Forest Law Enforcement And Governance in China

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Content

Introduction

Ruling the country by law is the basic strategy in China. Forest law enforcement include forest administrative law-enforcement and forest criminal law enforcement. In this presentation, I will focus on the forest administrative law-enforcement. It is situated a key position in the entire forestry functional duties and has played an important role in the ecological and livelihood forestry in China.

Introduction

With continuous perfection of forestry legislation, institutional framework and personnel capacity since 1949, forest law enforcement and governance has been largely strengthened, and played a key role in cracking down and preventing illegal and criminal activities in forestry fields, safeguarding forest resources, promoting sustainable forest management and orderly operation of national forestry economy.

1. Enforcement Institutional Framework

Institutional Framework of SFA

State Forestry Administration (SFA) is the competent authority for forestry in China, consisting of 11 departments, and about 70 institutions directly under SFA. Forest law-enforcement is performed by related agencies, corresponding to specific administrative functions of forestry land management, wood harvest, wildlife protection, seeds and seedlings management and forest disasters prevention etc.

Institutional Framework of SFA

SFA
- General Office
- Department of Forest Policy & legislation
- Department of Tree-Planting & Afforestation
- Department of Forest Resources Management
- Department of Wildlife Conservation
- Department of Rural Forestry Reform and Development
- Forest Public Security Bureau
- Department of Development, Planning & Finance
- Department of Science & Technology
- Department of International Cooperation
- Department of Human Resources & Education

Institutional Framework of SFA

Relevant institutions directly under SFA,

- General Administration for State Forest Farms & Tree Seeds and Seedlings.
- General Administration for Forest Working Stations
- General Administration for Forest Funds
- Management Office for the Fast-growing and High-Yield Timber Plantation Base Development Project
- Office of Forest Resources Supervision.

Relevant departments, bureaus & institutions are established at provincial, municipal and county levels, and forest stations in towns at the grassroots level.

Forest Law enforcement agencies

Currently, the total of 37 thousand agencies of forest administrative law-enforcement and governance are developed with personnel about 200 thousand.

- More than 3200 forest resources administrative agencies with personnel 18,000

Department of forest resources management, SFA

Division of forest resources administration, provincial forestry sector

Office of forest resources administration, municipal or county forestry sector

Forest Law enforcement agencies

- 15 forest resources supervision agencies with personnel 215
- More than 30,000 forest workstations with personnel 150,000
- More than 4,200 timber checking points with personnel 35,000

Forest Law enforcement agencies

- 6769 forest public security agencies with forest policeman 58,700
- Armed forest police force: founded in 1948, and garrisoned in 13 provinces and state-owned key forest regions.
- 1.20 million special protect persons of managing and protecting local forest resources (most in natural forest area and rural mountain area)

Network of Forest Resources supervision

Meeting the needs from national forestry development and ecological restoration, a complete network of nationwide forest resources supervision （15 in total) and governance has been drawn up, providing powerful institutional and personnel guarantee for well operation of forest administrative law-enforcement across the whole country without blind area.

Forest Administrative Law-enforcement Bodies

- **Forest Law: definitely stipulate law-enforcement bodies**
  - **Item 10**: the competent forestry authority of state council in charge of nationwide forestry business, and that of above county levels in charge of forestry business in the area.
  - **Item 13**: the competent forestry authorities at all levels manage and supervise protection, utilization and regeneration of forest resources.
  - **Item 20**: forest public security Organs act administrative punishment rights of item 39, 42, 43 and 44 on behalf of local competent forestry authorities within the scope authorized by the competent forestry authority of state council.

Forest Administrative Law-enforcement Bodies

- **Administrative regulation on forest resources supervision: fixes the duties of forest resources supervision Organs**
  - **Item 8**: SFA Office of Forest Resources Supervision in key forest region is entitled to supervise local forest resources management and forestry administration.
  - **Item 9**: SFA Office for Forest Resources Supervision in key forest region can compel supervised unit to stop the behaviors contrary to forest-related law, regulation and polices.

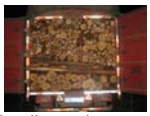
Forest Criminal Law-enforcement Bodies

- **People's Police Law**: Forest public security Organs and policeman are granted an interrogation, check and lien on illegal personnel.

- **Criminal Procedure Law**: Forest public security Organs (including sub-bureau in forest region) at municipal and above levels are granted to place on file, investigate and preliminary inquiry criminal cases in the area.

Categories of Forest Administrative Cases

- **Forest land and wood harvest (6 categories)**


(Illegally purchase and transport timber)


(Illegal logging)


(denudation)


(Illegally process timber)


(Illegally requisition and occupy land)


(destroy trees & seedlings)

Categories of Forest Administrative Cases

- **Other cases**


(Illegally purchase/ sale/ transport wild animal)


(Illegally hunt wild animal)


(illegally domesticate wild animal)

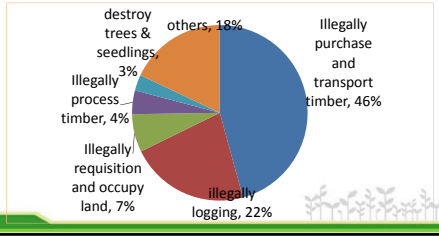

(breach the rule of forest plant guarantine)


(breach the rule of seeds management)

Forest Administrative Cases happening

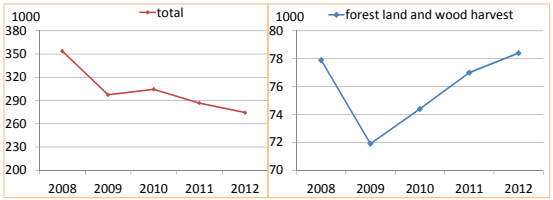
In 2012

- forestry administrative cases: 274 thousand.
- illegally purchase and transport timber occupies 46%.
- 29% about forest land and wood harvest.



Forest Administrative Cases happening

During 2008-2012



Forest Administrative Cases happening

The historical change shows during 2008-2012,

- The total amount of forestry administrative cases has decreased from 353.8 thousand to 274.4 thousand, a 22% decline from 2008.
- Cases of illegal logging and illegal requisitioning & occupation forest land happened in high level, more than 77 thousand every years.
- The rate of investigated and punished cases keeps above 98%, and annual retrieved economic loss reaches 2.2 billion.

Forestry administrative law-enforcement heavily struggle against illegal activities in forestry field, and has achieved remarkably to safeguard sustainable net gain of forest resources.

History of forest legislation

It is a long history for development of forest-related laws and regulations in China. The oldest statue book "Zhou Li" issued in 1095 BC advanced special items on forests, and has directly influenced subsequent forest management, harvest, tax and wet land.

The item "state-owned forest designated by the law belongs to the people" was written into the national Constitution in 1954, providing policies support for the exploitation of key forest regions and forest management in 1950s.

History of forest legislation

The first forestry law "Forest Law (Trial) " was adopted at the 6th meeting of 5th NPC Standing committee in 1979, and Forest Law was put into force in 1985. Since then, total of 8 national forestry-related laws, more than 20 forestry administrative regulations and over 80 governmental rules have been promulgated, covering all fields of forestry. Systematic forestry legislation makes a firm legal base of modern forestry supervision and governance.

Key forest Laws & Regulations

Category	Major laws and regulations	Enforcement
General laws and regulations	*Forest Law*	1998
	Implementation Regulation of Forest Law	2000
Forestry land management and wood harvest	*Regulation on Handling Disputes of Trees and Forestry land Ownership*	1996
	Administration Regulation on Trees and Forestry land Ownership Registration	2000
	Administration Regulation on Examination and Approval of Forestry land Occupation and Requisition	2001
	Administration Regulation on Forest Harvest & Regeneration	1987
	Administration Regulation on Forest Resources Supervision	2007

Key forest Laws & Regulations

Category	Major laws and regulations	Enforcement
Seeds and seedling management	*Seed Law*	2000
	Regulation on Managing Forest Wood Seedling Quality	2007
	Administrative Regulation on Wood Seeds production and Management License	2002
	Implementing Regulation for New Plant Species Protecting Byelaw (Forestry)	1999
	Implementing Regulation for Plant Quarantine Byelaw (Forestry)	1994
Biodiversity protection	*Law of Wildlife Protection*	1989
	Regulation on Wild Plant Protection	1997
	Regulation on Nature Reserve	1994
Forest disaster and quarantine	*Law of Import-Export Animal and Plant Quarantine*	1992
	Regulation on Forest Disease and Pest Prevention	1989
	Regulation on Forest Fire Prevention	2008

Items on administrative & criminal penalties

Integrated lawful items on administrative and criminal punishment are defined in the forest-related laws & regulations in the light of category, nature and severity of specific cases.

- ***Forest Law***: Legal liability (chapter 6)
  - **Item 39:**

    Fell trees illegally: compensate for the loss and impose a fine of 3-10 times of trees value,

    Denudation: replant 5 times of felt trees and impose a fine of 2-5 times of trees value.

Items on administrative & criminal penalties

- **Item 41:**

  Issued wood logging license over approved harvest quota or issuing wood logging license, timber transport license and documents of timber import/export beyond duty: administrative punishment to responsible personnel.

- **Item 42:**

  Illegal business of trees harvest license, transportation license, documents of export approval and import/export permission: confiscate illegal income and impose a fine of 1-3 times of illegal income.

Items on administrative & criminal penalties

- **Item 43:**

  Illegal purchase trees felt unlawfully or denudation: confiscate unlawful earnings and impose a fine of 1-3 times of illegal purchased value.

- **Item 44:**

  Open up forestry land for farming, quarry, mine sand, take clay, collect seeds, tap resin which lead to deforestation: compensate for the loss, replant 1-3 times of destroyed trees, and impose a fine of 1-5 times of destroyed value.

Items on administrative & criminal penalties

- **Item 45:**

  a serious nature of not regeneration as contracts: impose a fine besides suspension of issuing wood harvest license and reforestation.

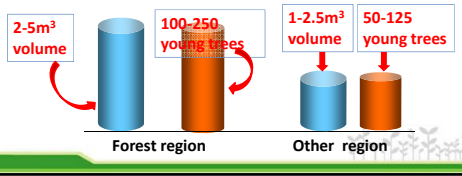
- Furthermore, above items as well as other cases with a serious nature and constituting a crime defined in the Forest Law: to be prosecuted for criminal liability.

Implementation Regulation of Forest Law: put forward the amount and standard of administrative punishment in detail.

Items on administrative & criminal penalties

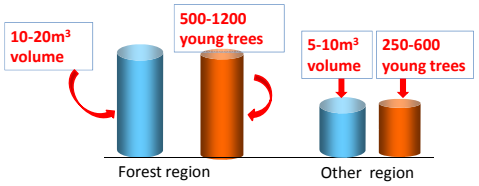
- Judicial explanation on the serious nature of crimes of felling trees unlawfully and denudation from Supreme People's Court and Supreme People's Procuratorate on 10 March, 2000

- large quantity for felling tree unlawfully:



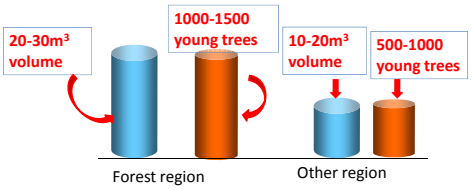
Items on administrative & criminal penalties

- Large quantity for denudation:



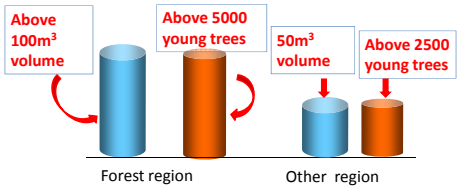
Items on administrative & criminal penalties

- Huge quantity for felling trees unlawfully:



Items on administrative & criminal penalties

- Particular huge quantity for felling trees unlawfully:



Items on administrative & criminal penalties

- Judicial explanation on **serious nature of destruction of forestry land** from Supreme People's Court on 19 Dec., 2005

- Item 1, crime of illegal occupation of agricultural land: less than 5 years' imprisonment or criminal detention or/and penalty
  - ◆**More than 5mu**: separate or total area of illegal occupation & destruction of protective forest land and forest land for special use.
  - ◆**More than 10mu**: illegal occupation & destruction of other forestry land.
  - ◆Illegal occupation and destruction of forestry land defined in above two cases: **the area reaches 50% respectively**.
  - ◆Illegal occupation and destruction of forestry land defined in above two cases: **individual case reaches 50% and total reaches the defined quantity**. (1 ha equal to 15 mu)

Items on administrative & criminal penalties

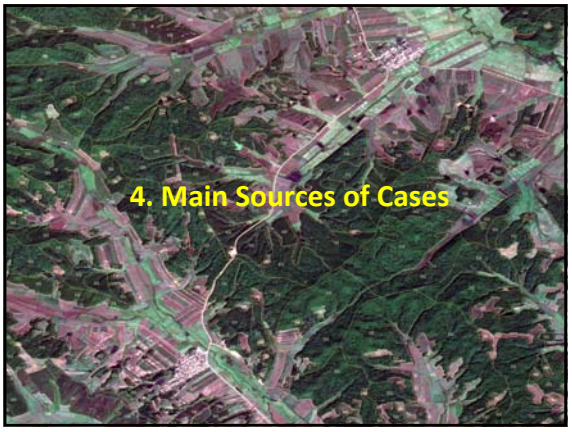
- Item 2 (civil servant) , crime of illegal approval of land requisition and occupation: less than 3 years' imprisonment or criminal detention.
  - ◆**More than 10mu**: separate or total area of illegal approval of requisition & occupation of protective forest land and forest land for special use.
  - ◆**More than 20mu**: illegal approval of requisition & occupation of other forestry land.
  - ◆**Direct economical loss reaches 300 thousand yuan （RMB), or more than 5mu separate or total for case 1, or more than 10mu for case 2** due to illegal approval of requisition & occupation of forestry land.

