

LAI CHAU PROVINCIAL 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 LAI CHAU PROVINCE
FOR THE PERIOD FROM 2017 TO 2020**

*(Enclosed to the Decision No. /QĐ-UBND dated xxx 2017 of Lai Chau
Provincial People’s Committee)*

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ACRONYMS AND ABBREVIATION

CPC	:	Commune People’s Committee
DARD	:	Department of Agriculture and Rural Development
DPC	:	District People’s Committee
DOF	:	Department of Finance
FPD		Forest Protection Department
FPDP	:	Forest Protection and Development Plan
FRMS	:	Forest Resource Monitoring System
JICA	:	Japan International Cooperation Agency
MARD	:	Ministry of Agriculture and Rural Development
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
SIS	:	Safeguard Information System
SNRM Project	:	Sustainable Natural Resource Management Project
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. The mechanism for reducing greenhouse gas emissions from deforestation and forest degradation (REDD+) has been introduced and has attracted global and national attention for its potential contribution to mitigate climate change impacts.

Viet Nam is considered as one of the countries most affected by climate change¹. There was an estimation of 9,500 dead and missing lives, an economic loss equivalent to 1.5% of the annual GDP during the period of 2001-2010, and hundreds of casualties and economic losses estimated at USD 1.9 billion (equivalent to 1.3% of GDP). The Government of Vietnam has made clear international commitments to mitigate greenhouse gas emissions. They have been developing and implementing the National Target Program; and the ministries, sectors, and localities have been developing action plans to urgently respond to the immediate and long-term impacts of climate change.

Lai Chau is a mountainous province located in the northwest region of Vietnam, with total natural area of 906,878.7 ha, of which, forests cover 420,842.07 ha, including 405,980.55 ha of natural forest and 14,861.52 ha of planted forests. Having recognized the importance of forests in response to the consequences of climate change, Lai Chau has been implementing forestry programs and projects to sustainably protect and use forests and forestry land, meeting the requirements of preserving rare, precious and endemic genetic resources (biological resources), regulating water resource and improve the ecosystem, creating forest products, and contributing to socio-economic development and livelihoods of local people in the province.

In order to advocate the REDD + mechanism and to implement the Decision No. 419/QĐ-TTg of the Prime Minister, with support from the Sustainable Natural Resource Management Project (SNRM Project) funded by the Japan International Cooperation Agency (JICA), the Province has developed the PRAP for the 2017 - 2020 period towards 2030 on the basis of integration with activities of FPDP associated with the Agriculture Sector Restructuring Scheme during 2016-2020. The PRAP is designed to suit with the natural and socio-economic conditions of Lai Chau and in line with the guidelines and policies of the Communist Party and the State.

¹ Decision No. 2139/QĐ-TTg dated December 5, 2011 approving the National Strategy for Climate Change.

2. Legal basis

2.1. National Legal Documents

- Law on Forest Protection and Development in 2004 and Decree No. 23/2006/ND-CP dated March 3, 2006 of the Government on enforcement of the Law on Forest Protection and Development 2004;

- Instruction No. 13-CT/TW, dated January 12, 2017 of the Secretariat Committee of the Central Party Committee on strengthening the Party's leadership in forest management, protection and development;

- Resolution No. 30a/2008/NQ-CP of December 27, 2008 on the support program for fast and sustainable poverty reduction in 61 poor districts.

- Decree No. 99/2010/ND-CP dated 24 September 2010 of the Government on payment for forest environmental services; Decree No. 147/2016/ND-CP dated November 2, 2016 of the Government amending and supplementing a number of articles of Decree No. 99/2010/ND-CP;

- Decree No. 75/ND-CP dated September 9, 2015 of the Government on mechanisms and policies for forest protection and development, associated with fast and sustainable poverty reduction and support for ethnic minorities during the period 2015 - 2020;

- Decision No. 87 / QD-TTg dated April 20, 2006 of the Prime Minister approving the master plan for socio-economic development of Lai Chau province for the period of 2006-2020;

- Decision No. 18/2007/QĐ-TTg dated February 05, 2007 of the Prime Minister approving the forestry development strategy of Vietnam during the 2006-2020 period;

- Decision No. 886/QĐ-TTg dated June 16, 2017 of the Prime Minister approving the Target Program on Sustainable Forest Development for 2011-2020 period;

- Decision No. 17/2015/QĐ-TTg, dated June 9, 2015 of the Prime Minister on promulgation of regulations on protection forest management;

- Decision No. 49/2016/QĐ-TTg, dated November 1, 2016 of the Prime Minister on promulgation of regulations on production forest management;

- Decision No. 38/2016/QĐ-TTg dated September 14, 2016 of the Prime Minister promulgating a number of policies on forest protection and development and investment in supporting infrastructure, assign public interest-related tasks for the forestry companies;

- Decision No. 419 / QĐ-TTg dated April 5, 2017 of the Prime Minister approving the National Action Program on "GHG emissions reduction through deforestation and forest degradation, sustainable forest management, conservation and enhancement of forest carbon stocks" toward 2030;

- Circular No. 05/2008/TT-BNN dated January 14, 2008 of MARD guiding formulation of forest protection and development plans;

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

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

- 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+);

2.2. Provincial legal documents

- Conclusion No. 01-KL/TU, dated June 20, 2016 of the provincial Party Executive Committee on continued implementation of the Resolution No. 15-NQ/TU, dated July 16, 2007 of the 11th Executive Committee of the provincial Party to promote forestry development until 2020;

- Resolution No. 33/2016/NQ-HDND, dated July 28, 2016 of Lai Chau PPC defining policies on agricultural production development in Lai Chau province during the period of 2017-2021;

- Decision No. 17/QĐ-UBND dated August 20, 2012 by Lai Chau PPC approving the Forest Protection and Development Plan for Lai Chau province during 2011-2020;

- Decision No. 07/2014/QĐ-UBND dated March 26, 2014 of Lai Chau PPC on the amendment, supplement of a number of articles of the regulation on the order, procedures, policies and mechanisms for afforestation, forest maintenance and protection as stipulated in the Resolution No. 30a/2008/NQ-CP which is enclosed to the Decision No. 20/2009/QĐ-UBND dated August 19, 2009 of Lai Chau PPC;

- Decision No. 14/2014/QĐ-UBND, dated June 12, 2014 of Lai Chau PPC on issuance of regulations on offset planting for forest conversion to other land use in Lai Chau;

- Decision No. 36/2014/QĐ-UBND dated November 27, 2014 of Lai Chau PPC promulgating regulations on management and implementation of the policy on PFES by owners of the hydropower plants in Lai Chau province;

- Decision No. 1811/QĐ-UBND dated December 31, 2014 of Lai Chau PPC issuing the regulations on Command and Control System and Management Mechanism for Forest Protection and Fire Prevention and Fighting in Lai Chau province;

- Decision No. 1406/QĐ-UBND dated October 30, 2014 approving the scheme on agricultural sector restructuring in Lai Chau province until 2020 towards 2030;

- Decision No. 1718/QĐ-UBND dated December 23, 2014 of Lai Chau PPC approving the price and quality standards of forestry seedlings that serve demands of afforestation programs in Lai Chau province;

- Decision No. 347/QĐ-UBND dated March 29, 2016 of Lai Chau PPC approving the

results of forest inventory in Lai Chau province in 2015.

- Decision No. 33/2015/QĐ-UBND dated December 11, 2015 of Lai Chau PPC approving the 5-year plan for socio-economic development and national defence and security during the period of 2016-2020;

- Decision No. 29/2016/QĐ-UBND, dated August 30, 2016 of Lai Chau PPC promulgating regulations on implementation of policies on agricultural production development in Lai Chau province during the period of 2017- 2021;

- Decision No. 1160/QĐ-UBND dated September 7, 2016 of Lai Chau PPC on the amendment and supplementation of Point 1.1 and Point 1.3, Clause 1, Article 2, Decision No. 353 / QĐ-UBND dated April 12, 2012 of Lai Chau PPC on the establishment of the Provincial Steering Committee for FPDP and implementation of the policy on PFES in Lai Chau Province during the 2011-2020 period;

Part I. OVERVIEW OF FOREST PROTECTION AND DEVELOPMENT, AND POTENTIALITIES FOR REDD+ IMPLEMENTATION OF LAI CHAU PROVINCE

I. OVERVIEW OF NATURAL AND SOCIO-ECONOMIC CONDITIONS

1. Natural Conditions

1.1. Geographical location

Lai Chau is a northwest border province of Vietnam. Geographical coordinates of Lai Chau are from 20^o52'06"-22^o33'12" North latitude and 102^o13'13"-103^o30'36" East longitude. It shares a border with Yunnan Province of China to the north, Dien Bien Province to the south and west, and Lao Cai, Yen Bai and Son La Provinces to the east.

1.2. Topography

Lai Chau is located in the Northwest of Vietnam, with an average elevation of 1,500 m above sea level. The terrain of Lai Chau is very diverse, complicated and divided with deep valleys, with an average slope of 26^o - 35^o. The high and medium mountain ranges cover large part of the province, mostly with rocky soil interweaving with limestone karst landscapes with caves and underground rivers. There were tectonic activities in different periods of its history which caused faults, landslides and subsidence, and formed valleys, rivers, streams, mudflats and caves.

Due to the diverse terrain with different sub-regions and climatic conditions, the plant and animal species are also diverse, and many of them have high economic value.

1.3. Soil characteristics

According to the assessment of land resources, Lai Chau Province has 6 main soil groups, including fluvisols, luvisols, ferralsols, ferralic Acrisols, valley soil group on slope lands, and humic ferralsols on high and rocky mountain ranges, rivers and streams.

- Fluvisol: There are 5 types of fluvisol that occupy 5,653 ha, 0.62% of the natural area, mainly distributed in Sin Ho, Tam Duong, Than Uyen districts.

- Luvisol: There are 3 types of luvisol that occupy 3,095 ha, 0.34% of the natural area, distributed mainly in Lai Chau City, Tam Duong, Than Uyen and Sin Ho districts.

- Ferralsol: There are 11 types of ferralsol that occupy 498,947 ha, 55.03% of the natural area, widely distributed throughout the province on hilly areas with elevations below 900 m.

- Ferralic Acrisols occupy 283,431 ha, 31.25% natural area, distributed in high and medium mountain ranges with elevation between 900 m to 1800 m.

- Valley soil group on slope lands occupy 35,941 ha, 3.96% of the natural area and sparsely in the province.

- Humic ferralsols on high and rocky mountain ranges, occupy 57,906 ha, 6.38% of

the natural area of the province (*mainly distributed in Sin Ho, Muong Te, and Phong Tho districts*). Quality of soil is relatively good, distributed mainly on terrains with elevation over 1,800m, very craggy and difficult to access and exploit.

- Area occupied by other types of soil around rocky mountains, streams and special-use water surface, etc., is approximately 21,905 ha, 2.42% of the natural area.

1.4. Climate and hydrology

- Climate

Lai Chau is in tropical monsoon climate, affected by high mountains, with two distinct seasons: dry season (dry and cold) from October to March, and rainy season (humid and hot) from April to September. The average temperature of a year is 19.6⁰C, with the highest average of 23⁰C and the lowest average of 14.3⁰C. The total of average daily temperature in one year is 8,121⁰C, the highest annual sunshine in hours is 1,900 hours/year.

The average annual rainfall of Lai Chau is from 1,800 - 2,200 mm per year. Average humidity is 79%. Frosts and snow in the high mountains between December and January, and hail between March and April (transition time of dry and wet seasons).

There are several seasons for gale winds: the northeast wind from September to March; south, southeast and southwest winds from April to August, although the wind speeds are not high (average of 10m/s).

- Hydrology

Lai Chau has a dense network of rivers and streams, distributed equally in all districts of the Province. The entire natural area of the province lies in the Da river basin, which originates from Yunnan Province of China, and main tributaries are Nam Ma, Nam Na and Nam Mu rivers. In addition, there are small streams such as Nam Cum, Nam Phin Ho, Nam Cay, Nam So, Nam Ban, Nam Cuoc, Nam Han, Nam Chat, Nam Po, Nam Sap streams. Water flow of rivers and streams depend on seasons, and fluctuation between the rainy season and dry season is quite large. During the rainy season, the rainfall is high and the water flow is strong, while in the dry season with less rainfall, the water flow rate is small, and many streams dry up. This characteristics show that it requires large investment for the construction of irrigation works in order to effectively utilize the water source to meet the needs of agricultural production and livelihoods of the local people.

2. Socio-Economic Conditions

2.1. Population, ethnicity and labor

- *Population*: At the end of 2016, the total population of the province was 439,230, of which, rural population was 363,490 people (82.76% of the total population of the province); urban population was 75,740 people (17.24%). The average population density was 48.43 people/km², with the highest density in Lai Chau city with 530.28 people/km², and the lowest density in Muong Te district with 16.32 people/km². The average population growth rate of the province in 2016 was 1.98%, of which the natural population growth rate

was 1.85 % and increase from migration was 0.13%.

- *Ethnicity structure*: Lai Chau has 20 ethnic groups: Thai (account for 34% to the total provincial population), H'Mông (22,3%), Kinh (13,94%), Dao (13,41%) and Ha Nhi (3,78%), and other small ethnic groups as Kháng, Khơ Mú, Tày, Mường, Lự, Mảng, La Hủ, Cống, ...) account for 12,57% to the total population of the province.

- *Labour*: The total working-age population, at the end of 2016 was 260,840 people, accounted for 59.39% of the total population, of which, rural labour was 219,090 people (83.99% of the total working-age population), and urban labour was 41,750 people (16.01%).

2.2. Economic conditions

In 2016, the growth rate of total products in Lai Chau province reached 24.88% (compared to 2015); Gross Regional Domestic Product (GRDP) reached VND 6,861.25 billion; and average GRDP/capita/year reached VND 22.50 million.

Looking at the structure of GRDP, primary sectors including agriculture, forestry and fishery reached 20.36% per year, the industry–construction sector reached 35.62% per year, and service sector (including import tax) reached 44.02% per year. Although, significant positive changes in the sector structure have been observed, Lai Chau remain as a poor province. This is seen in the high poverty rate: in 2016, there were 32,259 poor households, accounted for 34.81 % of the total population, of which, the rate of rural poor households was 31,014 households, accounted for 42.89% of the rural population.

- *Cultivation*

Total area for grain cultivation (rice and maize are as the two major crops) was 54,264 ha in 2016, of which, paddy field occupied 31,381 ha (output of 136.4 thousand tons) and maize occupied 22,883 ha (output of 70.3 thousand tons). The total grain yield in 2016 was estimated at 206.7 thousand tons - an increase of 40.3 thousand tons compared to 2010, and 85.1 thousand tons compared to 2005. Gross grain output in 2016 was 470 kg/person/year, an increase of 7.9% compared to 2010 (435.8 kg/person/year) and 26.9% compared to 2005 (370.4 kg/person/year).

In addition, the province also focused on development of industrial crops, such as tea with total area of 4,110 ha in 2016 (newly planted area in 2016 was 609 ha), and the output of tea bud in 2016 was estimated at 23,670 tons, mainly produced in the districts of Than Uyen, Tan Uyen, Tam Duong and Lai Chau; rubber trees with the total area of 13,226 ha at the end of 2016 (newly planted area was 168 ha), of which, the maturity area meeting criteria for exploitation was 2,982 ha (the area under tapping is 71.5 ha, total of dried latex volume is 31.3 tons). The rubber plantations are mainly developed in Phong Tho, Sin Ho, Nam Nhun, Muong Te, and Than Uyen districts.

- Livestock

In 2016, the total number of cattle was estimated at 331,280 animals, with 97,770 buffaloes, 16,990 cows and 217,060 pigs; 1,107,000 poultries. The meat production (live weight) was estimated at 13.04 thousand tons.

Aquaculture have been developed under the policy to utilize the existing water surface with an area of 849.6 ha, and the caging aquaculture and other high economic aquaculture models are expanding. In 2016, the total catch was estimated at 2,060 tons, of which, 1,820 tons of fish from ponds and lakes; and 240 tons of fish from rivers and lakes.

