

**HOA BINH PROVINCIAL PEOPLE'S COMMITTEE**

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**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 HOA  
BINH PROVINCE FOR THE PERIOD FROM 2017 TO  
2020 TOWARDS 2030**



Un-official translation by SNRM Project

**Hoa Binh, July 2017**

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## ACRONYMS AND ABBREVIATION

CPC	:	Commune People's Committee
DARD	:	Department of Agriculture and Rural Development
DPC	:	District People's Committee
FPD		Forest Protection Department
FPDP	:	Forest Protection and Development Plan
FRMS	:	Forest Resource Monitoring System
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. Abstract

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 change<sup>1</sup>. 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.

The Prime Minister of Viet Nam signed the Decision No. 799 / QĐ-TTg on June 27, 2012 and the Decision No. 419/QĐ-TTg dated April 5, 2017 approving the National Action Program on "reduction of green-house gas emissions through efforts to reduce deforestation and forest degradation, sustainable management of forest resources, and conservation and enhancement of forest carbon stocks" for the 2017-2020 and 2021-2030 periods (NRAP) that aims at contributing to global efforts to implement REDD+. In order to facilitate the implementation of the NRAP nationwide, the Ministry of Agriculture and Rural Development issued Decision No. 5414/QĐ-BNN-TCLN dated December 25, 2015 guiding Provincial People's Committees to develop their PRAPs.

Hoa Binh is a mountainous province located in the gateway area to the northwest region of Vietnam, with its total natural area of 459,062 ha, of which, 234,998 ha covered by forests (accounts for 51.2% of the total natural area), including 158,811 ha of natural forests and 76,186 ha of planted forests. Recognizing the importance of forests in response to the consequences of climate change, Hoa Binh, in the past years, has been implementing forestry programs and projects to sustainably protect and use forests and forestry lands; meet the requirements of preserving rare, precious and endemic biological resources; regulate water resource and improve the ecosystem; create forest products; and contribute to the socio-economic development and livelihoods of the local people in the province.

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

In order to advocate the REDD + mechanism and to implement the Decision No. 419 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. The PRAP of Hoa Binh Province constitutes of programs and projects on forest protection and development, and harmonized with the provincial FPDP and the Forestry Sector Restructuring Scheme during the 2016 – 2020 period. It is also in line with the government’s development policies and plans, and suitable with the natural and socio-economic conditions of the province.

## **2. Legal basis**

### **2.1. National Legal Documents**

- Law No. 49/2014/QH13 dated June 18, 2014 of the National Assembly on public investment; Decree No. 136/2015/ND-CP dated December 31, 2015 of the Government guiding the implementation of a number of articles of the Law on Public Investment.

- Decree No. 99/2010/ND-CP dated September 24, 2010 of the Government on the Policy on Payment for Forest Environmental Services; Decree No. 147/2016/ND-CP dated November 02, 2016 on amending and supplementing a number of articles of the Government Decree No. 99/2010/ND-CP;

- Decree No. 75/2015/ND-CP dated 09 September, 2015 of the Prime Minister on mechanism and policy on forest protection and development associated with the policy on sustainable and rapid poverty reduction, and assistance to ethnic minorities for the period from 2015 to 2020;

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

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

- Decision 18/2007/QĐ-TTg dated February 05, 2007 of the Prime Minister approving Vietnam's forestry development strategy in the 2006-2020 period

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

- Decision No. 799/QĐ-TTg dated 27 June, 2012 of the Prime Minister approving the National Action Program on “reduction of green-house gas emissions through efforts to reduce deforestation and forest degradation, sustainable management of forest resources, and conservation and enhancement of forest carbon stocks” for the period from 2011 to 2020;

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

- Decision No. 57/QĐ-TTg dated January 09, 2012 of the Prime Minister approving the forest protection and development plan during 2011-2020

- Decision No. 1976 / QĐ-TTg dated 30/10/2014 of the Prime Minister approving the

master plan for the national special-use forest until 2020, towards 2030;

- Decision No. 1722/QĐ-TTg dated September 2, 2016 of the Prime Minister approving the National Target Program for Sustainable Poverty Reduction during the 2016-2020 period;

- 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 “reduction of green-house gas emissions through efforts to reduce deforestation and forest degradation, sustainable management of forest resources, and conservation and enhancement of forest carbon stocks (REDD+)” until 2030;

- Decision No. 886/2017/QĐ-TTg dated June 16, 2017 of the Prime Minister approving the Target Program on Sustainable Forest Development for 2016-2020 period;

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

- Decision No. 1757/QĐ-BNN-TCLN dated August 1, 2013 of MARD promulgating Action Plan for implementation of 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+);

- Decision No. 4713/QĐ-BNN-HTQT dated November 15, 2016 of the Ministry of Agriculture and Rural Development approving the project "Sustainable Natural Resource Management" funded by the Government of Japan.

## **2.2. Provincial legal documents**

- Decision No. 676/QĐ-UBND, dated April 3, 2007 of Hoa Binh PPC approving the results of forest invest inventory by three forest categories of Hoa Binh.;

- Decision No. 1953/QĐ-UBND of Hoa Binh PPC dated September 12, 2008 approving the forestry development strategy of Hoa Binh during the 2008 – 2015 period towards 2020;

- Decision No. 447/QĐ-UBND dated March 31, 2011 of Hoa Binh PPC approving the FPDP of Hoa Binh Province during the 2010 – 2020 period;

- Decision No. 425/QĐ-UBND dated March 29, 2011 of Hoa Binh PPC approving the internal amendment on three forest categories in Hoa Binh Province;

- Decision No. 227/QĐ-UBND dated February 20, 2012 of Hoa Binh PPC Chairman promulgating the regulations on coordination and collaboration between forest rangers, police, and military in forest protection, and forest fire prevention and fighting in Hoa Binh province;

- Decision No. 735/QĐ-UBND dated May 31, 2013 of Hoa Binh PPC Chairman on establishment of Provincial Steering Committee (PSC) for FPDP for the 2011-2020 period of Hoa Binh Province;
- Document No. 4963/VPUBND-NNTN dated November 6, 2014 of Hoa Binh PPC on implementing the Project of Capacity Building on Forest Fire Prevention and Fighting of Hoa Binh Province during the 2015 – 2020 period;
- Decision No. 1604/QĐ-UBND dated August 31, 2015 of Hoa Binh PPC approving the Project of Agriculture Sector Restructuring towards Values Increase and Sustainable Development in Hoa Binh Province until 2020;
- Decision No. 742/QĐ-UBND dated March 28, 2016 of Hoa Binh PPC approving and publishing the forest inventory results of Hoa Binh province.
- Decision No. 1179/QĐ-UBND dated April 29, 2016 by the Hoa Binh PPC approving the investment project on afforestation and protection of watershed protection forest in Hoa Binh hydropower reservoir during the 2016-2020 period;
- Document No. 3820/TB-VPUBND/TB-VPUBND dated August 5, 2016 of the PPC Office informing the conclusion of Mr. Nguyen Van Dung, Deputy Chairman of PPC during the kickoff workshop of the SNRM Project in Hoa Binh Province;
- Decision No. 2216/QĐ-UBND dated August 29, 2016 of the Chairman of Hoa Binh PPC strengthening the PSC for FPDP during the 2011-2020 period in Hoa Binh Province;
- Decision No. 2270/QĐ-UBND dated September 6, 2016 of the PPC approving biodiversity conservation plan in Hoa Binh until 2020 towards 2030.
- Decision No. 2808/QĐ-UBND, dated October 31, 2016 of Hoa Binh PPC approving the project of building capacity on forest fire prevention and fighting and support for production forest plantation in Hoa Binh province during the 2016-2020 period;
- Decision No. 287 / QĐ-UBND, dated March 3, 2017 of Hoa Binh PPC on assigning task of implementing the SNRM Project funded by the Government of Japan;
- Coordination Regulation No. 639/QCPH-BCHQST-SNN&PTNT-CAT dated November 15, 2016 of Provincial Police, Provincial Military Command and DAR in the maintenance of political and social security, forest protection, and fire prevention and fighting.
- Decision No. 449/QĐ-SNN dated April 7, 2015 of DARD on implementation of SNRM Project, funded by JICA;
- Decision No. 245/QĐ-SNN dated January 19, 2016 of DARD promulgating the Action Plan for Restructure the Forestry Sector of Hoa Binh province until 2020;
- Decision No. 950/QĐ-SNN dated August 17, 2016 of DARD on the establishment of the Technical Working Group for Hoa Binh PRAP development under support of the SNRM project;



# **Part I: OVERVIEW OF FOREST PROTECTION AND DEVELOPMENT, AND POTENTIALITIES FOR REDD+ IMPLEMENTATION OF HOA BINH PROVINCE**

## **I. OVERVIEW OF NATURAL AND SOCIO-ECONOMIC CONDITIONS**

### **1. Natural Conditions**

#### ***1.1. Geographical location***

Hoa Binh is a mountainous province, located in the gateway area to the Northwest region of Vietnam, which is a transitional region from the delta to the mountainous areas. Geographical coordinates of Hoa Binh are from 20°17' - 21°08' North latitude and 104°48' - 105°40' East longitude. It shares a border with Phu Tho Province to the north, Ninh Binh Province and Thanh Hoa Province to the south, Ha Noi Capital City and Ha Nam Province to the east; and Son La Province to the west.

Hoa Binh Province has 10 districts, one city, 191 communes, 8 wards, and 11 towns. Hoa Binh Province's center is Hoa Binh City, located 76 km far from Ha Noi to the West.

#### ***1.2. Topography***

- *Topography:* As a transitional location between the mountainous region and the delta, Hoa Binh Province has a complex topography. Mountains and small and narrow valleys interweave one after another in the West and Northwest of the Province; rampant hills and farming fields interweave as midland on the East and Northeast of the Province. In general, the terrain gradually decreases from the Northwest to the Southeast, dividing Hoa Binh into 3 distinct areas

+ High mountainous terrains in the Northwest of the province, including Da Bac, Mai Chau, Tan Lac, and Lac Son Districts. This complex terrains are divided by steep slopes (almost over 30°, some places over 40°), craggy and difficult to travel. The average altitude is from 600 - 700m with many mountain peaks are above 1,000m, and the highest peak is 1,373m named Phu Canh.

+ Low mountainous terrains in the central area of the Province including Ky Son, Kim Boi, Luong Son, Cao Phong Districts and Hoa Binh City. This area has low mountain ranges interwoven with small and narrow valleys, less divided with average slopes of 25° -30 °, average altitude of 200 - 300m, less craggy, and easier for travel.

+ Terrain of hills interwoven with flat lands in the southeast area of the Province, including Yen Thuy and Lac Thuy Districts, with the average altitude from 40 - 100m.

-*Terrain:* Hoa Binh is a province with a relatively low slope compared to other Northwest provinces. Slope landscapes of 0° - 15° for 44.86%; 15°- 20° accounts for 19.25%; 20° - 35° accounts for 28.02%; and over 35° accounts for 7.87%.

### ***1.3. Soil characteristics***

Hoa Binh has six main types of soils as follows:

- The oxisol group: reddish yellow soil formed with magmatic rocks, limestone, claystone and metamorphic rocks. Area of 370,900 hectares, distributed in slope landscapes of below 25°, in almost every districts of the Province, and suitable for industrial and agricultural crops, and forestry trees.

- The oxisol (feralit) group: reddish yellow soil formed with magmatic rocks, limestone, claystone and metamorphic rocks. Area of 28,609 ha, distributed in slope landscapes of over 25°, and suitable forestry trees.

- Alluvium group: area of 13,670 ha, mainly distributed in low slope landscapes, along rivers and streams, and suitable for cultivation of short-term agricultural plant varieties.

- Descend slope group: Area of 10,022 ha, formed in low wet areas or where underground water is close to the surface.

- Black soil group: formed with carbonate, neutral soil, high organic content, and suitable for short-term agricultural crops, area of 4,860 ha.

- Mud and peat group: formed in lowlands along river and streams, and suitable for short-term agricultural crops, area of about 400 ha.

### ***1.4. Biodiversity***

Hoa Binh is one of the provinces which maintains relatively high biodiversity. Some parts of the province maintain typical limestone karst ecosystems, which forms a representing landscape of the region. The province has two national parks (Ba Vi and Cuc Phuong National Park), and four nature reserves (Thuong Tien, Phu Canh, Hang Kia - Pa Co, and Ngoc Son - Ngo Luong).

The results of a biodiversity survey in year 2015 which collected data throughout the Hoa Binh Province showed the diversity of its flora and fauna. Hoa Binh has 1,117 animal species, of which, 63 species are listed in the Red Book of Vietnam, 46 species listed in the list of endangered, precious and rare wildlife species according to the Decree No. 32/2006/ND-CP, 32 species listed in the International Union for Conservation of Nature and Natural Resources (IUCN) Red Book. Regarding plants, Hoa Binh has 1,704 species, of which, 70 species are listed in the Red Book of Vietnam, 22 species listed in the list of endangered, rare and precious forest plants according to the Decree No. 32/2006/ND-CP, 14 species listed in the Vietnam endemic list, and 10 species listed in the IUCN Red Book.

### ***1.5. Mineral resources***

The results of the mineral investigation and exploration initially showed that there are total of 124 mines, which produce coal (Kim Boi, Lac Thuy, Yen Thuy, Lac Son, and Da Bac); iron, copper, antimony, gold, pyrite, barite, fluorite, phosphorite, kaolin, and asbest (Da Bac, Kim Boi, Ky Son, Hoa Binh); construction sand, brick clay tile, cement clay, limestone, tiles, quartzite, dolomite, and tacl (Ky Son, Luong Son, Kim Boi, Lac Thuy); and hot mineral

water (Kim Boi, Lac Son, etc.). In addition, there could be valuable minerals which have not been detected yet.

## ***1.6. Climate and hydrology***

### ***\*Climate***

- Hoa Binh has a tropical weather with two distinguished seasons including rainy season starting from May to December with average rainfall of 1,700 – 1,800 mm (accounts for 90% of total annual rainfall); and dry season starting from November to April with average rainfall of 100-200mm (nearly 10% of the annual rainfall).

- Average temperature is 24.6<sup>0</sup>C and average humidity is 80%;

- Wind regime clearly changes by seasons. Mainly the southeast wind in summer carries in moist and makes the weather cool and humid. Hoa Binh is also affected by Foehn which continue for 3 to 5 days with the frequency of 5-7 times per year and makes the weather dry, hot, irregular. In winter, north and northeast wind carries cold air and continue for 3 to 7 days each time.

### ***\*Hydrology***

- Hoa Binh has a dense network of rivers and streams, distributed throughout the province. Major rivers flowing through the province are Da, Boi, Buoi, Bui rivers; and some smaller rivers named Co (Luong Son) and Lang (Yen Thuy). In addition, Hoa Binh also has many large lakes, such as Hoa Binh lake, and 335 large and small reservoirs with total water surface of 1,294.4 ha.

- The hydrology regime of Hoa Binh's rivers and streams has two distinguishing seasons: flood season and dry season. The flood season usually starts in June till the end of October and water volume during this season account for 70-80% of the water volume of the whole year. During the dry season (from November to May), water volume account for 10 – 20% of the whole year.

## **2. Socio-Economic Conditions**

### ***2.1. Population, ethnicity and labor***

According to the 2016 statistical yearbook of the province, the population of Hoa Binh was 831,357 people of which 85.5% (equivalent to 686,454 people) were living in the rural area whilst only 14.5% (120,778 people) were living in the urban area. The average population density of the province was 181 people/km<sup>2</sup>. The most crowded area was Hoa Binh City (655 people/km<sup>2</sup>) and the least crowded area was Da Bac (69 people/km<sup>2</sup>). The average population growth rate was 13.39%.

There are 7 major ethnic minority groups in Hoa Binh. Muong as the largest ethnic minority group with 530,543 people (63.5% of the entire population); Kinh as the second largest group (26.6%); Thai (4.5%); Dao (1.9%); H'Mong (0.5%); and others such as San Riu, and Hoa, etc. (0.2%).

The statistics also showed that there were 559,415 people in working-age, accounted for 67.3% of the total population, of which 490,048 people (equivalent to 87.6%) were working in the rural area and 69,367 people (12.4%) were working in the urban area; 80% of the working-age population were engaged in agriculture and forestry sector and only 20% of them were engaged in others. The rate of trained labor was 48%, which was relatively high compared to average of the country (38.5%). The unemployment rate was 0.4% in 2016.

## ***2.2. Economic conditions***

In recent years, the economic growth maintained a good level with average growth rate of 7.4%/year over the period of 2010 – 2015. In 2016, the economic growth of Hoa Binh was 7.62%, the total GDP of the province reached VND 28,382 billion and the GDP per capita reached VND 34.14 million/year, and total state revenue reached VND 2,940 billion in 2015. The economy showed a positive shift with increased proportion of industry-construction, and service sectors (77.94%), while the proportion of forestry sector reduced (22.06%). Average poverty rate was 15% (a reduction of 4% compared to 2015), whilst 30% of the poor lived in the mountainous districts. In general, the living standard, income and working standard of rural people remain low, which is considered as one of the challenges for forest protection and development.

### ***-Cultivation***

Agriculture cultivation is one of the major economic activities of Hoa Binh Province. The Province has 125.41 ha of areas for crop production with grain production reaching 367 thousand tons/year, equivalent to 468kg/person/year, helping to ensure food security of the Province. The Province also actively shifted its crop production structure towards commodity-oriented production. The agriculture sector has selected and planted high-yield and high-quality varieties that are suitable for the climatic and cultivation conditions of each region every year. Series of advanced technologies have been applied into agriculture production. Until 2016, more than 3,000 ha of ineffective rice fields were converted into other high economic value crops. Citrus fruit trees continued to expand with high yield and quality varieties. The total area of fruit trees in the province is over 6,294 ha, of which, 2,600 ha is producing fruits with total output reaching 5.5 thousand tons per year. This has contributed to develop concentrated production areas, such as orange production in Cao Phong, Kim Boi, and Lac Thuy Districts which generated production of VND 500 million per ha per year; pomelo production in Tan Lac, Luong Son, and Yen Thuy Districts which generated production of VND 350 million per ha per year; sugarcane production in Lac Son, Cao Phong, and Tan Lac Districts with production of VND 200 million per ha per year and other *partnership cultivation models* (e.g. contract farming) of ginger, green pumpkin, garlic, and chayote in highland districts like Tan Lac and Mai Chau with production of over VND 200 million per ha per year.

### ***-Livestock***

The farming models have been developing towards promotion of livestock with high-value and sustainability. Currently, the Province has 68 large scale chicken farms which 55

of them are commercial models with the scale of 3,000 to 10,000 chickens; eight chicken farms for commercial egg production; five breeder farms providing approximately seven million chickens per year; 20 sow farms with 300 - 3,000 sows, providing 150,000 pigs per year. In addition there are 173,022 buffaloes; 33,407 goats and over 300 poultry and 250 pig farms which are small scale.

Aquaculture production marked the highest record with 2,085 ha of water surface area and 3,850 fish raising cages, and reached 7,300 tons of annual production in 2016. Typical varieties are arehemibagrushemibagrus, carp, tilapia, oreochromis, salmon, sturgeon, sranoglanis, and semilabeo, etc. It is necessary to effectively carry out the quarantine, epidemic prevention and aquatic environmental hygiene to prevent outbreak of diseases.

#### ***- Forestry***

According to the 2016 Statistical Yearbook, the economic value of forestry in 2016 reached VND 1,050,219 million, equivalent to 3.7% of the GRDP (Gross Regional Domestic Product). The main contribution came from timber logging, which accounted for over 85.2% of the total, followed by forest plantation and maintenance services which accounted for over 8.8%; non-timber forest products contributed 4.5%, and forest services contributed very little to the total value with only 1.5%.

### ***2.3. Infrastructure***

#### ***- Transportation***

The transportation roads of Hoa Binh Province reached 3,930 km, including 4 national roads of 250.5 km (the Ho Chi Minh national road passes through the Province with the length of 64 km); 18 provincial routes of total length of 337 km; the 299-road group includes 6 lines of 186 km; inter-district roads include 72 lines of 668 km; the urban road group is 55.5 km long; the system of inter-village/commune roads are about 2,433 km. Besides, the waterway transport of Hoa Binh is common in two main rivers, including Da river originating from China, flowing through Lai Chau, Son La and Hoa Binh Provinces and down to Hanoi, which is 151 km long, the area of Da basin to the Hoa Binh hydropower dam is 51,800 km<sup>2</sup>; and Boi river with the length of 100 km, originating from Thuong Tien Commune, Kim Boi District flowing in northwest – southeast direction through Lac Thuy District to Ninh Binh Province.

#### ***- Irrigation***

Hoa Binh has rich water resource originating from river and stream systems widely stretching throughout the province. The water surface equals to 1,294.4 ha, and Hoa Binh lake is a typical large lake in in the Province. The Hoa Binh Lake has a capacity of 9.5 billion cubic meters and serving economic and national defense purposes, and the power generation of Hoa Binh Hydropower Plant is an important power source for the country. In 2016, the Province had 335 medium and small irrigation reservoirs, and 2,443 km of canals and ditches serving water demand for 783 ha out of 8,241 ha of aquaculture, and 51,000 ha out of 126,000 ha of cultivation area every year.

#### ***2.4. Education and training***

The province has 434 schools, with 15,785 teachers and 213,871 students (as of the 2016 -2017 school year). There were 214 pre-schools (65,967 children), 159 primary schools (70,716 students), 231 secondary schools (47,284 students), 37 high schools (24,302 students), 5 colleges(2,779 students), and two vocational training centers (2,823 students).