Items on administrative & criminal penalties

- Item 3 (civil servant) , crime of illegal approval of land requisition and occupation: 3-7 years' imprisonment, when the case of item 2 cause special heavy loss.
  - ◆**More than 20mu**: separate or total area of illegal approval of requisition & occupation of protective forest land and forest land for special use.
  - ◆**More than 40mu**: illegal approval of requisition & occupation of other forestry land.
  - ◆**Direct economical loss reaches 600 thousand yuan, or more than 10mu separate or total for case 1, or more than 20mu for case 2** due to illegal approval of requisition & occupation of forestry land.

Items on administrative & criminal penalties

- Item 4 (civil servant) , crime of illegally transfer state-owned forestry land use right: less than 3 years' imprisonment or criminal detention.
  - ◆More than 20mu of forestry land, and transfer value less than 60% of lowest level according to national regulation.
  - ◆Contributory state-owned assets loss reaches 300 thousand yuan.
- Item 5 (civil servant), crime of illegally transfer state-owned forestry land use right: 3-7 years' imprisonment, when the behavior as item 4 cause state-owned assets loss reaches 600 thousand yuan.



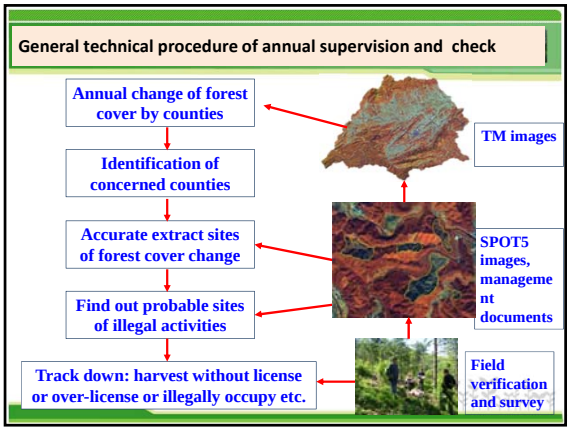
Main Sources of Cases

1. From official supervision and check

All-level competent forestry authorities launch independent or integrated check projects to provide directly reliable firsthand information on illegal activities, stemmed from relevant laws and regulations.

- Annual check of wood harvest quota implementation: originated from national forest resources consumption investigation in 1986, and become annual check in 1998.
- Annual check of occupation and requisition of forestry land: started in 1992.

General technical procedure of annual supervision and check



Main Sources of Cases

Case 1: 26 directors of forest farm were dismissed in Heilingjiang province in first half of 2010

Through annual supervision and check, total of 137 issues covering timber logging without license, felling trees unlawfully, deforestation for crop, change of forestry land use, illegal occupation and occupied area above approval were detected in Heilongjiang in first half of 2010. 107 persons responsible were penalized, of whom 26 directors of forest farms were removed from office.

Main Sources of Cases

Case 2: Special reforestation in Bachu county, Xinjiang autonomous region in 2008

Total of 239 ha key non-commercial forest land were opened up for orchard and cotton without permission since 2006. The contractors were huge administratively punished.

Main Sources of Cases

2. From public tip-offs

Public tip-offs is an very important channel to find out and restrain illegal activities , and protect forest resources and public profits.

Case 3: Deforestation for crop around Songhuaba reservoir, Yunnan in 2009

About 6.7 ha naturally protective forests (Pinus yunnanensis) were destroyed by local farmers for vegetable within the 1st protected area of songhuaba water source area.

Main Sources of Cases

3. From news media supervision

News media supervision is the important supplement of judicial and administrative supervision, and one of most efficient measures to manage forest in accordance with law and keep down unlawful acts.

Case 4: Deforestation for farm field in Jingning, Zhejiang, 2011 (Topics in Focus, CCTV)

Total of 20 ha forest land were officially destroyed for cropland, in order to hold filling balance of requisitioned farmland in 2011.

Main Sources of Cases

4. The special actions of law-enforcement

According to current situation of forest-related cases, forest public security Organs and forest administrative agencies annually launch special enforcement actions to discover cases breaching forestry land, forests and other resources, and heavily strike illegal behaviors in forestry fields.

(Sword action)

(Illegal removal of earth)

(Spring action)

Challenge

- Local governmental destroying forest resources is gradually becoming mainstream, which increase difficulty in handling these cases.

Local government	Illegal activities	Challenge
Economic development	Approval of land occupation and wood logging not abiding by law	Local forestry administration in disorder
Local governors record	Above-quota or beyond authority's approval	Destroy forest resources
	Administrative interference of governance of forestry competent authorities	Furtherance of deforestation
		Threaten ecological safety

Challenge

- Duplicate forest law-enforcement lead to low efficiencies and poor effect.

Enforcement agencies	Challenge	Approaches
Forest resources management	Disperse power of punishment	Integrating resources to establish comprehensive law enforcement agencies, straighten institution, normalize enforcement procedure.
Wildlife protection	Overlapped functions	
Forest pest control and quarantine	Cumbersome team	
Seedling management	Not the normal way of enforcement	
Forest working station		
Timber check points		
Bureau of natural reserve		
Forest public security unit		
…		

Challenge

- Deficiency in the standard of forestry administrative accountability result in difficult implementation.

Status	Challenges
High incidence of cases, and serious deforestation arising in some areas	Lack of united C&I for administrative punishment
Serious negligence of duty and misconduct of a few personnel and some local relevant authorities	Lags in the regulations on accountability of forest administrative cases
Strengthen the duties of local government and accountability	Indistinct accountability subject and object
	Standardized procedure of administrative accountability

Future actions

In next stage, forest law-enforcement and governance will continue to aim at maximal benefits of resources utilization against minimal resources consumption to actualize the net gain of forest resources up until 2020 declared by Mr. Hu Jingtao at 2009 APEC meeting.

China will promote forestry legislation through revision and supplement of items as usual, and strengthen the effective of administrative supervision and governance with the purpose of securing forest resources to guarantee development of ecological forestry and livelihood forestry, taken mechanism innovation and normalized management as the key.

Mechanism and Practices of PES / Eco-compensation for Forests in China

Dai Guangcui

China National Forestry Economics and Development Research Center

September 2013 • Kunming

Importance of PES/Eco-compensation

- A PES or eco-compensation mechanism for protected forests can pay the ecosystem services or compensate the cost /lose of forest protection
- To curb ecological deterioration problems such as the damage to vegetation, land degradation and soil erosion
- To eases the conflicts between socio-economic development and eco-environmental protection to sustainable development.

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Importance of PES/Eco-compensation

The Chinese central government proposed to establish a system of payment for natural resources and ecosystem services or eco-compensation which reflect both the market demand / scarce and ecosystem service value and compensation intergeneration as well.

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China's Practices of PES/Eco-compensation

Legislation related to PES of forest.

Article 8 in the ***Forest Law*** (1998) stipulates that "the State establishes a special fund for compensating the costs of afforestation, tending, protection and management of the protection forests and special purpose forests".

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China's Practices of PES/Eco-compensation

The beneficiaries of the PES of forest.

Article 15 in ***Regulations for the Implementation of Forest Law*** issued in 2000 stipulates that " the managers of protection forests and special purpose forests possess of the right to get the compensation ".

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China's Practices of PES/Eco-compensation

Pilot for eco-compensation

In 2001, subsidies for forest ecosystem services was officially incorporated into the national system of public finance budget expenditures.

The pilots were started in 11 provinces including 685 county-level units and 24 national nature reserves with the input of RMB 1 billion yuan and 200 million mu (1mu=1/15 hectare) forests

Stantard for compensation: **5 yuan per mu per year.**

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China's Practices of PES/Eco-compensation

- **Formal start.**

The Central Government decided to implement the forest management system by classification. The forests are divided into protected forest and commercial forest, with different management system, mechanism and policies.

To the protected forests, the investor will get a reasonable compensation by the government with multiple ways. The construction and compensation of the protected forests will responsible by the Central government and provincial (local) government.

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China's Practices of PES/Eco-compensation

- In 2004, based on the pilot, the Central Fund for Compensation of Forest Ecosystem Services were formally established in countrywide.
- In 2008, in the context of the Reform of Collective Forest Tenure, the central government proposed to build public finance system for supporting the development of collective forestry. Governments at all levels shall establish and improve the mechanism of PES and gradually increase compensation standards.

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China's Practices of PES/Eco-compensation

- In 2010，the State Forestry Administration and Ministry of Finance further revised the "Zoning and Definition of National Protected Forests" .
- The compensation to collective protected forests which managed by collective or individual farmers was increased from 5 yuan to 10 yuan per mu per year.

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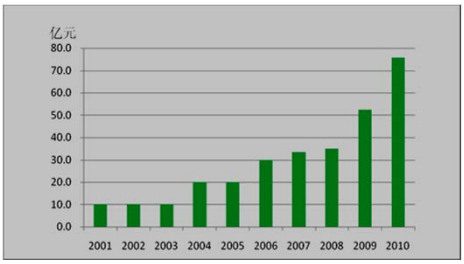
Central Fund for PES of forests 2001-2010



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Local policies for PES of forests

- Local protected forests are those forests defined and zoned by local government or the forestry authorities and the financial department based on the need to protect regional ecosystem security in their regions, which consists of protection forests and special purpose forests having important functions in soil and water conservation, watershed protection and biodiversity conservation within the region except national protected forests.
- Currently, most of provinces of China have established local mechanism of PES and the provincial finance establishes forest ecological benefit compensation fund.

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Local policies for PES of forests

According to incomplete statistics, there are about 1.15 billion mu of local protected forests in China.

- **Sources of local fund for PES** from local budgets at all levels, the self-financed funds and other funds, like markets transaction.
- **Use of the local fund for PES** mainly to make up the shortage of the Central Fund, the protection of local protected forests in the province and inter-provincial compensation

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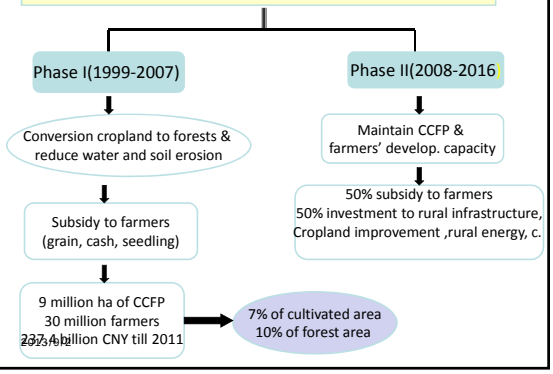
PES policies of Guangdong Province

- From 2012, compensation increase 18 yuan per mu per year both national and local protected forests by provincial finance.
- Guangzhou city, 41 yuan per mu per year, from 2010.
- Shenzhen city, proportion of province: city: region =1∶1∶1.
- Feshan city, province: city: region = 4∶2∶4.
- Dongguan city, province : city = 1∶1; 100 yuan per mu per year to rural collective non- econimic forests since 2008.