- Forestry

In 2016, the economic value of forestry sector reached over VND 347,956 million, of which, PFES plays the most important role with VND 234,441 million (accounted for 67.3% of the total economic value of the sector), followed by forest planting and maintenance with its value of VND 113,515 million (33.7%).

The orientation of forestry development of the province in the coming time is to strengthen the management, protection, regeneration and reforestation; policy on PFES; and encouragement of all economic sectors to participate in developing economic forest plantations associated with processing, and distribution forest products.

2.3. Infrastructure

- Transportation

Road system of the province is extends to 6,733.7 km long, including 6 main national highways (National Highways 4D, 32, 12,100, 279) with their total length of 481.8 km connecting Lai Chau with Dien Bien, Son La, Lao Cai Provinces; 4 provincial roads (road 127, 128, 129, 132) with their total length of 234.7 km connecting districts in the province; district, commune, village roads and other internal roads for production, patrolling purposes with their total length of 6,017.2 km. As of 2016, all communes/wards/ towns have vehicle roads leading to the centre of their respective commune, of which 106 out of 108 communes/wards/ towns have access road that functions year-round, accounting for 98% of total communes/wards/towns in the province; The remaining areas can only be accessed during the dry season, since during the rainy season, landslides and traffic jams often occur, causing difficulties in transportation. Moreover, waterway traffic in Lai Chau province is also quite convenient to transport goods, such as through Da, Nam Na, Nam Mu rivers.

- Irrigation

The irrigation system network of the province consists of 920 small and medium irrigations which supply water to 25,089 ha of cultivated land (equivalent to 46% of the agriculture land), including 6,439 ha for winter-spring rice, 16,700 ha for summer-autumn rice, 1,500 ha for vegetables and also 450 ha for aquaculture. There are 6 reservoirs (Hoang Ho and Pa Khoa lakes located in Sin Ho District, the Thi Tran and Khu 9 Lakes located in Than Uyen District, Thuong Luu and Ha Luu Lakes located in Lai Chau City). The self-flowing irrigation system consists of 914 irrigation works, including 771 of permanent

works and 143 of temporary works (accounting for 15.6% of self-flowing works). The canal system consists of 1,846.9 km of which 1,340.7 km of concreted canals and 506 km of land canals accounting for 27.4%.

2.4. Education

As of the beginning of the school year 2016-2017, there were 429 schools with 6,692 classrooms (permanent and semi-permanent schools occupied 82.6%): 138 pre-schools, 146 primary schools, 113 lower secondary schools, 25 high schools, and 7 continuing education centres.

According to the statistic of the school year 2016 – 2017, 98.6% of the children between 3 to 5 years old were in kindergartens, 100% of 6 year old children entered the first grade in primary schools, 99.3% of primary school-age children and 96.4% of secondary school-age children were going to school. Regarding high schools, 99.8% of students graduated from high-schools by the end of school year 2016-2017, but only 51% of total high school-age children were attending school, which was lower than other basic education levels.

2.5. Industrial production

In 2016, industrial production value reached VND 3,904.52 billion (compared to the value 2010). Some major products include 4,890.284 million kWh of electricity, 15,500 tons of cement, 655,102 m³ of building stones 3,500 tons of ore, and 4.11 million m³ of clean water.

In addition, in the past years, Lai Chau has continued implementing hydropower projects including completion and connection of the Lai Chau hydropower plant to the national grid. In 2016, 14 small and medium hydropower projects were under construction. Some of the projects were expected to complete, commissioned, and connected to the national grid in 2017.

II. FOREST PROTECTION AND DEVELOPMENT OF LAI CHAU PROVINCE

1. State of forest and forestry land

According to the forest status reports of Lai Chau in 2016, the total area of forestry land with and without forest cover was 708,687 ha, of which 680,664 ha was planned as forestry land (protection forest land accounts for 394,611 ha, special-use forest land accounts for 41,595 ha, and production forest land accounts for 244,458 ha), and 28,022 ha was land (with and without forest cover) outside three forest categories.

Total forest area was 420,842 ha, of which, natural forests covered 405,980 ha (accounted for 96% of the total forest area in the Province), area of planted forests with forest cover was 8,681 ha (accounted for 2.0%), area of planted forests without forest cover (forest not yet formed) was 6,180 ha (accounted for 1.4%), and area of bareland was 287,845 ha (41% of the total forestry land of the province).. *(Details can be seen at the table 01)*

Table 01. State of forest and forestry land in Lai Chau in 2016*Unit: Ha*

No.	Items	Total	Total forestry land area by three forest categories				Forests and lands outside the three forest categories
			Sub-total	Special-use forests	Protection forests	Production forests	
Total inventoried area		708,687.66	680,664.74	41,595.20	394,611.30	244,458.24	28,022.92
1	Forest	420,842.07	393,012.62	27,919.40	235,418.34	129,674.88	27,829.45
<i>1,1</i>	<i>Natural Forest</i>	<i>405,980.55</i>	<i>383,378.02</i>	<i>27,918.27</i>	<i>231,032.23</i>	<i>124,427.52</i>	<i>22,602.52</i>
1.1.1	Timber forests	<i>392,548.97</i>	<i>372,169.74</i>	<i>26,673.55</i>	<i>227,342.02</i>	<i>118,154.17</i>	<i>20,379.23</i>
-	Rich Forests	65.94	65.94		47.11	18.83	
-	Medium Forests	50,616.74	49,933.72	8,152.39	31,368.44	10,412.89	683.02
-	Poor Forests	338,687.41	319,156.41	18,434.72	194,425.34	106,296.35	19,531
-	Extreme Poor Forests	3,178.88	3,013.67	86.44	1,501.13	1,426.10	165.21
1.1.2	Bamboo Forests	820.33	694.03		331.64	362.39	126.30
1.1.3	Mixed Wood-Bamboo Forests	12,611.25	10,514.25	1,244.12	3,358.57	5,910.96	2,097.00
1.2	Planted Forests	14,861.52					
-	Planted Forest with forest cover	8,681.22	5,888.45		2,482.43	3,406.02	2,792.77
-	Planted Forest without forest cover	6,180.3	3,746.15	1.13	1,903.68	1,841.34	2,434.15
2	Bareland	287,845.59	287,652.12	13,675.80	159,192.96	114,783.36	193.47

Source: Lai Chau Sub-FPD

2. Changes of forests over the period of 2006 - 2016

2.1. Changes of forests

According to the data from Lai Chau Sub-FPD, the area of forest in the province increased from 343,650 ha in 2006 to 420,842 ha in 2016 (an increase of 77,192 ha, equivalent to 22.5% of forest area in 2006).

Changes in forest cover is due to various reasons. It is necessary to mention the results of the promotion of forest regeneration, protection, afforestation and reforestation in the past periods which has largely contributed to the overall increase of forest area. Moreover, changes in categorization method affected the statistics of forest cover over the years.

There are two noteworthy changes in land area with forest cover. Firstly, the planted

forest area in 2013 decreased as compared to 2012 due to errors related to statistical data. Secondly, planted forests area in 2015 decreased compared to 2014 due to the following reasons: in 2014, rubber trees were identified as multi-purpose trees and included in the total land area with forest cover (planted trees). However, in 2015, the province carried out the forest inventory and issued the Official Letter No. 249/BNN-TCLN dated March 30, 2016, accordingly, the area of rubber trees outside the forestry land was decided to be excluded from the land with forest cover, resulted in the decrease of planted forests.

Table 02. Changes of forests over the period of 2006 - 2016

Unit: Ha

Year	Land with forest cover (ha)	of which		Note
		Natural forests	Planted forests	
2006	343,650.03	326,187.12	17,462.91	
2007	346,414.32	329,025.04	17,389.28	
2008	349,842.75	331,377.49	18,465.26	
2009	363,430.70	343,487.03	19,943.67	
2010	383,590.82	358,321.48	25,269.34	
2011	390,981.20	362,038.90	29,642.30	
2012	403,081.09	371,825.29	31,255.80	
2013	409,900.65	381,057.79	28,842.86	Include 11,137 ha of rubber trees
2014	419,448.06	388,720.53	30,728.00	Include 12,571 ha of rubber trees
2015	416,100.15	403,962.81	12,137.34	Exclude 13,226 ha of rubber trees
2016	420,842.07	405,980.55	14,861.52	

Source: Lai Chau Sub-FPD

2.2. Changes of forests by three forest categories over the period of 2011 – 2016

According to the statistics shown in Table 03 below, over the 2011-2015 period, the changes in forest cover in special-use forests was not significant, while the changes in forest cover in protection and production forests were significant.

The main reasons of changes in forest cover by three forest categories include: (1) the change of forest area as mentioned in the item 2.1 above, (2) the changes related to forest planning by three forest categories following the orientation of forestry planning by the provincial and national governments through different periods of time.

Table 03. Changes in land with forest cover over the 2011 – 2016 period*Unit: ha*

Year	Land with forests cover	Special-use forests	Protection forests	Production forests	Outside three forest categories
2011	390,981.20	28,228.30	233,881.51	128,871.39	
2012	403,081.09	28,228.30	238,932.50	135,920.29	
2013	409,900.65	28,228.28	219,937.17	161,735.20	
2014	419,448.06	28,228.28	224,089.63	167,097.65	32.5
2015	416,100.15	27,820.16	233,677.68	128,114.77	26,487.54
2016	420,842.07	27,919.40	235,418.34	129,674.88	27,829.45

*Source: Lai Chau Sub-FPD***3. Results of forest protection and development over the 2006 – 2016 period****3.1. Forest management and protection**

In the past years, forest management and protection focused on:

- **Review forest planning by three categories:** Implementing the Instruction No. 38/2005/CT-TTg dated December 5, 2005 of the Prime Minister, Lai Chau conducted forest planning review starting from 2006 until 2008. The PPC of Lai Chau issued the Decision No. 1405/QĐ-UBND dated October 9, 2007 approving the results of forest planning review by three forest categories.

- **Develop plans of forest protection and development:** During 2011-2012, the Province developed a plan for forest protection and development for the 2011-2020 period and it was approved through the Decision No. 17/2012/QĐ-UBND dated August 20, 2012 of the PPC.

- **Forest inventory:** Forest inventory was carried out from 2015 to 2016. The results were approved by Lai Chau PPC through the Decision No. 347 / QĐ-UBND dated March 29, 2016.

- **Communication and dissemination of the law:** Communication and dissemination related to guidelines, plans, resolutions, and policies on forest protection and development were carried out throughout the province. Every year, the sub-FPD conducted average of 1,400 communication and dissemination sessions in forms of meetings, mobile broadcasting, and leaflets, etc.

- **Forest protection contracting:** The lands planned for special-use and protection forests were allocated to the respective management boards, and the lands with forest cover were contracted to the households, individuals and village communities for protection. During the period of 2011-2016, the district forest protection management boards used the state budget to contract households and village communities to protect 503,046.5 ha of Protection Forests and Special-Use Forests (SUFs). In particular, since 2012, PFES policy

has been applied to all forest areas in the province, and 100% of the forest areas and bare-land (DT2) under the management of the Provincial FPD Fund, District Management Boards for Protection Forests and City-FPD have been contracted for protection by organisations, households, individuals, and local communities.

- Strengthening law enforcement on forest protection:

Law enforcement on forest protection and development has always been a concern of the sector administration at different levels. They constantly take active initiatives in deploying the forest rangers to prevent and strictly handle violations as in accordance with the law. In general, violations to the Law on Forest Protection and Development seem to be reducing. The total number of violations during 2011 - 2016 was 1,696 cases; reduced from 257 cases in 2011 to 234 cases in 2016.

- Forest fire prevention and fighting: The Province has established and been maintaining the operations of Provincial Steering Committee (SC) for Forest Fire Prevention and Fighting (FFPF), eight district/city SCs for FFPF, 108 Commune SCs for FFPF, and 1,004 Village Forest Patrolling Teams. At the localities, the SCs for FFPF have actively mobilized resources for forest fire fighting, ensuring safety for humans and properties as well as mitigating impacts of forest fire.

3.2 Forest development

Provincial forest development has been implemented through various programs and projects, including the Five Million ha Reforestation Program; the Pilot Program for Regeneration and Protection of Critically Important Protection Forest Area in 21 border communes of Lai Chau Province; the 30a Program; the Project on Reforestation of Protection and Production Forests; the Project for Offset Planting for the Converted Forest Area in Lai Chau Province. Forest development has created jobs, increased incomes, contributed to poverty reduction, especially those who live in remote areas of the Province.

- Reforestation

- During the period of 2005-2010: New planted forest area was 6,147.2 ha;

- During the period of 2011 – 2016: New planted forest area was 11,353.35 ha;

- Regeneration and restoration

- During the period of 2005-2010: regenerated and restored forest area was 35,379.2 ha;

- During the period of 2011 – 2016: regenerated and restored forest area was 66,577 ha;

3.3 Seedling nursery

There are 09 nursery gardens in the Province (one in Than Uyen District, one in Tan Uyen District, two in Tam Duong District, two in Sin Ho District, two in Phong Tho District, and one in Muong Te District) with the total designed production capacity of over 10,000,000 seedlings per year. In the past years, nursery gardens have provided

approximately 1.5 million seedlings per year, which partly satisfies the demand for seedlings required for forest development in the province.

3.4 Payment for Forest Environmental Services

In order to facilitate implementation of the Decree No. 99/2010/ND-CP dated September 24, 2010 of the Government on PFES policy, Lai Chau PPC decided to establish the Forest Protection Development Fund (FPDF) and approved the fund operation charter as well as the scheme for PFES implementation;

- **Advocacy and awareness raising:** Communication and awareness raising activities have regularly been conducted provincewide through various forms, such as cooperating with National Vietnam Television, local newspapers, radio broadcasting, provincial television, etc., to make reportages, coverages, and articles on PFES policies.

- **Implementation arrangement:** The PFES has been managed and operated from provincial to district and commune levels; the fund collected for PFES has been disbursed to the forest owners and contracted households according to the annual plans. PFES has been contributing to create a dramatic change in forest protection and development associated with socio-economic development; promoting job creation and income generation for the local people; and ensuring security, national defence and social order.

Table 04: Results of PFES collection and disbursement

No.	Year	Collection (VND million)	Disbursement (VND million)	Area (ha)	Number of households
	Total	946,939.8	889,068.8		
1	2012	166,218.5	126,985.6	426,987.36	54,145
2	2013	208,081.2	155,188.4	424,035.31	57,277
3	2014	167,254.3	212,443.3	429,657.7	68,550
4	2015	170,942.8	176,276.5	429,676	68,625
5	2016	234,443.0	218,175	497,841.68	69,397

As of 2016, PFES has been applied to 497,841.68 ha of forests (including DT2 bare-land and rubber tree areas). After 5 years of PFES policy implementation, it has made positive impacts on forest protection and development in the Province. The forest protection contracting (contracted forest area accounts for over 99% of the forest area covered by PFES in the province) with the local communities seems to be in the right direction, and suitable with local conditions. It has been generating positive impacts, for instance, community forest management models are gradually improving, and activities of the VFPT have been conducted effectively. The PFES policy has been contributing significantly to improve the livelihoods and increase incomes of the people participating in forest protection through protection contracts with the average unit price of VND 380,000/ha/year. The

average income of the contracted households from forest protection contract ranges between VND 2.05 to VND 2.6 million/year. Particularly in Muong Te District, the average income of the households is VND 9.4 million/year.

4. Shortcomings and challenges

4.1. Shortcomings

- Deforestation, and forest degradation due to forest fire, illegal logging and exploitation of non-timber forest products (NTFP) are still occurring in some areas.

- Forest quality is not high enough; areas of rich forest are small and the majority of the forests are medium forest, poor forest, and regenerating forest.

- Development of the forest plantations is not effective, where productivity and quality are low.