There are 281 pre-schools and general schools meet national standards, of which, 69 pre-schools (9 of them meet national standard at level 2), 118 primary schools (12 of them meet national standard at the level 2), 85 secondary schools, and 9 high schools. All communes, wards, and towns meet requirements of universal education for 5-year-old children, primary and secondary school children, and illiteracy elimination.

#### ***2.5. Culture and sport***

Cultural activities, including art performance, and sports are organized with various topics and contents, especially the "Happy Party, Happy Spring" (Mừng Đảng, mừng Xuân) celebrating events, and other big holidays of the year, and promoting the campaigns such as "All people are unite to build cultural life" and "All people do physical exercise following Uncle Ho's example". The Province is also improving the quality of physical exercise and sports within the communities and offices. The Province successfully organized the Olympic Running Day for health and fitness in 2016 with participation of 84,000 people. Moreover, the Province successfully organized 07 provincial sports tournaments such as the volleyball competition between the Provincial Farmer Association and the Women Union, the Hoa Binh Cup Traditional Fell Running, the Hoa Binh Open Tennis Competition, and the Viettel Cup Youth Volleyball. The Province successfully hosted several regional and national tournaments, such as Paragliding, Mountain Bike Championships, Senior Swimming Tournament, Long Road Cycling, A1 Class National Volleyball Tournament (table A). A total of 62 athletes have been selected and trained for participating in 12 regional and national sports tournaments. The Province also organized physical education courses as planned.

Musical performances, film and football match screenings, and libraries have been continuing. Musical performances were carried out to motivate soldiers in Spratly Island and the DK; the Province has also participated in the ASEAN Art Festival in Quang Tri; organized 58 concerts; released 1,500 documentary films, held 1,350 screenings; maintained and improved the quality of the 2,064 public entertainment teams who have so far held 13,528 performances to serve over 2.9 million audiences.

In 2016, the Province celebrated its 130<sup>th</sup> anniversary since its foundation, 25<sup>th</sup> anniversary of re-establishment, the second Chieng Muong festival, the Ceremony for receiving the first level of Independence Medal and the Ceremony for Announcement of the Master Plan for the Development of Hoa Binh lake National Tourism Area, and competitions and activities associate with the celebrations.

The province pays attention to the cultural conservation and promotion such as publishing of the book "Laying land, laying water and the customs-morality-human culture of the Muong Ethic", completion of the dossier of "Mo Muong and Chieng Muong" for requesting the Ministry of Culture, Sports and Tourism to recognize it as a national intangible cultural heritage; organization

of two displays with the theme of "Vietnam sovereignty over Paracel and Spratly Islands - historical relics " and "Hoa Binh cultural heritages".

## II. FOREST PROTECTION AND DEVELOPMENT OF HOA BINH PROVINCE

### 1. State of forest and forestry land

According to the approved 2016 forest inventory results of Hoa Binh Province, the total area of forest and forestry land was 347,488.13 ha, classified into three forest categories of which special-use forests occupied 40,534.30 ha, , protection forests occupied 133,297.44 ha, production forests occupied 166,306.22 ha, and forests outside of forestry land occupied 7,350.17 ha. Land covered by forest was 265,664.54 ha, of which, natural forests were 152,531.62 ha, planted forests were 113,132.92, and land without forest cover was 81,823.59 ha. Forest cover rate was 51.1% (details in Table 01).

**Table 01. State of forests and forestry land in Hoa Binh Province in 2016**

*Unit: ha*

No.	Items	Total	Total area by three forest categories				Outside the three forest categories
			Sub-Total	Special-use forests	Protection forests	Production forests	
<b>Total</b>		<b>347,488.13</b>	<b>340,137.96</b>	<b>40,534.30</b>	<b>133,297.44</b>	<b>166,306.22</b>	<b>7,350.17</b>
<b>1</b>	<b>Forest</b>	<b>265,664.54</b>	<b>258,383.79</b>	<b>34,777.24</b>	<b>107,698.26</b>	<b>115,908.29</b>	<b>7,280.75</b>
<b>1.1</b>	<b>Natural Forest</b>	<b>152,531.62</b>	<b>150,554.76</b>	<b>33,329.96</b>	<b>81,778.11</b>	<b>35,446.69</b>	<b>1,976.86</b>
1.1.1	Timber forests	<b>141,789.98</b>	<b>139,908.64</b>	<b>32,258.15</b>	<b>76,294.09</b>	<b>31,356.40</b>	<b>1,881.34</b>
-	Rich Forests	52.72	52.72		52.72		
-	Medium Forests	9,639.28	9,604.44	4,770.95	3,099.97	1,733.52	34.84
-	Poor Forests	23,345.29	23,239.72	13,895.05	7,351.27	1,993.40	105.57
-	Extreme Poor Forests	10,962.05	10,886.26	7,597.70	2,399.58	888.98	75.79
-	Non-stock forests	97,790.64	96,125.50	5994.45	63390.55	26740.5	1665.14
1.1.2	Bamboo Forests	1,674.28	1,662.47	31.36	953.46	677.65	11.81
1.1.3	Mixed Wood-Bamboo Forests	9,067.36	8,983.65	1,040.45	4,530.56	3,412.64	83.71
<b>1.2</b>	<b>Planted Forest</b>	<b>113,132.92</b>	<b>107,829.03</b>	<b>1,447.28</b>	<b>25,920.15</b>	<b>80,461.60</b>	<b>5,303.89</b>
1.2.1	Planted Forest with forest cover	81,955.41	76,806.99	1,266.35	20,162.76	55,377.88	5,148.42
1.2.2	Planted Forest without forest cover (newly planted)	31,177.51	31,022.04	180.93	5,757.39	25,083.72	155.47
<b>2</b>	<b>Lands without forest cover</b>	<b>81,823.59</b>	<b>81,754.17</b>	<b>5,757.06</b>	<b>25,599.18</b>	<b>50,397.93</b>	<b>69.40</b>

Source: Hoa Binh Sub-FPD

## 2. Changes in forests and forestry land over the period of 2006 – 2016

### 2.1. Changes in forests

According to the statistics in Table 02, forest area increased from 207,020 ha in 2006 to 265,664.54 ha in 2016, equivalent to an increase of 58,644.54 ha (28.3% of forest area in 2006). The natural forest area decreased from 149,821 ha in 2006 to 132,100 ha in 2014, then increased to 152,531.62 ha in 2016. Overall, the natural forest area increased by 2,710.22 ha (1.8% of the natural forest area in 2006). The area of planted forests rapidly increased from 57,198.60 ha in 2006 to 113,132.92 ha in 2016, an increase of 55,934.32 ha (97.8% of planted forests in 2006).

Changes in forest areas were caused by various reasons related to forest plantation, regeneration, and protection during the past years. Moreover, the changes are also influenced by technical issues related to monitoring, investigation, and inventory as well as changes in forest classification criteria (as the Circular No. 34/2009/TT-BNNPTNT of MARD regulating criteria for forest identification and classification.) which caused large increase of natural forest area in 2015.

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

*Unit: ha*

Year	Forest(ha)	of which				Forest cover rate (%)
		Natural forests	Planted forests			
			Total	Planted Forest with forest cover	Planted Forest without forest cover (newly planted)	
2006	207,020.00	149,821.40	57,198.60	39,185.00	18,013.60	40.4
2007	211,099.60	147,523.10	63,576.50	38,546.90	25,029.60	39.7
2008	213,906.50	145,865.00	68,041.50	47,765.60	20,275.90	42.2
2009	227,506.50	136,796.20	90,710.30	71,798.56	18,911.74	45.5
2010	224,963.20	137,914.30	87,048.90	72,874.30	14,174.60	46.0
2011	222,645.30	136,934.20	85,711.10	74,141.60	11,569.50	46.0
2012	239,930.90	134,960.10	104,970.80	92,203.80	12,767.00	49.3
2013	243,953.59	133,707.59	110,246.00	94,005.49	16,240.51	49.4
2014	242,802.28	132,100.31	110,701.97	93,551.94	17,150.03	49.0
2015	267,301.03	158,811.82	108,489.21	76,186.97	32,302.24	51.2
2016	265,664.54	152,531.62	113,132.92	81,955.41	31,177.51	51.1

*Source: Hoa Binh Sub-FPD*



## 2.2. Changes in forestry land by three forest categories

According to the statistics in Table 03, the forest areas by three forest categories recorded different trends over the period of 2006-2016. Area of special-use forest with forest cover steadily increased from 24,754.5 ha in 2006 to 34,777.24 ha in 2016, an increase of 10,022.74 ha, equivalent to 40% of the area of 2006; area of production forests recorded a significant increase from 44,052.90 ha in 2006 to 115,908.29 ha in 2015, an increase of 71,855.39 ha, equivalent to 163.1% of the area of 2006; whilst the protection forest area recorded decreasing trend over the 2006 – 2016 period, a decrease of 30,514.34 ha, equivalent to 22% of the area of 2006.

Changes in the areas of protection, special-use, and production forests depend on three main elements, including 1) promotion of tree planting and forest restoration; 2) adjustment of planning for three forest categories, particularly the increase of production forest areas to promote economic use of forests; and 3) changes in administrative boundaries of the Province (some communes were included into Ha Noi).

Apart from the reasons above, it should also be noted that differences in the forest investigation, inventory and the statistics systems throughout different periods have caused some inconsistency of data.

**Table 03. Changes in forests by three forest categories**

*Unit: ha*

Year	Forests	Under three forest categories			Forests outside of three forest categories
		Special Use Forests	Protection forests	Production forests	
2006	207,020.00	24,754.50	138,212.60	44,052.90	
2007	211,099.60	24,370.00	137,263.50	49,466.10	
2008	213,906.50	24,279.70	132,861.10	53,134.60	3,631.10
2009	227,506.50	31,687.70	99,306.90	91,994.70	4,517.20
2010	224,963.20	33,132.20	100,577.70	89,045.20	2,208.30
2011	222,645.30	34,037.20	98,992.90	86,498.30	3,080.90
2012	239,932.80	34,070.70	102,511.40	99,321.50	4,029.20
2013	243,953.59	34,282.39	103,425.27	102,112.11	4,131.82
2014	242,802.28	34,805.19	102,307.17	102,043.41	3,646.51
2015	267,301.03	35,305.48	108,143.11	116,564.30	7,288.14
2016	265,664.54	34,777.24	107,698.26	115,908.29	7,280.75

Source: Hoa Binh Sub-FPD

## 3. Results of forest protection and development over the 2006 – 2016 period

Hoa Binh Province has been promoting and gaining certain achievements in forest protection and management through its efforts to protect existing forests; effective and

sustainable use of forest resources, forestry lands; reforestation of bare-lands; improvement of productivity, quality and values of forests; restructuring forestry sector towards high added value sector; supply for domestic and export demands of wood and forest products; and job creation, income generation for forest dependent communities, poverty reduction, security and national defense.

### ***3.1. Forest management***

Hoa Binh achieved key results in forest management over the period of 2006 – 2016 period as follows:

- ***Establishment of Steering Committee for FPD at all levels:*** Up to now the province has completed establishing the Steering Committee for FPD at all levels, including 01 Provincial Steering Committee, 11 Steering Committees at district level, 209 Steering Committees at commune level with forests. The steering committees have full participation of relevant agencies in order to regularly inspect, direct and administer forest protection and development activities; develop and implement forest protection and development projects during the period 2011-2020; completed the Forest Inventory Project and issued the Decision No. 742/QĐ-UBND dated March 28, 2016 of Hoa Binh PPC approving and publicizing the forest inventory results of Hoa Binh Province.

- ***Develop regulation on coordination in forest protection, fire prevention and fighting:*** Following the Decision No. 227/QĐ-UBND, dated February 20, 2012 of Hoa Binh PPC, Hoa Binh DARD has developed and been implementing the regulation on coordination of the three parties including police, military and forest rangers for maintenance of political security, social order and safety, forest protection, fire prevention and fighting; and has been conducting annual reviews to compile lessons learnt and develop coordination plan for the following years.

- ***Develop Village Forest Protection Regulations:*** Hoa Binh has developed and been implementing the forest protection regulations in 1,887 villages. Enforcement of the forest protection regulations is expected to improve the sense of responsibility, enhance self-discipline of each member in the community, promote positive characters of traditional customs and values, maximize locally available resources to contribute to forest protection and development.

- ***Review and revise forest planning for three forest categories:*** Implementing the Instruction No. 38/2005/CT-TTg dated December 5, 2005 of the Prime Minister, Hoa Binh PPC has issued the Decision No. 676/QĐ-UBND dated April 3, 2007 approving the reviewed results of forest planning for three forest categories. Based on this the Province has reviewed and adjusted the internal planning for three forest categories, and then developed and has been implementing the provincial FPDP for the 2010 - 2020 period.

The province is also implementing the Decision No. 845/QĐ-BNN-TCLN dated March 16, 2016 of MARD promulgating set of criteria applicable for converting watershed protection forests with less importance into production forests. The Province has been

adjusting the forest planning by three forest categories and the results are expected to be announced in 2017.

- **Forest and forestry land allocation:** Implementing the Decree No. 02/NĐ-CP dated January 15, 1994, the Decree No. 163/1999/NĐ-CP dated January 16, 1999 of the Government on forest and forestry land allocation and lease to organizations and households; the Decision No. 672/QĐ-TTg dated April 26, 2006 of the Prime Minister on Development of cadastral map at a scale of 1:100000 and issuance of Land Use Right Certificates (LURC) applicable to forestry lands; and the Instruction No. 04/CT-UBND dated April 17, 2013 of Hoa Binh PPC to facilitate the implementation and complete granting LURCs, ownership right certificates and other properties associated to the lands to households in 2013. Following of the Provincial Party Committee's statement on "Every lands and forests should have their true household/individual/organization as their owners", until 2016, the province has allocated 235,989.34 ha of forestry lands (146,123.80 ha of forestry lands with forest cover and 89,865.54 ha of forestry lands without forest cover). Meanwhile, 29,675.20 ha of forestry lands which are mostly managed by the local communities and the People's Committees have not been granted LURC yet.

According to the forest inventory statistic of 2016, Group I forest owners (People's Committees, communities, and households) include 70,465 forest owners who manage 290,137.75 ha of forests and forestry lands. Group II forest owners (enterprises, management boards, and organizations) include 61 forest owners who manage 57,350.38 ha of forest and forestry lands (based on the forest inventory in 2015).

- **Biodiversity conservation planning:** According to the Decision No. 2270/QĐ-UBND, dated September 6, 2016 of the PPC, Hoa Binh has developed and been implementing the biodiversity conservation planning until 2020 towards 2030 in order to sustainably conserve and develop biodiversity, properly use biological resources, maintain and develop ecosystem services, environment, landscape and mitigate negative impacts of climate change.

### **3.2. Forest protection**

Hoa Binh has been implementing forest protection activities as follows:

- **Forest protection contracting:** During 2006 to 2016, the forest area contracted for protection was 653,378 ha (average of 65,338/year). During this period, the Five Million Hectares Reforestation Program was implemented with a total of 266,110 ha contracted for protection; during the next period of 2011 – 2016, since the Five Million Hectares Reforestation Program (i.e. 661 Program) was already completed, forest protection mainly depended on PFES fund and implemented in 45 communes located along the Da River basin of Da Bac, Cao Phong, Tan Lac, Mai Chau Districts and Hoa Binh City. In addition to PFES, the forest owners have also been contributing their labor for forest protection. The total aggregated area of 387,268 ha being contracted for protection during the period of 2011-2016.

- **Forest fire prevention and fighting:** During the period of 2006-2016, forest fire prevention and fighting was considered as a priority by the provincial authorities. In terms of management, the PPC annually issued instructions and directions to the

departments/agencies, and DPCs to enhance forest protection, fire prevention and fighting; strengthen the PSC for FPDP; review, revise and supplement fire prevention and fighting plans at different levels (11 district and 206 commune plans); consolidate and maintain 1,887 Village Forest Patrolling Teams with 11,030 members. Moreover, at the localities, forest fire alerting and forecasting have been regularly conducted, forest fire forces are in stand-by 24 hours a day during dry season; the local forest rangers regularly encourage the forest owners to perform their assigned tasks and raise awareness of the local people on forest protection, fire prevention and fighting.

### ***3.3. Forest development***

During the period of 2006–2016, forest regeneration, restoration and reforestation activities were implemented within the scope of the provincial plans, projects and development programs for forestry sector, including projects managed by the central level using budgets from ODA, of the state and private enterprises, such as the Five Million Hectare Reforestation Program, KFW7, Project for Improvement of Tree Seedlings for 2015 – 2018 period, Forest Plantation for materials, etc. Moreover, there were other small-scale forest production projects funded and implemented by private enterprises.

The major achievements are as follows:

- Assisted forest regeneration: 36,796 ha, 3,679.6 ha/year in average;
- Forest plantation in all types: 81,865 ha, 8,186.5 ha/year in average;
- Scattered tree plantation: 1.5 million trees, 0.15 million trees/year in average;
- Forest maintenance: 164,456 ha, 16,445.6 ha/year in average;
- Forestry infrastructure: 350 m<sup>2</sup> of forest protection stations built, 205 km of forestry roads constructed, 126.8 km of firebreaks, 7 nursery gardens, 20 ha of seedling forests constructed.

The achieved results contributed to increase forest cover rate from 40.4% in 2006 to 51.1% in 2016, improved productivity of forest plantations (15m<sup>3</sup>/ha/year in 2016 which is an increase of 5m<sup>3</sup>/ha/year compared to 2006), created jobs, increased income, eliminated poverty and supported the poor communities in remote and isolated areas of the province.

### ***3.4. Timber logging, wood and forest product processing***

The economic restructuring of forestry sector of Hoa Binh has experienced a notable progress in the past years. According to the 2016 Statistical Yearbook, values from timber and non-timber forest products (NTFPs) increased from VND 651,808 million in 2011 to VND 894,892 million in 2016; wood and forest product processing increased from VND 55,582 million in 2011 to VND 83,879 million in 2016.

- ***Timber logging***: The source of harvested timbers in the province is mainly forest plantations and scattered trees. Following the provincial policy, there is no authorized harvesting of natural forests. In the natural forests, collection of dead woods, timber logging for domestic use purpose and site clearance for roads or public infrastructures are permitted only in protection and production forests.

The province is promoting development of forest plantations in order to vitalize forest economy. The annual average logged value from natural forests and plantations during the 2011 – 2015 period was VND 687,087 million, equivalent to 2.7% of the GRDP of the province in 2015.

- **Wood and forest product processing:** Currently, the Province has 253 small and medium sized wood and NTFP processing facilities, including Tan An MDF Vinafor Factory (capacity of 54,000 m<sup>3</sup> of plywood and 2,000 m<sup>3</sup> of boards per year); Phu Thanh and Lac Thuy MDF Factory (capacity of 40,000 m<sup>3</sup>/year; Son Thuy Forest Product Processing Factory, Hoa Binh Floor Board Factory, PhuDat – Luong Son Co., Ltd., Hoa Binh Forestry Product Joint Stock Company and many other private wood processing facilities. Below are the summary of outputs:

- + Wood for construction: 109,224 m<sup>3</sup>/year.
- + Material for furniture: 40,820 m<sup>3</sup>/year.
- + Plywood: 26,271 m<sup>3</sup>/year.
- + Floor board: 84,955 m<sup>3</sup>/year
- + MDF board: 52,427 m<sup>3</sup>/year.
- + Pulp: 21,131 tons/year.

Value of wood and forest product recorded an average of VND 69,730.5 million/year during the period of 2011 – 2016, equivalent to 0.3% of the provincial GDRP in 2016.

### ***3.5. Seedling and nursery garden development***

Seedling and nursery garden development has been one of the priorities of the Province. DARD is responsible for checking and monitoring the management boards of special-use and protection forests, district FPD projects and forest enterprises in order to proactively create sources for quality seedlings which satisfy the demand of the local people and to implement the forest plantation plan of the entire province. Currently, nursery gardens of the Province include 61 gardens for forest seedlings, of which one belongs to the provincial seedling center, one belongs to the Vinafor Hoa Binh Seedling Center, one belongs to a forestry enterprise, and 8 belong to production units (forest company) located in some of the districts and Hoa Binh City. In addition, there are about 50 private nursery gardens. These gardens are supplying over 12 million seedlings for forest plantation, fruit production and landscape restoration needs.

In addition to seedling quantity improvement, Hoa Binh also pays attention to advanced technology development to improve productivity and quality of forests as well as increase production values. The province has implemented a number of research projects on the application of forest tree seedlings for clonal propagation, cutting method, and trial planting, in order to identify suitable plant varieties for forest plantations, big timber production and restoration of protection forests.

### ***3.6. Payment for Forest Environmental Services***

Hoa Binh started implementing PFES since 2011. Until today, PFES is applied to 5 districts and 45 communes with total PFES forest area of 385,253 ha: average of 77,051 ha/year are covered and paid with average of VND 143,500/ha/year. Total of 13,299 forest owners are receiving PFES, of which, 13,221 of them are individuals, communities, and households (managing 66,335 ha) and 8 of them are organisations, management boards, and enterprises (managing 10,716 ha.)

Until 2016, the total PFES revenue collected was VND 65.75 billion, account for 2.24% of the provincial revenue in 2016, of which, the central fund collected VND 61.46 billion and the provincial fund collected VND 4.29 billion. The amount collected from hydropower plants was VND 64.48 billion and VND 1.27 billion was from water supply companies. Total PFES disbursement was VND 52.10 billion, an average of VND 10.42 billion/year, account for 0.1% of the total provincial budget in 2016.