The biggest Eco-compensation—CCFP

To combat the water and soil erosion and flooding, adjusting the land use and increase forest cover, Chinese government to implement the Conversion Cropland (with steep slope and serious desertification) to Forest Program (CCFP). Central finance pay the compensation by grains and living subsistence.

China's Conversion Cropland to Forests Program



The biggest Eco-compensation—CCFP

- CCFP pilot start in 1999 in Shaanxi, Gansu and Sichuan provinces, and extended to 1696 counties of 28 provinces in 2002.
- CCFP also in the Program on Sandification Control for Areas in the Vicinity of Beijing & Tianjin in 2001. It covers 75 counties of 5 province and autonomous region.

The biggest Eco-compensation—CCFP

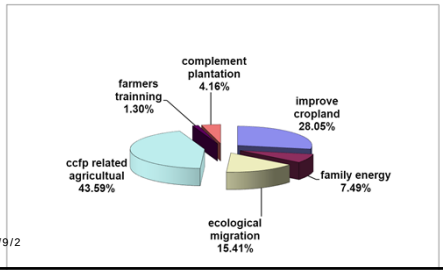
- The initial goal of CCFP is to reduce water and soil erosion mainly in west China and reverse its thousand years over exploration of land;
- Phase I mainly targeting on environmental goal and gradually realize livelihood is the key to implement CCFP and maintain of CCFP forests
- Phase II has two basic goals: well maintain CCFP forests and improving CCFP farmers long term livelihood

The biggest Eco-compensation—CCFP

- The program is currently in the second phase. Up to the end of 2011, the total compensation by grain and cash to farmer households was 219.92 bill. yuan ($35.47 bill.) since 1999.
- In 2011, 10.38 bill. yuan for grain and , 26.24 bill. yuan for living subsistence, for 25,026,146 farmer households.

- Half of CCFP investment allocated to rural infrastructure and the rest still be farmers subsidy;
- 60% of CCFP land entered into Phase II in 2011 and 4% of CCFP farmers finished Phase II, leaving a policy gap.

Investment structure of CCFP II of monitoring counties



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Major problems for eco-compensation

- Long-term compensation mechanisms are yet to be formed;
- Low and undifferentiated compensation standards;
- Inaccurately identified compensation targets;
- Ambiguous rights and obligations of the stakeholders;
- Lack of market mechanisms.

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Csae study by GEF project

As an important components of PRC-GEF Partnership, this study explores how to improve the eco-compensation mechanism to combat land degradation and protect ecosystem in Western China. The study takes two typical ecosystems in Western China, the protected forest in Qinling Region of Shaanxi Province and Watersheds in Huangyuan and Ledu County in Qinghai Province.

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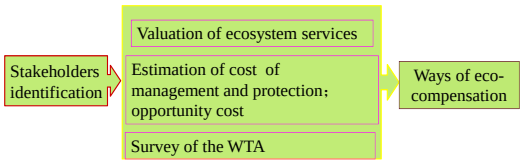
Approach



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Outline of case sites

1. Ningshan County of Shaanxi Province

Located in the mid Qinling Mountain Range; the north-south climate transition zone of China; the watershed for the Yangtze River and the Yellow River. Total area was 367,800 ha, with 12 townships. The population was 137,700. In 2011, the disposable income of urban residents was 16,794 yuan, annual net income of famer was 4,815 yuan per capita , which were 77.00% and 69.01% of the country average respectively.

Huangguanshan Nature Reserve: Forest land was 12,272 ha, out of which, 5,444 ha are state-owned. The protected area covers 4 villages, with population of 1,360 from 358 households.

Shangbahe Forest Farm: Total area of 8,266.67 ha; 119 employees

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Outline of case sites

2. Hudan watershed of Huangyuan

Huangyuan County is located in east foot of Riyue Mountains, upstream of Huangshui River. Total land area is 150,900 ha, with 7 townships and 2 towns. Population was 137,700. Annual net income of rural farmers was 4,875 yuan per capitai n 2011, which are 69.87% of the country averages.

Hudan watershed: 2 case villages located in the river basin—"Upper Hudan" and "Lower Hudan" with a total of 2,501 residents from 608 households. Total basin area is 3,456 ha, out of which, grassland area amounts to 2,666 ha (usable grassland is 2,033 ha.)

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Outline of case sites

3. Xiaying township of Ledu County

Ledu County is located in eastern Qinghai Province, downstream of Huangshui River, land area of 305,000 ha, with 12 townships. The total population at the end of 2009 was 292,000. Net income of rural famers per capita is 4,822 yuan in 2011, which are 69.11% of the country averages.

Xiaying township : Located on the south of Huangshui River Valley, with main terrains of mountains and gullies. The total area is 9,800 ha. Population was about 6000, Tibetan nationality account for 28%。

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Case Study

◆ **Field survey**

Total sample 156 households were interviewed for WTA:

- 61 are in Huangguanshan Nature Reserve
- 95 in Xiaying township.

Case Study

◆ **Discussions**

Discussions with different stakeholders and departments in Qinghai and Shaanxi Provinces, such as legislative affairs office, development and reform commission, department of agriculture, environment protection, water conservation, etc.

Main results of case study

➢ **Shangbahe Farm and Huangguanshan Nature Reserve**

1. Ecosystem service value (water and soil conservation, carbon sequestration, maintaining biodiversity and landscape recreation)

Shangbahe Forest Farm: **234,800 yuan/ha. annually**

Huangguanshan Nature Reserve: **235,900 yuan/ha.an.**

2. **Protection cost** of protected forest is **180 yuan/ha.an.**

3. **Opportunity cost:**

Shangbahe Forest Farm: **890 yuan/ha an.**

Huangguanshan Nature Reserve: **1, 410 yuan/ha.an.**

2013/9/2

Main results of case study

➢ **Shangbahe Farm and Huangguanshan Nature Reserve**

Requests from the Farm workers: (1) 59 superfluous need to be allocated; (2) Increase subsidy for forest management and protection to 150 yuan/ha. (3) Input for infrastructure of the farm.

WTA of farmers: The average annual loss of households due to forest protection is 5,835.90 yuan/household; compensation claim by farmers is 4,353.85 yuan/household. The average damage caused by wild animals was 969.23 yuan/household, the average compensation required by farmers is 723.08 yuan/household.

The average annual compensation claim: 267 yuan/ha.an.

2013/9/2

Main results of case study

➢ **Hudan and Xiayingxiang Huangshui watershed**

Estimated costs:

1. The average cost of forest conservation is 630 yuan/ha.
2. Cost/compensation for CCFP and protection of cropland is 210 yuan/ha.
3. Cost for grassland protection and loss for graze forbidden is 150 yuan/ha.

2013/9/2

Main results of case study

- **Hudan and Xiayingxiang Huangshui watershed**

Farmers' WTA of eco-compensation:

1. Compensation for CCF(G)P is 3622.8 yuan/ha. an.for 10～30 years; and 9000 yuan/ha. an.for chemical fertilizers and pesticide forbidden。

2.One-off compensation for loss due to reduction of number of livestock.

2013/9/2

Main findings

1. The eco-compensation mechanism aiming at land use change by sector administration is effective to control the trend of ecosystem deterioration in short time.

Those eco-compensation modes leading by the sector in charge of land resources management is currently more successful. However, the compensation covers usually a large area but not all right on target.

2013/9/2

Main findings

2. The mode of eco-compensation combining individually and as whole is more equity.

This compensation mode considers not only the main body who lose the benefit directly but also the loss of development opportunities in the region due to the land use change.

2013/9/2

Main findings

3. It is more effective to concentrate eco-compensation fund in eco-industrial development and shift of employment.

Utilization of eco-compensation fund should change from loss compensation to support the alternative eco-industrial development and employment capacity building in order to increase farmers' income chances and reduce their dependence on land use.

2013/9/2

Main findings

4. The compensation fund should be based on opportunity cost of land use changes.

Currently, ecosystem service is hard to be traded and satisfy the demand of MRV (measuring, reporting and verifying). It is difficult to find its market price, therefore the value of ecosystem service estimated by market-based method could not be the basis to determine the compensation standard.

2013/9/2

Policy recommendations

1. Establish the regional ecological compensation system.

Since the financial limitation, the most needed regions have the priority to establish compensation system and fund.

2. Systematically program ecological compensation fund and implement accordingly.

Ecological compensation is a complicated systems engineering concerning economic, social and political issues. Governments of all level should make the mid and long term programs covering different domains and regions based on scientific research and practices.

2013/9/2

Policy recommendations

3. Explore taxation mechanism balance the environment protection and economic development.

Taxation mechanism of controlling and constricting the non-eco-friendly producing and living style and supporting eco-friendly ways should be studied and explored.

4. Legislate for eco-compensation and ensure the stakeholders rights.

Improving eco-compensation system needs to ensure stakeholders rights and obligations by legislation and reinforce monitoring and managing the effects of eco-compensation.

2013/9/2

谢谢!

Thanks for your attention!

Forest Resources Management and Biodiversity Conservation in GMS

Dietrich Schmidt-Vogt
Kunming Institute of Botany
Chinese Academy of Sciences
World Agroforestry Centre: East Asia Node

Objective

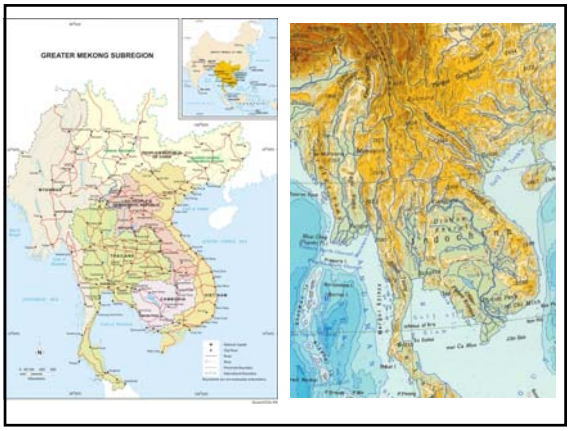
- There exists a close link between forests and biodiversity. This is especially true for areas in the humid or semi-humid tropics (GMS) where forests are the dominant land cover.
- Forest cover is sometimes used as a proxy for assessing biodiversity on a national or regional scale.
- More refined assessments use cover by certain forest types (closed forest, primary forest) as an indicator for biodiversity.
- The objective of this lecture is to provide the foundation for a better understanding of the linkages between forests and biodiversity in GMS, and of how land use, forest use and forest management can affect biodiversity or contribute to biodiversity conservation.

Lecture Outline

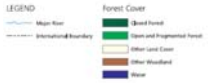
- 1. Forests in the GMS: Forest Types, Forest Cover, Forest Dynamics, and Forest Structure
- 2. Biodiversity in the GMS
- 3. The Effects of Forest-Based Natural Resources Management on Forests and Biodiversity
  - The Decline of Shifting Cultivation
  - The Expansion of Plantations
- 4. Forest Management for Biodiversity Conservation in the GMS
  - Protected Areas
  - Landscape Approach
  - Agroforestry Approaches to Biodiversity Conservation
  - Forest Restoration

Forests in the GMS

Forest Types , Forest Cover, Forest Dynamics, Forest Structure



Forest Cover of GMS (GMS Atlas of the Environment, 2004)

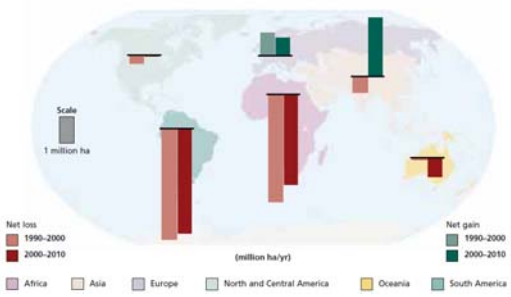


- Forest is the natural land cover of the GMS and would have covered nearly 100% of the land are before human interventions.
- Today, continuous forest occurs mainly in the uplands.
- Countries of the GMS differ significantly with respect to extent of forest cover.
- Basic typologies distinguish forest types according to canopy characteristics (open/closed), altitude (lowland/upland) or phenology (evergreen/deciduous).