4.2. Challenges

- Challenges related to natural and socio-economic conditions

+ Conditions for production activities within the forestry sector remain unfavourable due to fragmented, complex and craggy terrain, which is not easy to travel and the local people live dispersedly;

+ Compared to other livelihoods, timber production in Lai Chau has longer business cycle, low profit with high-risk, and mainly distributed in underdeveloped mountainous areas; income from the selling of forest resources is low and unsustainable due to the shortcomings in its management practice;

+ Demands for timber and forest products have been increasing, whilst the plantation wood is undersupply, thus creating pressure on natural forests, and leading to illegal logging and smuggling of forest products.

- Challenges related to policies

+ Mechanisms and policies to incentivize people to participate in forest protection and development do not meet the actual needs;

+ Solutions to overcome obstacles and challenges related to lands of the organizations and individuals who participate in afforestation are not effective.

+ The policies developed at the central government and ministries remain inadequate which leave obstacles without concrete solutions: for example, policies on lending, development, appraisal, and management of projects.

- Challenges related to implementation arrangement

+ Dissemination, communication, and education on forestry laws and policies have not been conducted deeply and effectively, especially to the people living in mountainous and remote areas, and the poor districts under the 30a program. Some of the local people are not aware of the roles and benefits of forests, and the importance of forest protection and

development.

+ Coordination among authorities and sectors at different levels on forest development is not effective;

+ The effectiveness of preventing violations against law remain low in some areas due to limited number of forest rangers, lack of equipment and facilities. Qualification of some of the local forest rangers are below standard.

+ Some of the executive committees of the party and local governments at different levels are not seriously performing their tasks on forest protection and development; qualification and competencies of the officers and the operational capacity of the local governments are limited.

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

1. The overall process

The identification of drivers of deforestation and forest degradation, and barriers to carbon stock enhancement were carried out in conjunction with identification set of solutions (PRAP activities) to address those drivers and barriers, and the potential areas for REDD+ implementation in Lai Chau Province. Basically, the process includes 3 main steps as follows

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

Step 2: Field verification through district and commune consultation workshops (including villages);

Step 3: Provincial consultation for analysis of 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 analysis² that aimed at providing background information as inputs for the steps to follow. In particular, the secondary data analysis was done through collection and review of provincial documents related to forest management, protection and development in Lai Chau Province and the Northwest provinces, to initially learn about the drivers and barriers.

² Please refer to the report “Mapping potential areas for REDD+ implementation in Hoa Binh, Son La, Dien Bien, and Lai Chau Provinces”, Vu Tien Dien et al, (2016), FIPI, for more details.

The spatial analysis process (Figure 1) has used various remotely sensed input data and materials. A set of 2005, 2010³, 2015 forest status, 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 in order to map out potential areas based on the developed criteria (Table 04). Commune was used as the unit for analyzing the potential areas.

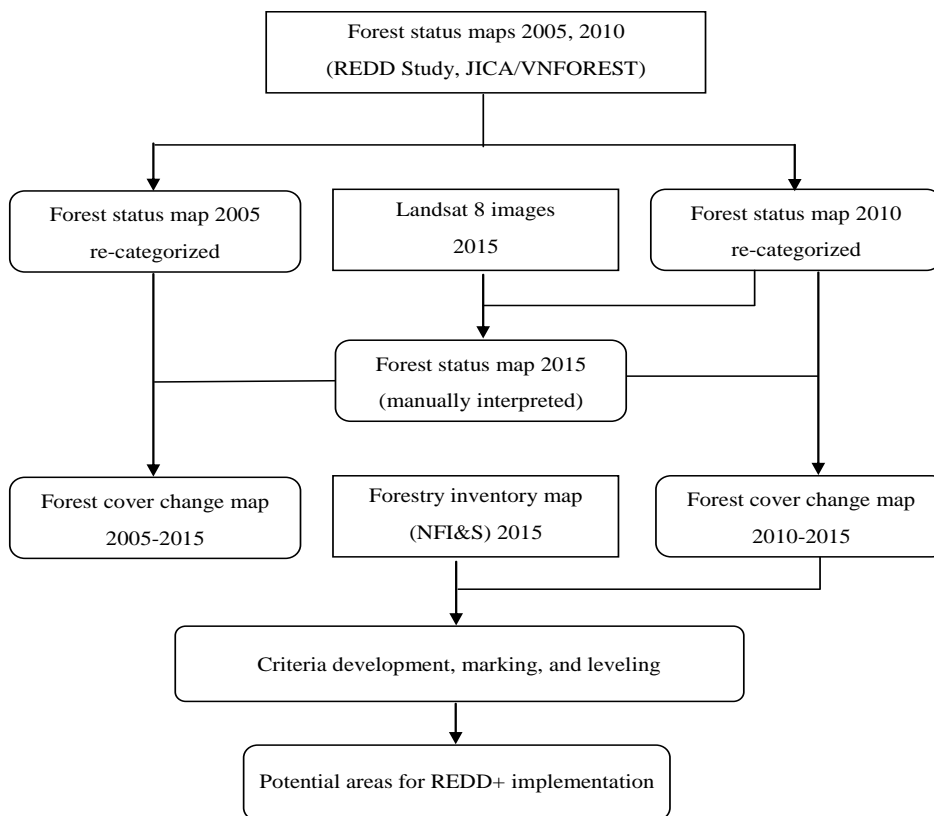


Figure 01. Diagram of the spatial analysis

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

Table 05. Criteria for potential area selection for REDD+ implementation

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

³ The forest status maps of 2005 and 2010 produced by FIPI with the support from JICA were used for the analysis. Refer to the report “The Study on Potential Forests and Land Related to “Climate Change and Forests” in The Socialist Republic of Vietnam”, (2012), JICA

No.	Potential areas	Criteria
3	Increase of carbon stock	<ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> + Ia bare-land area of production and protection forests + Ic bare-land area with regenerating trees of protection forests and SUF + Selected communes for afforestation and regeneration as the

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 ⁴(Step 2)

Step 2 was carried out in order to ensure sufficient participation of local people, and to incorporate their insights into the process. A series of meetings were held at the districts and communes identified as the potential areas in Step 1. During this step, the identified drivers and barriers were further reviewed and analyzed in terms of its occurrence time, frequency, impact scale, and potential fund sources for implementation, etc. With a collaboration of a third-party consultant, the PRAP TWG have organized 4 district meetings and 111 representatives from districts and communes were consulted.

1.3. Provincial consultation for analysis of drivers and barriers (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

2. Results of analysis

2.1. Drivers and barriers

- Main drivers of deforestation and forest degradation

⁴ Details are presented in the report “Synthesis Report of the District Consultation Workshops organized in Lai Chau” (2016), Nguyen Quang Tan.

+ *Forest fire*

Lai Chau is a mountainous province in the Northwest of Vietnam, with craggy and highly fragmented terrain, low annual rainfall, especially during the dry season, and being affected strongly by Foehn winds from January to May. With such natural characteristics, forest fire is considered as a big challenge to the forest protection and development of the Province. The historical statistics showed that forest fires occur more often in newly planted forests and regenerating forests, especially in high mountains which are usually far from residential areas and lack water. The remoteness causes delay in detection of forest fire and difficulties in fighting fire due to lack of water source. There are nearly 40 communes and towns located in the first hotspot zone (where forest fire is considered as an extremely high risk), and over 30 other communes and towns located in the second hotspot zone (where forest fire is considered as a high risk). Over the period of 2006-2016, 249 forest fire incidents damaged 1,109.84 ha of forest areas, of which, 745.93 ha of planted forests, 363.91 ha of regenerating forests, 30% of the burnt areas regenerated back into forests. The hotspots of forest fire are mainly in Tan Uyen, Than Uyen, and Sin Ho Districts.

Burning of upland fields after crop harvesting, for charcoal production and/or grazing pastures are known as the causes of forest fires which mainly occur from October to April – the season for upland cultivation. Moreover, in some locations, shortage of human resource, facilities and tools are constraining the efforts for fire prevention and fighting. For example, shortage of manpower of forest protection task force hinders regular and constant implementation of dissemination and awareness raising on forest fire prevention and fighting, and proper upland field burning techniques. Shortage of tools and equipment impedes the task force to detect and fight forest fire in a timely manner. Insufficient quality of awareness raising activities on forest fire prevention and fighting is causing low understanding of the local people on the issue. Ineffective collaboration and cooperation among competent authorities and sectors in forest protection, fire prevention and fighting also a challenge to efficiently tackle the issue.

+ *Encroachment to natural forests for upland cultivation*

In general, living standard of the local people, especially the ethnic minorities, is still low as their major livelihood is relying on traditional agriculture practices mainly on slope lands. This is one of the core issues that creates pressure on forest resources. According to the statistics provided by the Sub-FPD, over the 2006 - 2016 period, there were 140 cases of forest clearing for upland field cultivation which mainly occurred in Than Uyen and Sin Ho Districts.

There are number of underlying causes of forest clearing for upland field cultivation, including lack of agriculture production land and increasing food demands due to population growth. It is estimated that each household has about 5 members and they need 1-1.5 ha of land for cultivation in order to meet their food demands. In addition, the lands for agricultural production is limited whilst they are being degraded over time; application

of advanced technology and intensification of crop production by the local people are slow; and their alternative livelihoods are limited, therefore, tend to over-exploit forest resources.

+ *Illegal and unsustainable logging in natural forests*

Over 2011 – 2016 period, 156 illegal logging and 1,090 timber smuggling cases were detected and handled in Lai Chau. Illegal logging is usually linked to domestic needs for house construction, furniture, animal cages, cooking, heating, etc. Although the local authorities have been conducting number of awareness raising activities, and strictly handing violations, illegal logging in natural forests still occurs due to subsistence needs of the local people and lack of alternative materials. Illegal logging is found more in areas where the Thai, H'Mong, Ha Nhi, and Dao ethnic minority groups inhabit, such as Tam Duong, Sin Ho, Nam Nhun, and Muong Te districts.

In addition, forests where are adjacent to the newly converted areas, are now under higher threat of being illegally logged, thus, it is necessary to strengthen forest protection to those areas. Lai Chau converted 2,644.94 ha of forest to other land use to serve the purpose of socio-economic development over the period of 2006 – 2016.

In the near future, implementing the Instruction No. 13-CT/TW dated January 12, 2017 of The Secretariat of the Central Committee Communist Party of Vietnam and the Instruction NO. 02/CT-TTg dated January 24, 2014 of the Prime Minister limiting the forest conversion to other land use. For the approved projects, it requires intersectoral coordination in planning for execution; closed monitoring to project implementation to ensure its compliance to effective regulations, particularly to the offset planting ones.

+ *Negative impacts of planting cardamom*

Lai Chau currently has approximately 6,000 ha of cardamom plantations, distributed mainly in the areas with the elevation above 1,200m, especially under the canopy of medium and rich natural forests in Tan Uyen, Tam Duong, Phong Tho and Muong Te, and Nam Nhun districts. Current market price ranges between VND 120,000-150,000 per kilogram for dried cardamom with an estimated average profit of VND 40 million/ha/year. Although cardamom is contributing to raise the household economy, their negative impacts to the forests need to be carefully controlled.

Acknowledging the issue, Lai Chau PPC does not provide any incentive policies for the farmers to expand their cardamom plantations, instead, their policy is to enhance the management of existing plantations to ensure cardamom cultivation is sustainable. Currently, there are two main issues related to cardamom plantation that need to be addressed in the future in order to harmonize cardamom production and forest protection.

First, there is no fuel-saving drying method or alternative materials other than wood for drying cardamom before transporting to storages to reduce transportation cost. The drying method commonly applied is to use firewood collected from the surrounding forests, which is a cause of forest degradation. It is estimated that approximately 2-3m³ of firewood is consumed to dry one ton of fresh cardamom.

Second, the size of each cardamom plantation is generally small and fragmented, and growth of cardamom depends on and being affected by natural conditions. In fact, during the snow-ice in January 2016, nearly three-quarters of the cardamom plantations in Lai Chau was damaged, especially in the areas bordering Sa Pa District, Lao Cai Province. This forced people to seek for new areas for planting cardamom or renovate the damaged areas by entering the forests.

+ *Main barriers to the enhancement of quality and area of planted forests*

Having large areas of bare-land under the Production Forest category, Lai Chau has been attempting to afforest/reforest such lands through forest plantation development, which will also vitalize the rural economy, protect the environment, and alleviate poverty. However, the Province is confronting with, several difficulties and challenges as follows.

- *Unsuitable policy incentives for forest plantation development, limited silviculture facilities and techniques*

There are number of policies and conditions that are not suitable to promote the development of Production Forests (i.e. forest plantations) in Lai Chau Province. One is the subsidizing policy to support the plantation business cycle, such as planting design (including zoning), planting, tending, harvesting and transporting of timbers. Due to the low level of subsidy, the forest owners are not fully incentivized to invest in developing Production Forests under a challenging condition.

Lack of silviculture techniques suitable to the local conditions is another issue for the forest owners, since the quality and yield of forest plantations remain low; silviculture infrastructures, such as nurseries, forest roads, and processing facilities are not invested sufficiently to meet the demands; and skills of the local businesses and people on plantation management are still low.

+ *Potential risks related to the nature of forest plantation business*

A typical risk related to the natural condition is the prolonged hot season (six months of dry season) and extreme weather (snow-ice) in some areas which has been increasing the risk of forest fires and affecting the growth of trees; steep and rugged terrain causes difficulties in transportation, and land slide. Although some measures can be taken, free grazing is still considered as a risk for forest plantations owners. As the forestry business cycle is usually longer compared to other land-based livelihoods which can produce immediate incomes, such as annual crop farming, the chances of facing the risks become larger and the resulting loss would be greater.

Although the province created favourable mechanisms and incentive policies to motivate enterprises to invest in development of Production Forests, few of them have committed due to the abovementioned barriers. In order to promote the forest plantation development in Lai Chau, especially in the potential districts such as Than Uyen, Tan Uyen, and Sin Ho, etc., solutions to remove those barriers are needed.

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 will be described in Part II and Annex 01.

2.3. Potential areas for REDD+ implementation

The potential areas for REDD+ implementation in Lai Chau Province include 38 target communes located in 4 districts. Details are shown in the table 06:

Table 06. List of target communes for REDD+ implementation in Lai Chau Province

No.	Districts	Communes	Selection criteria		
			Reduction of deforestation	Reduction of forest degradation	Enhancement of carbon stock in forests
1	Than Uyen	Khoen On	x		x
2		Muong Cang	x	x	x
3		Muong Kim		x	x
4		Muong Mit	x		x
5		Pha Mu		x	x
6		Ta Gia	x	x	x
7		Ta Hua			x
8		Ta Mung	x	x	
9	Tan Uyen	Ho Mit	x	x	x
10		Muong Khoa		x	x
11		Nam Can	x		x
12		Nam So		x	x
13		Ta Mit		x	x
14		Phuc Khoa	x	x	x
15		Tan Uyen Town	x	x	
16		Trung Dong	x	x	x
17	Tam Duong	Then Sin	x		x
18		Sung Phai	x	x	x
19		Ta Leng		x	x
20		Giang Ma	x		x
21		Binh Lu		x	x
22		Son Binh	x		x
23		Ban Bo			x
24		Khun Ha	x	x	x
25	Sin Ho	Hong Thu	x		x
26		Nam Cuoi	x	x	x
27		Nam Han		x	x
28		Nam Tam	x		x
29		Pa Khoa		x	x
30		Phang So Lin	x		x
31		Pu Sam Cap			x

No.	Districts	Communes	Selection criteria		
			Reduction of deforestation	Reduction of forest degradation	Enhancement of carbon stock in forests
32		Chan Nua	x	x	
33		Lang Mo		x	x
34		Pa Tan	x		x
35		Xa De Phin		x	x
36		Ta Ngao	x		x
37		Tua Sin Chai		x	x
38		Can Co	x		x
Total		4 districts	38 communes	23 communes	23 communes

Part II. OBJECTIVES, SCOPES, AND CONTENT OF PRAP

I. OBJECTIVES

1. General objectives

- Maintain existing forest carbon stocks and enhance carbon sequestration through increasing forest cover, and contribute to achieve the targets of National Target Program Responding to Climate Change, National Climate Change Strategy, and National REDD+ Action Plan;

- In particular, protect the forests with high importance for watershed management as well as for national defence purpose from any potential threats in the future.

