires will decrease by 10% or more in the period 2017-2020.	Forest fire records
3.3	Enhance capacity for fire prevention and fighting	100% of forest fires are detected and handled in 2016	Maintaining indicator of 100% of forest fires are detected and handled in a timely manner during the 2017-2020 period.	1. Annual forest change monitoring report 2. Report on annual forest fire prevention and fighting
4	**Control conversion of forests to upland fields**	**During the period of 2010-2015, the average area of forest converted into upland field was 268 ha/year**	**During the period 2017-2020, the forest area encroached for cultivation reduces by 70%.**	**Report on annual FPDP of forest rangers**
4.1	Enhance (agriculture) livelihoods for local people	Not applicable	At lease one (1) livelihood development model is developed in each target commune.	1. Report on support for livelihood development 2. Report on PRAP impacts to the target groups

No.	Solution Packages/ Solutions/Activities	Baseline data	Result indicators	Means of verification
4.2	Address the key issues in forest land use planning	Planned boundaries in 2016	Adjusted planning boundaries are in line with practical use by 2020.	The decision approving the newly adjusted boundaries
5	**Mitigate impacts of forest conversion into other land use (road construction and hydropower plant development, etc.)**	**During the period of 2010-2015, offset planting reached 783 ha (equivalent to 34.2% of the planned area)**	**Offset planting target for the period of 2010-2015 (1,503 ha) is completed. 100% of the newly converted areas are also off-set planted during the 2016-2020 period.**	**Offset planting acceptance reports**
5.1	Make sure that off-set planting meet quality and time requirements	During the period of 2010-2015, offset planting reached 783 ha (equivalent to 34.2% of the planned area)	Meet offset planting target for the period of 2010-2015 (1,503 ha) and newly converted areas during the 2016-2020 period.	Offset planting acceptance reports and forested forest handover notes
5.2	Enhance protection to forests bordered with newly converted areas	11 illegal forest logging to border areas in 2016.	Illegal forest logging to border areas reduce by 10% in 2020.	Report on FPD of the forest rangers
6	**Cross cutting solution package**	**Not applicable**	**Not applicable**	**Not applicable**
6.1	Improve Forest Resource Monitoirng System (FRMS)	12 District FPD and 5 forest management boards are implementing the improved FRMS	By the end of 2020, FRMS is operational in all priority districts	Reports on annual forest resource monitoring
6.2	REDD+ awareness raising and capacity building	7 concerned staff were participated in 3 provincial workshops on PRAP development held in 2016 and 2017	1. By 2020, 1,400 participants from provincial agencies and priority districts will have been provided with training and awareness raising in climate change and REDD+ 2. 39 communes are exposed to awareness raising activities in the period of 2017-2020	Training and awareness raising reports from PRAP

Annex 03. Monitoring and Evaluation Framework of Son La PRAP – Environmental and Social Benefits and Risk Assessment Framework