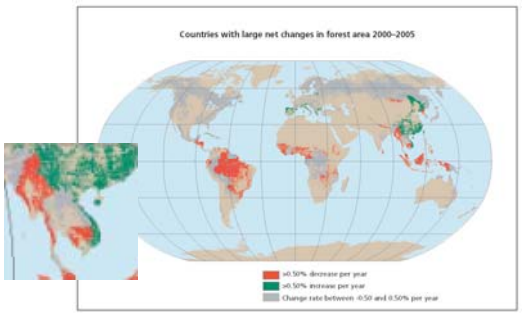
Forest Dynamics

- Forest cover is subject to change
  - Decline → Deforestation
  - Fragmentation → Degradation
  - Increase → Reforestation, Forest Restoration
- While forest cover worldwide is decreasing it is increasing in Asia.
- The situation is complex in the GMS where all three processes of change occur.

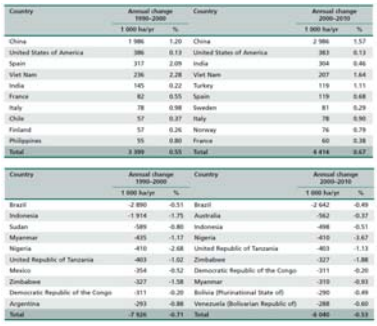
Change in forest area 1990-2010 (FRA 2010)



Countries with Large Net Changes in Forest Area 2000-2005 (FRA 2005)



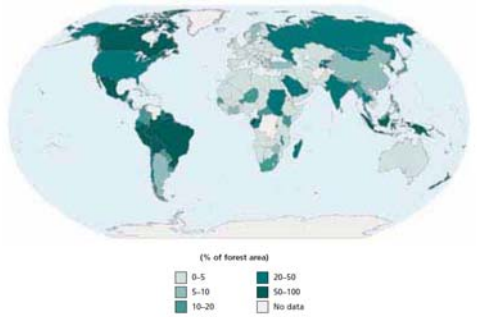
Gains and Losses in Forest Area (FRA 2012)



Primary and Secondary Forest

- Primary Forest: Forest, untouched by people, that exists in its original condition.
- Secondary Forest: Forests regenerating largely through natural processes, usually after significant human disturbance.
- Primary forests are usually considered to be of higher value in terms of biodiversity than secondary forests. Their extent is sometimes used as an indicator of biodiversity.

Primary Forest as Percentage of Total Forest Area 2010

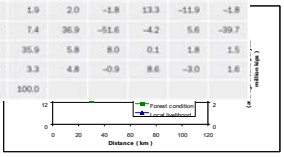


Extent and Dynamics of Forest Types in the LMB

Status and Trends of Forest Types in the LMB

	Land cover class	Percentage of total area in 1993 (see total in italics above)					Net change 1993-1997 [in % of 1993 area]				
		Camb	Laos	Thai	Viet	LMB	Camb	Laos	Thai	Viet	LMB
Forest	FHD	2.7	7.3	4.3	2.7	4.7	-5.2	-1.1	-0.6	-2.5	-1.7
	FMD	48.3	21.8	10.4	14.7	24.2	-2.1	-2.7	-2.3	-2.2	-2.4
	FM	4.1	11.7	1.2	3.9	5.7	7.0	-1.7	0.8	-4.7	-0.2
	REG	2.5	1.5	0.0	0.9	1.2	-12.4	-6.7	-20.9	-13.2	-10.3
	OTHFO	1.9	0.0	0.1	2.3	0.8	0.1	0.0	4.0	-1.6	-0.2
Non forest	WOSH	12.7	29.4	2.9	8.4	14.9	-6.5	32.5	5.1	1.0	19.9
	GRAS	2.8	2.7	0.0	2.7	1.9	2.0	-1.8	13.3	-11.9	-1.8
	CROP	1.7	17.3	2.1	4.5	7.4	36.9	-51.6	-4.2	5.6	-39.7
	AGRI	19.9	5.5	77.2	51.6	35.9	5.8	8.0	0.1	1.8	1.5
	OTH	3.4	2.8	1.8	8.3	3.3	4.8	-0.9	8.6	-3.0	1.6
Total		100.0	100.0	100.0	100.0	100.0					

Heinimann, A., Epprecht, M. Secondary forests and local livelihood along a gradient of accessibility: a case study in Luang Prabang, Lao PDR. Applied Geography (submitted September 2011, under review)



Forest structure

Forest structure is closely connected with forest dynamics

Forest structure is characterized by:

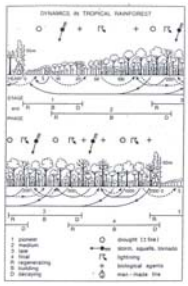
- Vertical dimension: division of forest stands into different strata
- Horizontal dimension: mosaic pattern of forest stands and gaps
- Temporal dimension: succession of development stages

Complex structure in terms of

- multi-layered forests and
- mosaic landscapes is considered to be conducive to high biodiversity

is considered to be conducive to high biodiversity

Successions and Community Dynamics



Summary

- In the GMS, a continuous forest cover is largely limited to upland areas.
- Forest cover consists of a patchwork of primary and secondary forests with secondary forests still predominating, though declining in area.
- While the region is characterized by an overall increase in forest cover, there is a significant difference in forest cover dynamics between countries.
- Biodiversity is determined by extent and continuity of forest cover as well as by forest structure and forest dynamics.

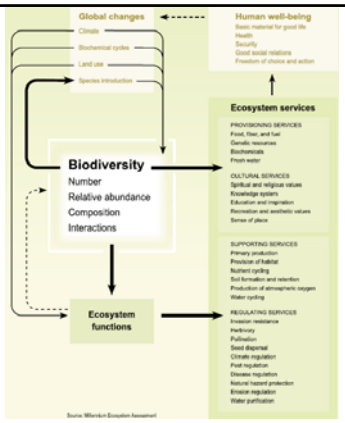
Biodiversity in the GMS

Definition of Biodiversity

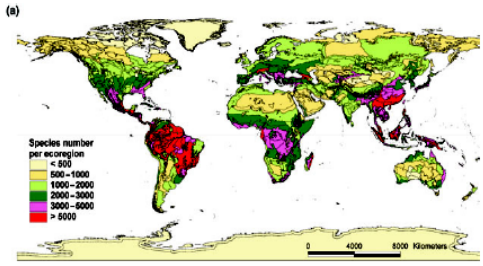
- Until the 1980s, diversity or variability in nature was mainly understood in the narrow sense of species diversity.
- The meaning of biodiversity is broader than that
- "Biological diversity means the variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems (IBC 1992)"

The Three Levels of Biodiversity

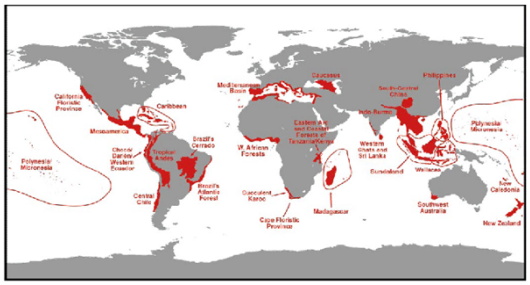
- Biodiversity therefore is understood to exist at three levels:
- 1. Ecosystem diversity
- 2. Species diversity
- 3. Genetic diversity



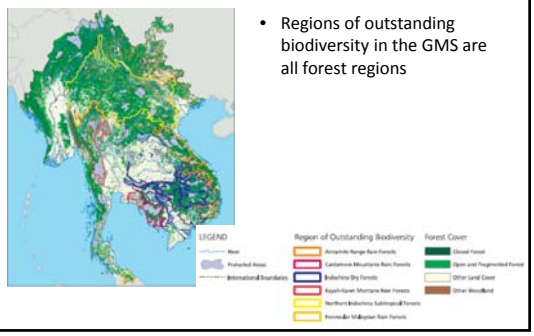
Species richness of Vascular Plants (Journal of Biogeography, 2005)



Biodiversity Hotspots according to Myers, 2000



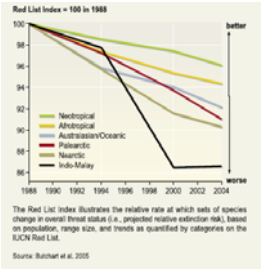
Regions of Outstanding Biodiversity (GMS Atlas of the Environment, 2004)



- Regions of outstanding biodiversity in the GMS are all forest regions

Causes of Biodiversity Loss according to Biome

Relative Extinction Risk for Birds



Summary

- The GMS is part of a global biodiversity hotspot.
- Biodiversity in the GMS is under significant threat.
- The major threat of biodiversity in the GMS is habitat change, mainly the conversion of natural forest (primary and secondary) to other land use.

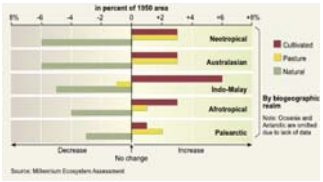
The Effects of Forest-Based Natural Resources Management on Forests and Biodiversity

The Decline of Shifting Cultivation

The Expansion of Plantations

Conversion of Natural Land Cover to Cropland and Pasture

- More land was converted to cropland in the 30 years after 1950 than in the 150 years between 1700 and 1850



Land use change in the Upper Mekong Region

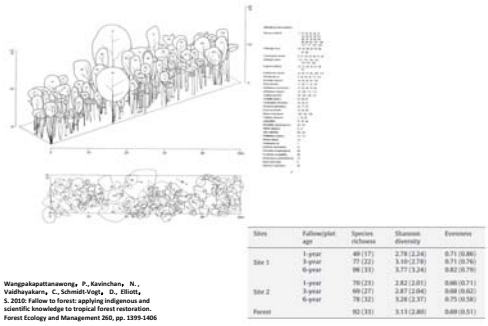
- In the upper Mekong region large areas have in recent decades undergone conversion from swidden landscapes with a large share of secondary forests to other land uses.

Swidden cultivation is an agricultural system in which land under natural vegetation is cleared, burned and cultivated with crops for a few years, and then left untended while the natural vegetation regenerates during a fallow period.

A 12 Years Old Swidden Fallow Forest

In rotational swidden cultivation systems, secondary forests are periodically recreated cycle after cycle during a 6 to 15 years fallow period following upon a short cultivation period of 1 to 2 years.

Structure and Species Richness of Secondary Forests in GMS

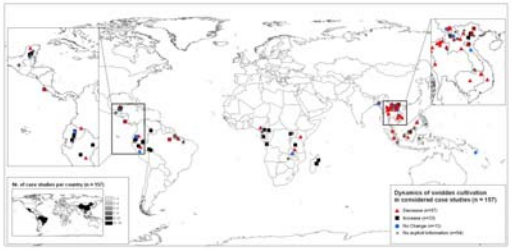


Wangpakapattanawong, P., Kavinchan, N., Vaidhayakarn, C., Schmidt-Vogt, D., Elliott, S. 2010. Fallow to forest: applying indigenous and scientific knowledge to tropical forest restoration. Forest Ecology and Management 260, pp. 1399-1406

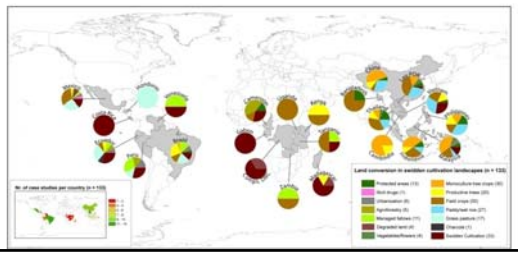
Swidden Landscape in Lao PDR

Multifunctionality of secondary fallow forests

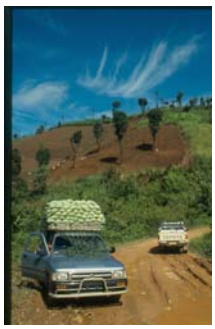
- Maintaining biodiversity in forest stands and in the landscape.
- Restoring soil organic layers and soil fertility.
- Preventing soil erosion and regulating water flow.
- Providing timber and non timber forest products (NTFPs) for local consumption and for sale.
- Contributing to carbon sequestration.