- Increase the forest cover through enhancement of forest regeneration and reforestation in Protection Forest areas and Production Forest areas by developing optimum incentive policies and PFES, encouraging participation of individuals and organisations.

- Create jobs, improve incomes, reduce poverty, improve rural livelihoods, conserve biodiversity, and enhance forest ecosystem functions.

- Enhance inter-sectoral coordination in order to mobilize and utilise the existing resources; promote forest protection and development to balance forest protection with socio-economic development; manage and use forest resource sustainably.

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 forest restoration and reforestation. The specific objectives of the Lai Chau PRAP are as follows:

- Protect the existing 420,840ha of forests and newly formed forests. Forest cover is expected to reach over 50%, with 84,600 ha of forest regeneration, and 13,000ha of newly planted forests by 2020.

- Mitigate potential risks of forest fires; reduce the annual average number of events and areas damaged by forest fire by 20% compared to the average of 2011 – 2016 period.

- Stop forest clearing and encroaching for upland cultivation. Number of illegal forest clearing for upland cultivation reduce by at least 30% compared to 2011 – 2016 period.

- Minimize natural forest conversion to other land use unless it is required for national defence and security or decided by the Government of Vietnam.

- Reduce at least 30% of illegal timber logging and NTFPs harvesting cases compared to 2011 – 2016 period;

- 80% of newly planted forests shall form forest by 2020.

- Improve the FRMS;

- Raise awareness on REDD+.

II. SCOPES, OBJECTS, AND DURATION

1. Scopes

Lai Chau PRAP consists of two components: Component I will be implemented in the entire province; and Component II will be implemented in the potential areas.

2. Subject

- Targeted lands: Forests and forestry land

- PRAP Implementers:

- + Departments and agencies which have functions related to forest and forestry land management.

- + People's committees of the target districts, and communes/towns;

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

3. Duration

Lai Chau PRAP will be implemented during the 2017-2020 period

III. PRAP CONTENT

PRAP of Lai Chau is developed in detail for 2017 – 2020 period. Performance results of this period will be used as ground to develop detail PRAP for the following period of Lai Chau.

Lai Chau PRAP consists of two components: Component 1 (forest protection and development activities) is mainly taken from the provincial FPDP for the entire province during the period from 2017 to 2020 with consideration of available financial capacity to define suitable locations 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 Lai Chau 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, as summarized below (*details in Annex 01*):

a) Forest Protection

- *Forest protection contracting*

+ For existing natural and planted forests

+ Volume: 1,630,940 ha using PFES fund, and 640,551 ha using State Budget for Forest Protection Contracting.

- *Forest fire prevention and fighting*

+ For existing natural, planted and newly planted forests

+ Volume: 1 project

b) Forest development

- *Reforestation*

+ For Bare-land (ĐT1) and newly logged forests

+ Volume: 13,000 ha (1,310 ha of protection forests, and 11,690 ha of production forests).

- *Forest regeneration*

+ For Bare-land (ĐT2)

+ Volume: 259,217 ha

- *Maintenance and protection of planted forests areas*

+ For planted forest areas

+ Volume: 1,718 ha.

2. Component 2: Additional activities

The consultation workshops at provincial, district, and commune levels have identified 5 major drivers and barriers of deforestation, forest degradation, and enhancement of forest carbon stock, including:

1. Forest fire;
2. Encroachment into natural forests for upland cultivation;
3. Illegal and unsustainable logging in natural forests;
4. Negative impacts of cardamom plantation;
5. Low effectiveness of forest plantation development.

On that basis, 5 solution packages, 15 solutions and 52 activities have been identified to address these drivers and barriers. In addition, in order to increase the effectiveness of PRAP implementation, a province-wide cross-cutting solution package (i.e. REDD+ awareness raising and support to forest resource monitoring) is designed as the sixth solution package (details are as the Annex 01)

The solution packages are described as in the Table 07 below:

Table 07. PRAP solution packages by priority districts

No.	Solution packages	Districts			
		Than Uyen	Tan Uyen	Tam Duong	Sin Ho
1	Reduce forest fire control	x	x		x
2	Stop forest clearing for upland cultivation	x			x
3	Stop illegal and unstainable logging of timber and harvesting of NTFPs			x	x
4	Mitigate impacts of cardamom plantations		x	x	
5	Improve effectiveness of forest plantation development	x	x		x
6	Province-wide cross-cutting solution package	x	x	x	x

a) Solution package 1: Reduce forest fire

- **REDD+ objectives:** Reduce deforestation and forest degradation, enhance forest carbon stocks.

- **Solutions:**

- + Solution 1: Invest in equipment and facilities for forest fire prevention and fighting.
- + Solution 2: Improve effectiveness of dissemination and awareness raising for the local people on law on forest protection and development, fire prevention and fighting.
- + Solution 3: Stop fire use in forests, upland fields and grazing pastures.
- + Solution 4: Identify hotspots of forest fire

- Potential areas: **Than Uyen District** (Khoen On, Muong Cang, Muong Kim, Muong Mit, Pha Mu, Ta Hoi, Ta Gia, Ta Mung); **Tan Uyen District** (Ho Mit, Muong Khoa, Nam Can, Nam So, Ta Mit, Phuc Khoa, Tan Uyen, Trung Dong); **Sin Ho District** (Hong Thu, Nam Cuoi, Nam Tam, Phang So Lin, Chan Nua, Pa Tan, Ta Ngao, Can Co).

b) Solution package 2: Stop forest clearing for upland cultivation

- **REDD+ objectives:** Reduce deforestation and forest degradation

- **Solutions**

- + Solution 1: Improve agriculture production values of the local people

+ Solution 2: Promote community-based forest management

- Potential areas: **Than Uyen District** (Khoen On, Muong Cang, Muong Kim, Muong Mit, Pha Mu, Ta Hoi, Ta Gia, Ta Mung); **Sin Ho District** (Hong Thu, Nam Cuoi, Nam Han, Nam Tan, Pa Khoa, Phang So Lin, Pu Sam Cap, Chua Nua, Lang Mo, Pa Tan, Xa De Phin, Ta Ngao, Can Co, Tua Sin Chai.)

c) Solution package 3: Stop illegal and unsustainable logging of timber and harvesting of NTFPs

- **REDD+ objectives:** Reduce forest degradation

- **Solutions:**

+ Solution 1: Encourage people to use alternative materials for house construction and cooking.

+ Solution 2: Stop wood and firewood collection for commercial purpose.

+ Solution 3: Strengthen the protection of forests peripheral to the areas converted to other land use.

+ Solution 4: Conduct monitoring and supervision of forest conversion by development projects.

+ Solution 5: Improve techniques for forest product harvesting of the local people

- **Potential areas:** **Tam Duong District** (Sung Phai, Ta Leng, Binh Lu, Khun Ha).

d) Solution package 4: Mitigate the negative impact of cardamom plantations

- **REDD+ objectives:** Reduce forest degradation

- **Solutions:**

+ Solution 1: Encourage the use of fuel-saving drying method

+ Solution 2: Limit expansion of cardamom plantations

- **Potential areas:** **Tan Uyen District** (Ho Mit, Muong Khoa, , Phuc Khoa, Tan Uyen, Trung Dong) **Tam Duong District** (Ta Leng, Khun Ha, Ban Bo, and Son Binh), and **Sin Ho District** (Pu Sam Cap)

e) Solution package 5: Improve effectiveness of forest plantation development

- **REDD+ objectives:** Enhance forest carbon stock

- **Solutions:**

+ Solution 1: Support development and upgrading of silvicultural and forest product processing facilities

+ Solution 2: Improve capacity of local people on forest planting, maintenance and protection.

+ Solution 3: Reduce free grazing.

- **Potential areas:** **Than Uyen District** (Khoen On, Muong Cang, Muong Kim, Muong Mit, Pha Mu, Ta Gia, Ta Hua); **Tan Uyen District** (Ho Mit, Muong Khoa, Nam Can, Nam So, Ta Mit, Phuc Khoa, Trung Dong); **Sin Ho District** (Nam Thu, Nam Cuoi, Nam Han, Nam Tam, Pa Khoa, Phan So Lin, Pu Sam Cap, Lang Mo, Pa Tan, Xa De Phin, Ta Ngao, Tua Sin Chai, Can Co)

g) Solution package 6: Province-wide cross cutting solution package

- **REDD+ objectives:** Additional support for activities aimed at deforestation, forest degradation reduction and forest area, quality increase through efforts on upgrading the Forest Resource Monitoring System (FRMS) and raising REDD+ awareness..

- **Solutions:**

+ Solution 1: Improve the FRMS

+ Solution 2: Raise awareness on and building capacity to implement REDD+

- **Potential areas:** Entire province

IV. REQUIRED BUDGET FOR PRAP IMPLEMENTATION

1. Required budget by activity

Total estimated budget for Lai Chau PRAP implementation during the 2017-2020 period is VND **1,829,718** million (*details are as in the Annex 01*), of which,

a) Component I: Forest protection and development activities

- **Total estimated budget:** VND **1,675,398** million, of which,

- **Forest protection and fire prevention and fighting activities** require VND 1,270,180 million that will be allocated from the State Budget (allocated through the FPDP) with VND 353,607 million; PFES with VND 900,551 million, and ODA with VND 16,022 million.

- **Forest development activities** require VND 405,218 million, allocated from the State Budget (allocated through the FPDP) with VND 166,352 million; local budget with VND 140,899 million; ODA with VND 85,667 million.

b) Component II: Additional activities

Total estimated budget: VND **145,320** million. Funding allocation for implementation of each solution package is as follows:

+ **Solution package 1** (Forest fire control): VND **19,878** million.

+ **Solution package 2** (Control forest clearing for upland cultivation): VND **97,450** million.

+ **Solution package 3** (Stop illegal and unsustainable logging of timber and harvesting of NTFPs): VND **758** million. Activities of this solution package are integrated into other solution packages or under the regular tasks of the professional units.

+ **Solution package 4** (Mitigate the negative impact of cardamom plantations): VND **553** million.

+ **Solution package 5** (Improve effectiveness of forest development): VND **30,150** million.

+ **Solution package 6** (Province-wide cross cutting solution package): VND **822** million.

+ **Monitoring and evaluation to PRAP implementation**: VND **4,710** million.

2. Total estimated budget by funding sources

Budget demand for Lai Chau PRAP implementation during the 2017-2020 period is VND **1,829,718** billion (details are as in the Annex 01) as summarized in Table 08:

Table 08. Funding sources

Unit: VND million

No.	Funding sources	Total investment	Percentage (%)
1	State budget	519,959	29.42
2	Local budget	238,853	10.69
2	ODA	150,615	8.52
3	PFES	907,391	51.34
4	Others	664	0.04
Total		1,829,718	100

3. Feasibility of fund sources for PRAP implementation

The PRAP is designed to harmonize the available and prospective funds from forestry 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 09. The total of available fund source with high feasibility is VND 1,569,529 million (Component I: VND 1,675,389 million, equivalent to 78% of the budget demand; Component II: VND 154,320 million, equivalent to 100% of the budget demand), which covers 79% of the total budget demand for PRAP implementation. The fund gap of VND 373,343 million, or 21% of the total budget demand is expected to be mobilized from domestic and international investment, such as the National REDD+ Fund, State Budget, ODA, private investments (i.e. local communities).

Table 09. Feasibility of the fund sources for PRAP implementation*Unit: VND million*

Items	Total estimated budget	Existing fund sources	Feasibility	State Budget	Local budget	PFES	ODA	Others
Component I	1,675,398	1,415,419	84%	259,980	140,899	900,551	101,689	12,30
Forest protection	1,270,180	1,093,377	86%	176,804	-	900,551	16,022	-
Forest development	405,218	322,042	79%	83,176	140,899	-	85,667	12,30
Component II	154,320	154,110	100%	-	97,954	6,840	48,766	550
Solution package 1	19,878	19,878	100%	-	20	6,664	13,194	-
Solution package 2	97,450	97,450	100%	-	92,250	-	5,200	-
Solution package 3	758	758	100%	-	34	124	600	-
Solution package 4	553	553	100%	-	-	53	-	500
Solution package 5	30,150	30,150	100%	-	1,200	-	28,950	-
Solution package 6	822	772	94%	-	60	-	662	50
Monitoring and	4,710	4,550	97%	-	4,390	-	160	-
Total	1,829,718	1,569,529		259,980	238,853	907,391	150,455	12,85

V. IMPLEMENTATION ARRANGEMENT

1. Responsibilities of DARD

DARD shall be the standing agency cum focal point of contact for PRAP implementation. Its main tasks shall be as follows:

- Coordinate with related departments/agencies to provide guidance and implement PRAP; proactively advise PPC on direction of PRAP implementation; integrate projects and programs, mobilize other legal fund sources to implement investment items; proactively seek for potential donors to call for their investment in PRAP implementation as well as propose other PRAP-related activities to the PPC;

- Cooperate with DPI to develop and submit annual plan for PRAP implementation to PPC for approval;

- Direct its subordinates, according to their functions and tasks, to guide, speed up, and support the related agencies to implement PRAP; improve and operate the FRMS of the Province;

- Work with the related agencies and departments to review and collect annual budget demands in order to coordinate the funding for PRAP implementation;

- Develop periodic reports on PRAP implementation and submit to PPC to inform the progress, and/or ask for their guidance on the solutions to any issues. Conduct performance review and draw lesson learnt.

2. Responsibilities of DONRE

- Coordinate with DARD to implement and monitor PRAP implementation, especially, on land-use related issues, including forestry land at all levels;

- Proactively consult and coordinate with other departments and agencies to submit to policies related to land to PPC in accordance with the government regulations, and create suitable conditions to attract private investments for forestry sector. Promptly advise solutions for settling problems and obstacles related to the procedures for land allocation, land acquisition and site clearance in the course of implementation of programs and projects;

- Provide required information and data for planning and implementing PRAP such as maps, information on land-use planning, etc.

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

3. Responsibilities of DPI

- Lead and collaborate with Department of Finance and DARD to integrate PRAP implementation plan into the socio-economic development plans and submit it to PPC for approval and funding allocation. The available fund sources include the State Budget and other fund sources for the implementation of FPD and REDD+ related social economic development plans.

- Advise PPC to allocate annual investment fund to districts/cities and units to carry out their assigned tasks, with priority given to the key projects on forest protection and development.

4. Responsibilities of DOF

- Cooperate with DPI and DARD to integrate fund sources and coordinate funding to implement annual plans of the province, and submit its funding allocation proposal to PPC for approval;

- Guide the project investors to estimate project budgets, advance, payment and settlement as in accordance with the regulations.

- Play a leading role in appraising reports on financial settlement of programs and projects under management of the province and submit to PPC for approval;

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

5. Responsibilities of other related departments and agencies

Implement communication activities within the scope of their responsibilities, to raise awareness, capacity, and gender equality, and to motivate participation of ethnic minorities in the implementation of PRAP activities; integrate PRAP activities with other related projects and programs under their management.

6. Responsibilities of District People's Committees

Based on the approved annual FPDP and targets, the DPCs shall be responsible to carry out the FPDP in the districts and direct other district agencies to implement the following tasks:

- Disseminate information about PRAP to the district stakeholders and motivate their participation. Assign the district specialized units and agencies to act as implementers of the projects within their scope of authority.

- Carry out PRAP implementation in the district as in conformance with effective regulations; comply with investment principles of each fund source; integrate resources from other projects and programs to implement PRAP in the district.

- Motivate the local people to participate in PRAP implementation; focus on leading and directing the implementation of PRAP and other plans to ensure achievement of the objectives of forest development program in the province until 2020 and the consequence years.

- Strengthen the monitoring and supervision to the implementation of PRAP in the district, promptly detect and handle violations according to their competence.

- Develop periodic reports on PRAP implementation progress, and propose solutions to address issues to DARD. Conduct performance review and reward individuals and organizations for their outstanding achievements.

- Participate and follow principles of monitoring and evaluation.