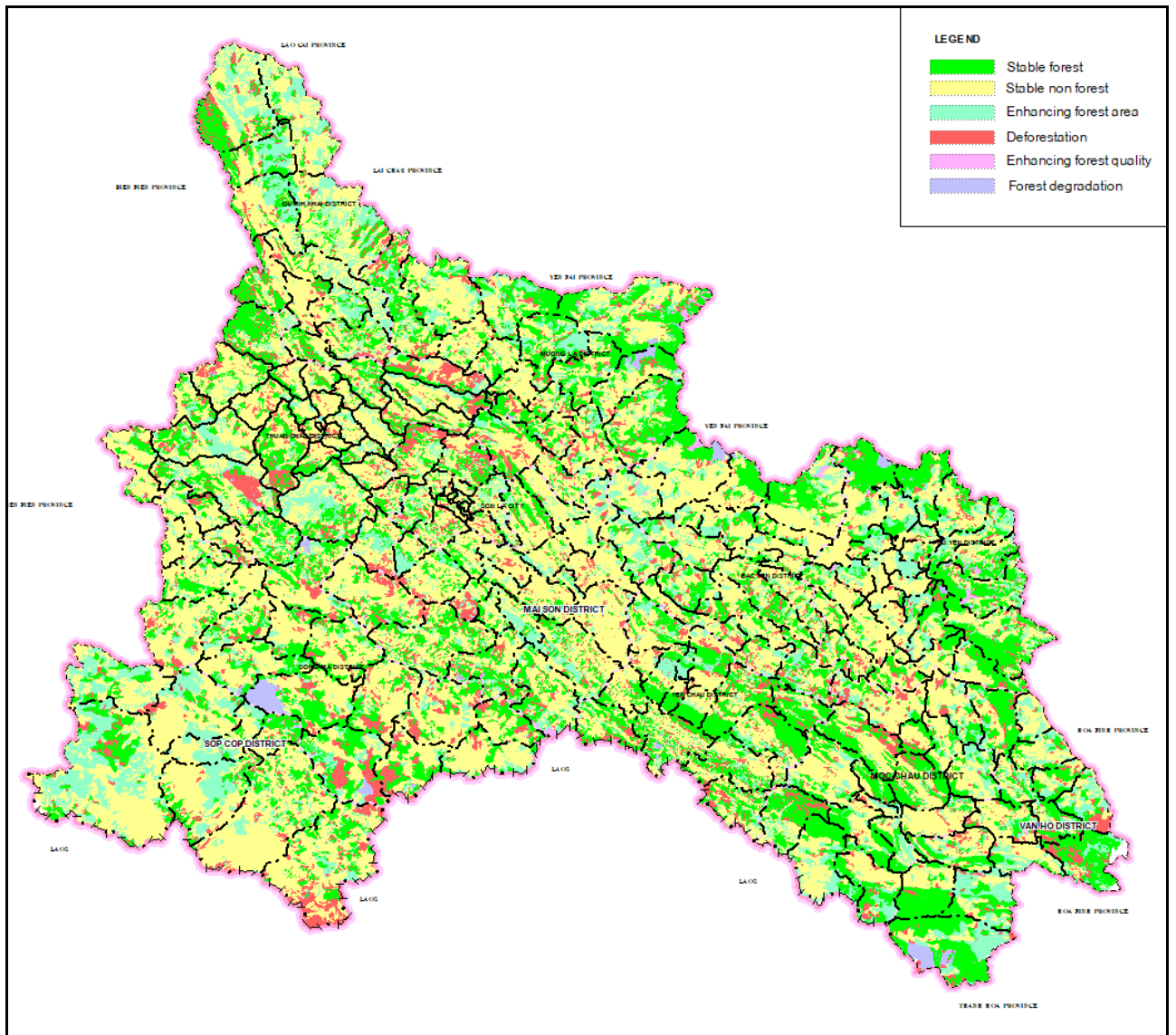| No.	Solution packages/ solutions	Benefits	Enhancement measures	Monitoring measures	Risks	Mitigation measures	Monitoring measures
1	**Enhance the effectiveness of forest plantation**	1. Anti-erosion 2. Reduce the risk of flash floods 3. Raise awareness of the local communities on forest protection and development 4. Reduce poverty, contribute to income regeneration 5. Clarify land and forest resource ownership and rights	(1, 2, 3, 4, 5). Enhance the awareness raising on the law on forest protection for people. (1, 2, 3, 4, 5, 6). Integrate benefits into the planning and implementation of PRAP.	(1) The biodiversity reports by the Forest Inventory and Planning Institute (2) Report on environmental impact assessment of DONRE (3) Flood &disaster prevention report by DARD (4) Forest Protection Department reports (5). Annual commune socio-economic development reports (6). Report on the planning of 3 forest categories	1. Conflict of interests over land use (for cropping) 2. Economic loss of the tree growers if plantation wood market is not available 3. Risk of biodiversity loss (due to monoculture) 4. Risk of replacement of natural forest by plantation	(1,3,4) Strengthen participation of the local people to planning and decision making (1,4) Ensure afforestation will comply with government regulation and plan (1) Institutionalize village conventions on grazing in forest plantations (2) Raise awareness among households about the risks associated with afforestation (3) Integrate aspects of biodiversity when planning forest plantations	(1) The content of voters' meeting with People's Councils at all levels (2) Commune socio-economic development report (3, 4) Reports on annual forest inventory data by Forest Rangers (3, 4) Report on biodiversity by the Vietnam Forest Inventory and Planning Institute
1.1	Ensure technical correctness in tree planting and tending						
1.2	Ensure that the seedlings are of high quality and suitable to the site conditions						
1.3	Improve management to forest logging and replanting after harvesting (production forests)						
1.4	Support improvement of market for plantation wood						
1.5	Support for silviculture development						

No.	Solution packages/ solutions	Benefits	Enhancement measures	Monitoring measures	Risks	Mitigation measures	Monitoring measures
2	**Promote sustainable use of forest resources**	1.Conserve biodiversity 2. Ensure equity in the use of forest resources	(1, 2). Enhance the awareness raising on the law on forest protection for people. (1, 2). Integrate benefits into the planning and implementation of PRAP.	(1). Report on biodiversity by the Vietnam Forest Inventory and Planning Institute (2). Feedbacks from local forest rangers and commune working groups	1. Conflict with the local traditions (building wooden house, burning wood for heating...) 2. Conflict with the livelihoods of local poor, forest dependent people 3. Conflict between law enforcement bodies and the local people 4. Risk of deforestation and forest degradation in other places (displacement)	(1) Awareness raising and support local people in using alternative materials (2, 3) Support livelihood development for poor and forest dependent people (2, 3,4) Enhance the participation of people (including people living outside the target communes) in planning (2, 3, 4) Support for off-farm jobs for local people (4) Strengthen the coordination on forest change monitoring between the parties sharing the forest boundaries	(1, 2, 3) The content of voters' meeting with People's Councils at all levels (1, 2) Commune socio-economic development report (3, 4) Disscussion minutes of the boundary conference (4)Data of annual forest change monitoring reports by Sub-FPD
2.1	Promote the use of alternative materials and improved (energy saving) technology						
2.2	Develop and strengthen community forest management						
2.3	Strengthen law enforcement						
2.4	Enhance the effectiveness of awareness raising and communication on forest benefits to local people						
2.5	Enhance the capacity of local people in forest maintenance						
2.6	Improve the forestry and agro-forestry livelihoods for local people						