Land Conversion in Swidden Landscapes

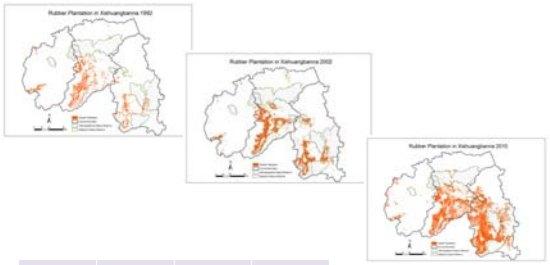


From Shifting Cultivation to Annual Crops: Cabbage in Thailand



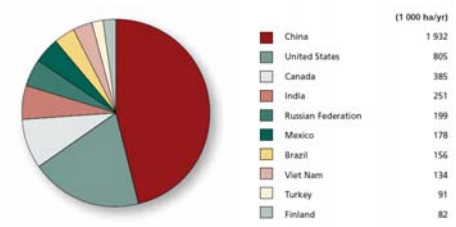
From Shifting Cultivation to Perennial Crops: Rubber in Yunnan

Rubber expansion, threats to biodiversity…



	1992	2002	2010
Area of rubber(ha)	87226	153613	336434

Annual Increase in Planted Forest Area 1990-2010 (FRA 2012)



Summary

- Two major and closely interlinked processes have a strong effect on forest biodiversity in the GMS
  - The decline of shifting cultivation
  - The expansion of plantations
- Shifting cultivation is declining all over the GMS and changing into other land uses. Change rates and trajectories vary considerably.
- The decline of shifting cultivation is associated with a decrease in the extent of secondary forest, some of it rich in biodiversity.
- The major land use change in the GMS is from other land use to tree plantations, most of them poor in biodiversity.

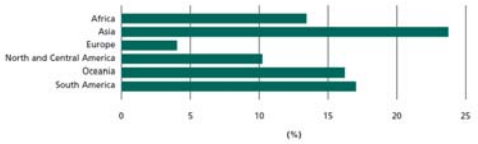
Biodiversity Conservation in the GMS

Protected Areas
The Landscape Approach
Agroforestry Approaches to Biodiversity Conservation
Forest Restoration

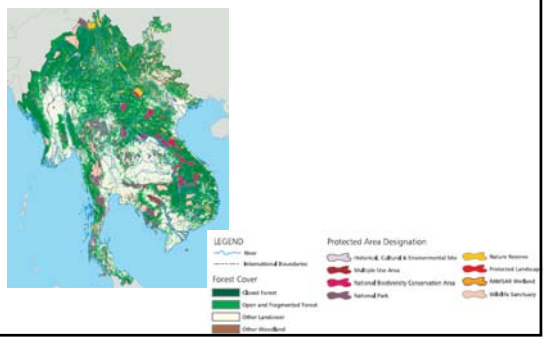
Protected Areas

- The "classical" approach to biodiversity conservation is the establishment of PAs.
- This approach is widely practiced in the GMS, where the trend to establish new Pas continues unabated.

Percentage of Forest Area in Protected Areas (FRA 2010)



Protected Areas in the GMS

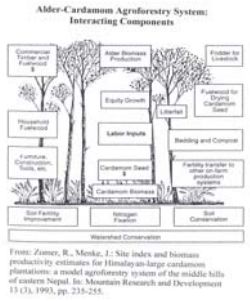


Landscape Approach to Biodiversity Conservation

- The landscape approach to biodiversity conservation is a holistic approach that focusses also on areas outside PAs emphasizing connectivity to overcome the negative effects of habitat fragmentation.
- Another characteristic of the landscape approach is its focus on land use, i.e. on conserving or promoting land uses that are capable of maintaining high levels of biodiversity.

Agroforestry

- Agroforestry is a collective name for land-use systems and technologies where woody perennials are deliberatly integrated with crops and/or animals on the same land management unit. The integration can be either in spatial mixture or temporal sequence. There are normally both ecological and economic interactions between the woody and non-woody components in agroforestry (official definition of ICRAF/WAC)



Alder-Cardamom Agroforestry

Rubber-tea integration

Effects on Biodiversity: Positive Aspects

- Agroforestry systems are generally considered to have a beneficial effect on biodiversity because of:
  - greater diversity of domesticated and spontaneous species as compared to purely agricultural systems;
  - greater structural complexity of agroforestry systems;
  - greater habitat value because of similarity to natural forest ecosystems;
  - agroforestry systems are often part of a complex landscape mosaic of different land uses and therefore are capable of contributing to biodiversity not only on the on-farm scale, but also on the landscape scale.

Effects on Biodiversity: Limitations

- Agroforestry systems can make a contribution to biodiversity, but they cannot be a substitute for natural ecosystems, i.e. natural forests for the following reasons:
  - they are fragmented and do not provide a continuous cover;
  - they are often intensively managed with a lot of disturbance to wildlife;
  - they may be lacking in host plants important for the maintenance of certain wildlife species
- Therefore their conservation value is limited and many forest-dependent species are absent from agroforestry systems.
- Nevertheless, agroforestry systems can make a contribution to biodiversity conservation especially in buffer zones around protected areas as a means to enhance landscape connectivity.

Forest Management for Biodiversity Conservation

- Timber harvesting practices that imitate natural processes:
  - selective felling
  - clear-felling of small patches to imitate natural disturbance patterns
  - low-intensity harvesting that leaves behind emergents, seed-trees and organic matter.
- Reforestation and forest restoration practices, which imitate natural processes:
  - natural regeneration instead of tree planting
  - planting of framework species

Forest Restoration

- Reforestation: reestablishment of any kind of forest cover on deforested land
- Forest restoration: Reestablishment of the original forest ecosystem that existed before deforestation occurred.
- Accelerated Natural Regeneration (ANR) through planting of framework species.
- Framework species are:
  - Native species
  - Capable of growing on degraded sites
  - Fast-growing
  - Producing seeds copiously and frequently
  - Capable of attracting seed-dispersing animals.

Summary

- Large parts of the GMS are or were characterized by diverse and multifunctional landscapes consisting of a complex mosaic of land uses.
- These landscapes are in the process of being converted to more homogeneous and uniform land uses.
- Biodiversity conservation needs to be associated with strategies to conserve diversity of land uses on a landscape scale.

The Importance of community forest management for livelihoods development in GMS

Martin Greijmans
Livelihoods and Markets / RECOFTC
September 8, 2013

APFNet's Advanced Workshop on Sustainable Forestry Management in GMS
Yunnan, China, 6th-17th September 2013

Outline of the Presentation

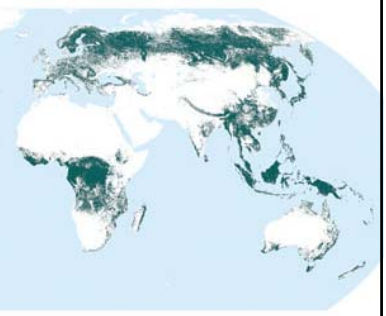
- Forestry global and regional
- Community Forestry
- Enhancing livelihoods and markets
  - Introduction
  - Is CF open for business
  - Proposed strategies
- Questions

World's forests

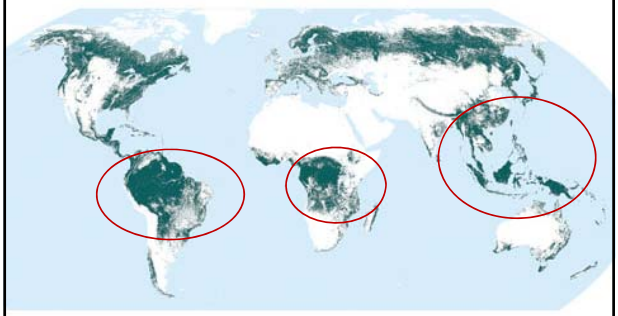
4 billion ha

31% of land area

13 million ha converted annually

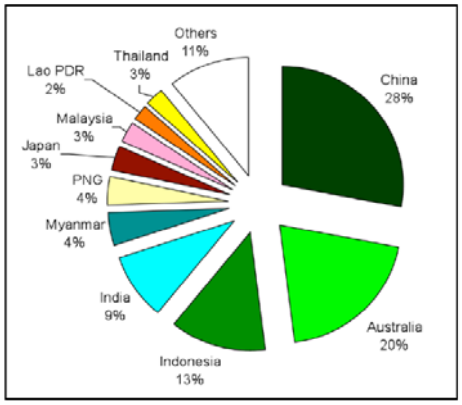


World's forests



Forest in Asia-Pacific Region

- 740 million ha
- 18% of world's forest area
- Annual increase 0.5 million ha



FAO Global Forest Resource Assessment

What is Community Forestry?

How do you define it?

THE CENTER FOR PEOPLE AND FORESTS

Variants of CF & Terms

Term	Country
Community Forestry	Australia, Cambodia, Nepal, Thailand, Vietnam
Joint Forest management	India
Village Forestry	Lao PDR
Social Forestry	Indonesia
CBFM	Philippines

RECOFTCs broad definition

- *all aspects, initiatives, science, policies, institutions, processes that **increase the role of all local peoples**—incl. women, youth and disadvantaged groups—in governing and managing forest resources.*
- *…informal, customary and indigenous, and formal or government-led initiatives.*

CF a variety of institutional arrangements

- *indigenous management of sacred sites of cultural importance*
- *direct community control or management of forest areas*
- *small-scale forest-based enterprises*
- *forest out-grower schemes*
- *company-community partnerships*
- *other forms of decentralized , devolved forest management* (RECOFTC 2013)

But key is:

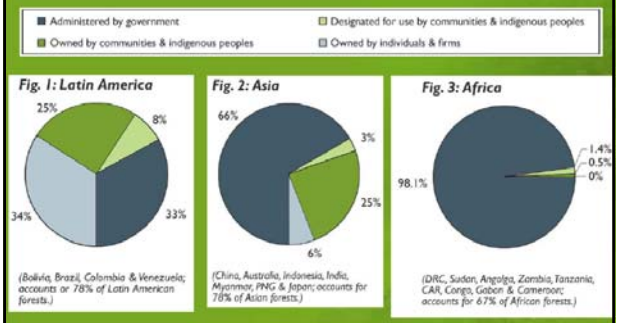
- ***To increase the role of all local peoples…***

Status & Progress

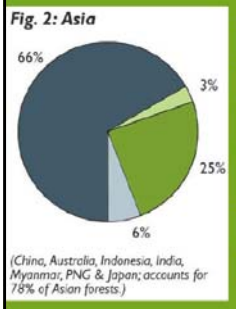
Government commitment to community forestry has increased over past 30 years:

RECOFTC Focal country	Total Forest Area (000,000 ha)	Community managed (%)
Vietnam	13.8	25.2
China	128.5	23.4
Nepal	3.6	21.0
Thailand	18.9	6.1
Cambodia	10.1	1.3
Myanmar	66.4	0.6
Indonesia	94.4	0.4
Lao PDR	15.8	NA
Total	**351.5**	**23.7**

Tenure Reform and CF



Tenure Reform and CF



- Encouraging trend for CF
- Vietnam 50 years of CF right
- Indonesia 35 years
- Cambodia 15 years
- China up to 70 years
- Nepal is perpetua

Source: Sunderlin, et al. 2008

Challenges and opportunities for People and Forests in Asia-Pacific

❖ More than **450 million** people depend on forests in Asia and the Pacific, earning an income of **20%**. Forest-based community enterprises account for **13-70%** of all forestry enterprises

❖ Wide scale **forest degradation**, conversion and fragmentation

❖ **Negative impacts** on local people—particularly the poor and excluded

❖ **Community Forestry** proven to be an **effective approach** for both forests and local people.

THE CENTER FOR PEOPLE AND FORESTS

Evolving Objectives of CF

SFM

Poverty reduction

Forest rehabilitation

Fuelwood and NTFPs

How can CF improve rural livelihoods?

- NRM governance reforms have the potential to affect household welfare in two ways:
  - Change the returns to assets (natural; physical; human; financial; and social capital)
  - Increase household assets
- CF generally leads to welfare improvements for rural households due to:
  - Increased economic activity
  - Investments in community infrastructure
  - Improved natural resource management

The empirical evidence: livelihoods

- Latin America – reforms combined with **policies** to address structural inequities at the local level favor the poor (give local authorities power + increase access rights for the poor) (Larson et al. 2007)
- Communities and households in some cases receive larger cash or in kind payments from concession holders after **decentralization** (CIFOR research in Cameroon - Oyono; Palmer and Engel in Indonesia)

The empirical evidence: livelihoods

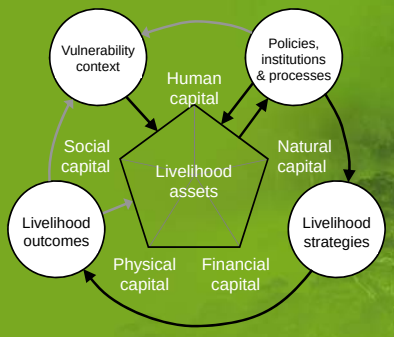
- Central government committed to pro-poor **policies** and engagement with local **elites** to ensure implementation is important for livelihood gains (Crook and Sverrisson 2001)
- **Very poor** and **politically unconnected** often don't benefit – endowments and entitlements **not** realized for some groups (Sikor et al. in Vietnam; McCarthy in Indonesia)
- High variability in outcomes (Malawi, Vietnam, Indonesia)

Why CF is expected to improve sustainable forest management?