## **4. Shortcomings and challenges**

### **4.1. Shortcomings**

- Small scale illegal encroachment and timber logging in natural forests remain as an issue in some areas.

- The area of natural forests increased, but the quality of forests are low. Area of poor and regrowth forests is large, while are of rich and medium forests are small and limited mainly to natural reserve areas;

-Forest protection was not implemented comprehensively nor effectively. Effectiveness of forest and forestry land allocation to households/individuals is low in some areas, many localities have no effective solutions to prevent forest encroachment and to stop illegal forest logging.

- Production forests are mainly covered with small timber trees, and intensive production of multipurpose trees and big timber forest plantations were not implemented as expected. Productivity and quality of forest plantations are still low with an average of 50-60 m<sup>3</sup>/ha;

- Impacts of forestry sector to poverty reduction is still limited such as limited job creation, low and unstable income, living standard of the forest dependent communities is below expectation, etc.

- The contribution of the forestry sector to the socio-economic development of the province is still low and does not commensurate with the potential and advantages of land and labor condition of the province. The environmental values of forests have not been fully appreciated. The investment in forest protection and development remained lower than the demand.

## **4.2. Challenges**

### **- Natural and socio-economic challenges**

+ Forests are distributed on fragmented, complex and craggy terrain, mainly in remote areas where forestry-related infrastructures are limited and difficult to carry out inspection or supervision of forest protection and management.

+ The weather is becoming more and more complex with prolonged droughts, frequent floods and storms causing damage to forest resources.

+ The demand for timber and forest products has been increasing, whilst the planted timbers have not been able to meet the demand yet, thus pressuring the natural forest areas and leading to illegal forest logging and smuggling of timbers.

+ The people living in mountainous areas are facing difficulties as they cannot develop forests on the allocated forests and forestry lands. Their awareness on the roles of forest and the importance of forest protection and development remain low. This led them to illegal logging by their own and/or by lending a hand to other illegal loggers. Their alternative income opportunities are limited therefore, depend largely on unsustainable use of forest resources.

+ Silviculture infrastructures in many localities are under-developed and do not meet the needs of forest protection and development;

+ The investment projects for protection forests are small and fragmented. The amount of investment is lower than the actual investment needs to deliver sufficient results in planting, maintenance and protection.

+ The forest resources usually have longer production cycle, low profit, high-risks and mainly distributed around underdeveloped mountainous areas, and their competitiveness is often lower than other crops.

### **- Policy challenges**

+ The policy on forest protection contracting and PFES had certain positive effects in calling for stronger involvement to forest protection and development, but the contract price is low and hard to compete with the benefits from using the forestry lands for food and industrial crops;

+ State investment for forestry is limited. There are forestry projects and plans that were approved but not allocated with funding for implementation; investment is insufficient for implementation of forest protection and development.

+ Investment projects for protection forests and special-use forests are small in scale and not aligned to each other, and actual investment is much lower than the actual needs, resulting in quality of forest plantation, maintenance and protection is below expectation;

+ Wood/forest product processing facility development planning is below expectation; state management on timber logging, product processing, small and medium forestry projects

remain ineffective; a complete chain of production, processing and distribution of forest products is not available which causes production inefficiency;

+ The forest ranger forces are not fully competent and lack equipment and tools; knowledge and capacity of some forest rangers are below standard; allowances for forest rangers and contracted forest protection staff do not balance with their assigned tasks. Therefore, in the deforestation hotspots, it is difficult for the forest rangers to resolve issues of deforestation.

- ***Implementation arrangement challenges***

+ The forest lands have already been allocated to households in small units and are fragmented. Therefore, even though there are large area of bare-land for forest development, in fact, land lease or plantation businesses are facing difficulties in pursuing economy of scale. Large-scale plantation forests are not easy to be developed, and in many places forests and forestry lands are encroached by people or used for other purposes which make land acquisition difficult.

+ Local authorities in some areas have not fulfilled their roles and responsibilities related to forest/forestry land management and protection;

+ Provision of guidelines for the local people on the forest logging procedures has not been implemented properly, whilst the forest management by the local authorities is ineffective and leading to illegal logging, forest/forestry land encroachment and conversion. The forest owners, local authorities and other competent agencies neither supervise nor handle the violations effectively and promptly;

+ Forestry land management remain ineffective; forest conversion into other land use purposes is not properly managed due to weak coordination and collaboration of the departments/agencies. Therefore, people continue to improperly use their allocated forest/forestry lands, which is a major issue in forestry planning and implementation;

+ Education and communication related to forest protection and development, fire prevention and fighting have not been effectively carried out in some areas, thus, the social capital is not effectively utilized.

+ Coordination and collaboration of forest owners and local authorities in forest patrolling, prevention and handling of violations remain ineffective; most of the violators are the local people living in remote and isolated areas, thus difficult to capture; and enforcement and sanctions against violations remain modest compared to the benefits they can take, thus insufficient to disincentive the violators;

+ Forest and forestry land allocation is inadequate, such as lands allocated without forests and overlaps in allocation creating conflicts among localities/regions and forest owners. The non-allocated forestland is managed by the Commune People's Committees, but mechanisms and policies on forest management and protection for the CPCs do not exist; settlement of forest/forestry land disputes often delay and remain incomplete due to insufficient documents/legal basis.



+ Forest management and protection capacity of some forest owners is limited; performance of forest protection teams at the field is not effective to control illegal logging and smuggling; the management boards for protection and special-use forests receive insufficient amount of budget for management and protection of their allocated forests;

+ Scientific research on forestry have not met the needs and many of the research results have not been applied to forestry production. Development of technologies for large timber production, native tree plantation, and science-based management are still limited. Renovation of equipment, improvement of forestry production and management methods, forest protection, forest product processing, trade promotion, and product promotion have not been implemented in a timely manner.

+ The disbursement of PFES revenue is slow, and collection of PFES from payers tend to be smaller and delayed compared to the target;

+ Forestry policies and mechanisms are insufficient, inconsistent, and ineffective. Number of policies have not been implemented appropriately, such as forest and forestry land allocation, benefit distribution, extension, technology transfer, etc., which are resulting in achievement of job creation, poverty reduction in mountainous, remote and poor regions under Program 30a below target.

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

#### **1. The overall process**

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

- 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)**

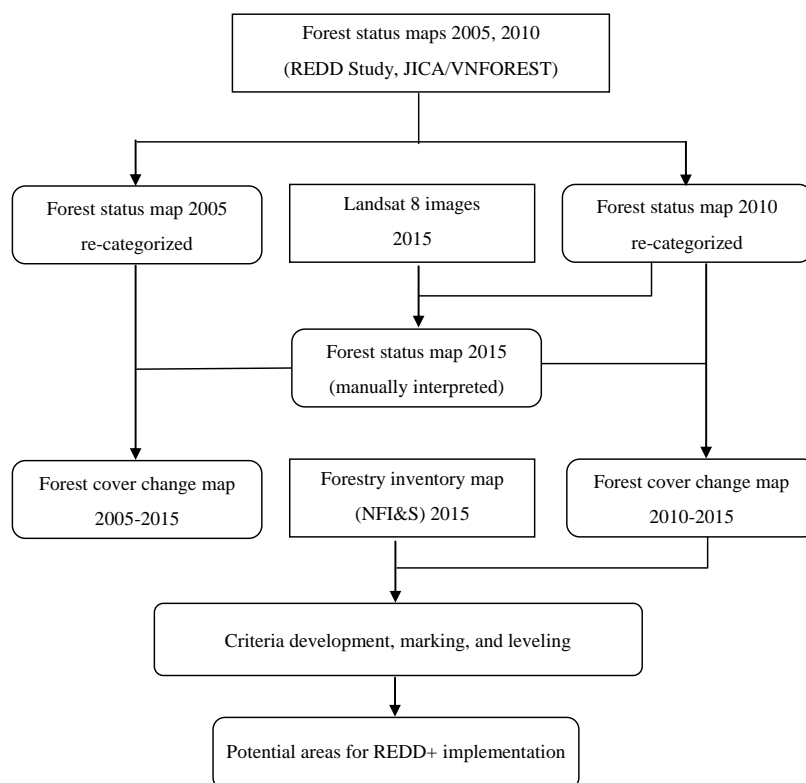
Step 1 included review of secondary data and spatial analysis<sup>2</sup> with an aim to provide background information and inputs for the steps to follow. In particular, the secondary data analysis was done through collection and research of national and provincial documents, and

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<sup>2</sup> Report on mapping potential areas for REDD+ implementation in Hoa Binh, Son La, Dien Bien and Lai Chau Provinces (2016), Vu Tien Dien et al.

scientific articles related to forest management, protection and development in Hoa Binh Province as well as the Northwest provinces, to understand the drivers and barriers.

The spatial analysis process (figure 1) has used various remotely sensed input data and materials. A set of national level data<sup>3</sup>, namely 2005, 2010, 2015 forest status maps were overlaid to identify forest changes over the two periods of 2005 – 2015 and 2010 – 2015. Then the results were combined with the latest forest inventory data of the province in order to map out potential areas based on the developed criteria (Table 04). Commune was used as the unit for analyzing the potential areas.



**Figure 01. Diagram of the spatial analysis for identification of the REDD+ implementation potential**

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

**Table 04. Criteria for selection of potential areas for REDD+ implementation**

No.	Potential areas	Criteria
1	Reducing deforestation	<ul style="list-style-type: none"> <li>- Large remaining forest area</li> <li>- High deforestation rate</li> <li>- Large rich and medium forest area</li> </ul>

<sup>3</sup> The Study on Potential Forests and Land Related to “Climate Change and Forests” in The Socialist Republic of Vietnam, (2012), JICA.

2	Reducing forest degradation	<ul style="list-style-type: none"> <li>- Large rich and medium forest area</li> <li>- High forest degradation rate</li> </ul>
3	Increasing forest carbon stock	<ul style="list-style-type: none"> <li>- Improve forest quality <ul style="list-style-type: none"> <li>+ High forest restoration rate</li> <li>+ Large poor, mixed, and regrowth forest area</li> <li>+ Located in PFES areas</li> <li>+ Located in protection forest and SUF areas</li> </ul> </li> <li>- Increase forest area: <ul style="list-style-type: none"> <li>+ Large Ia bare-land area in production forests</li> <li>+ Large Ic bare-land area in protection forests and SUFs</li> </ul> </li> <li>- Communes targeted for afforestation and forest regeneration in provincial FPDP 2012 – 2020</li> </ul>

### **1.2. Field verification through district and commune consultation workshops (including villages)<sup>4</sup> (step 2)**

Step 2 was carried out in order to ensure sufficient participation of local people and incorporate their insights into the process. A series of meetings were held with the districts and communes which were identified as the potential areas in Step 1. With a technical backstopping by a third-party consultant and in collaboration with independent third party facilitators, the PRAP TWG, organized 10 meetings which covered 10 districts and 12 communes, and 599 representatives from districts and communes were consulted. Each of the meetings results was summarized into a meeting minutes and then reflected back into the analysis.

### **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. Through this process, further insights regarding the drivers/barriers (i.e. time of occurrence, frequency, and impacts, etc.), the PRAP activities and the potential areas were collected.

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<sup>4</sup>Details are available in the Synthesis report on consultation workshops held at district and provincial level of Hoa Binh by Nguyen Quang Tan, 2016.

## **2. The results of analysis**

### **2.1. Drivers and barriers**

#### ***- Main drives of deforestation and forest degradation***

+ *Forest conversion into agriculture cultivation (fruits production) after wood harvesting*

The forestry economics in general and forest plantation in particular have longer production cycle and potential risks, whilst its incomes are not commensurate with the time and efforts needed. In Hoa Binh, VND 15 million per hectare per year is an average income from forest plantations, while one ha of pomelo can generate approximately VND 300 million per year. It is foreseen that during the period 2017-2020, if the high profitability of fruits production continues, more forest plantations mainly in production forests could face the risks of being converted into orange or pomelo production (estimated conversion area of 2,500 ha) especially after the harvesting of timbers. This is predicted to mainly take place in Cao Phong, Tan Lac and Kim Boi Districts.

In order to promote rural economic development, the province granted permissions to the local people to grow fruit trees on some production forest areas, but strictly prohibits the conversion of watershed protection forests, nature reserves, and any forests that contribute to national defense and cultural heritages. There are shortcomings observed. For example, recently, local people planted fruit trees on the production forest lands after harvesting timbers resulting in reduction of lands to reforest. In fact, many local people have been cultivating fruit trees without proper plan or with fragmented land-use neither concentrated nor intensive. The local people are planting fruit trees for the purpose of renovating their gardens. Therefore, the fruits tree growing model needs to be sustainably harmonized with forest protection, management and development. In order to achieve this, improvement in agroforestry model and planning is needed, such as master planning for citrus varieties.

#### + *Forest and forestry land encroachment for agriculture cultivation*

According to the statistics of Hoa Binh Sub-FPD, the encroached forests and forestry lands for agricultural production over the 2006-2016 period was about 511 ha, represented by the encroachment into the special-use forest in Hang Kia Pa Co Nature Reserve. The violations usually occurred in small scales and very sophisticated, which were difficult to manage. The causes of forest encroachment is mainly the need of land for short-term cereal crops such as cassava, corn, and upland rice, etc., mostly distributing in remote areas where poverty rate is high, especially in districts such as Da Bac, Mai Chau, Tan Lac, and Lac Son.

The identified under-lying causes of forest and forestry land encroachment for agricultural production include poor living conditions of the households living near forests; shifting cultivation practices of ethnic minorities; since the farmers need to intensively cultivate their lands with conventional technique, thus the soil condition degrades rapidly and creates demand for new lands; and rapid population increase particularly in rural areas which creates pressure on food demands, etc.

Recent socio-economic development programs and policies such as the program of forest and forestry land allocation, and planning for three forest categories, etc., are helping to gradually control the forest/forestry land encroachment. Nevertheless, in order to achieve the long-term and sustainable forest protection and development goals, priority should first be given to address the problems related to planning and livelihoods development, and improve productivity and values of agroforestry.

+ *Unsustainable/illegal use of natural forests*

Illegal forest logging both for commercial and domestic use purposes is considered as one of the main drivers of forest degradation in the Province. According to the reports of Hoa Binh Sub-FPD, the 2006-2016 period recorded 814 detected and handled cases of illegal logging and forest clearing, of which 798 were handled by applying administrative fine and 16 were handled as criminal cases. Hoa Binh province has applied number of measures such as dissemination and awareness raising, thus, the recorded violations have shown gradual decrease, especially the illegal logging of rare and valuable timber species for commercial purposes. Such decrease can be seen in the reducing number of violations: 547 violations over the 2006-2010 period to 267 violations over the 2011-2016 period.

However, illegal wood harvesting for domestic use (building of houses, tools and animal cages) is becoming more sophisticated and creating threats to forest resource and the habitats of wildlife. In 2016, there were 19 recorded violations of illegal logging for domestic use purpose, and there seem to be more unrecorded violations occurring according to the forest rangers, etc. In addition, according to consultations, each ethnic minority household consumes an average of 20 m<sup>3</sup> of firewood for daily living (cooking and warming, etc.), equivalent to approximately 2,200,00 m<sup>3</sup> per year, which indicates that the impact of firewood collection on forest resources could be high. The underlying causes include ineffective dissemination to promote the local people to use alternative materials; low sense of responsibilities of the forest owners and commune people's committees on forest protection; and ineffective inter-sectoral collaboration.

+ *Forest and forestry land conversion to infrastructure development and mining*

During the 2006-2016 period, responding to the socio-economic development needs, Hoa Binh province implemented number of programs and projects which required conversion of forests and forestry land into other land use purposes. Those projects can be divided into two groups. The 'first group' is hydropower plants projects which Hoa Binh PPC granted permissions to six investors to convert 86.42 ha of forest lands including 10.6 ha of production forests. The 'second group' consists of road construction, national defense and mining projects. The province implemented 49 licensed projects which used 1,435.96 ha of land in total, and the consequent conversion of forests reached 411.36 ha. Most of the converted areas were in Ky Son, Luong Son, Kim Boi, Da Bac, Lac Thuy Districts, and Hoa Binh City.

In order reduce negative impact of forest conversion, offset planting is considered as an effective solution. However, this has not been effectively implemented in Hoa Binh Province, as seen in their slow progress and low quality. The data provided by the Sub-FPD

of Hoa Binh shows that, up to now, only 10.4% (equivalent to 43.85 ha/421.96 ha) of the converted forest area were offset-planted, mainly by the ‘second group’ project investors. The identified barriers include lack of management and monitoring of offset planting requirements and work carried by the project investors; and insufficient inter-sectoral coordination in planning, implementation, and monitoring of such development projects. According to the collected data of the related departments and agencies, forest conversion into other land use purposes will not be as large as before in 2017 and during the following 5 years,. However, there are number of projects to be implemented during the 2017 - 2020 period which may affect the forestland area, including the hydro power plant project n Dong Chum commune; the ore mining project in Tan Pheo and Tu Ly communes, Da Bac District; the hydro power plant project in Phuc San and Van Mai communes; the limestone mining project in Mai Hich and Mai Ha communes, Mai Chau District.

- ***Main barriers of forest quality and area enhancement***

+ *Low effectiveness of forest regeneration*

In order to cover bare-land with trees and enhance carbon stock in forests, forest regeneration is considered as an economical and environmental solution. However, this has not been well implemented in Hoa Binh. There are two main barriers identified which inhibit effective implementation of forest regeneration: unpractical policies, especially low incentive mechanism to regenerate the forests; and low technical capacity of the forest regeneration contractors. In addition, the problems in the planning of three forest categories, limited budget for the implementation of district and provincial FPDs, and uncompleted forest and forestry land allocation are also considered as barriers. According to the results of the consultation workshops, Da Bac, Mai Chau, Kim Boi, Tan Lac, and Lac Son districts are considered as potential locations for forest regeneration because of the existence of large bare-land areas.

- *Low effectiveness of forest plantations*

Over the period of 2011-2016, Hoa Binh Province has experienced certain success in forest plantation development. However, the Province is still facing some challenges, in fostering forest plantations as a long-term and sustainable business model. For example, the current policies seem not to fully incentivize the local people to participate in forest plantation businesses in line with the forest sector restructuring policies; effective plantation models suitable to different site conditions have not been properly applied by local authorities; technical and business management skills of the local people are still low; silvicultural infrastructure and facilities have not yet met the needs; and free cattle grazing still persists as an issue for the survival of planted seedlings.

In addition, some issues are related to output market and joint venture mechanism between the producers (farmers) and buyers. Problems related to land-use planning, such as fragmentation of forestry lands, and forest conversion into fruit tree growing are also considered as bottleneck for sustaining forest plantations. If these barriers are removed, Hoa Binh's forest development may show positive changes, especially in districts with suitable natural and social conditions such as Da Bac, Kim Boi, Tan Lac and Lac Son.

## 2.2 Solutions (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 details are described in Part II and Annex 01.

## 2.3 Potential areas for REDD+ implementation

The potential areas for REDD+ implementation in Hoa Binh Province include 55 target communes located in 5 districts. Details are shown in Table 05:

**Table 05. List of target communes for REDD+ implementation in Hoa Binh Province**

No.	Districts	Communes	Selection criteria		
			Deforestation	Forest Degradation	Enhancement of carbon stock in forests
1	Kim Boi (8 communes)	Tu Son	x		x
2		Thuong Tien	x		x
3		Kim Son	x		x
4		Kim Tien			x
5		Nuong Dam			x
6		Nam Thuong			x
7		Nat Son			x
8		Du Sang	x		x
9	Da Bac (14 communes)	Dong Nghe	x	x	
10		Giap Dat	x	x	x
11		Dong Chum	x	x	x
12		Tan Pheo	x	x	x
13		Suoi Nanh	x	x	
14		Dong Ruong	x	x	x
15		Tan Minh	x	x	x
16		Cao Son	x	x	x
17		Tien Phong	x	x	x
18		Tu Ly			x
19		Vay Nua	x	x	x
20		Doan Ket	x	x	x
21		Muong Chieng			x
22		Trung Thanh			x
23	Lac Son (9 communes)	Tu Do			x
24		Quy Hoa	x	x	x
25		Van Nghia	x	x	
26		My Thanh	x	x	x
27		Ngoc Lau	x	x	x
28		Ngoc Son	x	x	x
29		Mien Doi	x	x	x
30		Binh Hem	x	x	x
31		Tan My			x
32	Mai Chau (15 communes)	Tan Dan	x	x	x
33		Tan Mai	x	x	x
34		Phuc San	x	x	x
35		Dong Bang	x	x	x
36		Sam Khoe	x	x	x
37		Mai Hich	x	x	x
38		Cun pheo	x	x	x

No.	Districts	Communes	Selection criteria			
			Deforestation	Forest Degradation	Enhancement of carbon stock in forests	
39		Bao la	x	x	x	
40		Phieng Ve	x	x	x	
41		Ba khan	x	x	x	
42		Pa Co	x	x	x	
43		Hang Kia	x	x	x	
44		Tan Son	x	x	x	
45		Na Meo	x	x	x	
46		Van Mai	x	x	x	
47		Tan Lac (9 communes)	Bac Son	x	x	x
48			Nam Son	x	x	x
49			Trung Hoa	x	x	x
50			My Hoa	x	x	x
51			Ngoi Hoa	x	x	x
52			Thanh Hoi	x	x	x
53			Ngo Luong	x	x	x
54			Lung Van	x	x	x
55	Quyet Chien		x	x	x	
<b>Total</b>	<b>5 districts</b>	<b>55 communes</b>	<b>46 communes</b>	<b>42 communes</b>	<b>52 communes</b>	

## Part II. OBJECTIVES, SCOPES, AND CONTENT OF PRAP

### I. OBJECTIVES

#### 1. General objectives

- Reduce greenhouse gas emission, enhancement of carbon stock in forests, and contribute to achieve the targets of the National Target Program Responding to Climate Change and National REDD+ Action Plan;

- Maintain the forest cover of the province at 51%; conserve biodiversity, improve protective function and quality of forests;

- Promote green economy by enhancing the economic value of forestry sector, particularly through competitive plantation management, wood processing and trade. Apply environmentally sound production system. Collaborate with other sectors (e.g. agriculture, infrastructure) to optimize the land use in order to deliver optimal outputs and benefits from provincial lands.