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

- Actively participate in PRAP implementation, especially, in communication, education and information; encourage the local people's participation in PRAP implementation and share the experiences;

- Political-social, non-government organisations, scientific research agencies and enterprises are encouraged to participate in the independent monitoring and evaluation of the implementation of PRAP.

VI. MONITORING AND EVALUATION

1. Monitoring and evaluation arrangement

- DARD plays a leading role and coordinates with other departments, agencies to monitor and evaluate (M&E) the PRAP implementation, and motivate political and social organizations, non-government organizations, scientific research institutions, and private sectors to participate in the independent assessment (if applicable). M&E shall be implemented as follows:

1.1. Monitoring and reporting annually

The implementation of PRAP will be monitored and reported annually to the PSC for FPDP with the specific contents as follows:

- Implementation process based on the Results Framework (details in Table 10).
- Impacts (benefits and risks) associated to the implementation based on Environmental and Social Benefits and Risks Assessment Framework (details in Table 11).
- Financial transaction 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. The results of the evaluation and recommendations for future activities will be reported to the PSC for FPDP with the following contents:

- Evaluation of the overall achievements based on the Results Framework;
- Evaluation of the impacts (benefits and risks) associated to the implementation of PRAP based on the Social and Environmental Benefits and Risks Framework.
- Financial transactions for the whole period and other notable issues to be evaluated;
- Lessons learnt and recommendations.

In order to ensure the comprehensiveness of the assessment, a supplementary in-depth assessment may be added. Such assessment can be carried out by the parties involved in PRAP implementation or an independent party (third party). The assessment results of the PRAP implementation during 2017 – 2020 period shall be used as basic to develop PRAP for the following period.

2. Scope of Monitoring and Evaluation

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

3. Monitoring and Evaluation Framework

The M&E framework of Lai Chau PRAP consists of Results Framework and Social and Environmental Benefits and Risks Assessment Framework which were developed through the following 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 (including village representatives)⁵.

⁵ Details are in the synthesis of district and commune workshop result report of Lai Chau province by Nguyen Quang Tan, 2016.

The results of the social and environmental benefits and risks assessment framework at the step 2 will be discussed and consulted with stakeholders at district and commune levels through the organisation of 13 district and commune consultation workshop with 326 participants were consulted. The achieved results in Step 3 will be synthesized and discussed, thereby formalizing the formal M&E framework.

3.1. Result Framework

The Results Framework is developed to ensure activities of PRAP will be implemented as planned. The Framework consists of baseline data, result indicators, and means of verification.

The baseline data is a ground to monitor and evaluate the achievements. It is not necessary that every singly activity has a baseline data as it depends on activity itself and the availability of information.

The result indicators show quantitative target to be achieved. The result indicators should be identified carefully to ensure that it is achievable during the project duration, and verifiable at the lowest cost and in simplest manner.

Means of verification confirms the gained results against the result indicators.

It should be noted that, since the additional activities designed under Component 2 are to be implemented only in the targeted locations, the result indicators are designed only for those targeted locations (Table 06 shows the targeted locations of each activity).. The Result Framework described as in the below Table 10 (*details are as in the annex 02*).

Table 10. Results Framework

No.	Solution packages/solutions. activities	Baseline data	Result indicators	Means of verification
1	Reduce forest fires	1. The average number of forest fires over the 2010-2016 period was 6/year. 2. The average area damaged by forest fire over the 2010-2016 period was 19.61 ha/year.	The annual average number of forest fires and areas damaged reduced by 20% or more over the 2017-2020 period.	Forest fire records
2	Stop forest clearing for upland cultivation	The average number of illegal forest clearing for upland cultivation over the period of 2010-2016 was 6 cases/year.	The annual average number of deforestation reduced by 30% or more over the period of 2017-2020	Records of violations
3	Stop illegal and unsustainable timber logging and harvesting of NTFPs	The average cases of illegal logging detected over the 2010-2016 period was 8 cases/year.	During 2017-2020, illegal logging reduced by 30% or more.	Records of violations

No.	Solution packages/solutions. activities	Baseline data	Result indicators	Means of verification
4	Mitigate the negative impacts of cardamom plantations	1. In 2016, there were 3,014 ha of cardamom plantations 2. None of households who plant cardamom used fuel-saving drying method to dry cardamom in.	1. Ensure no new area of cardamom plantations are developed in the forest areas during 2017-2020. 2. 50% of households who plant cardamom are using fuel-saving methods for drying cardamom by 2020.	Reports on forest changes of CPCs
5	Improve effectiveness of planted forest development	The rate of planted forest that actually formed forests (with forest cover) was in range of 70% - 75% over the 2011 – 2016 period	The rate of planted forest that formed forests (with forest cover) have reached 80% by 2020	Assessment reports at the end of the investment period of the Management Board of the Protection Forests
6	Province-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 purpose of 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. It also helps to follow international requirements on REDD+ Safeguards during the development and implementation of REDD+ related activities.

The Social and Environmental Benefits and Risk Assessment Framework contains 6 elements, which are benefits, benefit enhancement measures, benefit and risk monitoring measures, risks, risk mitigation measures, and risk monitoring measures.

A summary of the Environmental and Social Benefits and Risk Assessment Framework is as described in the Table 11 below (*details are as the Annex 03*).

Table 11. Environmental and Social Benefits and Risk Assessment Framework

No.	Solution packages	Benefits	Risks
1	Reduce forest fires	<ol style="list-style-type: none"> 1. Avoid environmental pollution 2. Mitigate economic and human losses caused by forest fires 	<ol style="list-style-type: none"> 1. Livelihoods of the local people (using fire) being affected 2. Conflicts between the local people and task forces 3. Lack of agriculture production land due to prohibition of fire use for burning upland fields 4. Create flammable materials, which may cause forest fire
2	Stop forest clearing for upland cultivation	<ol style="list-style-type: none"> 1. Prevent soil erosion 2. Raise awareness of the local communities on forest management and protection 3. Reduce poverty, improve income for the local people 4. Clarify land and forest use right 	<ol style="list-style-type: none"> 1. Land-use interest conflicts; 2. Location of deforestation shifted (so called “displacement”) where people move to another areas to clear forests for upland cultivation. 3. Conflicts between the local people outside of the target communes with those in the target communes 4. Affect tradition of the local people 5. Conflicts between authorities and the local people
3	Stop illegal and unsustainable logging of timber and harvesting of NTFPs	<ol style="list-style-type: none"> 1. Ensure equity in forest resource use 	<ol style="list-style-type: none"> 1. Conflicts between violators and task forces; 2. Affect livelihoods of the small group of people depending on forests 3. Affect tradition of the local people (building wooden houses, cooking and heating using firewood ...)
4	Mitigate the impact of cardamom plantations	<ol style="list-style-type: none"> 1. Promote sustainable economic development (harmonize household economic and environment protection) 	<ol style="list-style-type: none"> 1. Affect incomes of the household group who are planting cardamom 2. Shift of locations of degraded forests due to cardamom plantations
5	Improve effectiveness of planted forest development	<ol style="list-style-type: none"> 1. Increase incomes for the local people who participate in afforestation 2. Prevent soil erosion 	<ol style="list-style-type: none"> 1. Conflicts between the local people outside of the target communes with those in the target communes 2. Land-use interest conflicts 3. Over-dependence on incomes from afforestation 4. Affect traditional livelihoods of the local people (e.g. free grazing)
6	Province-wide cross cutting solution package	See annex 03	See annex 03

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 Lai Chau PRAP for the 2017 – 2020 period

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
Total								1,829,718	519,959	238,853	907,391	150,615	12,900	
I	Component I: Forest Protection and Development							1,675,398	519,959	140,899	900,551	101,689	12,300	
1	Forest protection							1,270,180	353,607	-	900,551	16,022	-	
<i>1.1</i>	<i>Forest protection contracting</i>							<i>1,250,158</i>	<i>349,607</i>	<i>-</i>	<i>900,551</i>	<i>-</i>	<i>-</i>	
-	Forest protection contracting (using PFES)	Districts, cities	2017-2020	Management Boards for district protection forest, city FPU	District DARD, CPCs, District FPUs	ha	1,630,940	900,551			900,551			PFES
-	Contracting for protection of special-use forests (as in accordance with the Decree No. 75/2015/NĐ-CP)	Districts, cities	2017-2020	Management Boards for district protection forest, city FPU	District DARD, CPCs, District FPUs	ha	640,551.0	349,607	349,607					
<i>1.2</i>	<i>Village Fund for Forest Protection</i>	Tam Duong, Nam Nhun, and Phong Tho Districts	2017-2020	KFW8 project management board in Tam Duong, Phong Tho, and Nam Nhun	District FPUs, CPCs	ha	12,000.0	15,840				15,840		KfW8 Project

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
				Districts										
1.3	<i>Replant forest trees to improve extreme poor natural forests</i>	Tam Duong and Phong Tho Districts	2017-2020	KFW8 project management board in Tam Duong, Phong Tho, Districts	District FPU, CPCs	ha	150.0	182				182		KfW8 Project
1.4	<i>Forest fire prevention and fighting</i>	Districts of the province	2017	Sub-FPD	District/city FPU	Project	1	4,000	4,000					Project of urgent forest fire prevention and fighting 2017
2	Forest development							405,218	166,352	140,899	-	85,667	12,300	
2.1	<i>Forest regeneration</i>							<i>110,573</i>	<i>104,235</i>	-	-	<i>6,338</i>	-	
-	Natural forest regeneration (Ic)	Districts, cities	2017-2020	District management Boards for district protection forests, district FPU	District DARD, CPCs, District FPU	ha	254,067	81,555	81,555					

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
-	Assisted natural forest regeneration (with additional forest tree planting)	Districts	2017-2020	District management Boards for district protection forests, district FPU's	District DARD, CPCs, District FPU's	ha	5,150	29,018	22,680			6,338		JICA3, non-profit business budget as accordance with the Decree No. 75/2015/NĐ-CP, the SNRM Project
2.2	<i>Af/reforestation</i>					ha	13,101	273,078	52,850	140,899	-	79,329	-	Investment fund for development
-	Protection forests	Districts	2017-2020	District management Boards for district protection forests	District DARD, CPCs, District FPU's	ha	1,310	39,300	39,300	-				Decision No. 138/QĐ-HĐND dated June 17, 2016
-	Production forests	Districts	2017-2020	District management Boards for district protection forests	District DARD, CPCs, District FPU's	ha	11,791	233,778	13,550	140,899	-	79,329	-	Provincial budget, JICA 3
2.3	<i>Protection forest maintenance</i>	<i>Entire province</i>	<i>2017-2020</i>	<i>District management Boards for protection forests</i>	<i>District DARD, CPCs, District FPU's</i>	ha	1,718	9,267	9,267	-	-	-		<i>Investment fund for development</i>

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
2.4	Offset planting	Entire province	2017-2020	DPCs	District DARD, CPCs, District FPU _s	Tree	500	12,300					12,300	Equity of project owners
II	Component II: Additional activities							154,320	-	97,954	6,840	48,926	600	
1	Solution package 1: Reduce forest fire							19,878.0	-	20	6,664	13,194	-	
1.1	Investment in equipment and facilities for forest fire prevention and fighting							18,151	-	-	6,150	12,001	-	
-	Create firebreaks	4 districts (38 communes)	2017-2020	Management Boards for protection forests	CPCs	Km	410	6,150			6,150			PFES
-	Create firebreaks that can be used as skid trails		2017-2020	Management Boards for protection forests Than Uyen, Tan Uyen, and Sin Ho Districts	CPCs	Km	23	953				953		JICA 3 estimated budget
-	Build forest watch camps at entrances of the forests	Tan Uyen, Than Uyen, and Sin Ho Districts	2017-2020	District Management Board for Development Projects	Management Boards for protection forests Than Uyen, Tan Uyen, and Sin Ho Districts và CPCs	Station	7	2,482				2,482		JICA 3 estimated budget

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
-	Investment in equipment and facilities for forest fire prevention and fighting	4 districts (38 communes)	2017-2020	Sub-FPD	CPCs	Set	38	3,984				3,984		JICA 3 estimated budget
-	Build forest fire watchtowers	Tan Uyen, Than Uyen, and Sin Ho Districts	2017-2020	Management Boards for protection forests Than Uyen, Tan Uyen, and Sin Ho Districts	CPCs	Watchtower	4	608				608		JICA 3 estimated budget
-	Support for construction of motor roads to facilitate forest patrolling	Tan Uyen, Than Uyen, and Sin Ho Districts	2017-2021	Management Boards for protection forests Than Uyen, Tan Uyen, and Sin Ho Districts	CPCs	Km	29	3,974				3,974		JICA 3 estimated budget
1.2	<i>Improve effectiveness of dissemination and awareness raising for the local people on law on forest protection and development, fire prevention and fighting.</i>							1,307	-	-	114	1,193	-	

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
-	Organize training courses on skill building on forest fire control and communication on forest fire prevention and fighting	Target communes	2017-2020	District FPU's	CPCs	Commune	38	881				881		JICA 3 estimated budget, SNRM Project budget, PFES
-	Modification and supplementation of dissemination contents and forms on law on FPD and forest fire prevention and fighting (drafting and printing of documents ...)	Target communes	2017-2020	District FPU's	CPCs	Book	380	114			114			
-	Develop signboards	Target communes	2017-2020	District FPU's	CPCs	Board	5	312				312		JICA 3 estimated budget, SNRM Project budget
-	Review and supplement plans on forest fire prevention and fighting	Target communes	2017-2020	CPCs, forest owners	District FPU's	Commune	38	-						Regular tasks of CPCs, and forest owners
1.3	<i>Stop fire use in forests, on upland fields and grazing pastures.</i>							380	-	-	380	-	-	
-	Provide guidance of upland field burning techniques	Target communes	2017-2020	District FPU's	CPCs	Commune	38	-						Regular tasks of forest rangers

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes	
						Unit	Volume		Fund sources		PFES	ODA	Others		
									State budget	Local budget					
-	Conduct additional patrolling trips to detect improper use of forest in upland field during hotspot time of forest fire	Target communes	2017-2020	Sub-FPD	CPCs, DPCs	Commune	38	380			380				PFES
-	Organize the signing of commitment on forest fire prevention and fighting for organizations and individuals living in forests and nearby forest areas	Target communes	2017-2020	District FPU's	CPCs	Commune	38	-							Regular tasks
-	Dissemination of controlled grazing	Target communes	2017-2020	District Veterinary Stations,	Extension center, CPCs	Commune	38	-							Regular tasks of CPCs,
1.4	<i>Identify hotspots of forest fire</i>							40	-	20	20	-	-		
-	Develop map of hotspot of forest fire	Target communes	2017-2020	Sub-FPD	CPCs, DPCs	Commune	38	20		20					Ordinary expenditure of the Sub-FPD
-	Develop signboards on forest protection, banning improper use of fire in forests	Target communes	2017-2020	District FPU's	CPCs, DPCs	Pcs.	38	20			20				PFES
2	Solution package 2: Stop forest clearing for upland cultivation							97,450	-	92,250	-	5,200	-		
2.1	<i>Support livelihood development for</i>							97,013	-	92,250	-	4,763	-		

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
	<i>associated with agriculture production</i>													
-	Suvey for effective livelihood selection	Target communes	2017-2020	JICA 3 Project management board	CPCs, DPCs	Time	14	468				468		JICA 3 estimated budget
-	Organize training courses on cultivation and livestock techniques	Than Uyen, Tan Uyen, Tam Duong, and Sin Ho Districts	2017-2020	District Veterinary Stations, and extension center	District DARD, CPCs	Class	20	252				252		Non-profit business budget, and SNRM project
-	Develop models of production development, inter-crop cultivation and increase production seasons	Than Uyen, Tan Uyen, Tam Duong, and Sin Ho Districts	2017-2020	District Veterinary Stations, and extension center	District DARD, CPCs	Model	8	960		960				Non-profit business budget (KNKL)
-	Provide animal and plant species for livestock and agriculture plantation (support for production under Decision No. 29/2016 / QD-UBND)	Than Uyen, Tan Uyen, Tam Duong, and Sin Ho Districts	2017-2020	District DARD	Extension center, CPCs	Commune	38	41,963		40,000		1,963		As annual plan of the province, JICA 3, and SNRM project
-	Develop terraced fields	Than Uyen, Tan Uyen, Tam Duong, and Sin Ho Districts	2017-2020	District DARDs;Project management board of KfW8 of Tam Duong	Extension center, CPCs	ha	150	3,430		1,350		2,080		KfW8 Project, and provincial budget