- Local resource users have greater **knowledge** about **local** conditions and how to sustainably manage forests
- **Involvement** of local users in **regulations formulation** and enforcement leads to higher levels of **compliance** that favor sustainability
- The **transaction costs** of management and enforcement should be **lower** when local people are involved
- Local people have an **incentive** to manage forests for over the medium to long term – especially if they are providing income or tangible environmental **benefits and services**

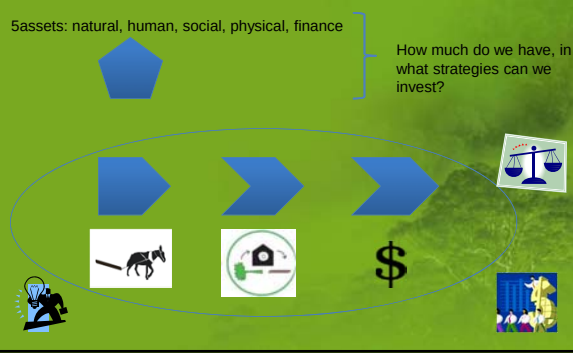
Sustainable livelihoods framework:

How communities make decisions

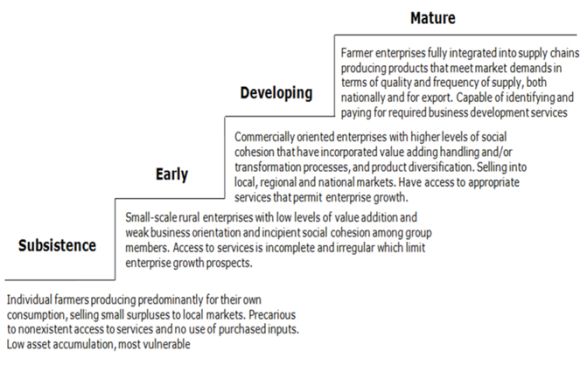


* Adapted from DfID, 2001. Sustainable Livelihoods Guidance Sheets. DfID, London

CF as a tool towards development /poverty alleviation



Livelihood Ladder



CF Constraints

- 3 key areas are hindered to get the fullest out of CF:
  - Government regulations and attitudes
  - Capacities of communities to be able to play the game
  - Access, remoteness to attract services and investors

Unsupportive legal and regulatory structures

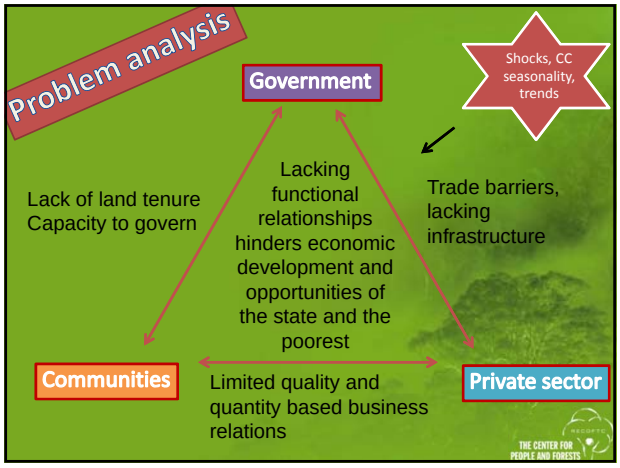
- Strict and complex regulations
- Limited land rights
  - Transfer of small trees and small forests
  - Elites capturing benefits
- National against local benefits
- Limited participatory decision making processes

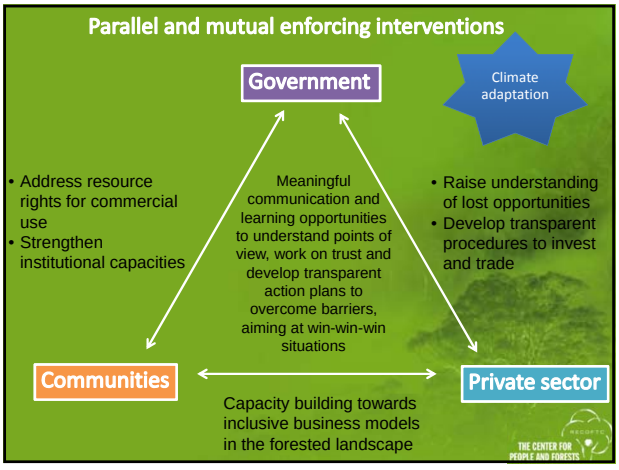
Lacking capacities and opportunities

- Weak organizational and institutional capacity
  - Lacking group or cooperative vision
  - Social inclusion/inequity
  - Leadership, decision making processes, conflict management
  - Lack connection to policy makers
  - Lack market information and alternative finance schemes
- Lacking technical skills

Lacking investments in CF

- Unclear business policies
- High transaction costs
  - Lack of effective business models
  - Limited feasible partnerships

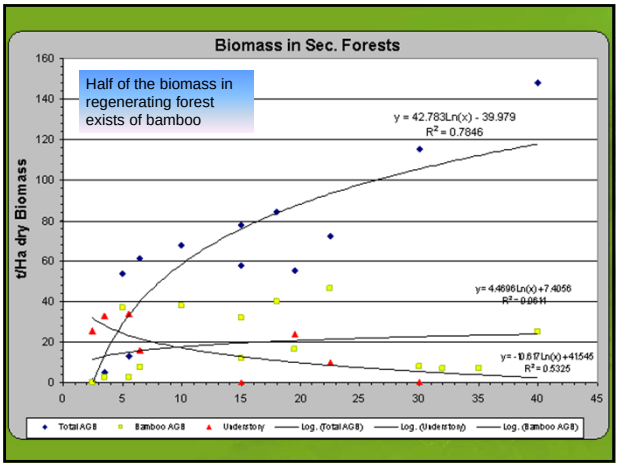




Can communities benefit from Green Value Chain opportunities ? A Bamboo case

Turning a threat into an opportunity?

MODIS satellite fire Monitoring in Nam Ha and Nam Khan NBCA Bokeo



ForInfo+EEP/Bamboo

- Proposes to harvest fire prone bamboo/invasive species -> **fuel chips** for biomass co-generation in Thailand
- In line with Thai/Laos cross border **agreements** on **renewable energy** and ASEAN **haze** reduction agreements
- Rice husk prices: 500 -> 2,000 Baht/dry ton 15 years, based on transport costs and seasonal availability – **can we beat this**?

Bamboo VC opportunities

- Regional **markets**: paper pulp, charcoal, biomass
- Lao PDR: huge **resources** close to poor communities –> **employment** and **income** opportunities
- Reduction of **fire** prone fuel loads avoids fires in **conservation** forest, and reduces **carbon** emissions
- Extraction methods **reducing** harvesting **costs** and improve ergonomics -> potential **benefits** for local people
- ACMECS* "Renewable Energy Conservation Cooperation" recommends to investigate the potential of biomass in private sector driven **transboundary supply chains**

*cooperation framework of Cambodia, Lao PDR, Thailand, Myanmar, Vietnam to promote developments in supply chains

Bamboo VC barriers

- High **costs** raw materials resource -> processing location (infrastructure, < semi-processing, < scale, disorganized collection)
- Unclear land **tenure** and commercials rights leading to unsustainable use of resources
- Business **skills** communities unattractive for business partners
- Access to **finance** to invest in equipment
- Inter-country and intra-country differences in **rules** and **procedures** (non-tariff, royalties, biomass subsidies)

Project components

1. **Inventory**, h**arvesting** and **management** incl carbon stock assessment methods developed and tested
2. **Markets** assessed for bamboo fuel chips in biomass power generation
3. Technical and financial **viability**, employment opportunities along trans-boundary supply chains assessed - technologies demonstrated in training
4. **Regulatory barriers:** user rights, levels of royalties for raw materials, transport and export regulations identified, documented and discussed in policy dialogues

Logging sulky – 180$; max 250 kg

3,000$, operational cost 2-3 $/hr; capacity 400 kg, economically viable harvesting distances to 1,000 m if raw material prices at105$US/ton(dry) at roadside

Rubber tracked mini-crawler conversion

Superb bamboo rafting on Longai river N. E. India ; Along Nam Ha?

Mobile chipping options (2 tractors)

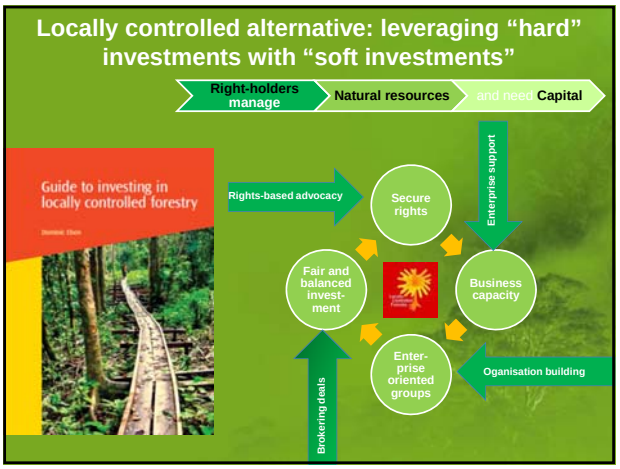
Stationary chipping with high performance chipper

150,000 tpy of rice husk

Biomass energy is ranked the 2nd source of energy in Thailand

Conclusion

- If communities are to benefit from Green Value Chain opportunities, need to:
- Improve both efficiency in and outside the value chain needs to be able to compete with other countries & other products
- Parallel **capacity building** (business, organisation) efforts and developing a **supportive business environment** (tenure, trade regulations, investment)


Locally controlled alternative: leveraging “hard” investments with “soft investments”
Right-holders manage
Natural resources
and need Capital
Guide to investing in locally controlled forestry
Rights-based advocacy
Secure rights
Enterprise support
Fair and balanced invest-ment
Business capacity
Enter-prise oriented groups
Organisation building
Brokering deals


Thank you for your attention

Overview of China's Practices To promote SFM

Dai Guangcui

China National Forestry Economics and Development Research Center, SFA
Yunnan, 2013

Contents

- Why China does it?
- Actions
- Achievements
- Experiences and lessons learnt
- Challenges
- Prospect

Why China does it ?

- Promote SFM in China;
- Fulfil the international commitments;
- Establish a platform for strengthening international cooperation;
- Sum up experiences for promoting SFM worldwide.

Actions

- Integrate forestry development plan into the national economic and social development strategy;
- Strengthen legislation and law enforcement.

Actions

- Implement national forestry development strategy focusing on ecosystem conservation & restoration and increase investment in the SFM;
- Continue National Key Forestry Programs to protect and restore forest ecosystems (like NFPP, CCFP, etc.)

Actions

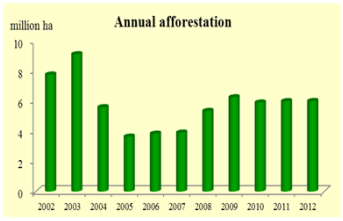
- Conduct collective forest tenure reform to increase forest productivity and improve the role of forestry in poverty alleviation.
- Set up 200 pilot sites to implement SFM nationwide.
- Establish a specified monitoring and assessment system to regularly report ecological, economic and social effects of SFM.

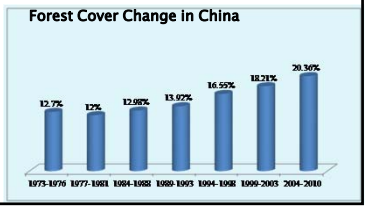
Achievements

- Forest Resources' Growth

China's achievements: (from 1992 to present)

- **Forest area**: from 134 mill. ha to 195 mill. ha;
- **Forest cover**: from 13.92% to 20.36%;
- **Forest stock volume**: from 10.1 bill. m^3 to 13.7 bill. m^3;
- **Plantation**: 61.68 mill. ha in total.