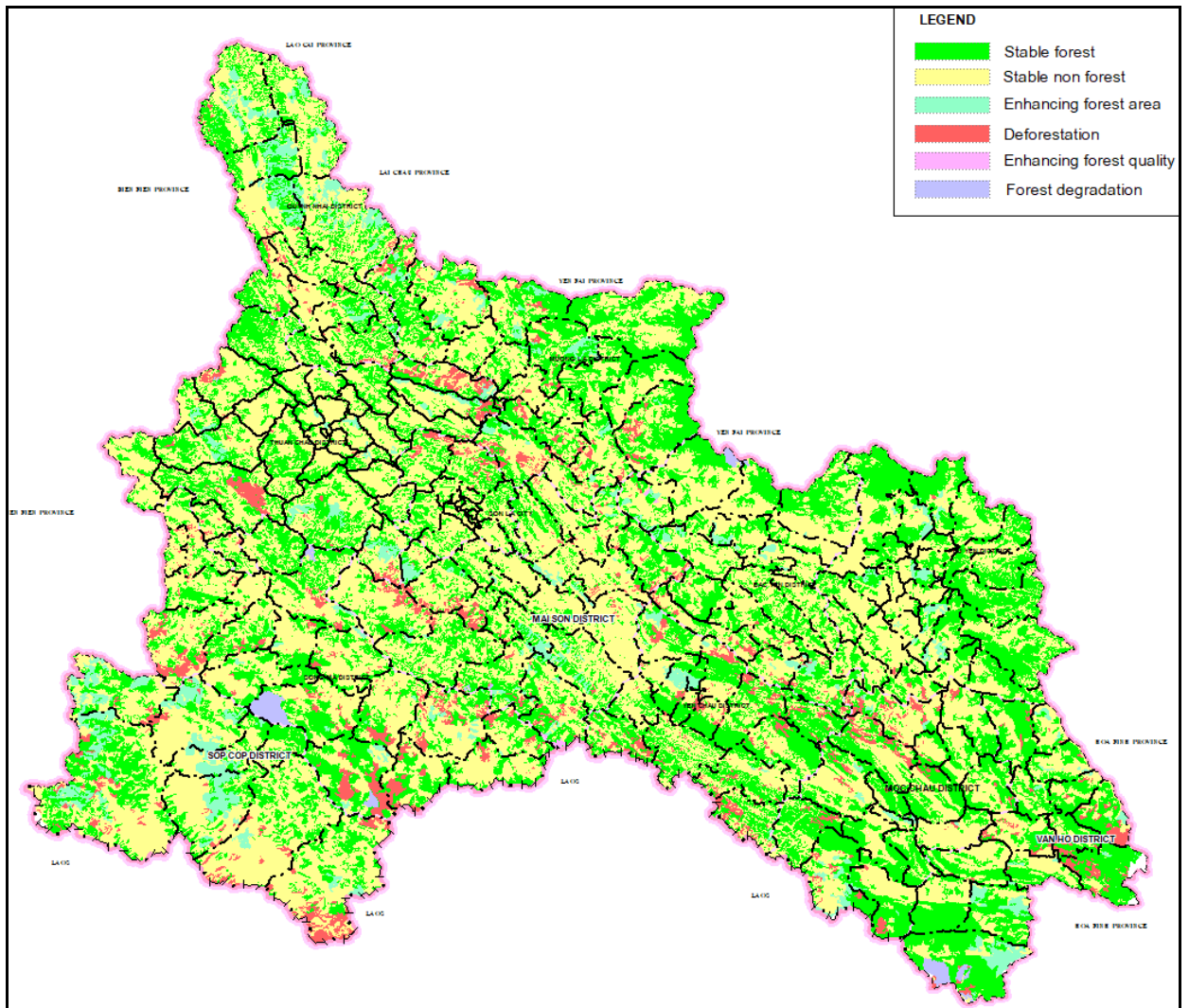| No.	Solution packages/ solutions	Benefits	Enhancement measures	Monitoring measures	Risks	Mitigation measures	Monitoring measures
3	**Control forest fire**	1. Conserve biodiversity 2. Prevent environmental pollution 3. Anti-erosion and protect water resource 4. Prevent flash floods 5. Reduce economic and human losses 6. Enhancement of the local people's awareness on forest fire prevention	(1,2,3,4,5,6). Strengthening the communication and education on the law on forest protection and development for local people	(1). Report on the biodiversity by the Forest Inventory and Planning Institute (2,3). Environmental impact assessment report of DONRE (4). Flood &disaster prevention report by DARD (5). Reports on forest fires (6). Reports on annual forest inventory data by Forest Rangers	1. Livelihoods of the local people being affected due to the restriction on fire use. 2. Conflict between law enforcement bodies and the local people on fire use 3. Decrease of upland farms available for agriculture production due to the restriction on fire use. 4. Creating flammable materials, which may trigger forest fires (more woody debris left on forest ground because of success in reducing forest fire)	(1, 2, 4). Support livelihood development of local people, especially the poor, who are depending on forests (3). Increasse number of forest patrolling per month	(1,2,3,4). Feedback from CPCs and local forest rangers (2). Complaints of the local people
3.1	Control the use of fire in upland farming and forest uses						
3.2	Strengthen cooperation and coordination in fire prevention and fighting in border areas						
3.3	Enhance capacity for fire prevention and fighting						
4	**Control conversion of forests to upland fields**	1. Conserve biodiversity 2. Anti-erosion 3. Prevent flash floods 4.Raise awareness of the local communities on	(1, 2, 3, 4, 5). Enhance the awareness raising on the law on forest protection for people. (1, 2, 3, 4, 5, 6). Integrate benefits into the planning and implementation	(1) The biodiversity reports by the Forest Inventory and Planning Institute (2) Report on environmental impact assessment of DONRE	1. Conflict with the local tradition in upland farming 2. Conflict with other land uses 3. Conflict between law enforcement bodies and the local people 4. Conflicts between people	(1, 2, 3) Enhance the participation of people (including people living outside the target communes) in planning (1, 2, 3) Support livelihood development of local people, especially the poor, who are depending on forests	(1, 2, 3, 4) Monthly reports on FPD of forest rangers (1, 2, 3, 4) Complaints of local people (1) Commune socio-economic
4.1	Enhance (agriculture) livelihoods for local people						
4.2	Address the key issues in forest land use planning						