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
				district										
-	Develop concentrated tea fields	Than Uyen, Tan Uyen, Tam Duong Districts	2017-2020	District DARD	Extension center, CPCs	ha	729	49,940		49,940				
2.2	<i>Develop community forests</i>							437	-	-	-	437	-	
-	Revise and adjust village regulation to make sure it is suitable with practical situations	Target communes of proritized districts	2017-2020	CPCs	Management Board of Protection Forests	Village		-						Tasks of villagers
-	Develop operational regulations of the Village MBFM&LD	Villages	2017-2020	Village	CPCs	Village		-						Tasks of villagers
-	Forest patrolling and checking by the local people	Target communes of proritized districts	2017-2020	Village	CPCs	Village		234				234		SNRM Project
-	Apply village regulations to handle violations	Target communes of proritized districts	2017-2020	Village	CPCs	Village		-						Tasks of villagers
-	Support for scattered tree and village demarcation					Village	9	203				203		SNRM Project

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
	plantation of the local													
3	Solution package 3: Stop illegal/unsustainable timber and NTFPs logging							758	-	34	124	600	-	
3.1	<i>Encourage people to use alternative materials for the purpose of house building and cooking</i>	Than Uyen, Tan Uyen, Sin Ho, and Tam Duong Districts						600	-	-	-	600	-	
-	Encourage the use of alternative materials, fuel-saving methods for people	Sin Ho and Tam Duong Districts	2017-2020	District FPU's	CPCs	Commune	22	-						Regular task
-	Support for material savings (advanced firewood saving stoves)		2017-2020	District FPU's	CPCs	Pcs.	200	600				600		SNRM Project
3.2	<i>Strictly control wood and firewood collection for commercial purpose</i>							34	-	34	-	-	-	
-	Improve awareness of the local people on detecting and reporting violations	Sin Ho and Tam Duong Districts	2017-2020	District FPU's	CPCs	Commune	22	-						Regular task
-	Additionally perform inter-sector patrolling	Target communes of Tam Duong and sin Ho	2017-2020	District FPU's	CPCs	Tour	4	34		34				Annual plan

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
		Districts												
3.3	<i>Improve techniques of forest product harvesting for the local people</i>							124	-	-	124	-	-	
-	Organise training courses on logging techniques for the local people	Target communes of Tam Duong and Sin Ho Districts	2017-2020	District FPU's	CPCs	Class	22	124			124			
-	Organise village meetings to disseminate to and encourage the local people to follow the logging guidelines	Target communes of Tam Duong and Sin Ho Districts	2017-2020	District FPU's	CPCs	Commune	22	-						Regular task
4	Solution package 4: Mitigate the negative impacts of cardamom plantations							553	-	-	53	-	500	
4.1	<i>Encourage the use of fuel-saving methods for drying cardamom</i>							553	-	-	53	-	500	
-	Organise trainings and provide guidance on using of fuel-saving drying ovens	Target communes of Tam Duong and Tan Uyen Districts	2017-2020	District FPU's	CPCs	Class	5	53	-		53			Estimated budget

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
-	Support for construction of fuel-saving drying ovens	Target communes of Tan Uyen and Tam Duong Districts	2017-2020	Extension center	CPCs, DPCs	Model	10	500					500	Not identified yet
4.2	<i>Limit enlargement of cardamom plantations</i>							-	-	-	-	-	-	
-	Provide information of negative impacts of cardamom plantations to forests for the local people	Target communes of Tan Uyen and Tam Duong Districts	2017-2020	Extension center	CPCs, District FPU	Commune	10	-						Regular task
-	Strictly manage the existing area of cardamom plantations	Target communes of Tan Uyen and Tam Duong Districts	2017-2020	CPCs	District FPU	Commune	10	-						Not identified yet
-	Encourage people to plant NTFPs without causing damage to the forest (e.g. Amomum, Panax pseudoginseng, medicinal plants)	Than Uyen, Tan Uyen, and Sin Ho Districts	2017-2021	Extension center	CPCs, District FPU	Commune	10	-						Not identified yet
5	Solution package 5: Improve effectiveness of planted forest							30,150	-	1,200	-	28,950	-	-

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
	development													
5.1	<i>Support development and upgrading of silvicultural and forest product processing facilities</i>							28,500	-	-	-	28,500	-	
-	Upgrade seedling nurseries	Than Uyen, Tan Uyen, and Sin Ho Districts	2017-2020	BQLRPH		Nursery gargins	4	6,000				6,000		JICA 3 estimated budget
-	Support for forestry road construction connecting with concentrated areas	Than Uyen, Tan Uyen, and Sin Ho Districts	2019	District Management Board for Development Projects		Km	45	22,500				22,500		JICA 3 estimated budget
5.2	<i>Improve capacity of local people on forest planting, maintenance and protection.</i>							450	-	-	-	450	-	
-	Organise technical training courses on forest plantation, maintenance and protection techniques for the local people	Than Uyen, Tan Uyen, and Sin Ho Districts	2017-2020	Management Boards for protection forests	CPCs	Class	20	130				130		JICA 3 estimated budget
-	Organise study tour to demonstrated models of forest plantations, maintenance and	Than Uyen, Tan Uyen, and Sin Ho Districts	2017-2020	Management Boards for protection forests	CPCs	Tour	4	320				320		JICA 3 estimated budget

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
	protection for the local people													
5.3	Reduce free grazing							1,200	-	1,200	-	-	-	
-	Support for grass cultivation (as in accordance with the Decision No. 29/2016/QĐ-UBND)	Target communes	2017-2020	Extension center	CPCs	ha	400	1,200		1,200				Non-profit business budget
-	Disseminate and encourage people to develop controlled livestock	Target communes	2017-2020	District DARD, District Veterinary Station, CPCs	Local communities	Course	38	-						CPC responsibility
-	Strengthen supervision on implementation of forest protection and management regulations of the community	Target communes	2017-2020	CPCs	Local communities	Course	38	-						CPC responsibility
-	Review grazing pasture planning	Target communes	2017-2020	CPCs	Local communities	Pasture	38	-						CPC responsibility
6	Solution package 6: Province-wide cross cutting solution package							822	-	60	-	662	100	
6.1	Improve the FRMS							662	-	-	-	662	-	
-	Develop roadmap for the FRMS improvement	Provincial and district levels	2017 - 2018	Sub-FPD	District FPU	District	8	-						SNRM Project

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
-	Organise training courses of the related officials, including the FRMS operation officers	Provincial and district levels	2017 - 2018	SNRM Project	Sub-FPD	Class	5	250				250		SNRM Project
-	Provide equipment and tools forest change monitoring	Provincial and district levels	2017 - 2018	SNRM Project	Sub-FPD	pcs.	103	412				412		SNRM Project
6.2	Raise awareness on REDD+							160	-	60	-	-	100	
-	Organize workshops to share PRAP implementation experience	Provincial and district levels	2017 - 2020	DARD	Departments/agencies, DPCs	Workshop	1	30		30				Provincial budget
-	Conduct TOT on REDD+	District and commune levels	2017 - 2020	DARD	DPCs	Class	2	100					100	SNRM Project
-	Organize workshops to share successful PRAP implementation experience at district level	Target communes	2017 - 2020	DARD	Departments/agencies, DPCs	Workshop	1	30		30				Provincial budget
7	PRAP implementation monitoring and evaluation							4,710	-	4,390	-	320	-	
7.1	Conduct annual monitoring and evaluation to PRAP implementation	Target communes of prioritized districts	2017 - 2020	DARD	Departments/agencies, DPCs	Time	16	240				240		JICA estimated budget

No	Solution packages/solutions/activities	Locations	Duration	Leading agencies	Cooperating agencies	Plan of the 2017-2020 period		Total investment (VND million)	Investment sources					Notes
						Unit	Volume		Fund sources		PFES	ODA	Others	
									State budget	Local budget				
7.2	Conduct monitoring and evaluation to PRAP implementation over the period of 2017 - 2020	Target communes of proritized districts	2017 - 2020	DARD	Departments/agencies, DPCs	Time	4	80				80		JICA estimated budget
7.3	Management fee for SNRM project implementation		2017-2020	DARD	Departments/agencies, DPCs	Project	1	4390		4390				

Annex 02. Monitoring and evaluation framework of Lau Chau PRAP – Result framework

No	Solution packages/solutions. activities	Baseline data	Result indicators	Means of verification
1	Reduce forest fires	1. The average number of forest fires over the 2010-2016 period was 6/year. 2. The average area damaged by forest fire over the 2010-2016 period was 19.61 ha/year.	The annual average number of forest fires and areas damaged reduced by 20% or more over the 2017-2020 period.	Forest fire records
1.1	Investment in equipment and facilities for forest fire prevention and fighting	Four district FPU's of the prioritized districts were not equipped with necessary equipment and tools for forest fire prevention and fighting in 2016.	Four district FPU's of the prioritized districts will have been equipped with necessary equipment and tools for forest fire prevention and fighting by 2020.	Equipment and tool handover notes
1.2	Improve effectiveness of dissemination and awareness raising for the local people on law on forest protection and development, fire prevention and fighting.	No training sessions for capacity building of district and commune FPU's in priority areas held in 2016.	1. Four district and commune FPU's of the prioritized districts will have been provided trainings on capacity building on communication and dissemination by 2020. 2. At least two new modes of dissemination will have been proposed and applied by the district and commune FPU's in the priority areas by 2020.	1. Training result assessment reports 2. Annual FPD reports
1.3	Stop the use of fire in forests, upland fields and grazing pastures.	31 forest fires caused by the use of fire in the forests, burning upland field for cultivation and grazing pastures in 2016.	Number of forest fires caused by the use of fire in the forests, burning upland field for cultivation and grazing pastures will have been reduced by 20% by 2020.	Annual FPD reports
1.4	Identify hotspots of forest fire	Hotspots of forest fire during the period of 2010 - 2016	1. A set of maps of hotspots of forest fire for the period of 2017-2020 will have been developed by 2018 and updated annually for the following years. 2. Signboard installation in places where forest fire is considered as a risk will have been completed by 2019.	Project handover reports

No	Solution packages/solutions. activities	Baseline data	Result indicators	Means of verification
2	Stop forest clearing for upland cultivation	The average number of illegal forest clearing for upland cultivation over the period of 2010-2016 was 6 cases/year.	The annual average number of deforestation reduced by 30% or more over the period of 2017-2020	Records of violations
2.1	Support for livelihood development associated with agriculture production	Not applicable	At least two new livelihoods will have been introduced and put into use in the priority communes	The assessment report on the application of the new production models that were proposed for scaling-up.
2.2	Develop community forest	Not applicable	100% of the villages which have its regulations on forest protection and development will have been reviewed, supplemented and implemented by 2020.	Reports on the annual review, supplement and implementation of village forest protection and development regulations
3	Stop illegal and unsustainable timber logging and harvesting of NTFPs	The average cases of illegal logging detected over the 2010-2016 period was 8 cases/year.	During 2017-2020, illegal logging reduced by 30% or more.	Records of violations
3.1	Encourage people to use alternative materials for the purpose of house building and cooking	Not applicable	1. At least 38 new models using new materials will have been introduced and applied by 38 target communes by 2020. 2. At least 3 new materials will have been used for a pilot models by 2020.	Assessment report on pilot implementation results
3.2	Stop wood and firewood collection for commercial purposes	4 timber wood and firewood harvesting cases for commercial purposes in 2016.	Wood harvesting for commercial purposes will have been reduce by 30% by 2020.	FPD reports of forest rangers
3.3	Improve forest logging techniques to the local people	Not applicable	100% of the villages in the target areas will have been trained on timber logging and NTFP harvesting techniques	Training reports

No	Solution packages/solutions. activities	Baseline data	Result indicators	Means of verification
4	Mitigate the negative impacts of cardamom plantations	<p>1. In 2016, there were 3,014 ha of cardamom plantations</p> <p>2. None of households who plant cardamom used fuel-saving drying method to dry cardamom in.</p>	<p>1. Ensure no new area of cardamom plantations are developed in the forest areas during 2017-2020.</p> <p>2. 50% of households who plant cardamom are using fuel-saving methods for drying cardamom by 2020.</p>	Reports on forest changes of CPCs
4.1	Encourage the use of fuel-saving methods for drying cardamom	Not applicable	Fuel-saving methods will have been used by at least 50% of total local household for cardamom drying by 2020.	Feedbacks from village heads
4.2	Limit enlargement of cardamom plantations	There were 3,014 ha of cardamom plantations in 2016.	There will be no newly planted area of cardamom in the priority areas over the 2017-2020 period	CPCs' reports on annual cardamom plantation area
5	Improve effectiveness of planted forest development	The rate of planted forest that formed forests (with forest cover) was in range of 70% - 75% over the 2011 – 2016 period	The rate of planted forest that formed forests (with forest cover) will have reached 80% by 2020	Assessment reports at the end of the investment period of the Management Board of the Protection Forests
5.1	Support development and upgrading of silvicultural and forest product processing facilities	State of silvicultural infrastructures of target communes in 2016 (FPD reports of Management Boards for Protection forests in priority districts)	At least 16 target communes will have been received support for investment in silvicultural development by 2020.	FPD reports of Management Boards for Protection Forests
5.2	Improve capacity of local people on forest planting, maintenance and protection.	Not applicable	100% households will have participated in afforestation got trained, attended study tours to demonstration models of afforestation	Evaluation reports on training and study tour results
5.3	Reduce free grazing	Not applicable	400 ha of grass will be planted by 2020 (According to Decision No. 29/2016/QD-UBND)	Activity report of project implemented according to the Decision No. 29/2016/QD-UBND

No	Solution packages/solutions. activities	Baseline data	Result indicators	Means of verification
6	Province-wide cross cutting solution package	Not applicable	Not applicable	Not applicable
6.1	Improve the FRMS	4 FPU's and 4 Forest Management Boards are applying the improved FRMS in 2016.	By 2020, the FRMS will have been applied in all priority districts of the Province	Reports on annual forest change monitoring
6.2	Raise awareness on REDD+	70 related officials participated in provincial workshops on PRAP development organized in 2016 and 2017.	1. By 2020, 400 provincial and target districts officials will have attended training courses and workshops on awareness raising on climate change and REDD + 2.38 target communes will have been accessed by awareness raising activities during the period of 2017 – 2020.	Reports on training course and awareness raising results of PRAP

**Annex 03. Monitoring and evaluation framework of Lai Chau PRAP – Environmental and
Social Benefits and Risk Assessment Framework**

No.	Solution packages/solutions/activities	Benefits	Enhancement measure (Approach)	Monitoring measure	Risks	Mitigation measure	Monitoring measure
1	Reduce forest fires	1. Avoid environmental pollution 2. Mitigate economic and human losses caused by forest fires	(1,2). Strengthening the dissemination and communication on law on forest protection and development for people	(1,2). Reports on forest fires	1. Livelihoods of the local people (using fire) being affected 2. Conflicts between the local people and task forces 3. Lack of agriculture production land due to prohibition of fire use for burning upland fields 4. Create flammable materials, which may cause forest fire	(1, 2). Improve livelihoods for the local people, especially to the poor who are depending on forests (3). Ensure participatory and agreement of the local people in the village FPD regulation development (4). Strengthen forest cleaning to prevent forest fires	(1,2,3,4). Feedbacks from the local level (CPCs, field forest rangers...) (2). letters of complaints of the local people
1.1	Investment in equipment and facilities for forest fire prevention and fighting						
1.2	Improve effectiveness of dissemination and awareness raising for the local people on law on forest protection and development, fire prevention and fighting.						
1.3	Stop fire use in forests, upland fields and grazing pastures.						
1.4	Identify hotspots of forest fire						