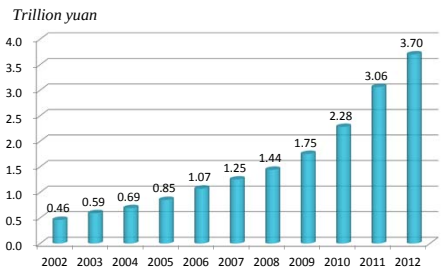
Achievements

- Economy and society improvement

China's forest sector: (2007-2011)

- Total output of forestry: from US$ 206.6 billion to US$ 456.5 billion;
- Increase rate: over 20% annually;
- Jobs provided (formal & informal): over 45 mill. job opportunities (absorbing 37.5% of the surplus rural labor force).

Total output of forestry



Forestry industry for economic growth & livelihoods

Achievements

- Ecosystem and bio-diversity protection

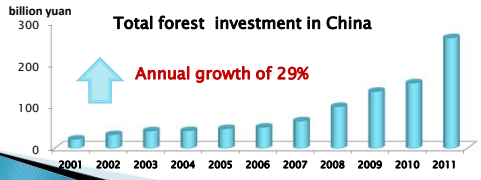
Nature reserves: 123 mill. ha, 12.77% of total territory area, providing effective shelter for 90% of the terrestrial ecosystems, 85% of the wild fauna populations, and 65% of the higher plant communities.

China has established its own **forest certification scheme,** trying for mutual accreditation with international schemes.

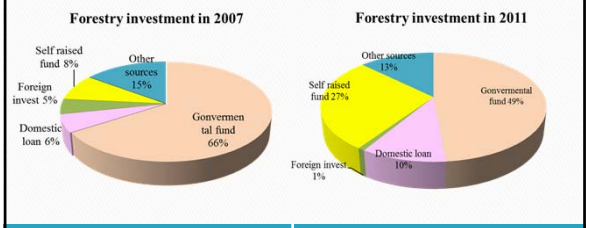
Achievements

- Social and governmental investment accretion

China's forestry investment: from 12.8 bill. US$ in 2007 to 42.4 bill. US$ in 2011. In which, governmental input increased by 1.5 times; social investment increased by 4 times.



Governmental and non-governmental forestry investments of China



2007	2011
Governmental input：66%； Non-governmental：34%	Governmental input：49%； Non-governmental：51%

Experiences and lessons learnt

- The SFM can be better implemented when integrated into national forestry development plan and taking the national circumstance into consideration.
- An independent and strong forestry authority plays an important role in putting forward SFM.
- Cross-sector cooperation can facilitate SFM and contribute to the whole society.
- Government investment is important for motivating SFM at early stage, social investment is the major driving force for FM transition later on.

Experiences and lessons learnt

- A good forest governance system depends not only on a good legal system but also a clear and secured forest tenure system.
- A small scale forest management by individual farmer households need a strong supporting and protecting policy system.
- International cooperation can be helpful for implementation of SFM.

Challenges

- Forest resources do not fully meet the demand for fast economic and social development.
- The forest area increases fast but the forest quality needs to be much improved.
- There are still many fragile ecosystems needed to be restored and protected.
- High dependence of rural poor population on forest resources makes the transition to SFM more difficult.

Challenges

- Local capacity (personnel, finance, etc.) is insufficient to implement SFM.
- Technology for SFM are required to innovate and extended in nationwide.
- The fragmentation of forest land tenure after the tenure reform makes forest management more complicated.

Prospect: China will strive to…

(from 2005 to 2020)

- To increase forest area by 40 million hectare and forest stocking volume by 1.3 billion cubic meter.
- To increase 17 mill. ha. of nature reserves;
- To effectively protect 95% of national prior protected wildlife and typical ecosystems.

Prospect: China will strive to…

(by 2015)

The Twelfth Five Year Forestry Development Plan (2011-2015):

- Output of forestry to 3500 billion yuan;
- Timber supply to 100 million cubic meter;
- To provide 10 billion person days of direct employment opportunities.

谢谢!

Thanks for your attention!

daigc@forestry.gov.cn

COUNTRY PAPER FOR

ADVANCED WORKSHOP ON "Sustainable Forest Management in GMS"

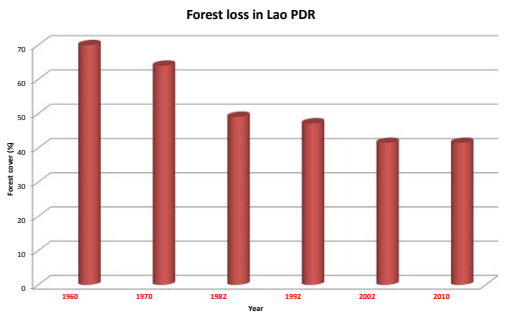
7 – 17 September, 2013

By: Savanh Chanthakoummane
Director of REDD+ Office, DoF/MAF
Chanthakoummane_2012@yahoo.com

Content:

1. CURRENT STATUS ON FOREST MANAGEMENT;
2. HOT ISSUES OF IMPLEMENTATION SITUATION;
   - FOREST MANAGEMENT AND BIODIVERSITY CONSERVATION;
   - PAYMENT OF ECOSYSTEM SERVICE;
   - FOREST LAW ENFOREMENT, GOVERNANCE AND TRADE "FLEGT";
   - REDUCING EMISSIONS FROM DEFORESTATION AND DEGRADATION "REDD+";
   - FOREST MANAGEMENT FOR LIVELIHOOD IMPROVEMENT
3. FOREST POLICY, STRATEGY AND ACTION PLAN;
4. CHALLENGES.

CURRENT STATUS OF FOREST MANAGEMENT:



LAND USE AND VEGETATION TYPES:

DESCRIPTION	Area: (1000 ha) 1992	2002	2010	%
1. Forest loss	11.637	11.168	9.825	41,5
2. Potential Forest Area	*8.554*	*8.949*	*11.152*	47,1
3. Other Wooded Area	*1.545*	*1.444*	*287*	1,2
4. Permanent Agriculture Land	*709*	*849*	*1.200*	5,1
5. Other Non-Forest Area	*1.235*	*1.269*	*1.217*	5,1
Total	*23.680*	*23.680*	*23.680*	100

HOT ISSUES OF IMPLEMENTATION SITUATION:

1. FOREST MANAGEMENT AND BIODIVERSITY CONSERVATION:

- Forest is classified into 3 main categories as follows:

1. Protection Forest is covered 8.4 million ha;
2. Biodiversity Conservation Area is covered 4.7 million ha;
3. Production Forest is covered 3.1 million ha.

LEGALLITY FRAMEWORK:

1. Specific and related Laws include:
1.1 Forestry Law in the process of 3 revision by MONRE;
1. 2 Environmental Law;
1.3 Land Law;

2. Specific and related Strategy and Action Plans:
2.1 Forestry Strategy 2020;
2.2 Biodiversity Strategy and Action Plan 2020;
2.3 Environmental Strategy and Action Plan 2020;
2.4 Agricultural Strategy and Action Plan 2020.

3. Specific and related International Conventions:

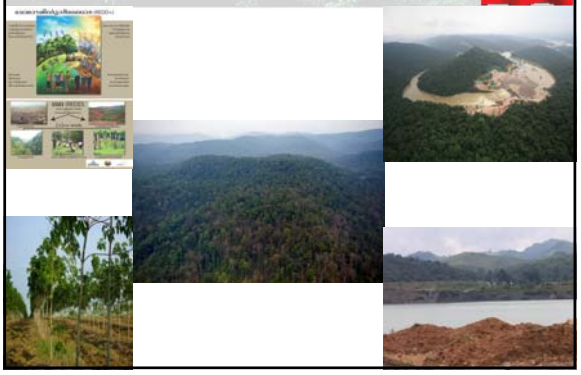
3.1 UNFCCC; UNCCD;
3.2 CBD, CITES

Management systems:

FOREST MANAGEMENT AND BIODIVERSITY CONSERVATION:

1. Participatory Protected Area Management System;
2. Protected Area Co-management System;
3. Integrated Conservation and Development System;
4. Participatory Sustainable Forest Management;
5. Landscape Approached.

PAYMENT OF ECOSYSTEM SERVICE:



FOREST LAW ENFOREMENT, GOVERNANCE AND TRADE:

- 2007, the Lao government approved the new Forest Law.
- 2009, DOFI and DIMEX are the initiative stakeholders in FLEGT VPA preparation
- 2010, MAF and MOIC requested informal information exchange on VPA process and triggered support from Asia FLEGT program
- 2010-2011: DOFI, DIMEX, DOI, EU and EFI conducted: Baseline Study & Timber Flow Study
- Dissemination of FLEGT VPA is on the way
- 2011-2012: MAF+MOIC+MONRE signed the Initiative letter and Submitted to EU (28th Feb 2012) on requesting to start a formal FLEGT – VPA

Structure Arrangements for Lao - EU FLEGT - VPA

- Lao Prime Minister (PM)
- National Steering Committee for Economic Integration (NSC) (No. 118/PM, dated 11th July 2008)
- National Steering Committee for FLEGT - VPA
  - Vice Minister of MAF (Dr. Phouangparisak PRAVONGVIENGKHAM)
  - Vice Minister of MOIC (Mr. Siewsavath SAVEANGSEUKSA)
  - Vice Minister of MONRE (Dr. Akhom TOUNALOM)

TORs: VPA negotiation with EU → VPA sign with EU and FLEGT supervision (Drafting)

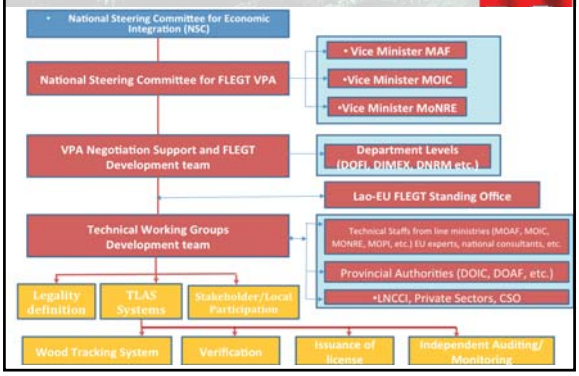
VPA Negotiation Supporting and FLEGT Development Committee
(Related Departments, Private Sectors, CSOs)
TORs: Support VPA negotiation and FLEGT process *(See MAF Decision Draft)*

Lao – EU FLEGT Standing Office (Technical Working Groups)
(Officials from the related Forest, industry and trade sectors such as DOF(MAF), DOFI (MAF), DFRM (MonRE), DOI and DIMEX (MOIC)
TORs: Technical Arrangements for Lao-EU FLEGT – VPA process such as
- Public Hearing Unit
- Regulations and TLAS+ … Unit

(See MAF Decision Draft)

7

FOREST LAW ENFOREMENT, GOVERNANCE AND TRADE:



Efforts of Government for Lao-EU FLEGT VPA:

- Follow up the meeting of East Asia Ministerial FLEG Bali, Indonesia, 2001.
- Develop the connections among DOFI, DOF, DFRM, DIMEX, DOI, etc.
- Access to the valued wood product markets in EU.
- Accomplish the 7th National Socio-Economic Development Plan 2011-2015 and the Forestry Development Strategy in 2020.
- Improving/drafting the Forestry and Forest Inspection Part 2013.
- Strengthen the forest governance issues.

Significance of FLEGT VPA for Laos' Forestry Sector:

- Opportunities for Lao wood industry to access EU markets.
- Improving labor's skills and lead to high wages.
- Adding more value to timber product exports.
- Creating higher standard of timber export and fair competitive environment.
- Strengthening existing rules & regulations on timber management.
- Enhancing sustainable development of forest sector.
- Maintaining legal timber supply chain to EU
- TLAS implementation enhance transparency and productivity.