- Facilitate forestry sector restructuring by strengthening quality and efficiency of forest protection and development.

- Promote participation of the provincial departments, agencies, entities, citizen and social organizations to successfully implement the FPDP 2016-2020; contribute to the implementation and achievement of the socio-economic development tasks of the province.



## **2. Specific objectives**

### **2.1. During 2017 – 2020 period**

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 Hoa Binh PRAP are to (*details in Annex 02*):

- reforest at least 90% of logged forestry lands every year during the 2017 – 2020 period;
- ensure the average timber volume of plantations (at the time of logging) reaches 70 m<sup>3</sup>/ha to 2020;
- reduce more than 50% of encroachment into forestry lands for upland field cultivation compared to the 2011-2016 period;
- reduce more than 50% of illegal logging cases compared to 2011-2016;
- carry out 100% of offset planting as scheduled and with standard quality during 2017 – 2020;
- ensure 1,000 ha/year of regenerated areas become forests during the 2017-2020 period;
- ensure the improved FRMS is operational in the targeted districts by 2020;
- deliver training courses and workshop on climate change and REDD+ to 250 provincial and district officials by 2020;
- deliver REDD+ awareness raising program to villagers in 55 communes during the 2017-2020 period.

### **2.2. During 2021 – 2030 period**

- focus on managing and protecting the existing natural forests, maintain forest cover rate of the province at 50% in 2030;
- implement REDD+ activities province-wide; integrate REDD+ activities with the Sustainable Forest Development Program;
- implement national policies on forest protection and development and PFES effectively; receive and effectively use international and domestic funds for forest protection and development.

## **II. SCOPES, OBJECTS, AND DURATION**

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

## **1. Scopes**

Hoa Binh 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. Implementers**

- Related departments/agencies
- People's committees of districts, city, communes, wards, and towns with forests.
- Organizations, households, individuals, communities who participate in PRAP implementation.

## **3. Duration**

Hoa Binh PRAP will be implemented during the 2017-2020 period.

## **III. PRAP CONTENT**

PRAP of Hoa Binh is developed in detail for 2017 – 2020 period. Performance and results of this period will be used as a basis to develop the PRAP of Hoa Binh for the next period.

Hoa Binh 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 Hoa Binh PRAP.

### **1. Component 1: Forest Protection and Development Activities**

The forest protection and development activities during the 2017 – 2020 period are integrated with the PRAP, including forest protection, forest development, and forest fire prevention and fighting (*details in Annex 01*). The summary is shown below:

#### **a) Forest Protection, fire prevention and fighting**

- + Object: natural forests, existing and new planted forests
- + Volume: 221,540 ha, of which, protection forest accounts for 102,674 ha, special-use forest account for 28,934 ha, and protection forest accounts for 89.932 ha.

#### **b) Forest development**

##### **- Forest regeneration**

- + Object: Bare-land (DT2)
- + Volume: Total of 1,460 ha, of which protection and special-use forests account for 880 ha, and production forests account for 580 ha.

##### **- Forest plantation**

- + Object: Bare-land (DT1) and new logged plantations.

+ Volume: Total of 7,600 ha, of which protection and special-use forests account for 838ha; production forests account for 6,650 ha; and offset plantations account for 112 ha.

- ***Scattered tree plantation***

+ Object: road sides, public space, offices, forest stations, upland fields converted to forest plantation.

+ Volume: 2,060 thousand trees

- ***Forest maintenance***

+ Object: Young plantations (year 1,2,3).

+ Volume: Total of 32,101 ha, of which protection forests account for 5,469 ha, and production forests account for 26,632 ha

- ***Seedling production***

+ Object: Support production of high quality and yield seedlings.

+ Volume: 12,430 thousand trees

**c) Investment for equipment and facilities for forest protection, fire prevention and fighting**

+ Volume and quantity: support for infrastructure development, including 6 forest protection stations; 11,2 km firebreaks; 3 forest fire watch camps; provision of tools and equipment of 14,548 items such as 5 pickup trucks, 96 equipment for forest fire fighting (vegetation cutting machines, water spray machines, GPS) and 14,490 other firefighting items like machetes, fire extinguishers, and long-handled sickles; 45 sessions of technical training and firefighting rehearsals; install 180 signboards for communication on forest fire prevention and fighting.

**2. Component 2: Additional activities**

The consultation workshops at provincial, district, and commune levels have identified 6 major drivers and barriers of deforestation, forest degradation, and enhancement of forest carbon stock. Those are: (1) illegal conversion of planted forests to fruit tree growing; (2) low effectiveness of forest plantation development; (3) encroachment natural forests for agriculture cultivation; (4) unsustainable/illegal use for natural forests; (5) deforestation due to forestland conversion into other land use (i.e. infrastructure, hydropower plants development, and mining); (6) ineffective natural forest regeneration and restoration.

On this basis, 6 solution packages, 20 solutions and 59 activities have been identified to address these drivers and barriers. Besides, in order to enhance PRAP implementation, a solution package of REDD+ awareness raising and support for forest change monitoring was added and will be implemented in the entire province (*details in Annex 01*). The solution packages are described as in the Table 06 below:

**Table 06. Locations of PRAP solution package implementation**

No.	Solution packages	Districts				
		Kim Boi	Da Bac	Lac Son	Mai Chau	Tan Lac
1	Control conversion of plantation forests to agricultural plantations (fruit trees) after timber logging	x		x		x
2	Improve economic viability of forest plantations	x	x	x		x
3	Reduce encroachment and expansion of agricultural lands into natural forests		x		x	
4	Control unsustainable use of natural forest resources		x	x	x	x
5	Mitigate and compensate the impact of forest conversion for economic purposes (e.g. infrastructure development and mining)		x		x	
6	Enhance restoration and reforestation of natural forests	x	x	x	x	x
7	Provincial-wide solution package	x	x	x	x	x

**a) Solution package 1:** Control conversion of plantation forests to agricultural plantations (fruit trees) after timber logging

- **REDD+ objective:** reduce deforestation

- **Solutions:**

+ Solution 1: Review provincial plan for fruits production

+ Solution 2: Raise awareness on policies and regulations related to forest protection and management

+ Solution 3: Enhance the monitoring and handling violations against the plans

- **Potential areas:** **Kim Boi** (Tu Son, Thuong Tien, Duc Sang, Kim Son Communes), **Lac Son** (Quy Hoa, Ngoc Lau, Ngoc Son Communes), **Tan Lac** (Bac Son, Nam Son, My Hoa, Thanh Hoi communes).

**b) Solution package 2:** Improve economic viability of forest plantations

- **REDD+ objective:** Enhance carbon stocks in forests

- **Solutions:**

+Solution 1: Revise the supporting policies to incentivize the production forest owners on plantation development, including large timber production

- +Solution 2: Promote development of production forest optimum to the land condition.
- +Solution 3: Strengthen technical and business capacity of the local communities
- +Solution 4: Strengthen the supply chains and markets for plantation wood products.
- +Solution 5: Control grazing in plantations
- +Solution 6: Improve silviculture infrastructures

- **Potential areas:** **Kim Boi** (Tu Son, Thuong Tien, Kim Tien, Dau Sang, Kim Son, Nuong Dam, Nam Thuong communes), **Da Bac** (Giap Dat, Dong Chum, Cao Son, Tien Phong, Tu Ly, Trung Thanh communes), **Lac Son** (Tu Do, Quy Hoa, My Thanh, Tan My communes), and **Tan Lac** (Trung Hoa, Ngoi Hoa, My Hoa, Thanh Hoi Communes).

**c) Solution package 3:** Reduce encroachment and expansion of agricultural lands into natural forests

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

- **Solutions:**

+Solution1: Optimize land-use planning, including land/forest allocation

+ Solution2: Increase agricultural productivity and values

- **Potential areas:** **Da Bac** (Dong Nghe, Giap Dat, Dong Chum, Tan Pheo, Suoi dNanh, Dong Ruong, Tan Minh, Cao Son, Vay Nua Communes), **Mai Chau** (Tan Dan, Tan Mai, Dong Bang, Sam Khoe, Mai Hich, Cun Pheo, Bao La, Pieng Ve, Ba Khan, Pa Co, Hang Kia, Tan Son, Na Meo, Van Mai Communes).

**d) Solution package 4:** Control unsustainable use of natural forest resources

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

- **Solutions:**

+Solution 1: Improve responsibility of the forest owners and CPCs on forest protection

+ Solution 2: Improve the effectiveness of inter-sectoral coordination between the police, military and forest protection forces in forest protection, and forest fire prevention and fighting.

+Solution 3: Raise awareness on policies and regulations related to forest protection and management

+ Solution 4: Promote use of alternative materials to natural timber

- **Potential areas:** **Da Bac** (Giap Dat, Dong Chum, Tan Pheo, Dong Ruong, Tan Minh, Cao Son, Tien Phong, Vay Nua, Doan Ket Communes), **Les Son** (Quy Hoa, Van Nghia, My Thanh, Ngoc Lau Communes), **Mai Chau** (Tan Dan, Dong Bang, Sam Khao, Mai Hich, Cun Pheo, Bao La, Pieng Ve, Ba Khan, Pa Co, Hang Kia, Tan Son, Na Meo Communes), **Tan Lac** (Bac Son, Nam Son, Trung Hoa, My Hoa, Ngoi Hoa, Thanh Hoi, Ngo Luong, Lung Van, Quyet Chien Communes)

**e) Solution package 5:** Mitigate and compensate the impacts of forest conversion for economic purposes (e.g. infrastructure development and mining)

- **REDD+ objective:** Reduce deforestation

- **Solutions:**

+Solution 1: Strengthen intersectoral coordination in planning and monitor implementation of development projects.

+Solution 2: Ensure the project owners are following the requirements under off-set planting policy

- **Potential areas:** **Da Bac** (Dong Nghe, Giap Dat, Dong Chum, Tan Pheo, Suoi Nanh, Dong Ruong, Tan Minh, Cao Son, Vay Nua Communes), **Mai Chau** (Tan Dan, Tan Mai, Phuc San, Dong Bang, Sam Khoe, Mai Hich, Cun Pheo, Pa Co, Hang Kia, Tan Son, Na Meo, Van Mai Communes)

**e) Solution package6:** Enhance restoration and reforestation of natural forests

- **REDD+ objective+:** Enhance carbon stock in forests

- **Solutions:**

+ Solution 1: Recommend adjustment of policies on forest protection and regeneration

+ Solution 2: Technical capacity building for the people

+ Solution 3: Increase income of the local people from forests

- **Potential areas:** **Kim Boi**(Thuong Tien, Kim Tien, Du Sang, Nam Thuong, Nat Son Communes), **Da Bac** (Giap Dat, Dong Chum, Tan Pheo, Dong Ruong, Tan Minh, Tu Ly, Vay Nua, Muong Chieng, Trung Thanh Communes), **Lac Son** (Tu Do, Quy Hoa, Ngoc Lau, Ngoc Son, Mien Doi, Binh Hem, Tan My Communes), **Mai Chau** (Tan Dan, Tan Mai, Phuc San, Dong Bang, Sam Khoe, Mai Hich, Cun Pheo, Bao La, Pieng Ve, Ba Khan, Pa Co, Hang Kia, Tan Son, Na Meo, Van Mai Communes), **Tan Lac** (Bac Son, Nam Son, Trung Hoa, My Hoa, Ngoi Hoa, Thanh Hoi, Ngo Luong, Lung Van, Quyet Chien Communes).

**f) Solution package 7** (This province-wide solution package will be implemented in the entire province)

- **REDD+ objective:** 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: REDD+ awareness raising and capacity building.

- **Potential area:** entire province

## IV. REQUIRED BUDGET FOR PRAP IMPLEMENTATION

### 1. Required budget by activity

Total estimated budget for Hoa Binh PRAP implementation during the 2017-2020 period is VND **920,394** million (*details are as in the Annex 01*), of which,

#### a) Component I: Forest protection and development activities

- Total estimated budget: VND **905,206** million:

+ Forest protection, and fire prevention and fighting activities require VND 124,681 million, which will be funded by the State Budget with VND 9,599 million, PFES with VND 71,160 million, ODA with VND 3,244 million, private sector with VND 38,226 million, and state companies with VND 2,452 million;

+ Forest development activities require VND **744,179** million, which will be funded by the State Budget with VND 227,626 million, local budget with VND 8,840 million, ODA with VND 17,652 million, private sector with VND 350,633 million, and state companies with VND 139,428 million.

+ Investment for infrastructure and equipment for forest protection, fire prevention and fighting require VND 36,346 million, which will be funded by the State Budget with VND 27,851 million, and ODA with VND 8,495 million.

#### b) Component II: Additional activities

Total estimated budget: VND **15,188** million, which will be funded by the State Budget with VND **5,528** million, local budget with VND **2,694** million, ODA with VND **6,863** million, and other sources with VND **103** million. Funding allocation for implementation of each solution package is as follows:

+ **Solution package 1** (Control conversion of plantation forests to agricultural plantations (fruit trees) after timber logging): VND **157** million.

+ **Solution package 2** (Improve economic viability of forest plantations): VND **8,169** million

+ **Solution package 3** (Reduce encroachment and expansion of agricultural lands into natural forests): VND **2,115** million.

+ **Solution package 4** (Control unsustainable use of natural forest resource): VND **876** million.

+ **Solution package 5** (Mitigate and compensate for the impacts of forest conversion for infrastructure development and mining): VND **0**.

+ **Solution package 6** (Enhance restoration and reforestation of natural forests): VND **2,281** million.

+ **Solution package 7** (this cross cutting solution package will be implemented in the entire province): VND **1,140** million.

c) **Monitoring and evaluation:** Cost of monitoring and evaluation related activities require VND 450 million, which is equal to 10% of the Component 2 (the additional activities).

## 2. Total estimated budget by funding sources

Budget demand for Hoa Binh PRAP implementation during the 2017-2020 period is VND 1,372,245 million as summarized in the following table (*details in Annex 01*),:

**Table 07. Funding sources**

*Unit: VND million*

No.	Funding sources	Total investment	Breakdown		(%)
			Component I	Component II	
1	State budget	270,604	265,076	5,528	29.40
2	Local budget	11,534	8,840	2,694	1.25
3	PFES	71,160	71,160		7.73
4	ODA	36,255	29,392	6,863	3.94
5	Private sector	388,859	388,859		42.25
6	State Companies	141,880	141,880		15.42
7	Others	103		103	0.01
<b>Total</b>		<b>920,394</b>	<b>905,206</b>	<b>15,187</b>	<b>100</b>

## 3. Feasibility of fund sources for PRAP implementation

PRAP is developed with the principle to integrate the existing provincial funding sources for the forestry sector and other related sectors. In order to ensure that the PRAP is feasible, the fund sources have been carefully reviewed and considered, and adjusted in their volume and number of activities to ensure that the fund sources for PRAP implementation is coordinated with the existing fund sources of the province to the extent possible.

The feasibility study results are shown in Table 08, of which the existing fund sources with high feasibility is VND 683,523 million, equivalent to 74% of the total estimated budget for PRAP implementation (Component I: VND 668,410million, equivalent to 74% of the budget demand; Component II: VND15,114 million, equivalent to 100% of the budget demand). The fund gap of VND 236,871 million, or 26% of the total budget demand is expected to be mobilized from domestic and international investments.

**Table 08. Feasibility of the fund sources for PRAP implementation**

*Unit: VND million*

Item	Total estimate budget	High feasibility fund sources								Feasibility
		Sub-total	State budget	Local budget	PFES	ODA	Private sector	Business	Other	
<b>Component I</b>	<b>905,206</b>	<b>668,410</b>	<b>62,542</b>	<b>4,420</b>	<b>49,812</b>	<b>20,897</b>	<b>388,859</b>	<b>141,880</b>	<b>-</b>	<b>74%</b>
Forest protection	124,681	97,094	3,360	-	49,812	3,244	38,226	2,452	-	78%
Forest development	744,179	572,316	60,036	4,420	-	17,652	350,633	139,428	-	77%



Item	Total estimate budget	High feasibility fund sources								Feasibility
		Sub-total	State budget	Local budget	PFES	ODA	Private sector	Business	Other	
Equipment	36,346	29,383	20,888	-	-	8,495	-	-	-	81%
<b>Component II</b>	<b>15,188</b>	<b>15,114</b>	<b>5,528</b>	<b>2,663</b>	<b>-</b>	<b>6,863</b>	<b>-</b>	<b>-</b>	<b>60</b>	<b>100%</b>
Solution package 1	157	126	-	30	-	96	-	-	-	81%
Solution package 2	8,169	8,169	5,058	1,244	-	1,849	-	-	17	100%
Solution package 3	2,115	2,115	470	602	-	1,043	-	-	-	100%
Solution package 4	876	876	-	294	-	582	-	-	-	100%
Solution package 5	-	-	-	-	-	-	-	-	-	100%
Solution package 6	2,281	2,281	-	41	-	2,239	-	-	-	100%
Solution package 7	1,140	1,096	-	-	-	1,053	-	-	43	96%
M&E	450	450	-	450	-	-	-	-	-	100%
<b>Total</b>	<b>920,394</b>		<b>68,070</b>	<b>7,083</b>	<b>49,812</b>	<b>27,760</b>	<b>388,859</b>	<b>141,880</b>	<b>60</b>	<b>74%</b>

## V. IMPLEMENTATION ARRANGEMENT

### 1. Strengthening of the PSC for PRAP

Pursuant to the Decision No. 2216/QĐ-UBND dated August 9, 2016 and the Decision No. 287/QĐ-UBND dated March 3, 2017 of the chairman of the Hoa Binh PPC on assigning additional tasks for the PSC for FPDP, accordingly, the PSC is responsible for implementing additional tasks as follows:

- Review and supplement tasks of directing PRAP implementation during the period of 2017 - 2020 in Hoa Binh province into its Operational Regulation; assign tasks to its members as in accordance with their assigned responsibilities and authorities.
- Coordinate and consult with PPC in instructing and guiding the related departments and agencies to implement PRAP.
- Seek and mobilize needed resources during the PRAP implementation.

### 2. Responsibilities of the State Management Agencies

#### *a) Responsibilities of the Department of Agriculture and Rural Development*

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

- Coordinate with related departments/agencies to announce and implement PRAP;
- Direct its subordinates, according to their functions and tasks, to guide, speed up, and support the related agencies to implement PRAP;
- Work with the related agencies and departments to review and make synthesis of budget demands and develop plans of funding integration for annual implementation;
- Monitor, evaluate and report to the PPC.

***b) Responsibilities of the Department of Natural Resource and Environment***

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

- Lead and cooperate with DARD and other agencies to implement PRAP related key tasks such as completing plans of agriculture and forestry land-use, hydropower plant, and infrastructure development; and developing land policies that are suitable to the province conditions to attract businesses to invest in agroforestry production development.

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

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

***c) Responsibilities of the Department of Planning and Investment***

- Coordinate with Department of Finance to allocate funding from the State Budget (through programs and projects), and the ODA for PRAP implementation.

- Work with DARD and Department of Finance to develop necessary mechanisms and policies to facilitate implementation.

***d) Responsibilities of the Department of Finance***

- Work with Department of Planning and Investment, and DARD to formulate financial management mechanism, funding use guidelines of REDD+ projects and programs.

- Allocate annual non-profit business budget to districts, cities, and units as in accordance with the approved schedules/plans for implementation.

- Coordinate with the related departments, agencies to monitor and ensure the financial management regulations are strictly complied.

***e) Responsibilities of the other related departments and agencies***

Proactively work with DARD and instruct its subordinates to implement PRAP, within scope of functions and management authority; Raise awareness on REDD+ and gender equality for the local people and call for participation of the ethnic minorities; integrate REDD+ into programs and projects related to its management fields.

***f) Responsibilities of the District People's Committees***

- Raise awareness of local people on REDD+.

- Develop and implement initiatives and projects in the districts, which integrated with the PRAP.

- Proactively call for more resources and integrate projects and programs with PRAP implementation in the districts.

- Coordinate with the related departments and agencies in provision of instruction and monitor PRAP implementation carried out by organizations and individuals in the districts as in accordance with regulations.

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

#### ***g) Responsibilities of the Forest Management Boards***

- Coordinate with DARD, DPCs, and CPCs to implement PRAP within scope of functions and authority.

- Arrange and integrate resources (programs and projects) in the district into PRAP implementation.

#### ***h) Responsibilities of the Commune People's Committees***

- Participate in implementation of REDD+ awareness raising tasks for the local people; work with the DPCs and the related parties in development of detailed PRAP implementation plans.

- Arrange and integrate resources (programs and projects) in the district into PRAP implementation.