No.	Solution packages/ solutions	Benefits	Enhancement measures	Monitoring measures	Risks	Mitigation measures	Monitoring measures
		forest protection and development 5. Reduce poverty, contributing to improving people's income 6. Clarify forest resource use rights	of PRAP.	(3) Flood &disaster prevention report by DARD (4) Forest Protection Department reports by forest rangers (5). Annual commune socio-economic development reports (6). Report on the planning of 3 forest categories	from outside of the target communes with those in the target communes	(1, 2, 3) Ensure consensus among villagers in the development of regulations of forest protection and development (4). Discuss with the people outside the target commune on the criteria for participation in the project	development reports (1, 2, 3, 4) Feedbacks of commune People's Committee, local rangers, etc.
5	**Mitigate impacts of forest conversion into other land use (road construction and hydropower plant development)**	1. Awareness of local people on compliance with the law on forest protection and development 2. Generate incomes for people participating in offset planting	(1,2). Focus on support for the poor, women, ethnic minorities people, and forest dependents, etc.	(1). Report on annual offset planting by forest rangers (2). Acceptance notes of offset planting	1. Conflicts between the law enforcement bodies and the project owners	(1). Strengthening the dissemination to raise awareness on obligations of project investors	(1) Report on annual offset planting
5.1	Make sure that off-set planting meet quality and time requirements						

No.	Solution packages/ solutions	Benefits	Enhancement measures	Monitoring measures	Risks	Mitigation measures	Monitoring measures
5.2	Enhance protection to forests bordered with newly converted areas						
6	**Cross cutting solution package**	**Not applicable**	**Not applicable**	**Not applicable**	**Not applicable**	**Not applicable**	**Not applicable**
6.1	Improve Forest Resource Monitoirng System (FRMS)				Not applicable	Not applicable	Not applicable
6.2	REDD+ awareness raising and capacity building				1. Local people may misunderstand about REDD+ and expect too much on REDD+ benefits. This can distable local people's life.	(1). Enhance quality of communication and dissemination	(1). Feedbacks of commune staff and local rangers, etc.

# Map 01. Son La Forest Change Map of the 2005 – 2015 period

LEGEND

- Stable forest
- Stable non forest
- Enhancing forest area
- Deforestation
- Enhancing forest quality
- Forest degradation

Map 02. Son La Forest Change Map of the 2010 – 2015 period

LEGEND
- Stable forest
- Stable non forest
- Enhancing forest area
- Deforestation
- Enhancing forest quality
- Forest degradation