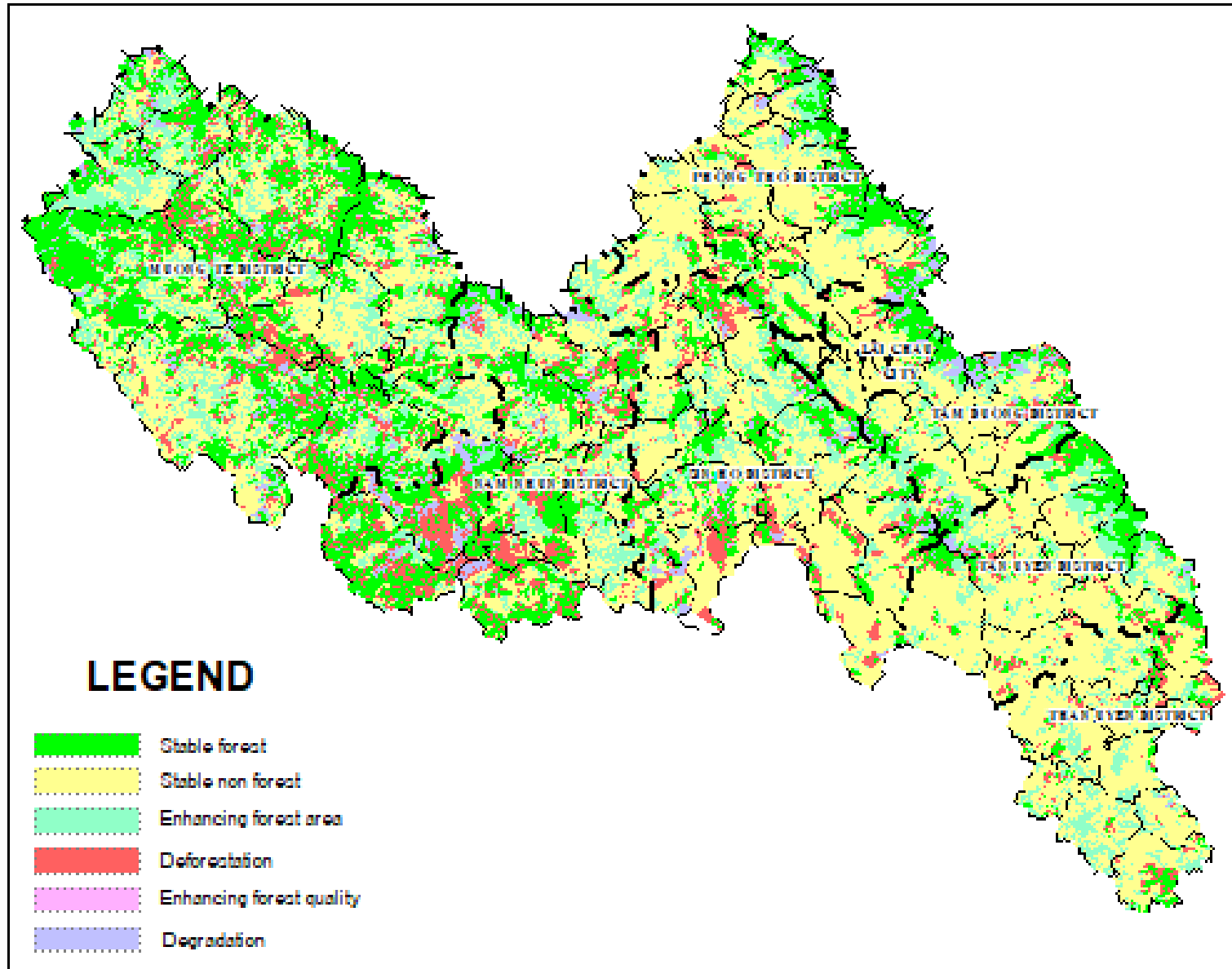
No.	Solution packages/solutions/activities	Benefits	Enhancement measure (Approach)	Monitoring measure	Risks	Mitigation measure	Monitoring measure
2	Stop forest clearing for upland cultivation	1. Prevent soil erosion 2. Raise awareness of the local communities on forest management and protection	(1, 2, 3, 4). Strengthening the dissemination and communication on law on forest protection and development for people	(1). Feedbacks of the local people (2,3). Reports on annual socio-economic development of CPCs	1. Land-use interest conflicts; 2. Location of deforestation shifted (so called “displacement”) where people move to another areas to clear forests for upland cultivation.	(1, 2, 3, 4, 5). Enhance participation of local people (including non-target area people) in planning.	(1,2,3,4, 5). feedbacks from the local level (CPCs, field forest rangers...)
2.1	Support for livelihood development associated with agriculture production	3. Reduce poverty, improve income for the local people 4. Clarify land and forest use right	(1, 2, 3, 4). Integrate benefits into planning and PRAP implementation	(4). FPD reports of the forest rangers	3. Conflicts between the local people outside of the target communes with those in the target communes	(1, 2, 4). Improve livelihoods for the local people, especially to the poor who are depending on forests	(1, 3). letters of complaints of the local people
2.2	Develop community forests				4. Affect tradition of the local people 5. Conflicts between authorities and the local people	(2). Strengthen coordination of parties in border areas	

No.	Solution packages/solutions/activities	Benefits	Enhancement measure (Approach)	Monitoring measure	Risks	Mitigation measure	Monitoring measure
3	Stop illegal and unsustainable timber and NTFPs logging	1. Ensure equity in forest resource use	(1). Strengthening the dissemination and communication on law on forest protection and development for people (1). Integrate benefits into planning and PRAP implementation	(1). Feedbacks from village-based forest rangers and commune working groups	1. Conflicts between violators and task forces; 2. Affect livelihoods of the small group of people depending on forests 3. Affect tradition of the local people (building wooden houses, cooking and heating using firewood ...)	(1). Enhance awareness raising (2). Support for livelihood development (3). Encourage use of alternative materials	(1). Letters of complaint (1,2,3). Feedbacks from the local level (CPCs, field forest rangers...)
3.1	Encourage people to use alternative materials for the purpose of house building and cooking						
3.2	Stop wood and firewood collection for commercial purposes						
3.3	Improve forest logging techniques to the local people						

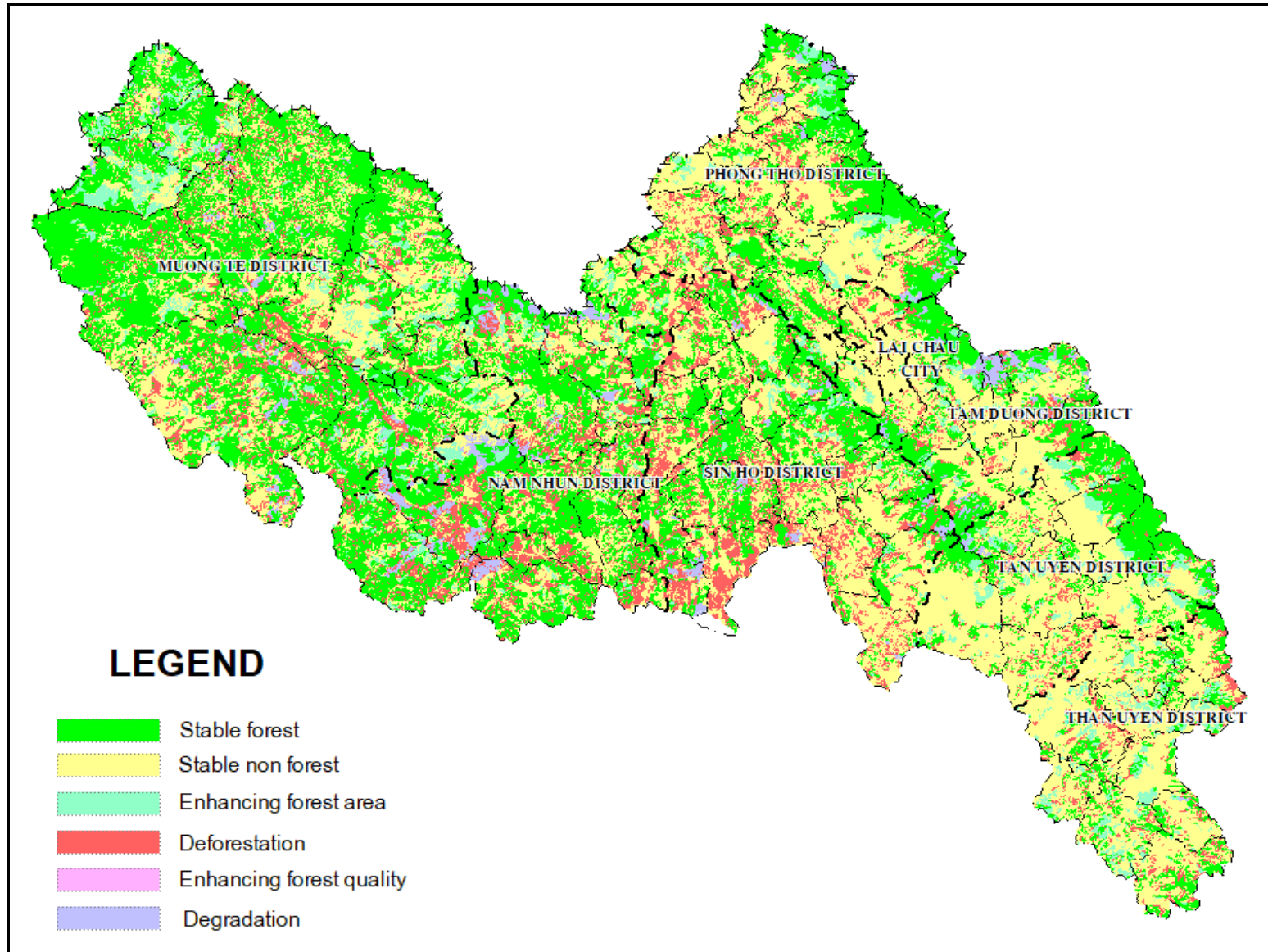
No.	Solution packages/solutions/activities	Benefits	Enhancement measure (Approach)	Monitoring measure	Risks	Mitigation measure	Monitoring measure
4	Mitigate negative impacts of cardamom plantations	1. Promote sustainable economic development (harmonize household economic and environment protection)	(1). Strengthening the dissemination and communication on law on forest protection and development as well as impacts of cardamom plantations for people	(1). Reports on forest change monitoring of forest rangers (2). Reports of district DARD	1. Affect incomes of the household group who are planting cardamom 2. Shift of locations of degraded forests due to cardamom plantations	(1,2). Support for identification of alternative livelihoods (2). Strengthening the dissemination and communication on law on forest protection and development as well as impacts of cardamom plantations for people (2). Strengthen collaboration of people in communes in FPD	(1). Social-economic development reports of CPCs (2). Monthly, quarterly, annually FPD reports of forest rangers
4.1	Encourage the use of fuel-saving methods for drying cardamom						
4.2	Limit enlargement of cardamom plantations						
5	Improve effectiveness of forest plantation development	1. Increase incomes for the local people who participate in afforestation 2. Prevent soil erosion	(1,2). Encourage people to participate in afforestation	(1). Social-economic development reports of CPCs (2). Feedbacks of the local people	1. Conflicts between people from outside of target communes with those in the target communes 2. Land-use interest conflicts 3. Depend too much on incomes from afforestation 4. Affect traditional livelihoods of the local people (e.g. free grazing)	(1,2,3). Provide information on project criteria for the local people	(1,2,3). Feedbacks from the field forest rangers, and local people
5.1	Support development and upgrading of silvicultural and forest product processing facilities						
5.2	Improve capacity of local people on forest planting, maintenance and protection.						
5.3	Reduce free grazing						

No.	Solution packages/solutions/activities	Benefits	Enhancement measure (Approach)	Monitoring measure	Risks	Mitigation measure	Monitoring measure
6	Province-wide cross cutting solution package	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
6.1	Improve the FRMS	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
6.2	Raise awareness and capacity building on REDD+ implementation	Not applicable	Not applicable	Not applicable	1. People may misunderstand about REDD+ and expect too much on benefits from REDD+, thus, it may lead disturbances in the community.	(1). Enhance quality of communication on REDD+.	(1). Feedbacks from the local level (CPCs, field forest rangers...)

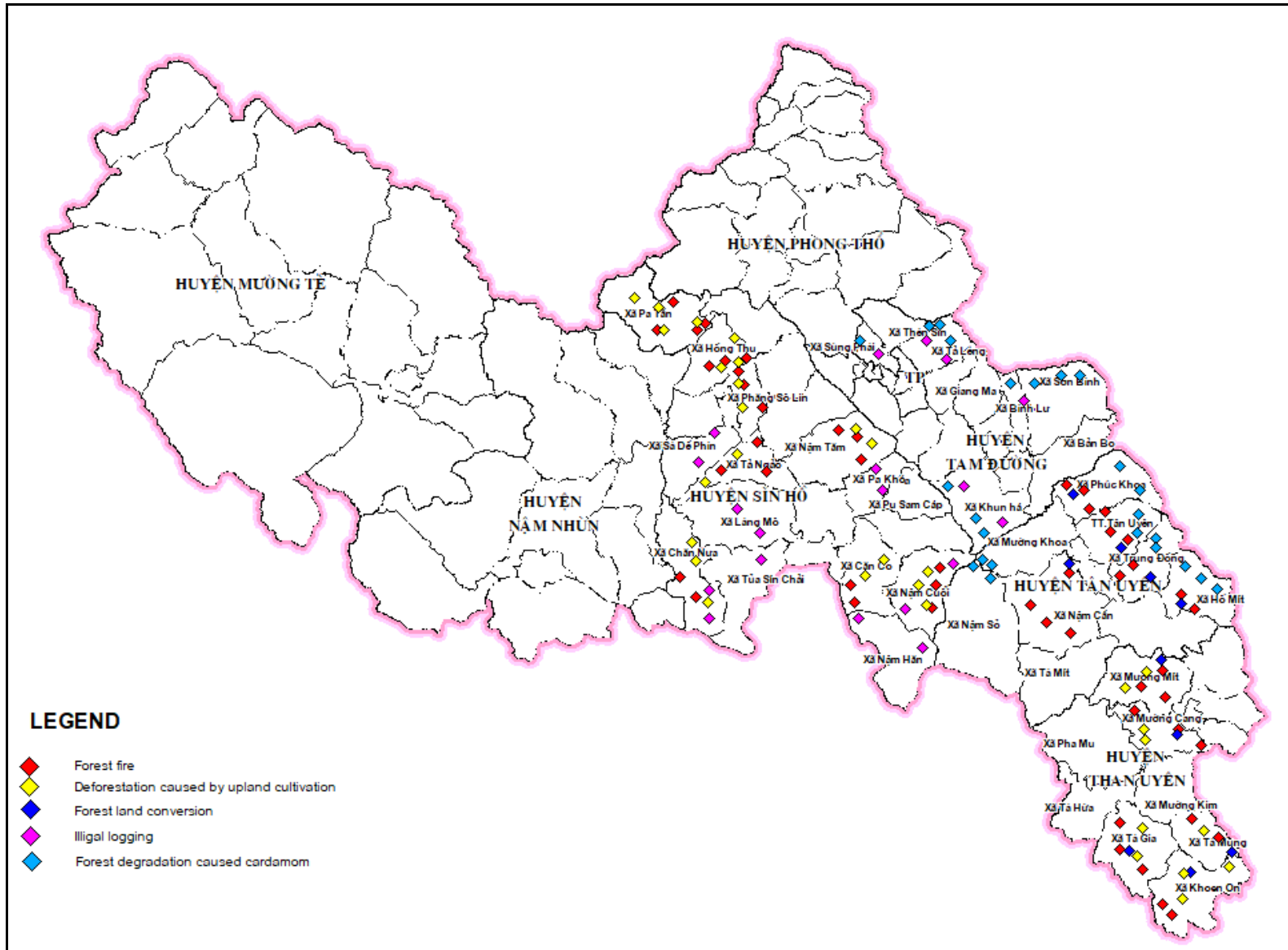
Map 01. Forest change in Lai Chau over the 2005 – 2015 period