- Monitor PRAP implementation, pay attention and propose solutions to mitigate negative impacts of PRAP implementation to the local people.

- Participate in monitoring and evaluation.

### **3. Responsibilities of the political, social, non-government organizations, and businesses**

- Actively participate in PRAP implementation, especially, in information sharing, communication, and education; support and call for participation of the local communities for PRAP implementation as well as share experiences on REDD+ activity implementation within its functions and authorities.

- Forestry enterprises shall work with DARD, DPCs, and CPCs to implement PRAP within their allocated forest and forestry land; ensure their business activities implemented in compliance with laws and PRAP targets.

- The political, social, non-government organizations, scientific research institutions, and enterprises are encouraged to participate in monitoring and evaluate independently the PRAP implementation.

## **VI. MONITORING AND EVALUATION (M&E)**

### **1. Implementation 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. Annual monitoring and reporting**

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 are as in the item 3.1-Result framework*).

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

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

### **1.2. Evaluation**

At the end of its implementation period (2017 - 2020), the PRAP will be evaluated with the participation of stakeholders concerned. The results of the evaluation and recommendations 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 the 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).

## **2. Scope of M&E**

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

## **3. Monitoring and Evaluation Framework**

The M&E framework of Hoa Binh PRAP is constituted of the result and social and environmental benefits and risks assessment frameworks that developed through the following main steps:

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

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

- Step 3: Conduct district and commune consultation workshops<sup>5</sup>.

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. 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 constituted by baseline data, result indicators, and means of verification. The baseline data is ground for starting the process of monitoring and evaluation. It is not necessary that every singly activity has baseline data as it depends on activity itself and available information of the province. The Result Indicators show quantitative target to be achieved. Result indicators should be identified carefully to ensure that it is achievable during the project duration, and verifiable at lowest cost and with simplest way. Means of verification used to verify the gained results against the result indicators. It should be noted that, since additional activities designed under Component II are to be implemented only in the targeted locations, the result indicators are designed for those targeted locations (Table 1 shows the targeted locations of each activity). A summary of the Result Framework described as in the below Table 08 (the full details are as in the annex 02).

**Table 09. Result Framework**

No.	Solution packages	Baseline data	Result indicators	Means of verification
1	<b>Control conversion of plantation forests to agricultural plantations (fruit trees) after timber logging</b>	75% of plantation forests was reforested after harvesting during 2011-2016.	At least 90% of plantation forests reforested after harvesting every year during the 2017-2020 period.	1. DARD annual report on socio-economic development 2. Sub-FPD annual report on forest condition changes
2	<b>Improve economic viability of forest plantations</b>	Gross volume of plantations of the target communes (at the time of harvest) was 60 m <sup>3</sup> per ha in 2016	Gross volume of plantations of the target communes (at the time of harvest) reaches 70m <sup>3</sup> per ha by 2020	1. Socio-economic development report of the province and priority districts 2. Annual statistical yearbooks of the province and priority districts 3. Sub-FPD report on forest harvesting and income

<sup>5</sup>Details are in the synthesis of district and commune workshop result report of Hoa Binh province by Nguyen Quang Tan, 2016.

No.	Solution packages	Baseline data	Result indicators	Means of verification
3	<b>Reduce encroachment and expansion of agricultural lands into natural forests</b>	Over the period of 2006-2016, encroached forest areas for upland field was 51 ha/year.	Reduce encroached forest areas for upland cultivation/year by at least 50% during the 2017 – 2020 period.	Report from legal and inspection unit (of Sub-FPD) and FPU in the priority districts
4	<b>Control unsustainable use of natural forest resource</b>	45 illegal logging cases and forest clearing per year over the 2010-2016 period. - Average of 58.5 m <sup>3</sup> of wood/year logged illegally over the period of 2011 - 2016	The average number of annual illegal logging and forest clearing during 2017-2020 period reduced to less than 50% compared to the record of the previous period	Report from legal and inspection unit (of Sub-FPD) and FPU in priority districts
5	<b>Mitigate and compensate for the impacts of forest conversion for infrastructure development and mining</b>	Over the period of 2011-2016, offset planting for the converted area reached 39.4 ha (equivalent to 9.2% of area that needs to be offset planted)	100% of the converted areas offset-planted as in accordance with the plan and quality requirements during the 2017 – 2020 period	1. Annual report on forest protection work by FPU and Sub-FPD 2. Forest Inventory data
6	<b>Enhance restoration and reforestation of natural forests</b>	900 ha/year of land regenerated and formed forest over the period of 2006 - 2016	During 2017 – 2020, 1,000 ha/year of land regenerated and formed forests	Annual report on forest protection work by FPU and Sub-FPD (province-wide and prioritized district level reports)
7	<b>Provincial- wide cross cutting solution package</b>	See Annex 02	See Annex 02	See Annex 02

### ***3.2. Environmental and Social Benefits and Risk Assessment Framework***

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

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

**Table 10. Environmental and Social Benefits and Risk Assessment Framework**

No.	Solution packages	Benefits	Risks
1	<b>Control conversion of plantation forests to agricultural plantations (fruit trees) after timber logging</b>	<ol style="list-style-type: none"> <li>1. Promote stability and sustainability of rural livelihood.</li> <li>2. Ensure water source for daily living and production</li> </ol>	<ol style="list-style-type: none"> <li>1. Limit local economic development</li> <li>2. Local people do not support land-use planning</li> <li>3. Conflicts between local authorities and people in monitoring and assessment of implementation.</li> </ol>
2	<b>Improve economic viability of forest plantations</b>	<ol style="list-style-type: none"> <li>1. Stabilized livelihoods (increased income) for local tree growers</li> <li>2. Increased local interest and participation in forest plantation</li> <li>3. Stabilized market for plantation wood products</li> <li>4. Conservation of land and ecosystem through sustainable plantation management</li> </ol>	<ol style="list-style-type: none"> <li>1. Risk of replacement of natural forests with plantation</li> <li>2. Conflicts between people outside of target communes with those in the target communes</li> <li>3. Conflict of land uses for different livelihoods</li> <li>4. HHs practicing free grazing can be marginalized</li> <li>5. Infrastructure development may cause deforestation</li> <li>6. Price bargaining pressure from traders</li> </ol>
3	<b>Reduce encroachment and expansion of agricultural lands into natural forests</b>	<ol style="list-style-type: none"> <li>1. Biodiversity conservation</li> <li>2. Anti-soil degradation</li> <li>3. Reduce flash flood</li> <li>4. Raise awareness of the local people on forest protection and development</li> <li>5. Poverty reduction, increase incomes for the local people</li> <li>6. Ensure land and forest resource use rights</li> </ol>	<ol style="list-style-type: none"> <li>1. Land-use conflicts;</li> <li>2. Change locations of deforestation (deforestation actions moved to other places).</li> <li>3. Conflicts between people outside of target communes with those in the target communes</li> <li>4. Affect traditional cultivation practices of the local people.</li> <li>5. Conflicts between the local people and competent authorities</li> </ol>
4	<b>Control unsustainable/ illegal use of natural forests</b>	<ol style="list-style-type: none"> <li>1. Biodiversity conservation</li> <li>2. Ensure equality in forest resource use</li> </ol>	<ol style="list-style-type: none"> <li>1. Conflicts between local people and authorities halting violations</li> </ol>

<b>No.</b>	<b>Solution packages</b>	<b>Benefits</b>	<b>Risks</b>
			<p>2. Small group of the poor, forest dependent households may be marginalized</p> <p>3. Conflict with local traditions (in making new houses, burning firewood...)</p>
<b>5</b>	<b>Mitigate impacts and compensate for loss caused by the forest conversion to infrastructure development and mining</b>	<p>1. Ensure harmonization and sustainability between socio-economic development and environmental protection</p> <p>2. Create jobs from offset planting</p>	<p>1. Conflicts between authorities and project owners</p> <p>2. Conflicts of land-use among different livelihoods</p>
<b>6</b>	<b>Enhance quality of restoration and reforestation of natural forests</b>	<p>1. Biodiversity conservation</p> <p>2. Anti-soil degradation</p> <p>3. Reduce flash flood</p> <p>4. Raise awareness of the local people on forest protection and development</p> <p>5. Poverty reduction, increase incomes for the local people</p>	<p>1. Land-use conflict between local people and forest owners</p> <p>2. Increase of natural forest illegal logging caused by higher price of wood thanks to better plantation wood market.</p> <p>3. Conflicts between people outside of target communes with those in the target communes</p> <p>4. HHs practicing free grazing can be marginalized</p>
	<b>Province-wide cross cutting solution package</b>		<p>1. People may misunderstand about REDD+ and expect too much on benefits from REDD+, thus, it may create disturbances in the community.</p>

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 Hoa Binh PRAP for the 2017 – 2020 period

*Unit: million VND*

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
<b>1</b>	<b>Forest protection, fire prevention and fighting</b>															
<i>1.1</i>	<i>Protection to protection forests</i>	<i>Province-wide</i>	<i>2017-2020</i>	<i>FPDP Management Board</i>	<i>CPC</i>	<i>ha</i>	<i>102,674</i>	<i>66,018</i>	<i>40,418</i>	<i>6,393</i>	<i>-</i>	<i>1,944</i>	<i>17,111</i>	<i>150</i>	<i>-</i>	FPDP, JICA 3, PFES, Da River Protection (Decision No. 1179/QĐ-UBND) forest owners' equity
<i>1.2</i>	<i>Protection to special-use forests</i>	<i>4 khu Special-use forests</i>	<i>2017-2020</i>	<i>Management board of Special-use forests</i>	<i>CPC</i>	<i>ha</i>	<i>28,934</i>	<i>7,832</i>	<i>6,532</i>	<i>-</i>	<i>-</i>	<i>1,300</i>	<i>-</i>	<i>-</i>	<i>-</i>	Regular task of the Nature Reserves, JICA3, PFES

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
1.3	Protection to production forests	Province-wide	2017-2020	FPDP Management Board	CPCs	ha	89,932	50,831	24,209	3,206	-	-	21,114	2,302	-	FPDP, PFES, Forest owners' equity
2	Forest development							744,179	-	227,626	8,840	17,652	350,633	139,428	-	
2.1	Regeneration						1,460	3,867	-	1,120	-	697	2,050	-	-	
2.1.1	Protection forests	Province-wide	2017-2020	FPDP Management Board	CPCs	ha	850	2,508	-	1,120	-	498	890	-	-	FPDP, JICA3, Da River Protection Forest(QĐ 1179/QĐ - UBND), forest owners' equity
2.1.2	Special-use forests	4 khu Special-use forests	2017-2020	Management board of Special-use forests	CPCs	ha	30	199	-	-	-	199	-	-	-	FPDP, JICA 3
2.1.3	Production forests	Province-wide	2017-2020	FPDP Management Board	CPCs	Ha	580	1,160	-	-	-	-	1,160	-	-	forest owners' equity
2.2	Afforestation/reforestation						7,600	321,667	-	200,253	-	16,003	36,611	68,800	-	

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
2.4	Forest maintenance						32,101	327,726	-	26,253	-	-	243,685	57,788	-	
2.5	Seedling production	Province-wide	2017-2020	FPDP Management Board	CPCs, Forest companies	1000 trees	12,430	49,720	-	-	6,560	953	29,367	12,840	-	FPDP, JICA 3, forest owners' equity
3	Investment in infrastructures, facilities and equipment for forest protection, fire prevent and fighting							36,346	-	27,851	-	8,495	-	-	-	
3.1	Infrastructure and facility development	Province-wide	2017-2020	Sub-FPD	District-FPDs, Nature Reserve, CPCs	station		18,918	-	16,038	-	2,880				FFPF capacity building project, JICA3, forest road projects, and forest owners

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
3.1.1	Forest protection station camps					station	6	18,000		16,038		1,962				
3.1.2	Firebreaks					Km	11.2	468.0		-		468.0				
3.1.3	Fire watch camps					pcs.	3	450		-		450				
3.2	Facility and equipment for forest protection, fire prevention and fighting	Province-wide	2017-2020	Sub-FPD	District-FPDs, Nature Reserve, CPCs	pcs.	14,548	15,668		11,037		4,631				FFPF capacity building project, JICA3, and forest owners
3.3	Technical training and rehearsal on forest fire prevention and fighting	Province-wide	2017-2020	Sub-FPD	District-FPDs, Nature Reserve, CPCs	Time	45	860				860				Jica3
3.4	Posters and dissemination boards for forest protection, and fire prevention and fighting	Province-wide	2017-2020	Sub-FPD, Management Board for Da River Protection Forest	District-FPDs, Nature Reserve, CPCs	pcs.	180	900		776		124				local budget, Jica3 Da River Protection Forest(QĐ 1179/QĐ-UBND)
II	Component 2: Prioritized activities (additional activities)							15,188	-	5,528	2,694	6,863	-	-	103	

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
1	Control conversion of plantation forests to agricultural plantations (fruit trees) after timber harvesting							157	-	-	61	96	-	-	-	
1.1	Review provincial planning for fruit production							61	-	-	61	-	-	-	-	
1.1.1	Review current planning to identify problems	KB, LS, TL	2017-2020	DPCs	CPCs	ha	2,296	46	-	-	46	-	-	-	-	Provincial budget
1.1.2	Propose appropriate fruit tree development plan, taking into account existing physical conditions and provincial master planning	KB, LS, TL	2017-2020	DARD	DPCs	District	3	5			5					Provincial budget
1.1.3	Develop presentation reports and maps	KB, LS, TL	2017-2020	DARD	DPCs	District	3	5			5					Provincial budget
1.1.4	Publicize and disseminate new planning	KB, LS, TL	2017-2020	PPC	DPCs	District	3	5			5					Provincial budget
1.2	Raise awareness on policies and regulations related to forest protection and management							76	-	-	-	76	-	-	-	

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
1.2.1	Provide necessary trainings for local officers who are in charge of awareness raising and communication tasks	KB, LS, TL	2017-2020	PSC for FPDP	CPCs, DPCs	Pax	90				-					Regular task of forest rangers, DPCs and Legal support center
1.2.2	Develop communication materials	KB, LS, TL	2017-2020	PSC for FPDP	CPCs, DPCs	Commune	11				-					Regular task of forest rangers, DPCs and Legal support center
1.2.3	Perform communication / awareness raising tasks through various media (e.g. village meetings, poster, mass media, leaflet, and others)	KB, LS, TL	2017-2020	PSC for FPDP	CPCs, DPCs	Meeting	44	76			76					Regular task of forest rangers, CPCs and Legal support center, SNRM Project
1.2.4	Conduct regular assessment on quality of awareness raising/communication tasks	KB, LS, TL	2017-2020	PSC for FPDP	CPCs, DPCs	Meeting	48				-					Regular task of forest rangers, DPCs and Legal

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes	
						Unit	Quantity			State budget	Local budget						
1.3	<i>Improve the effectiveness of monitoring, investigation, and handling of violation to the fruit tree development planning</i>							20	-	-	-	20	-	-	-		
1.3.1	<i>Organise technical training courses for the communal forest rangers and forestry officers in the implementation of fruit tree development planning</i>	KB, LS, TL	2017-2020	PPC	Departments, agencies	Class	12				-						Regular task of DPI, DARD, Extension staff
1.3.2	<i>Set up and implement coordination mechanisms among concerned parties in monitoring and inspection of plan implementation</i>	KB, LS, TL	2017-2020	PPC	Departments, agencies	District	3				-						Regular task departments, agencies
1.3.3	<i>Review the current mechanisms for handling</i>	KB, LS, TL	2017-2020	PPC	Departments, agencies	Commune	11	20.00				20.00					Regular task, SNRM Project

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
2	<b>Improve economic viability of forest plantations</b>							8,169	-	5,058	1,244	1,849	-	-	17	
2.1	<i>Revise the incentive policies to incentivise forest owners to participate in forest development and forest sector restructuring</i>							-	-	-	-	-	-	-		
2.1.1	<i>Review the effectiveness of current incentive policies</i>	KB, DB, TL, LS	2017-2020	DARD	DPCs	District	4									Regular task của DARD, Forest rangers
2.1.2	<i>Organize consultation meetings to discuss and agree upon the revision.</i>	KB, DB, TL, LS	2017-2020	DARD	DPCs	Time	4									Regular task của DARD, Forest rangers
2.1.3	<i>Submit the revised incentive policy for approval</i>	KB, DB, TL, LS	2017-2020	PPC	Departments, agencies	District	4									Regular task của DARD, Forest rangers
2.2	<b>Promote development of production forests based on land conditions.</b>							597	-	-	-	597	-	-	-	



No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
2.2.1	<i>Develop high economic agro-forestry demonstration models which is suitable with different land conditions.</i>	<i>KB, DB, TL, LS</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments, agencies</i>	<i>model</i>	<i>10</i>	<i>63</i>			<i>-</i>	<i>63</i>				<i>Funding for extension, SNRM Project</i>
2.2.2	<i>Provide seedlings with high quality and economic values that can be planted on different land conditions.</i>	<i>DB, TL</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments, agencies</i>	<i>Vườn</i>	<i>2</i>	<i>534</i>				<i>534</i>				<i>JICA3, SNRM Project</i>
2.3	<b><i>Strengthen capacity of the local people on tree planting techniques, management and forest product trading</i></b>							<i>233</i>	<i>-</i>	<i>-</i>	<i>44</i>	<i>172</i>	<i>-</i>	<i>-</i>	<i>17</i>	
2.3.1	<i>Provide training on capacity building for the local people on tree planting techniques, forest management, forest product trading</i>	<i>KB, DB, TL, LS</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments, agencies</i>	<i>Class</i>	<i>4</i>	<i>116</i>				<i>116</i>				<i>SNRM Project</i>

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes	
						Unit	Quantity			State budget	Local budget						
																	2.3.2
2.3.3	Organize study tours to other effective plantation models	KB, DB, TL, LS	2017-2020	PPC	Departments, agencies	Time	4	100			44	56					FPDP, SNRM Project
2.4	Promote the supply and distribution chain for plantation woods.							-	-	-	-	-	-	-	-		
2.4.1	Assess and identify shortcomings of the supply and distribution chain for plantation woods.	KB, DB, TL, LS	2017-2020	PPC	Departments, agencies	District	4										Regular task
2.4.2	Propose solutions for strengthening the wood supply and distribution chain	KB, DB, TL, LS	2017-2020	PPC	Departments, agencies	District	4										Regular task
2.4.3	Support forest owners in the developing and implementing sustainable forest management plans, grant awards to the best	KB, DB, TL, LS	2017-2020	PPC	Departments, agencies	Forest owner	4										Regular task

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
	<i>implementing forest owners</i>															
2.4.4	<i>Provide legal and administrative support to businesses who have been and are intending to invest in plantation wood products</i>	<i>KB, ĐB, TL, LS</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments, agencies</i>	<i>Doanh nghiệp</i>	<i>4</i>									Regular task
2.5	<b><i>Control animal grazing in plantations</i></b>							<b>210</b>	<b>-</b>	<b>-</b>	<b>72</b>	<b>138</b>	<b>-</b>	<b>-</b>	<b>-</b>	
2.5.1	<i>Raise awareness and motivate the local people to follow regulations on grazing and identify pastures for grazing</i>	<i>KB, ĐB, TL, LS</i>	<i>2017-2020</i>	<i>CCKL</i>	<i>DPCs, District-FPDs</i>	<i>Meeting</i>	<i>84</i>									Regular task của CPC
2.5.2	<i>Development models of grass cultivation</i>	<i>KB, ĐB, TL, LS</i>	<i>2017-2020</i>	<i>CCKL</i>	<i>DPCs, District-FPDs</i>	<i>model</i>	<i>21</i>	<i>210</i>			<i>72</i>	<i>138</i>				Regular funding for extension, 135, funding for rural development, SNRM Project
2.6	<b><i>Improve forestry infrastructure</i></b>							<b>7,129</b>	<b>-</b>	<b>5,058</b>	<b>1,129</b>	<b>942</b>	<b>-</b>	<b>-</b>	<b>-</b>	

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes	
						Unit	Quantity			State budget	Local budget						
2.6.1	<i>Review the plan for forest and civil roads, fire breaks and reservoirs for forest protection and development purposes</i>	<i>KB, DB, TL, LS</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments, agencies</i>	<i>Km, Reservoir</i>	<i>332km, 312 Reservoir</i>	<i>129</i>			<i>129</i>						local budget, organisations, projects
2.6.2	<i>Build new forest and civil roads as well as firebreaks where needed</i>	<i>KB, DB, TL, LS</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments, agencies</i>	<i>Km</i>	<i>40</i>	<i>6,000</i>		<i>5,058</i>	<i>942</i>						State budget, organisations, projects River Protection Forest(QĐ 1179/QĐ - UBND), Jica 3
2.6.3	<i>Construct new resevoirs for forest protection and development purposes where needed</i>	<i>KB, DB, TL, LS</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments, agencies</i>	<i>Reservoir</i>	<i>20</i>	<i>1,000</i>			<i>1,000</i>						local budget, organisations, projects
<b>3</b>	<b>Reduce encroachment and expansion of agricultural lands into natural forests</b>							<b>2,115</b>	<b>-</b>	<b>470</b>	<b>602</b>	<b>1,043</b>	<b>-</b>	<b>-</b>	<b>-</b>		
<b>3.1</b>	<b>Improve quality of land-use planning associated with</b>							<b>1,513</b>	<b>-</b>	<b>470</b>	<b>0</b>	<b>1,043</b>	<b>-</b>	<b>-</b>	<b>-</b>		