Map 03. Maps of deforestation hotspots during the 2015 - 2020
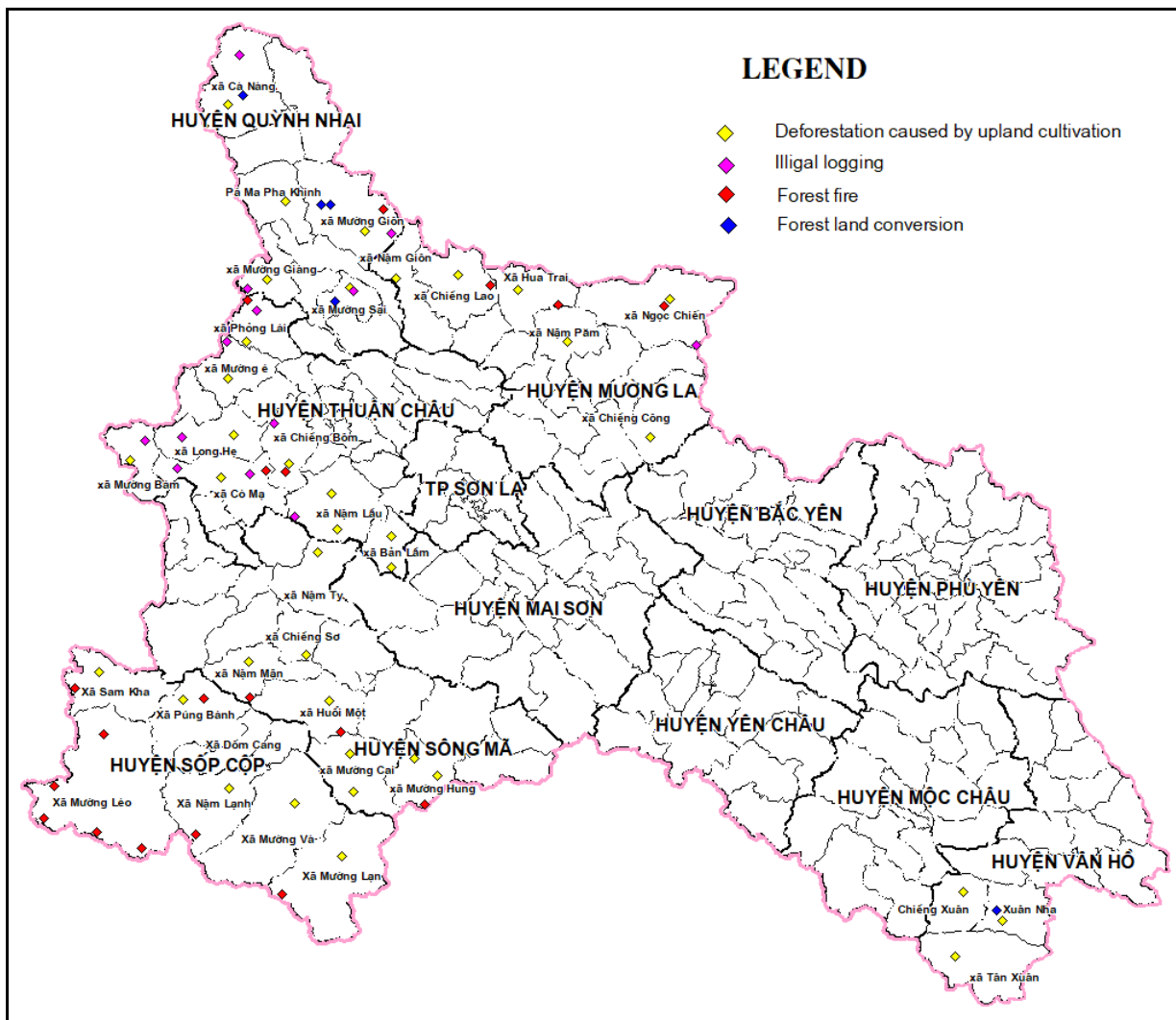
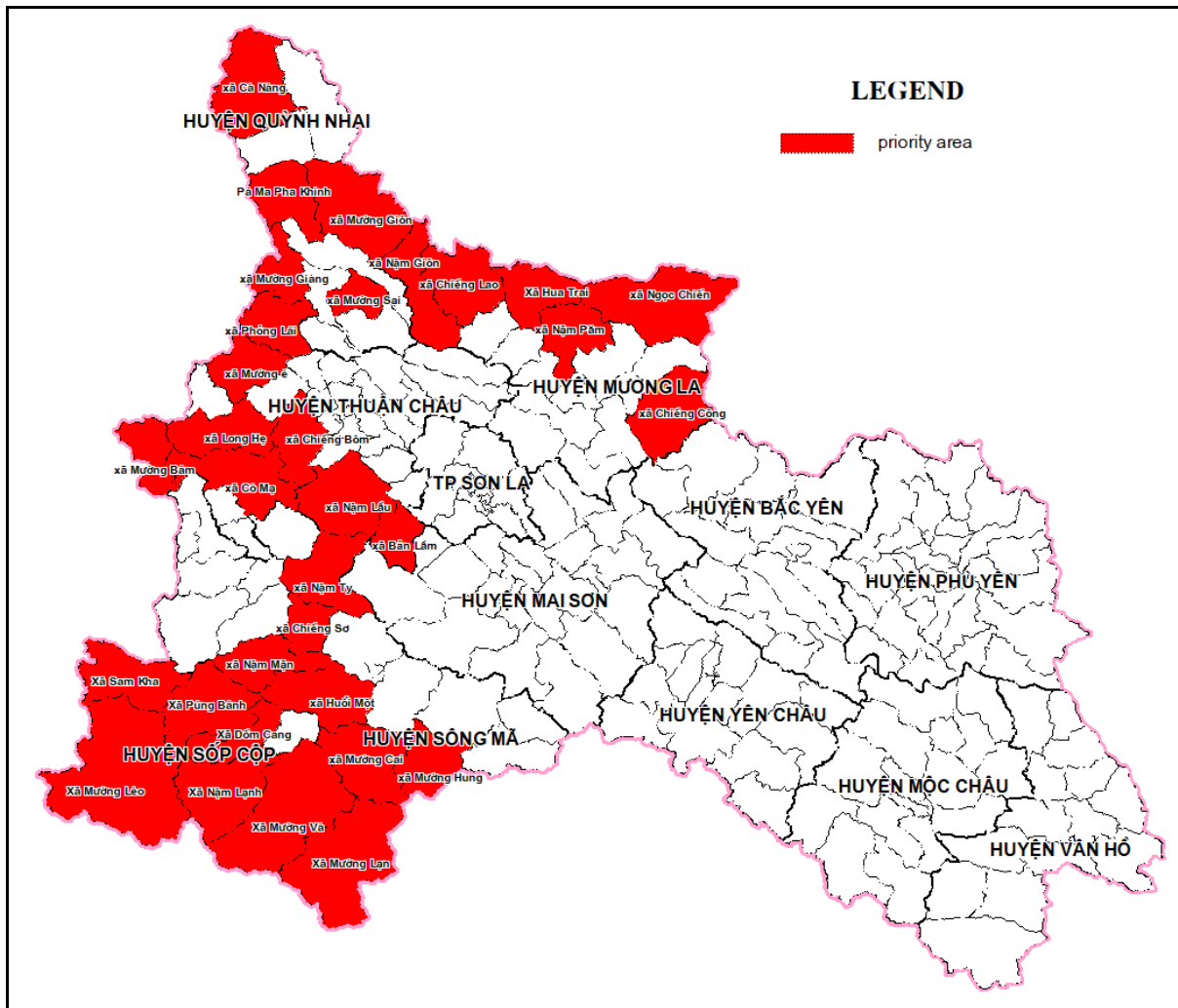# Map 04. Map of potential areas for