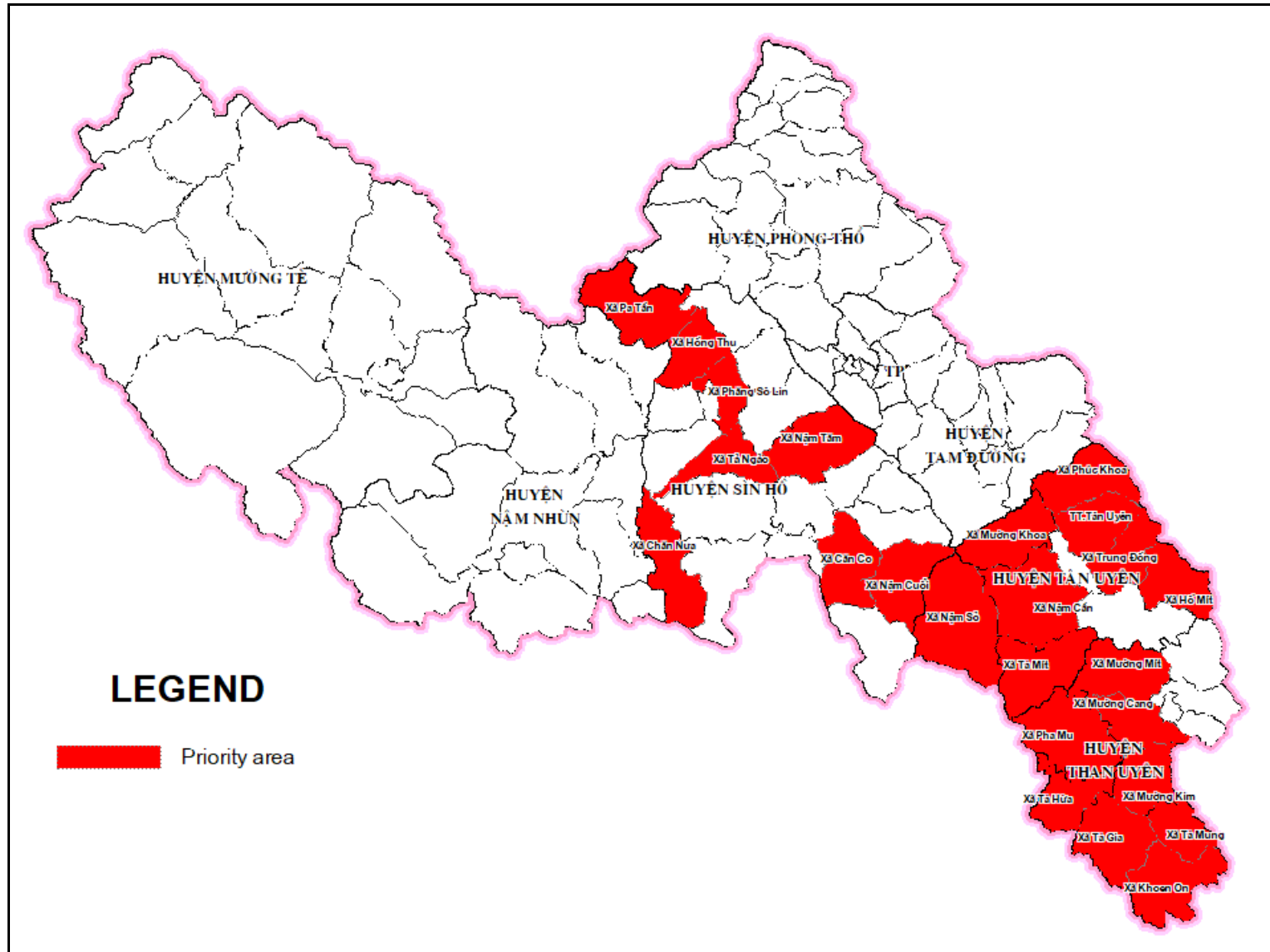
Map 02. Forest change in Lai Chau over the 2010 – 2015 period



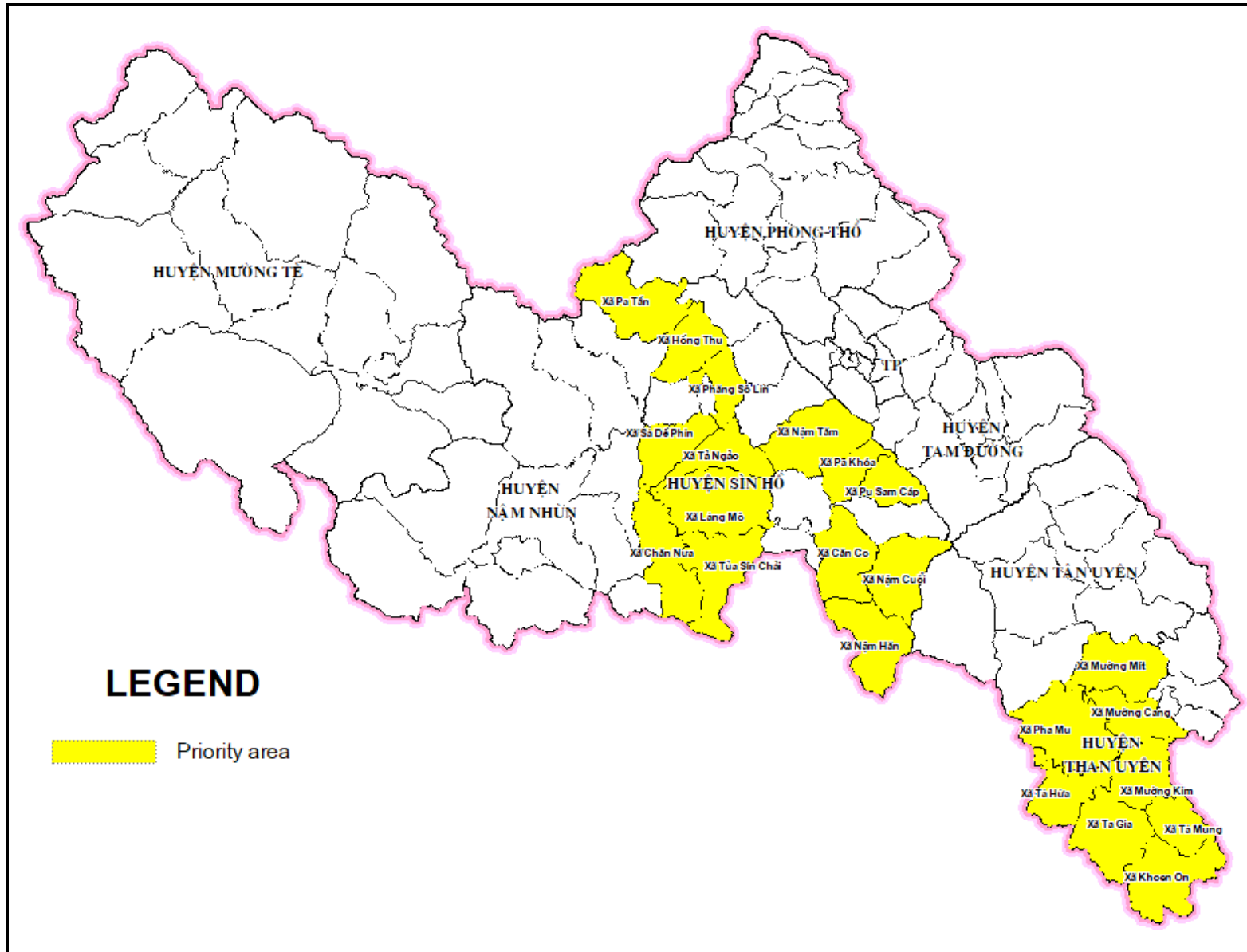
Map 03. Deforestation hotspot over the 2015 – 2020 period



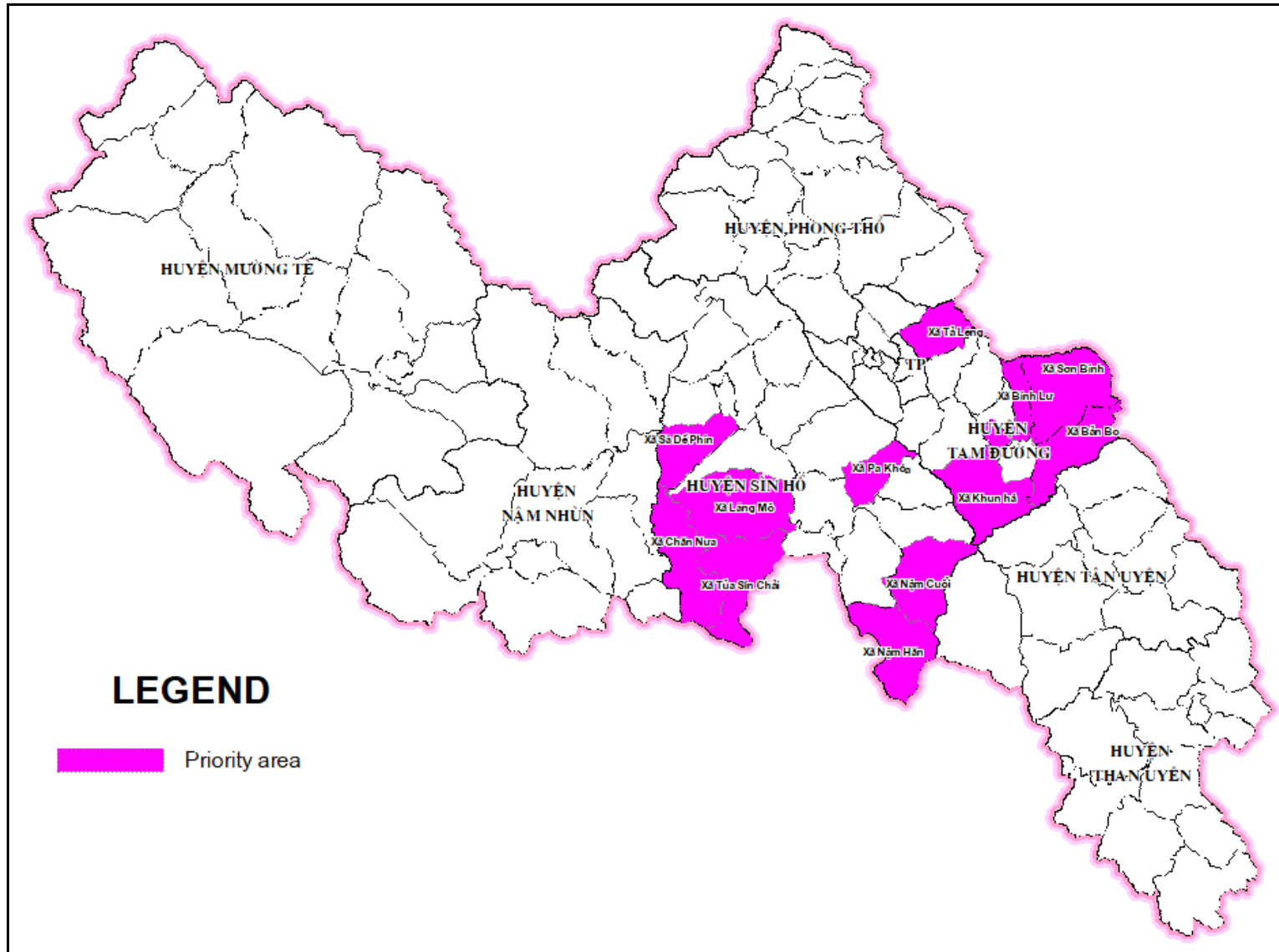
Map 05. Map of potential areas for REDD+ implementation
(Solution package 1:Reduce forest fire)



Map 06. Map of potential areas for REDD+ implementation
(Solution package 2: Stop forest clearing for upland cultivation)

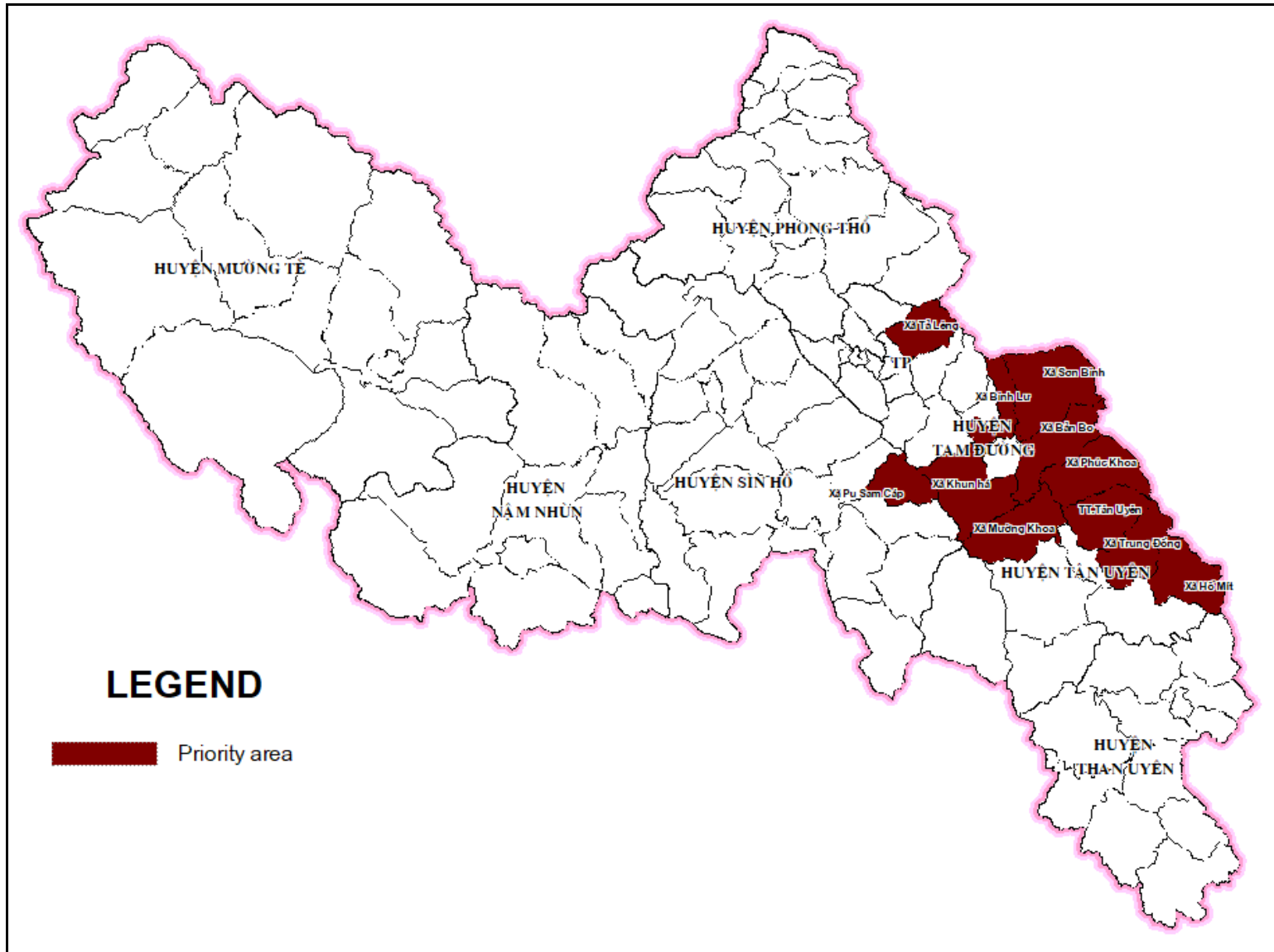


Map 07. Map of potential areas for REDD+ implementation
(Solution package 3: Stop illegal and unsustainable timber and NTFP logging/harvesting)



Map 08. Map of potential areas for REDD+ implementation

(Solution package 4: Mitigate negative impacts of cardamom plantation to forest resource)



Map 09. Map of potential areas for REDD+ implementation
(Solution package 5: Improve effectiveness of forest plantation development)