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
	<i>forest and forestry land allocation</i>															
3.1.1	<i>Conduct participatory reviewing and revision to forest planning by three forest categories</i>	<i>MC, DB, TL</i>	<i>2017-2020</i>	<i>PPC, DARD</i>	<i>DPCs, District-FPDs, TNMT</i>	<i>Commune</i>	<i>23</i>	<i>460</i>		<i>424</i>	<i>36</i>					Requesting for fund allocation from provincial budget (4 billion), SNRM Project
3.1.2	<i>Announce the revised planning and advice people to follow</i>	<i>MC, DB</i>	<i>2017-2020</i>	<i>PPC, DARD</i>	<i>DPCs, District-FPDs, TNMT</i>	<i>Commune</i>	<i>23</i>	<i>46</i>		<i>46</i>						Requesting for fund allocation from provincial budget (4 billion)
3.1.3	<i>Review and re-allocate forests and forestry land allocation</i>	<i>MC, DB, TL</i>	<i>2017-2020</i>	<i>PPC, DARD</i>	<i>DPCs, District-FPDs, TNMT</i>	<i>Commune</i>	<i>23</i>	<i>1,007</i>			<i>0</i>	<i>1,007</i>				Regular task of DARD and DONRE, SNRM Project
3.2	<i>Improve agriculture crop productivity and values</i>							<i>602</i>	<i>-</i>	<i>-</i>	<i>602</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
3.2.1	<i>Introduce/ provide/ support (high quality seeds of) high-yield varieties</i>	<i>MC, DB</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments/ agencies, DPCs</i>	<i>1000 trees</i>	<i>230</i>	<i>345</i>			<i>345</i>					Extension capital, ethnic committee (135, 102), Rural Development Department (capital for new rural development)
3.2.2	<i>Identify output markets for agriculture products</i>	<i>MC, DB</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments/ agencies, DPCs</i>	<i>Product</i>	<i>10</i>	<i>50</i>			<i>50</i>					Extension capital, ethnic committee (135, 102), Rural Development Department (capital for new rural development)
3.2.3	<i>Organise training to the local people on planting techniques and business capacity</i>	<i>MC, DB</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments/ agencies, DPCs</i>	<i>Class</i>	<i>23</i>	<i>207</i>			<i>207</i>					Extension capital, ethnic committee (135,

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes	
						Unit	Quantity			State budget	Local budget						
4	Limite unsustainable/illegal use of the natural forests							876	-	-	294	582	-	-	-		102), Rural Development Department (capital for new rural development)
4.1	Enhance the sense of responsibility in forest protection for forest owners and communal people's committees (CPCs)							-	-	-	-	-	-	-	-		
4.1.1	Conduct (regular) inspection on realization of state management duties on forest of forest owners and CPCs	MC, DB, TL, LS	2017-2020	PPC	Departments, agencies	Time	152										Extension capital, ethnic committee (135, 102), Rural DevRegular task of DARD, Government





No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes	
						Unit	Quantity			State budget	Local budget						
4.2.3	Conduct final term review	MC, DB, TL, LS	2017-2020	PPC	Departments, agencies	Meeting	152										Committees at all levels
4.3	<b>Raise awareness on policies and regulations on forest protection and management</b>							491	-	-	279	212	-	-	-		
4.3.1	Provide training on capacity building training for local officials who are in charge of communication task	MC, DB, TL, LS	2017-2020	PPC	Departments, agencies, CCKL	People	200	100			73	27					FPDP, SNRM Project
4.3.2	Carry out awareness raising and communication activities through various media chanel (i.e. village meeting, mass media, posters, leaflets, etc.)	MC, DB, TL, LS	2017-2020	PPC	Departments, agencies, CCKL	Time	38	190			190						FPDP
4.3.3	Implement village forest management regulations	MC, DB, TL, LS	2017-2020	PPC	Departments, agencies, CCKL	Commune	38	133			16	117					FPDP, SNRM Project

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes	
						Unit	Quantity			State budget	Local budget						
4.3.4	<i>Equip forest patrolling tools for the Forest Patrolling Team</i>	<i>MC, DB, TL, LS</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments, agencies, CCKL</i>	<i>Team</i>	<i>38</i>	<i>68</i>			<i>0</i>	<i>68</i>					<i>SNRM Project</i>
<b>4.4</b>	<b><i>Promote the use of alternative materials to natural forest wood</i></b>							<b><i>385</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>15</i></b>	<b><i>370</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>		
4.4.1	<i>Introduce and provide advanced fuel-saving stoves (i.e. TL, DB, LS, MC, KB)</i>	<i>MC, DB, TL, LS</i>	<i>2017-2020</i>	<i>SNRM Project</i>	<i>Departments, agencies</i>	<i>pcs.</i>	<i>170</i>	<i>364.5</i>				<i>364.5</i>					<i>SNRM Project</i>
4.4.2	<i>Motivate and provide guidelines on the use of alternative materials</i>	<i>MC, DB, TL, LS</i>	<i>2017-2020</i>	<i>SNRM Project</i>	<i>Departments, agencies</i>	<i>Meeting</i>	<i>4</i>	<i>20</i>			<i>15</i>	<i>5</i>					<i>SNRM Project, local budget</i>
<b>5</b>	<b><i>Mitigate and compensate for the loss/impacts of conversion of forests to infrastructure development and mining</i></b>							<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>		
<b>5.1</b>	<b><i>Improve inter-sectoral coordination in planning, implementing and monitoring implementation of the development projects.</i></b>							<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>	<b><i>-</i></b>		

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes	
						Unit	Quantity			State budget	Local budget						
																	5.1.1
5.1.2	<i>Conduct inter-sectoral review to sectoral and socio-economic development plans which may generate negative impacts to forest resources, and make recommendations on correction measures.</i>	MC, DB	2017-2020	DARD	Departments, agencies	District	2										Regular task
5.1.3	<i>Monitor the implementation of the approved projects to ensure its compliance with existing forest conservation-related laws and regulations</i>	MC, DB	2017-2020	DARD	Departments, agencies	Project	28										Regular task
5.1.4	<i>Apply appropriate sanctioning to the violations</i>	MC, DB	2017-2020	PPC	Departments, agencies	District	2										Regular task
5.2	<b>Ensure the regulations on off-sett planting</b>							-	-	-	-	-	-	-	-		

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes	
						Unit	Quantity			State budget	Local budget						
	<i>are fully complied by all project investors</i>																
5.2.1	<i>Review all projects with duty to undertake off-set planting</i>	MC, DB	2017-2020	DARD(CCKL)	DPCs, District-FPDs	Project	28										Regular task of the forest rangers
5.2.2	<i>Supervise the offset planting carried out by the project investors</i>	MC, DB	2017-2020	DARD(CCKL)	DPCs, District-FPDs	Project	28										Regular task of the forest rangers
5.2.3	<i>DARD shall undertake the off-set planting in case the project investors choose the direct payment option</i>	MC, DB	2017-2020	DARD(CCKL)	DPCs, District-FPDs	District	2										Regular task of the forest rangers
6	<b>Enhance restoration and reforestation of natural forests</b>							2,281	-	-	41	2,239	-	-	-		
6.1	<i>Make recommendations for adjustment of forest protection, restoration and regeneration policy</i>						10	-	-	-	-	-	-	-	-		
6.1.1	<i>Make recommendations to the government on adjustment and supplementation</i>	KB, DB, MC, TL, LS	2017-2020	DARD(CCKL)	DPCs, District-FPDs	District	5										Regular task of the forest rangers

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
	<i>to investment policies</i>															
<b>6.2</b>	<b><i>Enhance the technical capacity of local people</i></b>						5	250	-	-	41	209	-	-	-	
6.2.1	<i>Conduct trainings on silvicultural techniques, cultivation and livestock</i>	<i>KB, DB, MC, TL, LS</i>	<i>2017-2020</i>	<i>DARD(CCKL)</i>	<i>DPCs, District-FPDs</i>	<i>Class</i>	5	125			17	108				FPDP, SNRM Project
6.2.2	<i>Conduct study tours to effective forest regeneration models in other localities</i>	<i>KB, DB, MC, TL, LS</i>	<i>2017-2020</i>	<i>DARD(CCKL)</i>	<i>DPCs, District-FPDs</i>	<i>Time</i>	5	125			24	101				FPDP, SNRM Project
<b>6.3</b>	<b><i>Increase forest incomes for the local people</i></b>							2,031	-	-	-	2,031	-	-	-	
6.3.1	<i>Conduct survey on demands, conditions and make decision on selection of priority livelihoods</i>	<i>KB, DB, MC, TL, LS</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments/agencies, DPCs</i>	<i>Commune</i>	46	520				520				Regular funding for extension, JICA 2
6.3.2	<i>Establish working groups and develop action plans</i>	<i>KB, DB, MC, TL, LS</i>	<i>2017-2020</i>	<i>PPC</i>	<i>Departments/agencies, DPCs</i>	<i>Group</i>	5	164				164				Regular funding for extension, JICA 3, SNRM Project

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes	
						Unit	Quantity			State budget	Local budget						
6.3.3	Support for management and use of payments for village working groups	KB, DB, MC, TL, LS	2017-2020	DARD(CCKL)	DPCs, District-FPDs	Group	5	1,201			-	1,201					Regular funding for extension, JICA 3, SNRM Project
6.3.4	Provision of seedlings and materials for local people	KB, DB, MC, TL, LS	2017-2020	DARD(CCKL)	DPCs, District-FPDs	HH	150	147				147					Regular funding for extension, JICA 3, SNRM Project
<b>7</b>	<b>Province-wide cross cutting solution package</b>							<b>1,140</b>	-	-	<b>0.3</b>	<b>1,053</b>	-	-	<b>86</b>		
<b>7.1</b>	<b>Improve the FRMS</b>							<b>569.7</b>	-	-	<b>0.3</b>	<b>569.4</b>	-	-	-		
7.1.1	Develop a roadmap for improving FRMS and conduct training for trainers	Province-wide	2017-2018	DA Formis, SNRM	DARD, CCKL	Class	4	50				50					SNRM Project
7.1.2	Provide necessary equipment for forest resource monitoring	Province-wide	2017 - 2018	Sub-FPD	CPCs, DPCs	pcs.	100	400.0				400.0					SNRM Project
7.1.3	Training on replication of the advanced FRMS	Province-wide	2017 - 2018	Sub-FPD	CPCs, DPCs	Class	5	119.7			0.3	119.4					SNRM Project
<b>7.2</b>	<b>REDD+ awareness raising</b>							<b>570</b>	-	-	-	<b>484</b>	-	-	<b>86</b>		

No.	Solution package/solution/activity	Location	Duration	Leading agencies	Cooperating agencies	Targets		Total budget (VND million)	PFES	Other budget		Loans and ODA	Private sector	State companies	Others	Notes
						Unit	Quantity			State budget	Local budget					
	<i>and capacity building</i>															
7.2.1	<i>Share PRAP implementation experiences with other provinces, particularly those in the Northwest</i>	<i>Provincial level</i>	<i>2017 - 2020</i>	<i>Sub-FPD</i>	<i>CPCs, DPCs</i>	<i>Workshop</i>	<i>4</i>	<i>484</i>				<i>484</i>				SNRM Project
7.2.2	<i>Conduct awareness raising in REDD+ and PRAP for concerned officers</i>	<i>Province-wide</i>	<i>2017 - 2020</i>	<i>Sub-FPD</i>	<i>CPCs, DPCs</i>	<i>District</i>	<i>5</i>	<i>36</i>							<i>36</i>	Other fund sources
7.2.3	<i>Share successful REDD+ models at district level</i>	<i>Province-wide</i>	<i>2017 - 2020</i>	<i>Sub-FPD</i>	<i>CPCs, DPCs</i>	<i>District</i>	<i>5</i>	<i>50</i>							<i>50</i>	Other fund sources
<b>8</b>	<b>Monitoring and Evaluation to PRAP implementation</b>							<b>450</b>	<b>-</b>	<b>-</b>	<b>450</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
8.1	<i>Develop annual M&amp;E reports</i>	<i>Province-wide</i>	<i>2017-2020</i>	<i>DARD</i>	<i>Departments/agencies, DPCs</i>	<i>Time</i>	<i>4</i>	<i>200</i>				<i>200</i>				Provincial budget
8.2	<i>Conduct assessment for PRAP implementation during the 2017 - 2020 period</i>	<i>Province-wide</i>	<i>2017-2020</i>	<i>DARD</i>	<i>Departments/agencies, DPCs</i>	<i>Time</i>	<i>5</i>	<i>250</i>				<i>250</i>				Provincial budget

## Annex 02. Monitoring and evaluation framework of Hoa Binh PRAP – Result framework

No.	Solution packages/solutions	Baseline data	Result indicators	Means of verification
1	<b>Control conversion of plantation forests to agricultural plantations (fruit trees) after timber logging</b>	<b>75% of post-logging planted forest area got reforested post during 2011-2016.</b>	<b>At least 90% of post-logging area will have been reforested annually during the 2017-2020 period.</b>	<b>1. DARD annual report on socio-economic development</b> <b>2. Sub-FPD annual report on forest condition changes</b>
1.1	Review provincial plan for fruits production	Not applicable	Review report will have been completed by end of 2018	Completed report is approved
1.2	Raise awareness on policies and regulations related to forest protection and management	2,200 households and forest owners was provided with training and awareness raising during the period of 2011 - 2016	2,500 households and forest owners will have been provided with training and awareness raising during the 2017 – 2020 period	Training and awareness raising reports
1.3	Enhance the monitoring and handling violations to planning	1 training course/district/year on capacity building on management was organized for concerned officials during the 2011 – 2016 period	1 training course/district/year on capacity building on management will have been organized for concerned officials during the 2017 - 2020 period	Report from legal and inspection unit (of Sub-FPD)
2	<b>Improve economic viability of forest plantations</b>	<b>Gross value of plantations of the target communes (at the time of harvest) was 60 m<sup>3</sup> per ha in 2016</b>	<b>Gross value of plantations of the target communes (at the time of harvest) is 70m<sup>3</sup> per ha by 2020</b>	<b>1. Socio-economic development report of the province and priority districts</b> <b>2. Annual statistical yearbooks of the province and priority districts</b> <b>3. Sub-FPD report on forest harvesting and income</b>
2.1	Revise the incentive policies to incentivize forest owners to participate in forest development which is associated with forest sector restructuring	Not applicable	Typical policy for Da River Reservoir will have been revised, with upward adjustment of support by the end of 2017	The revised policy is approved in 2017



No.	Solution packages/solutions	Baseline data	Result indicators	Means of verification
2.2	Promote development of production forest optimum to the land conditions.	Not applicable	By end of 2020, 55 households will have adopted high economic production forest and agroforestry models.	Evaluation report on activities.
2.3	Strengthen forest development technical and business capacity of local community	Not applicable	By the end of 2020, at least 250 people will have participated in trainings	1. Training report
2.4	Strengthen the supply chains and distribution chain for plantation woods.	Not applicable	Report on wood market development options will have been completed by end of 2020.	Report on wood market development options approved
2.5	Controlled grazing in plantations	210 households adopted free grazing in 2016.	By 2020, number of HHs practicing free animal grazing will have been reduced by at least 40%	Survey on animal grazing
2.6	Improve silviculture infrastructure	Not applicable	Silviculture will have been renovated in at least 50% of target communes by the end of 2020.	Silviculture work acceptance notes
3	<b>Reduce encroachment and expansion of agricultural lands into natural forests</b>	<b>Over the period of 2010-2016, encroached forest areas for upland field was 51 ha/year.</b>	<b>Reduce encroached forest areas for upland cultivation/year by at least 50% during the 2017 – 2020 period.</b>	<b>Report from legal and inspection unit (of Sub-FPD) and FPU in the priority districts</b>
3.1	Revise the incentive policies to incentivize forest owners to participate in forest development which is associated with forest sector restructuring	Boundaries of forests planning for three forest categories in 2016	Plan for three forest categories in target districts will have been revised by the end of 2018	Decision on revision of plan for three forest categories
3.2	Promote development of production forest optimum to the land conditions.	Gross agricultural output of the target communes increased by 4,5% in 2016	By the end of 2020, gross agricultural output of the target communes will have been increased by at least 5%.	Household economic survey
4	<b>Control unsustainable/ illegal use of natural forests</b>	<b>- 45 cases of illegally logging and forest clearing per year in the 2010-2016 period.</b> <b>- An average of 58.5 m3 wood were illegally logged every year During 2011 - 2016</b>	<b>The average number of annual illegally logging and forest clearing during 2017-2020 period will have been reduced to less than 50% compared to the record of the previous period</b>	<b>Report from legal and inspection unit (of Sub-FPD) and FPU in priority districts</b>

No.	Solution packages/solutions	Baseline data	Result indicators	Means of verification
4.1	Enhance the sense of responsibility in forest protection for forest owners and CPCs	200 regular meetings organized for reporting and monitoring of encroachment of natural forests in 2016.	250 regular meetings will have been organized for reporting and monitoring of encroachment of natural forests in 2020.	Meeting minutes
4.2	Improve the effectiveness of inter-sectoral coordination between the police, military and forest protection forces in forest protection, and forest fire prevention and fighting.	120 activities that involved all three forces performed in 2016	150 activities that involved all three forces will have been performed by 2020.	Report on coordination activities in forest protection
4.3	Raise awareness on policies and regulations related to forest protection and management	An average of 890 people in every target commune accessed to policies and regulations on forest protection and development annually during 2011 – 2016 period	An average of 1,000 people in every target commune will have accessed to policies and regulations on forest protection and development annually during the 2017-2020 period	Monthly work progress report of district FPU
4.4	Promote use of alternative materials to natural timber	10% of the households in the target communes uses alternative fuel/ materials in 2016.	By the end of 2020, 20% of the households in the target communes uses alternative fuel/ materials Domestic consumption of wood products reduces by 30% by the end of 2020	Survey report on uses of alternative fuel/ materials Statistical yearbook Assessment of impacts from PRAP implementation in 2016-2020
5	<b>Mitigate impacts and compensate for loss caused by the forest conversion to infrastructure development and mining</b>	<b>Over the period of 2011-2015, offset planting for the converted area reached do 43.85 ha (equivalent to 10.4% of planned area)</b>	<b>100% of converted area will have been offset planted as in accordance with schedule and quality requirements during the 2017 – 2020 period</b>	<b>1. Annual report on forest protection work by FPU and Sub-FPD</b> <b>2. Forest Inventory data</b>
5.1	Strengthen intersectoral coordination in planning, implementing and monitoring the development projects.	Not applicable	100% of the approved project will be visited under intersectoral coordination mechanism at least once per year during its implementation duration	Report on intersectoral coordination

No.	Solution packages/solutions	Baseline data	Result indicators	Means of verification
5.2	Ensure that all of project owners to fulfill the requirements of off-set planting	Five project owners complied with the effective regulations on off-set planting in 2016	80% of the approved project owners will have complied with the effective regulations on off-set planting during 2017 – 2020 period	Annual report on forest protection work by FPU and Sub-FPD (province and prioritized districts)
6	<b>Enhance restoration and reforestation of natural forests</b>	<b>During the 2006 – 2016 period, 900 ha/year/year were regenerated and formed forests</b>	<b>During 2017 – 2020, 1000 ha/year will have been regenerated and formed forests</b>	<b>Annual report on forest protection work by FPU and Sub-FPD (province-wide and prioritized district level reports)</b>
6.1	Make recommendation for amendment to policies on forest protection and regeneration	Not applicable	Report on recommendations for amendment of policies on forest protection and regeneration will be finalized by the end of 2019	The report be submitted to the competent authorities
6.2	Technical capacity building for the people	01 training on capacity building was organized in 2016.	250 people from the target communes will have accessed to the trainings on related matters by the end of 2020	Training reports
6.3	Increase incomes from forests for the local people	In 2016, average income of people in the target communes was VND 36.5 million per year	By the end of 2020, forest income of HHs receiving support from the project will have been increased by 20% compared to 2016	Household economic survey
7	<b>Province-wide cross cutting solution package</b>	<b>Not applicable</b>	<b>Not applicable</b>	<b>Not applicable</b>
7.1	Improve Forest Resource Monitoring System (FRMS)	11 District FPUs and 5 Forest Management Boards adopted the improved FRMS	By 2020, the new improved FRMS will have been put into operation in all prioritized districts	Annual report on forest condition change
7.2	REDD+ awareness raising and capacity building training	622 concerned officials and staff participated in all three provincial consultation workshops on PRAP development in 2016 and 2017.	1. By 2020, 750 participants from provincial departments/agencies and target districts will have attended the training and raised awareness on climate change and REDD+  2. 55 target communes will have accessed and raised awareness on REDD+ during the 2017-2020 period.	Training reports from PRAP