REDD+ implementation during the 2017-2020 period
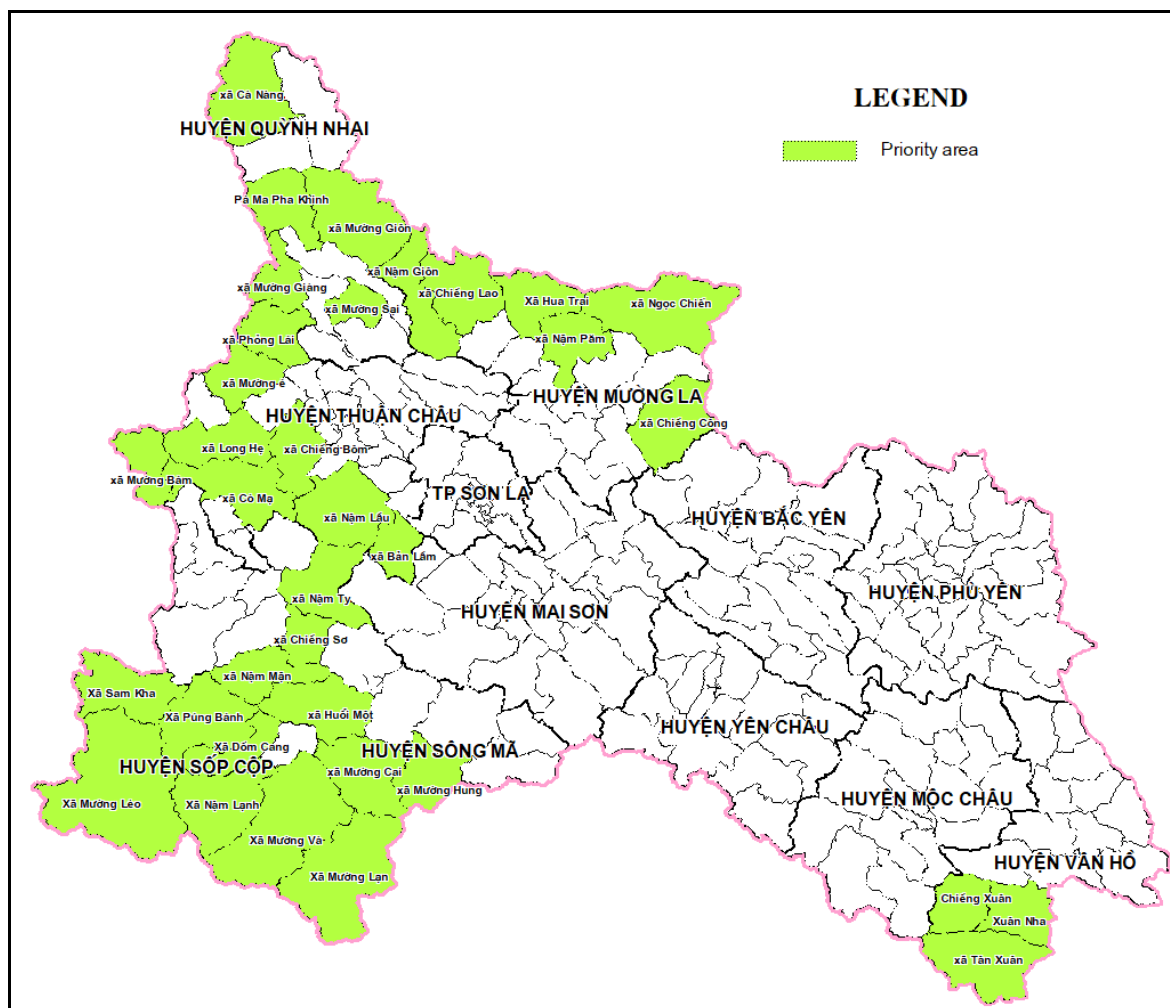
Map 05. Map of potential areas for REDD+ implementation
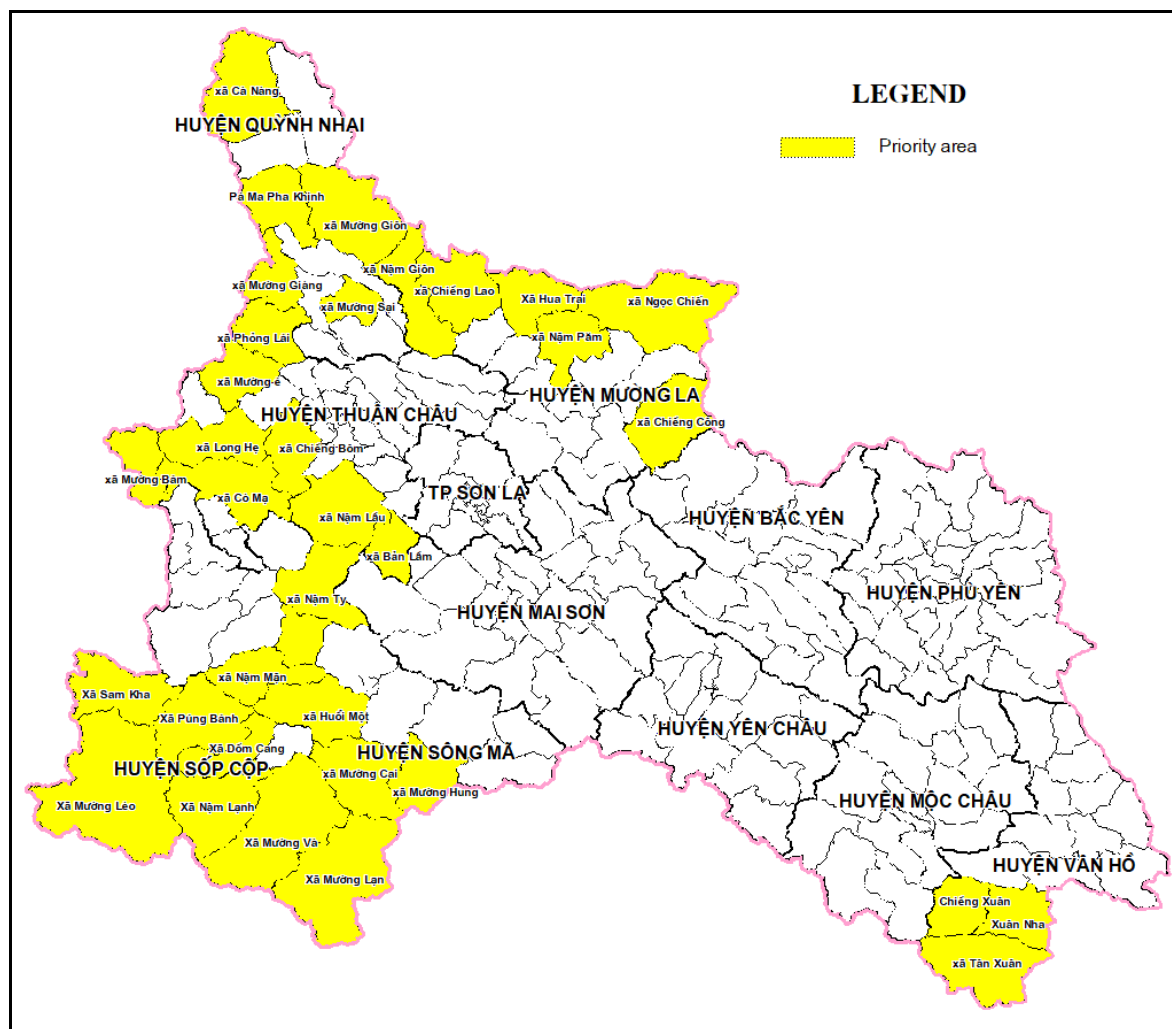## (Solution package 1: Enhance the effectiveness of forest plantation)
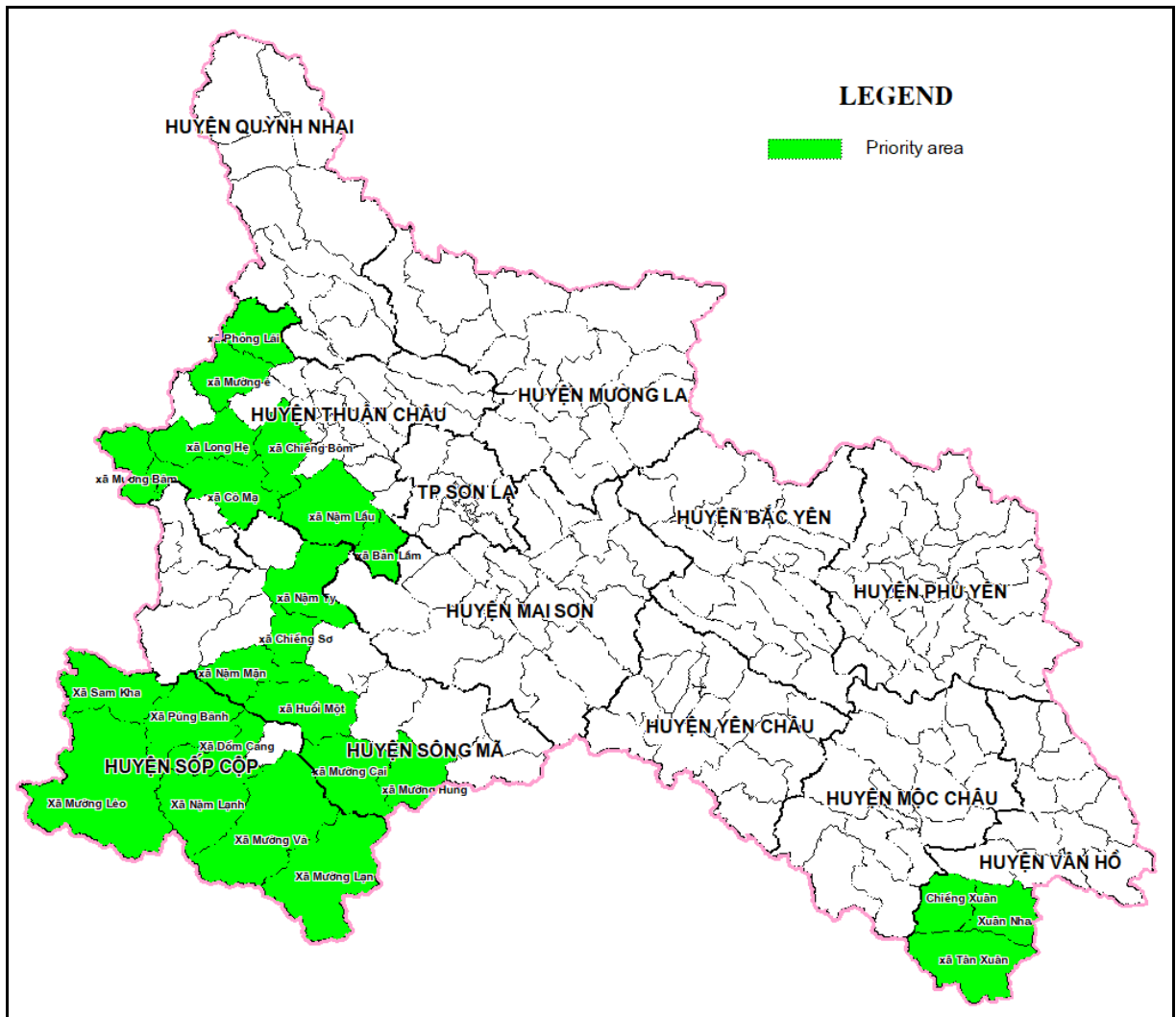
Map 06. Map of potential areas for REDD+ implementation