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

<b>No.</b>	<b>Solution packages</b>	<b>Benefits</b>	<b>Enhancement measure (Approach)</b>	<b>Monitoring measure</b>	<b>Risks</b>	<b>Mitigation measure</b>	<b>Monitoring measure</b>
<b>1</b>	<b>Control conversion of plantation forests to agricultural plantations (fruit trees) after timber logging</b>	1. Promote stability and sustainability of rural livelihood development. 2. Ensure water source for daily living and production needs	(1,2). Communicate the achieved success stories to outside the target areas (1,2). Organize study tours (for non-target communes) to success areas	(1) FPD report of forest rangers	1. Limit local economic development 2. Local people do not support for the plans 3. Conflicts between local authorities and people in monitoring and assessment of plan implementation.	(1, 2, 3). Combine with implementation of (other) local economic development policies (1, 2, 3). Develop non-farm jobs, handy crafts (1, 2, 3). Intensify communication activities (3). Intensify monitoring of the implementation of new plan	(1,2,3). (Collect) feedbacks from the local level (CPCs, field forest rangers...)  (1) (Review) local social economic reports (information on per capita income, etc.) (3) (Collect) information from village level conflict resolution team (3) (Review) letters of complaints from local people
1.1	Review provincial plan for fruits production						
1.2	Raise awareness on policies and regulations related to forest protection and management						
1.3	Enhance the monitoring and handling violations to planning						
<b>2</b>	<b>Improve economic viability of forest plantations</b>	1. Stabilized livelihoods (increased income) for local forest tree growers 2. Increased local interest and	(1,2,3,4,5). Communicate the success achieved outside the target areas  (1,2,3,4). Organize study tours (for non-	(1,2,3,). Socio-economic survey report of the communes	1. Risk of replacement of natural forests with plantation 2. Conflicts between people from outside of target communes	(1,3,4) Promote and improve quality of planning and plans of production forest development  (2) Communicate and discuss with the	(1,5) Forest change monitoring report of Forest rangers
2.1	Revise the incentive policies to incentivize forest owners to participate in forest development which is associated with forest sector restructuring						

No.	Solution packages	Benefits	Enhancement measure (Approach)	Monitoring measure	Risks	Mitigation measure	Monitoring measure
2.2	Promote development of production forest optimum to the land conditions.	participation in tree planting for forest development	target communes) to success areas	(1,2,3,4). FPD reports of Forest rangers	with those in the target communes 3. Conflict of land uses for different livelihoods 4. HHs practicing free grazing can be marginalized 5. Infrastructure development may cause deforestation 6. Suffer price pressure by traders	local people on criteria of target commune selection (especially those not living in the target areas)  (3). Develop grazing pastures  (4) Enhance supervision to the hotspot  (5) Have involvement of an independent party in timber classification and pricing	(2) FRMS (Forest rangers)  (2,3,4) Information from village level conflict resolution team (2,3,4) letters of complaints from local people  (1,2,3,4) - Feedbacks from the local level (CPCs, field forest rangers...)
2.3	Strengthen forest development technical and business capacity of local community	3. Stabilized market for plantation wood products					
2.4	Strengthen the supply chains and distribution chain for plantation woods.	4. Conservation of land and ecosystem through sustainable plantation management					
2.5	Controlled grazing in plantations						
2.6	Improve silviculture infrastructure						

No.	Solution packages	Benefits	Enhancement measure (Approach)	Monitoring measure	Risks	Mitigation measure	Monitoring measure
3	<b>Reduce encroachment and expansion of agricultural lands into natural forests</b>	1. Biodiversity conservation 2. Anti-soil degradation 3. Reduce flash flood 4. Raise awareness of the local people on forest protection and development	(1,2,3,4,5) Strengthen communication on forest protection and development for local people  (1, 2, 3, 4, 5, 6). PRAP. Integrate benefits into planning and implementation	(1) The report on biodiversity of the Forest Inventory and Planning Institute  (2) Environmental impact report of DONRE  (3) Flood prevention report of DARD  (4). FPD report of forest rangers  (5) Annual socio-economic development of CPCs  (6) Report for planning for three forest categories	1. Land-use conflicts; 2. Change locations of deforestation (deforestation actions moved to other places). 3. Conflicts between people from outside of target communes with those in the target communes 4. Affect to traditional cultivation practices of the local people. 5. Conflicts between the local people and competent authorities	(1,2,3,4) Enhance participation of local people (including non-target area people) in planning.  (1,2,4) Support for livelihood development of local people, especially to the poor and forest dependents.  (2). Strengthen coordination of parties in areas that have same borders	(1,2,3,4,5) Feedbacks from the local level (CPCs, field forest rangers...)  (1,3) Letters of complaints from local people
3.1	Revise the incentive policies to incentivize forest owners to participate in forest development which is associated with forest sector restructuring						
3.2	Promote development of production forest optimum to the land conditions.	5. Poverty reduction, increase incomes for the local people 6. Ensure land and forest resource use rights					

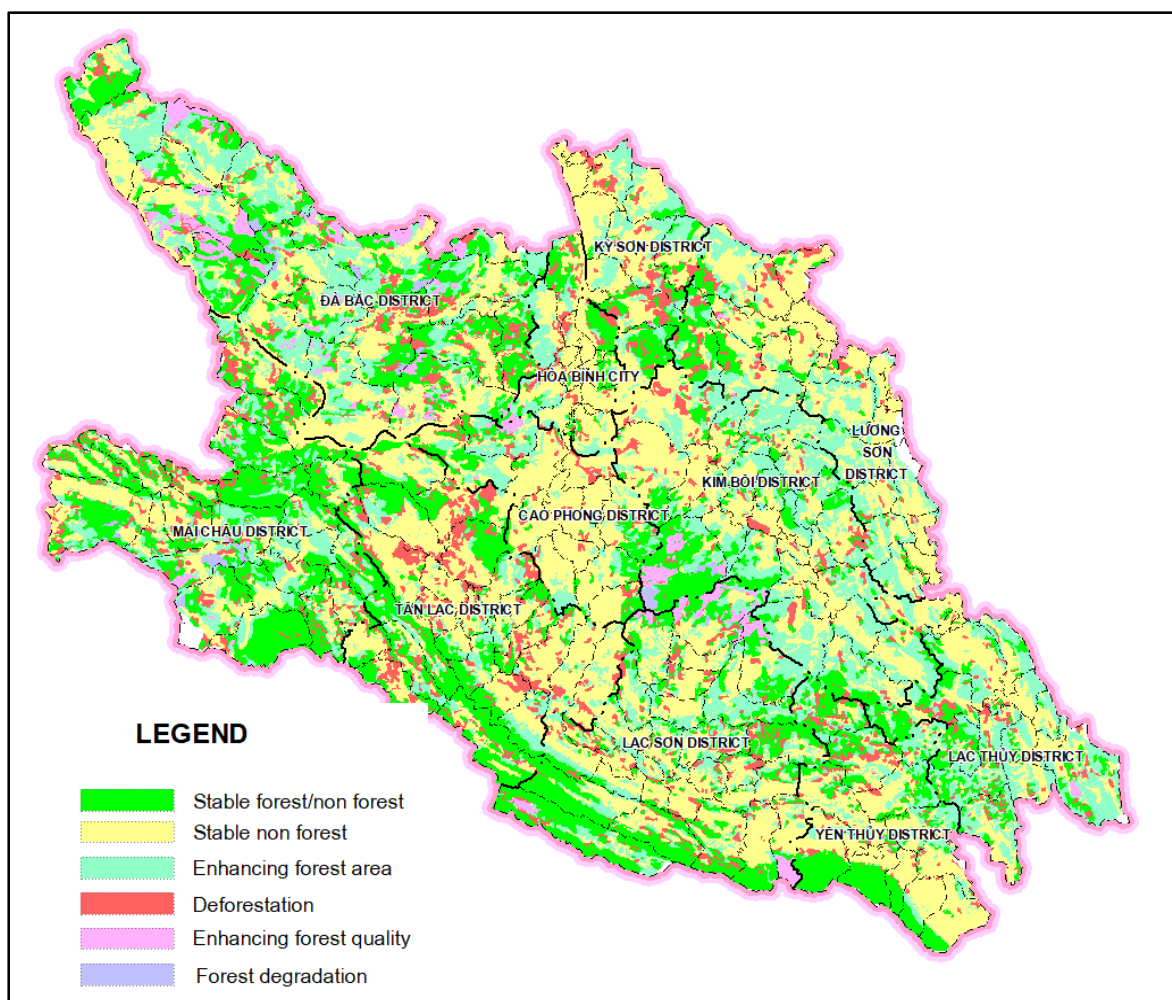
No.	Solution packages	Benefits	Enhancement measure (Approach)	Monitoring measure	Risks	Mitigation measure	Monitoring measure
<b>4</b>	<b>Control unsustainable/ illegal use of natural forests</b>	1. Biodiversity conservation 2. Ensure equality in forest resource use	(1,2) Strengthen communication on law on FPD for the local people  (1,2) Integrate benefits into planning and implementation	(1) The report on biodiversity of the Forest Inventory and Planning Institute  (2) Feedbacks from the local level (CPCs, field forest rangers...)	1. Conflicts between local people and authorities in stopping violations to forest protection and management;  2. Small group of the poor, forest dependent households may be marginalized  3. Conflict with local traditions (in making new houses, burning firewood...)	1. Promote awareness raising for the local people 2. Support for livelihood development 3. Encourage the use of alternative materials	(1) Letters of complaints from local people  (1,2,3) Feedbacks from the local level (CPCs, field forest rangers...)
4.1	Enhance the sense of responsibility in forest protection for forest owners and CPCs						
4.2	Improve the effectiveness of inter-sectoral coordination between the police, military and forest protection forces in forest protection, and forest fire prevention and fighting.						
4.3	Raise awareness on policies and regulations related to forest protection and management						
4.4	Promote use of alternative materials to natural timber						
<b>5</b>	<b>Mitigate impacts and compensate for loss caused by the forest conversion to infrastructure development and mining</b>	1. Ensure harmonization and sustainability between socio-economic development and	(1,2) enhance supervision and monitoring	(1) FPD report of forest rangers	(1). Conflicts between authorities and project owners  (2). Conflict of land uses for different livelihoods	(1) Intensify communication and education (1, 2, 3) (2) Strengthen participation of the local people to planning	(1,2) Letters of complaints from local people
5.1	Strengthen intersectoral coordination in planning, implementing and monitoring the development projects.						

No.	Solution packages	Benefits	Enhancement measure (Approach)	Monitoring measure	Risks	Mitigation measure	Monitoring measure
5.2	Ensure that all of project owners to fulfill the requirements of off-set planting	environmental protection 2. Create jobs from offset planting					
<b>6</b>	<b>Enhance restoration and reforestation of natural forests</b>	1. Biodiversity conservation	(1,2,3,4) Strengthen communication on law on FPD for the local people	(1) The report on biodiversity of the Forest Inventory and Planning Institute	1. Land-use conflict between local people and forest owners	(1,3,4) Strengthen participation of the local people to planning and decision making	(1,3,4) Letters of complaints from local people
6.1	Make recommendation for amendment to policies on forest protection and regeneration	2. Anti-soil degradation	(1,2,3,4,5) Integrate benefits into planning and implementation	(2) Environmental impact report of DONRE	2. Take advantages of wood from plantations to log from the natural forests.	(1,2,3,4) Intensify communication and education on FPD	(1,2,3,4) Feedbacks from the local level (CPCs, field forest rangers...)
6.2	Technical capacity building for the people	3. Reduce flash flood		(3) Flood prevention report of DARD	3. Conflicts between people from outside of target communes with those in the target communes	(2) Strengthen checking to original of timber/wood	
6.3	Increase incomes from forests for the local people	4. Raise awareness of the local people on forest protection and development		(4) FPD reports of forest rangers	4. HHs practicing free grazing can be marginalized		
		5. Poverty reduction, increase incomes for the local people		(5). Annual socio-economic development of CPCs			

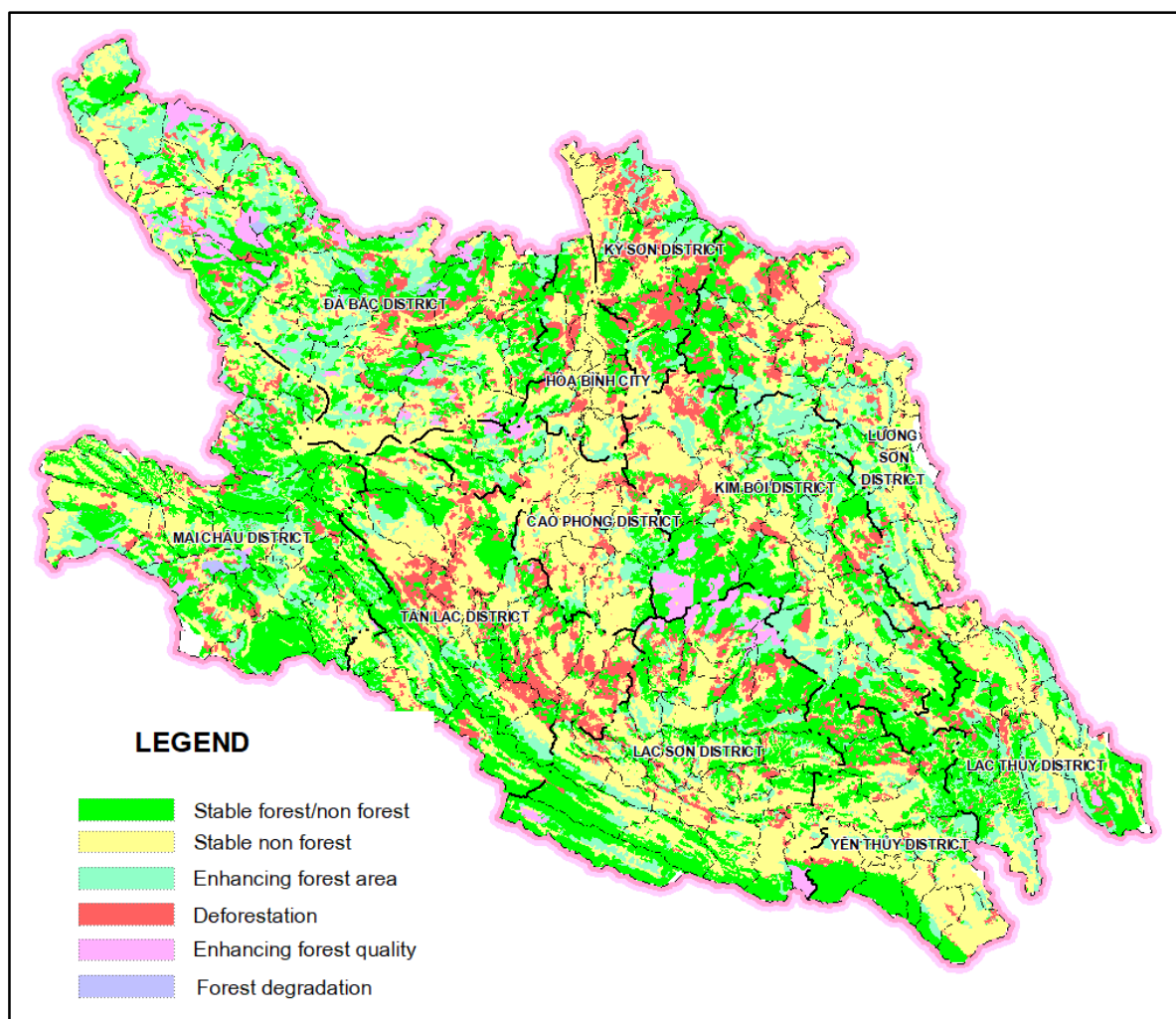


No.	Solution packages	Benefits	Enhancement measure (Approach)	Monitoring measure	Risks	Mitigation measure	Monitoring measure
7	<b>Province-wide cross cutting solution package</b>				1. People may misunderstand about REDD+ and expect too much on benefits from REDD+, thus, it may lead disturbances in the community.	(1) Improve communication and awareness raising on REDD+	(1) Feedbacks from the local level (CPCs, field forest rangers...)
7.1	Improve Forest Resource Monitoring System (FRMS)						
7.2	REDD+ awareness raising and capacity building training						

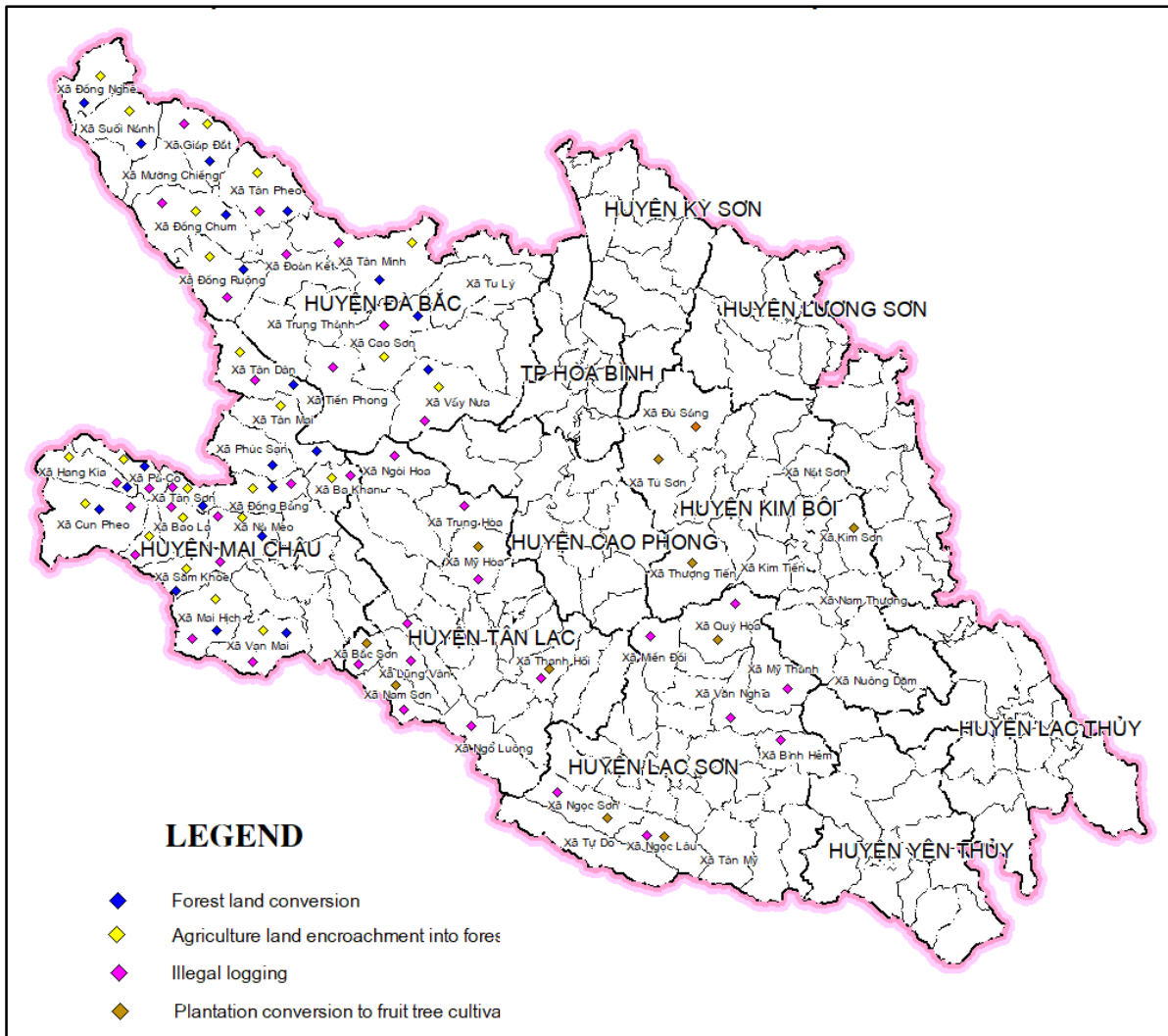
**Map 01. Forest change status map of Hoa Binh Province during the 2005-2015 period**



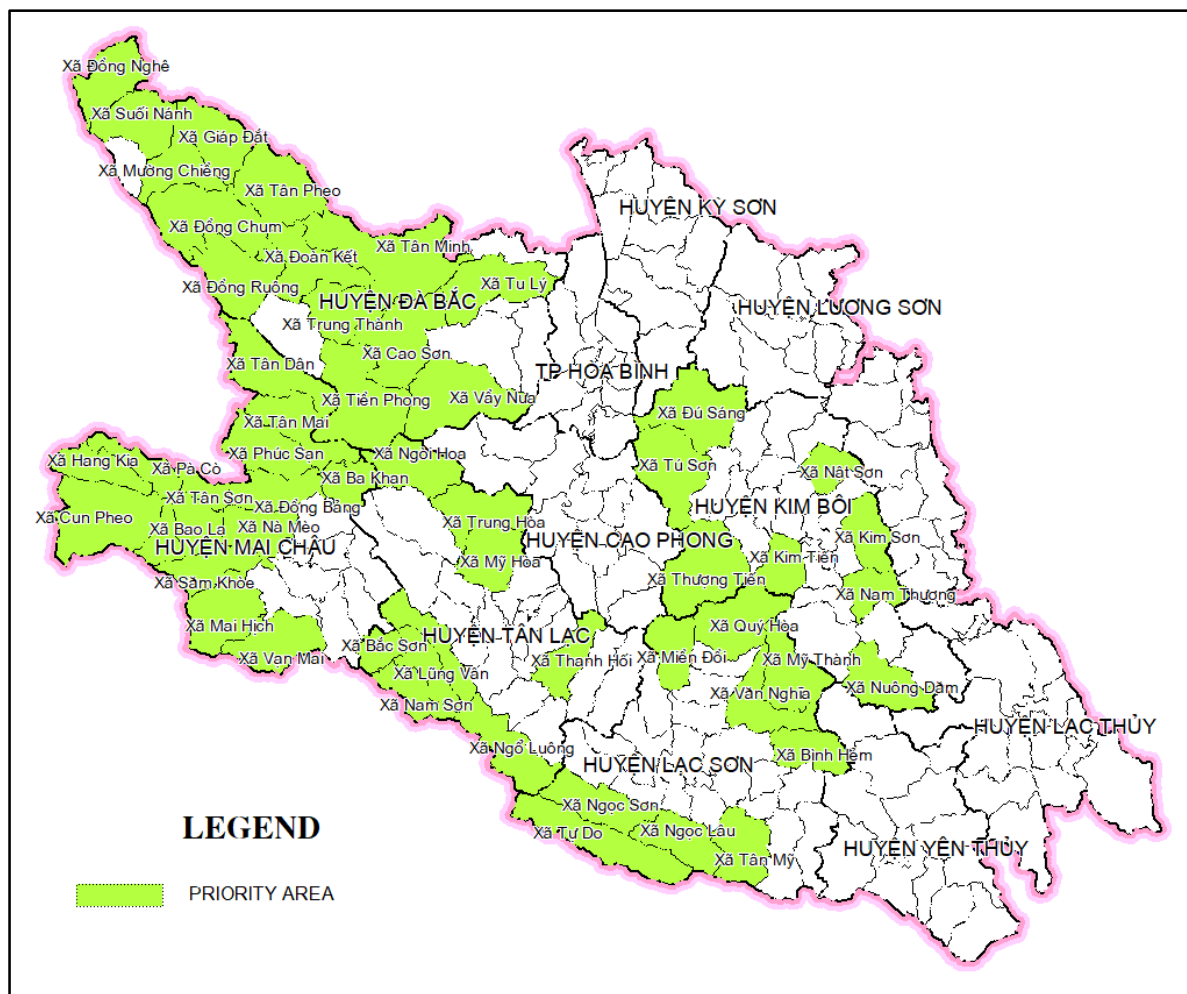
**Map 02. Forest change status map of Hoa Binh Province during the 2010-2015 period**



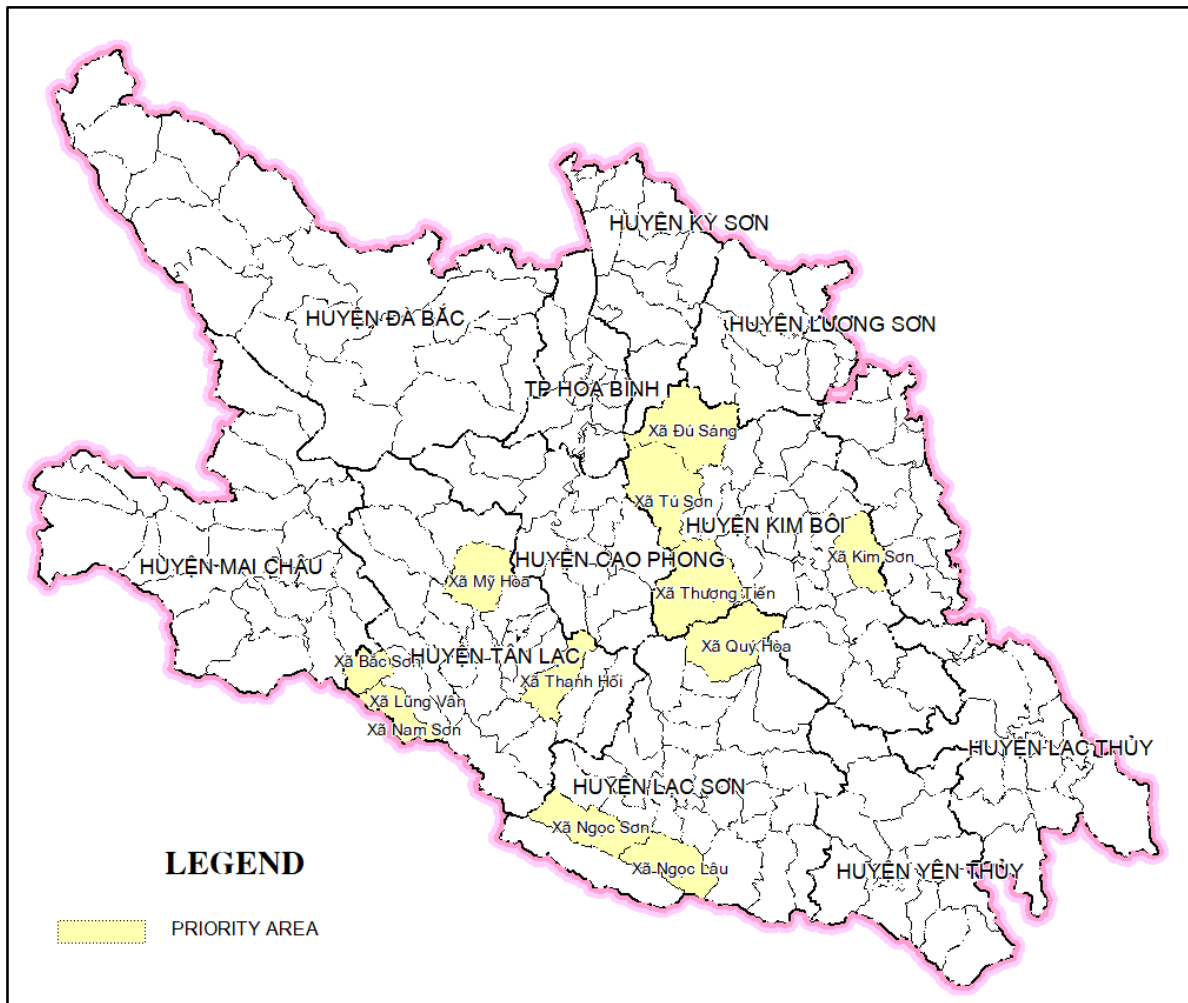
**Map 03. Map of areas with high threats of deforestation during the 2015-2020 period**



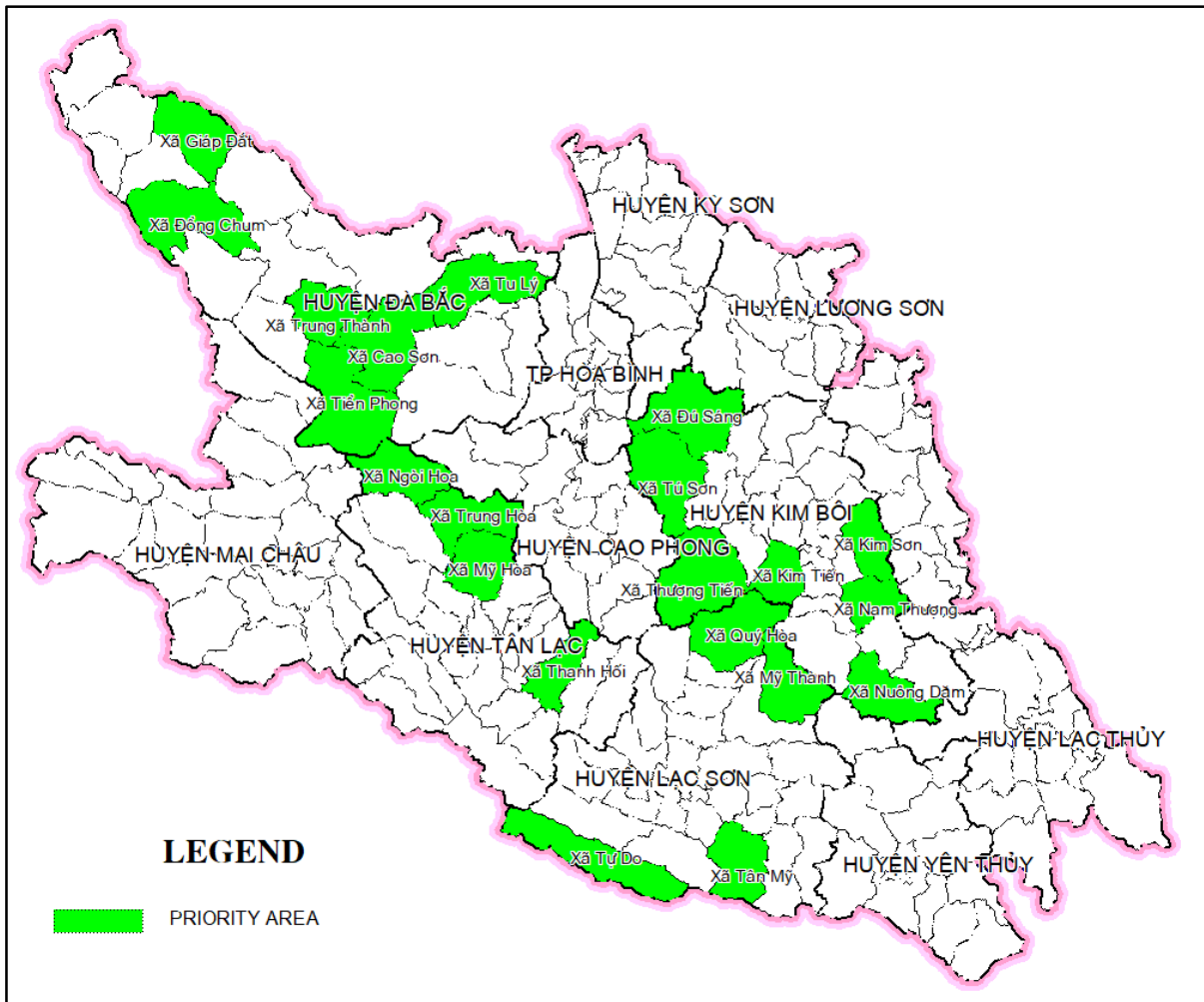
**Map 04. Map of prioritized areas for REDD+ implementation during the 2017-2020 period**



**Map 05. Map of prioritized areas for REDD+ implementation**  
**(Solution package 1: Control conversion of plantation forests to agricultural plantations (fruit trees) after timber logging)**

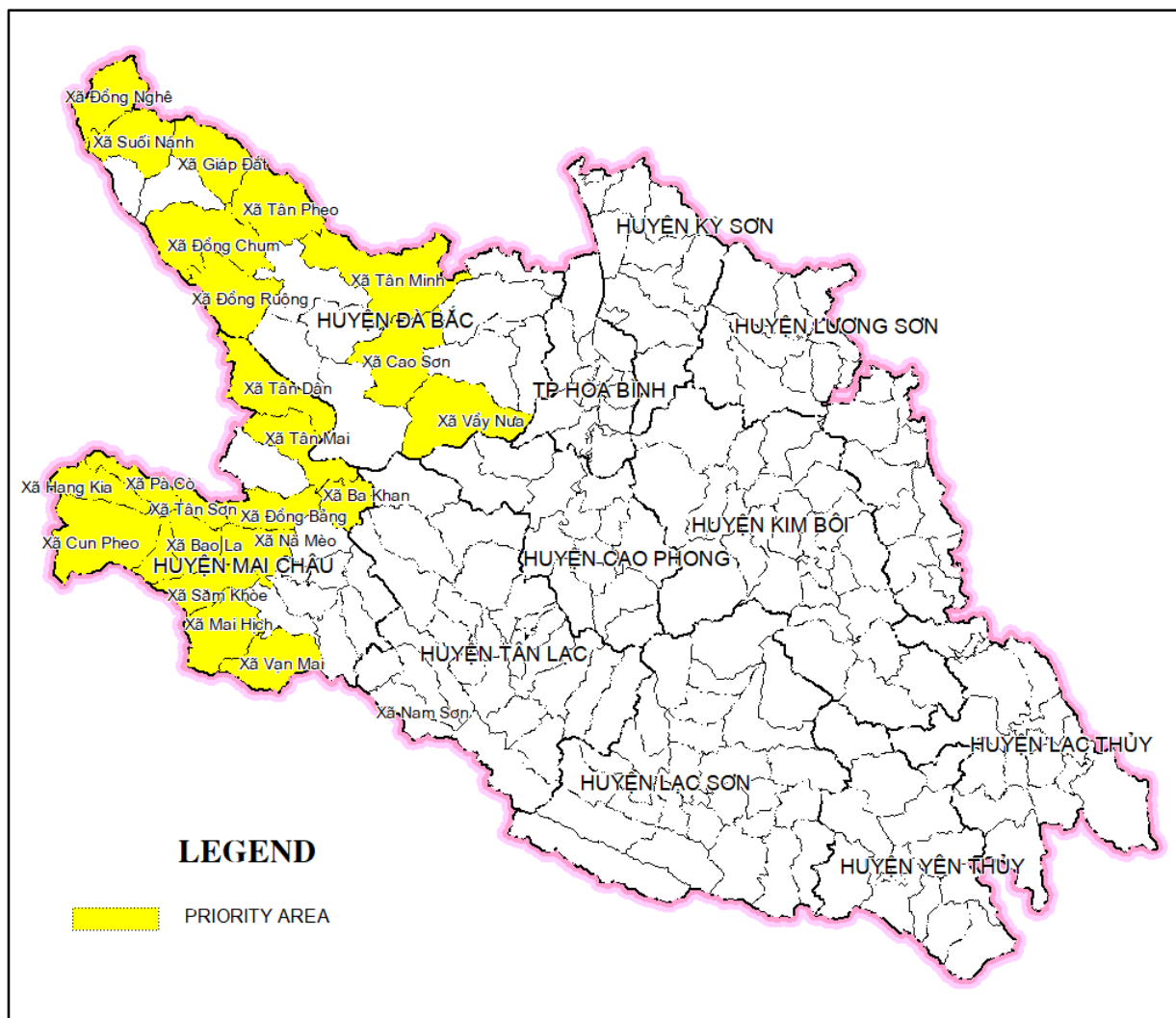


**Map 06. Map of prioritized areas for REDD+ implementation**  
**(Solution package 2: Improve economic viability of forest plantations)**



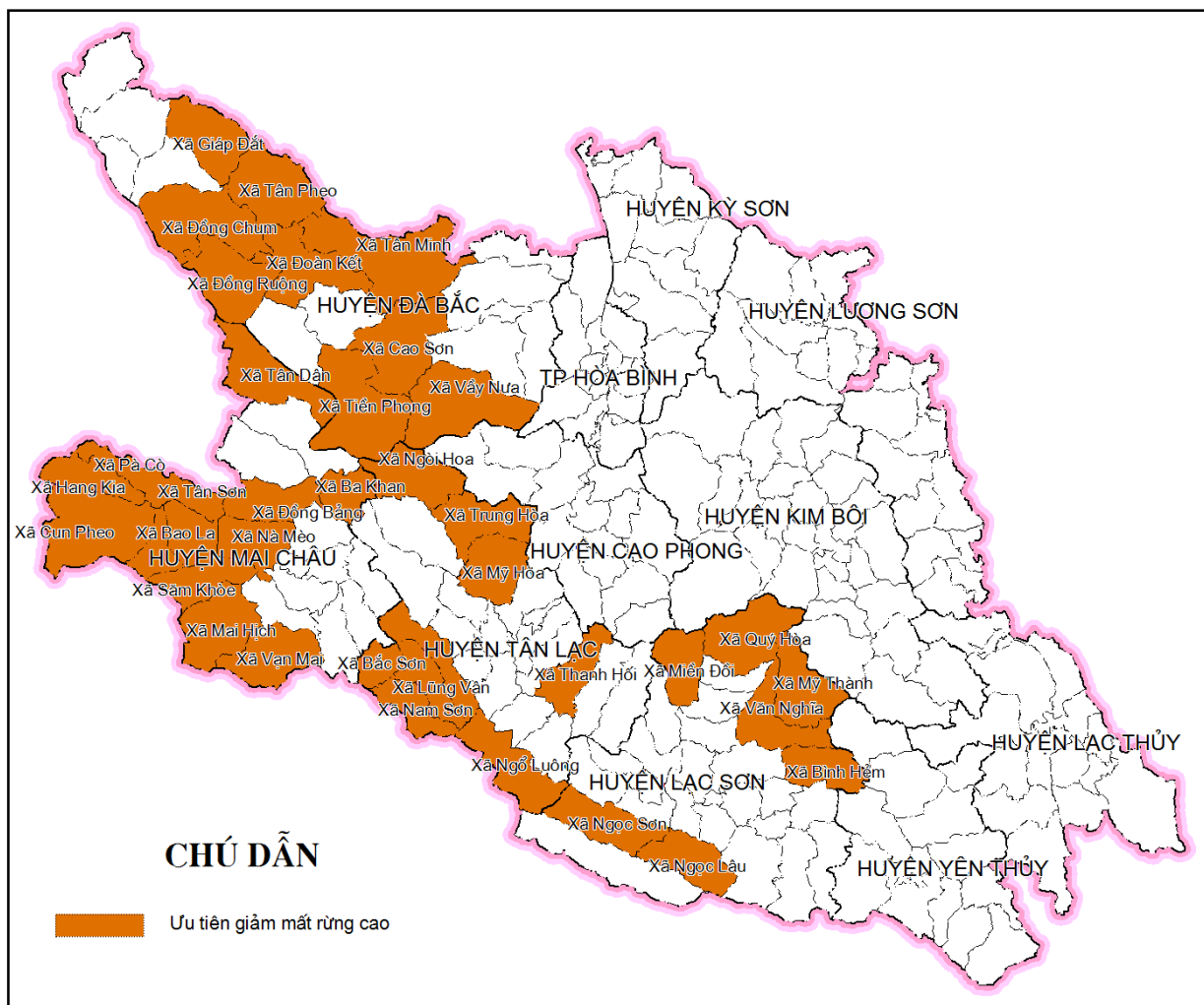
### Map 07. Map of prioritized areas for REDD+ implementation

(Solution package 3: Reduce encroachment and expansion of agricultural lands into natural forests)



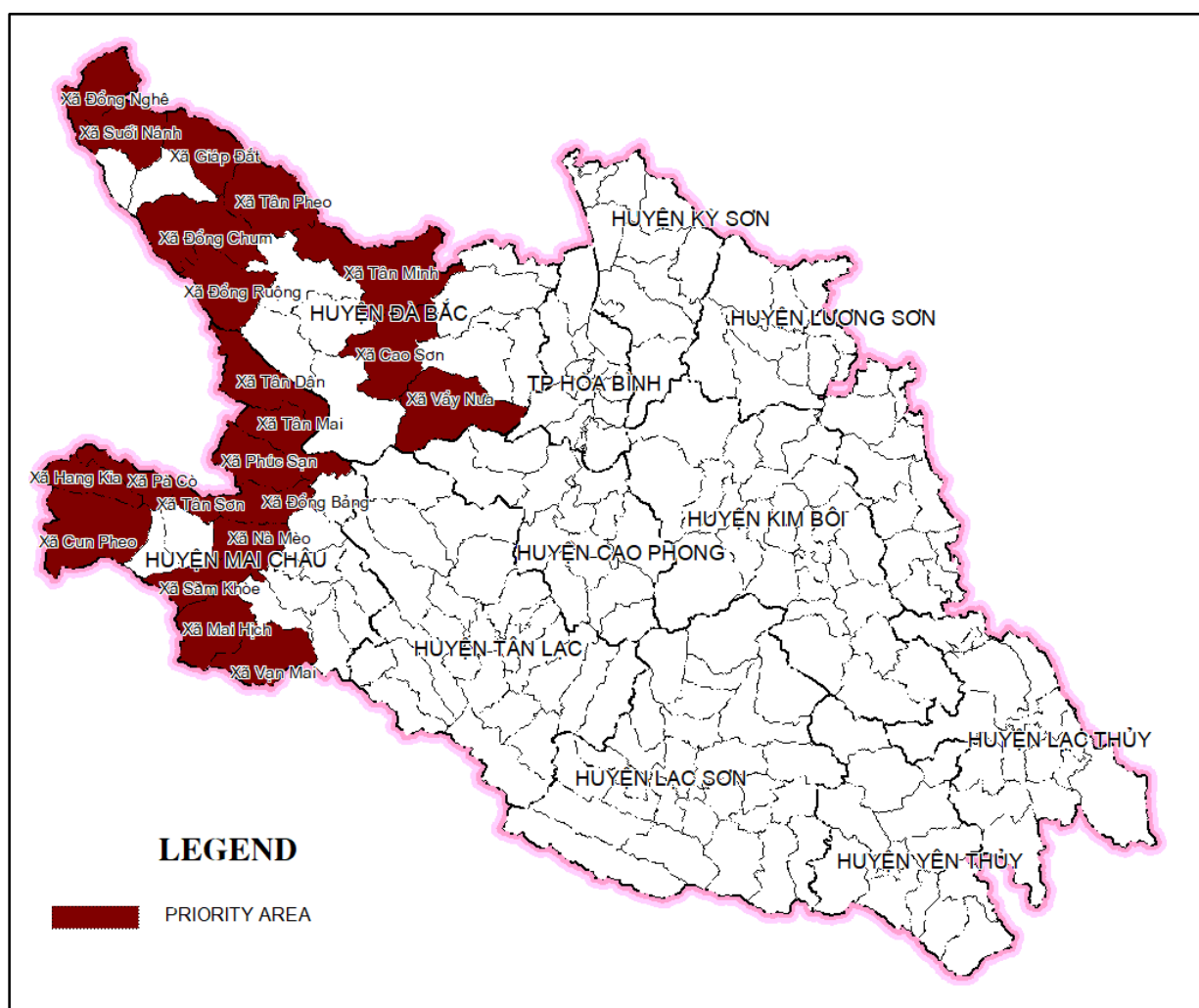


**Map 08. Map of prioritized areas for REDD+ implementation**  
**(Solution package 4: Control unsustainable use of natural forest resource)**



### Map 09. Map of prioritized areas for REDD+ implementation

(Solution package 5: Mitigate and compensate for the impacts of forest conversion for infrastructure development and mining)



**Map 10. Map of prioritized areas for REDD+ implementation**  
**(Solution package 6: Enhance restoration and reforestation of natural forests)**