(Solution package 2: Promote sustainable use of forest resources)
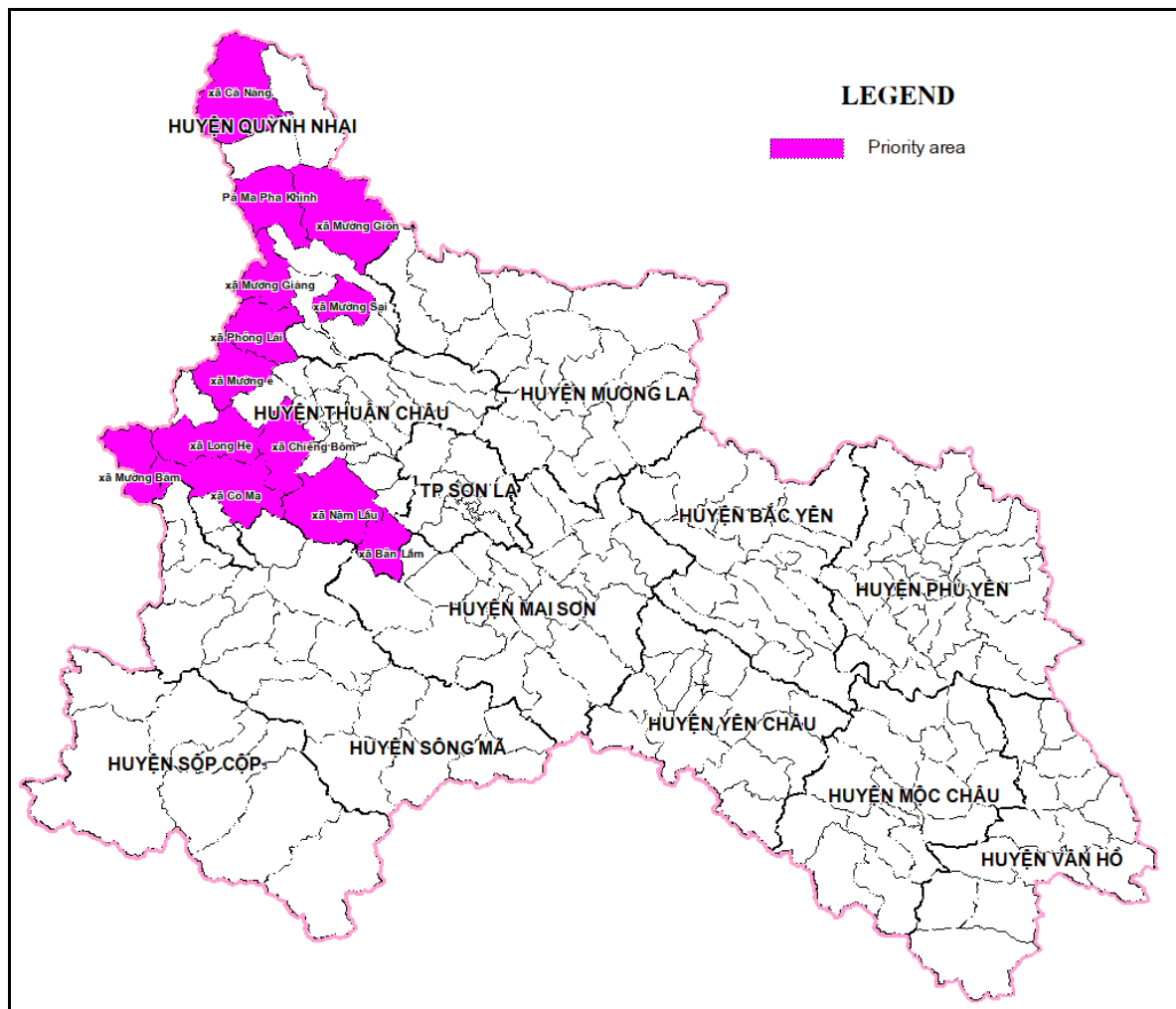
Map 07. Map of potential areas for REDD+ implementation

(Solution package 3: Control forest fire)

Map 08. Map of potential areas for REDD+ implementation
(Solution package 4: Control conversion of forests to upland fields)

Map 09. Map of potential areas for REDD+ implementation

(Solution package 5: Mitigate impacts of forest conversion into other land use (road construction and hydropower plant development)