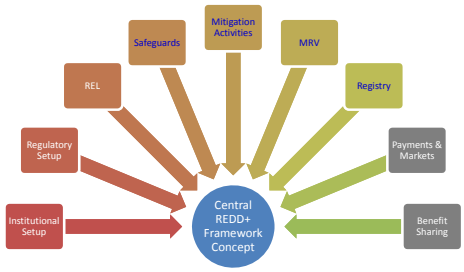
REDUCING EMISSIONS FROM DEFORESTATION AND DEGRADATION:

I. Lao PDR had ratified to the UNFCCC in 1995 and Kyoto Protocol in 2003;

II. Post of the COP 13 the action was made: "R-PIN and R-PP were prepared";

III. 2008 Lao was one of the 37 countries selected to the World Bank (FCPF), and one of only 8 to benefit from (GEF).

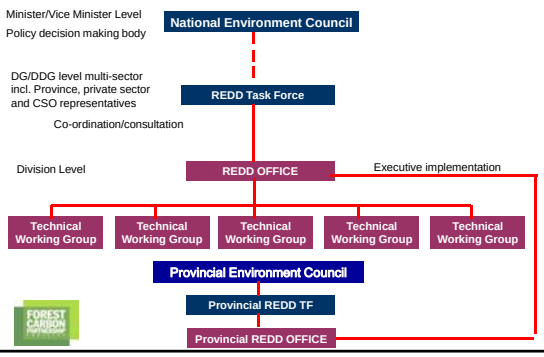
REDD+ National Framework by Component:



Current REDD+ & REDD+ Related Projects & Activities:

Donors/ Facilitators	Amount	Projects	Year implements
FCPF through WB	US$ 200,000	RPP Preparation Grant	2010
	US$ 3,6 mil	Grant for RPP Implementation	2011-201 ???
Japanese Government/JICA	US$ 5 mil	FIM	2010-2013
	US$ 4 mil	PAREDD	2009-2014
	US$ 2 mil	FSCAP (For. Sec. Cap. Dev. Project)	2010-2014
	US$ 10 mil	FPP (For. Preservation Program)	2012-2013
German Government	Euro 4 mil	CliPAD/ TA "GIZ"	2009-201?
	Euro 10 mil	CliPAD/ FC "KfW"	2011-2017
CIF through MDB	US$ 30.2 mil	PSFM in Production Forest Areas	Pre: 2011 Imple: 2013-18
Finland Government	US$ 14 mil	join FIP on Scale-up PSFM	2013-2016

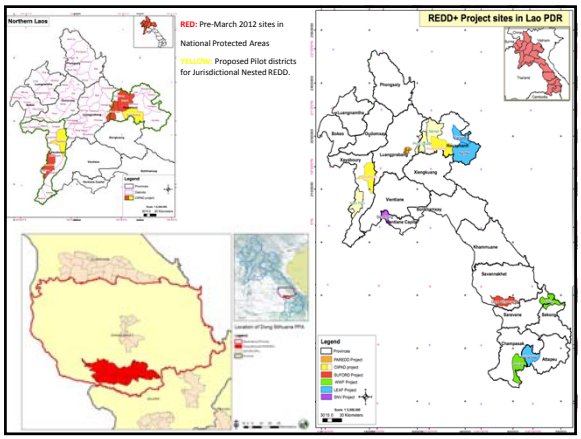
Institutional arrangements

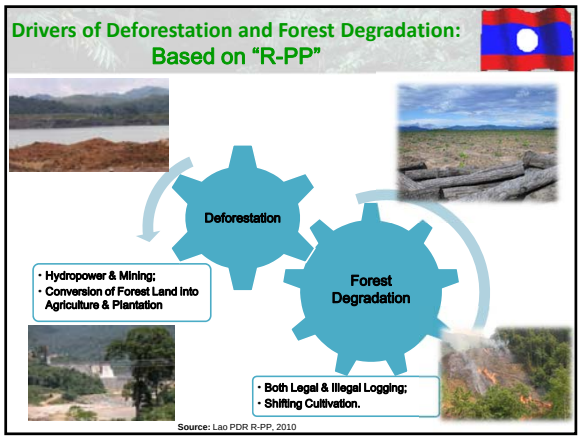


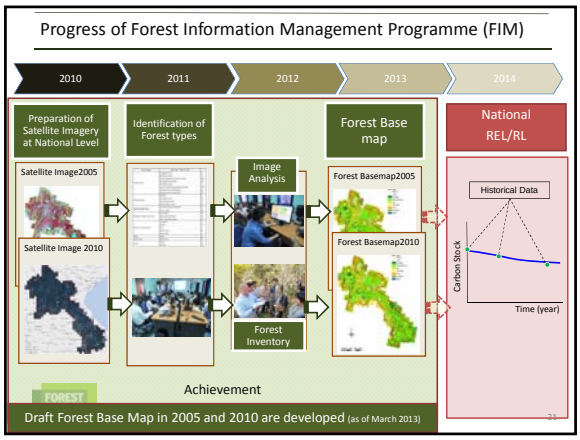
Current Task Force Members:

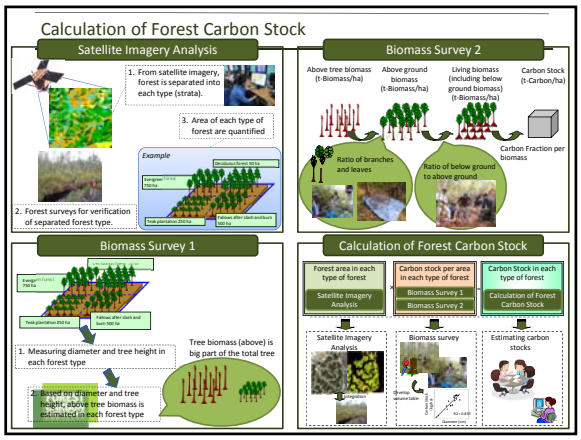
- Designated by Minister for Natural Resources & Envt.
- Housed in DFRM
  - Chaired by DG, DFRM
  - DDG is representative of the chair
  - Deputy of the Chair: DG, Department of Land Management

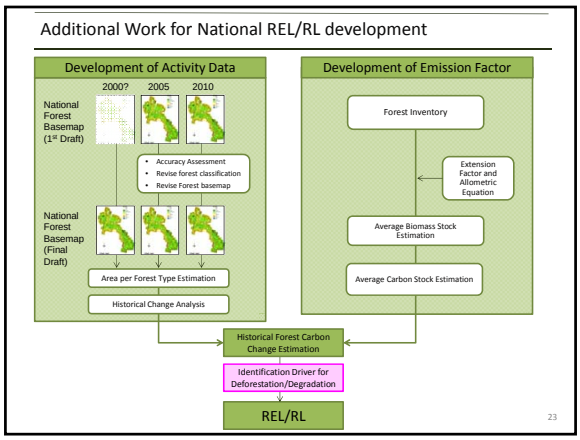
- **Others members:**
  - **DDG of DoE, MONRE**
  - **DDG of DoF, MAF**
  - **DDG of DOFI, MAF**
  - **DDG of NAFRI, MAF**
  - **Director of Research Division, FoF, NUoL**
  - **DDG of Mining Department**
  - **DDG of Electricity Department**
  - **DDG of Law Department,**
  - **DDG of Planning Dep., MPI**
  - **Director of Internal, Finance Cooperation Division, MoF**
  - **Representative from Lao Front for National Construction**
  - **Representative from Lao Women Union**
  - **Representative from Lao national Chamber of Industry and Com.**


RED: Pre-March 2012 sites in National Protected Areas
YELLOW: Proposed Pilot districts for Jurisdictional Nested REDD.
REDD+ Project sites in Lao PDR


Drivers of Deforestation and Forest Degradation: Based on "R-PP"
Deforestation
Forest Degradation
· Hydropower & Mining;
· Conversion of Forest Land into Agriculture & Plantation
· Both Legal & Illegal Logging;
· Shifting Cultivation.
Source: Lao PDR R-PP, 2010


Progress of Forest Information Management Programme (FIM)
2010
2011
2012
2013
2014
Preparation of Satellite Imagery at National Level
Identification of Forest types
Image Analysis
Forest Base map
National REL/RL
Satellite Image2005
Satellite Image 2010
Forest Basemap2005
Forest Basemap2010
Forest Inventory
Historical Data
Carbon Stock
Time (year)
Achievement
Draft Forest Base Map in 2005 and 2010 are developed (as of March 2013)


Calculation of Forest Carbon Stock
Satellite Imagery Analysis
1. From satellite imagery, forest is separated into each type (strata).
2. Forest surveys for verification of separated forest type.
3. Area of each type of forest are quantified
Example
Biomass Survey 2
Above tree biomass (t-Biomass/ha)
Above ground biomass (t-Biomass/ha)
Living biomass (including below ground biomass) (t-Biomass/ha)
Carbon Stock (t-Carbon/ha)
Carbon Fraction per biomass
Ratio of branches and leaves
Ratio of below ground to above ground
Biomass Survey 1
1. Measuring diameter and tree height in each forest type
2. Based on diameter and tree height, above tree biomass is estimated in each forest type
Tree biomass (above) is big part of the total tree
Calculation of Forest Carbon Stock
Forest area in each type of forest
Carbon stock per area in each type of forest
Carbon Stock in each type of forest
Satellite Imagery Analysis
Biomass Survey 1
Biomass Survey 2
Calculation of Forest Carbon Stock
Biomass survey
Estimating carbon stocks


Additional Work for National REL/RL development
Development of Activity Data
2000?
2005
2010
National Forest Basemap (1st Draft)
Accuracy Assessment
Revise forest classification
Revise Forest basemap
National Forest Basemap (Final Draft)
Area per Forest Type Estimation
Historical Change Analysis
Development of Emission Factor
Forest Inventory
Extension Factor and Allometric Equation
Average Biomass Stock Estimation
Average Carbon Stock Estimation
Historical Forest Carbon Change Estimation
Identification Driver for Deforestation/Degradation
REL/RL


Forestry Policy:
The four priority policy goals for the agriculture and forestry sector are:
1. Food Security;
2. Commercialization of Agriculture;
3. Stabilization of Shifting Cultivation; and
4. Sustainable Forest Management.

Sustainable Forest Management:

1. **The major targets for the forestry sector which must be achieved to contribute to poverty eradication, that are set out in the FS 2020 are:**

1.1 **To improve quality of existing forest area:**

- Increase forest cover up to 70% of the total land area by the year 2020, by natural regenerating up to 6 million has;

Sustainable Forest Management:

- **planting trees up to 500,000 has in degraded area as and integral part of a rural livelihood support system.**

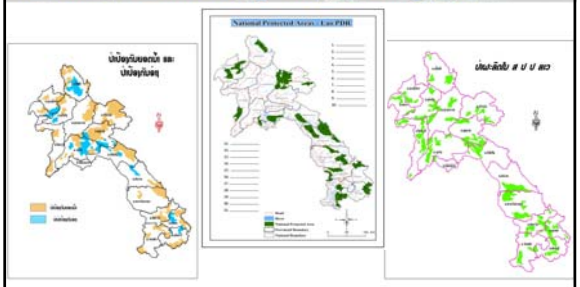
2. **To provide a sustainable flow of forest products for domestic consumption and generate household income through sale and export.**

Sustainable Forest Management:

3. **To preserve the many species and unique habitats, for different reasons, threatened both within the country and elsewhere;**

4. **To conserve an environment including protection of soil, conservation of watershed and climate.**

Many important step have to be taken towards achieving these targets:



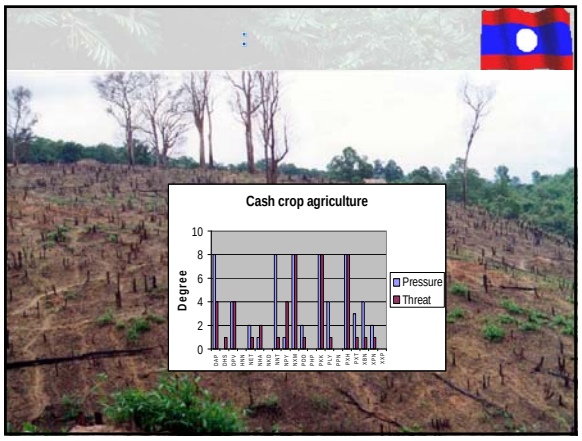
1. Protection Forest = 8.4 million ha; (201?)
2. NBCA = 4.7 million ha; (1993)
3. Production Forest = 3.1 million ha. (1995)

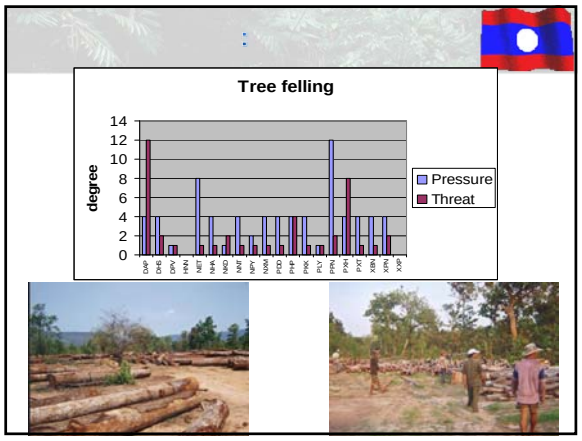
Challenges:

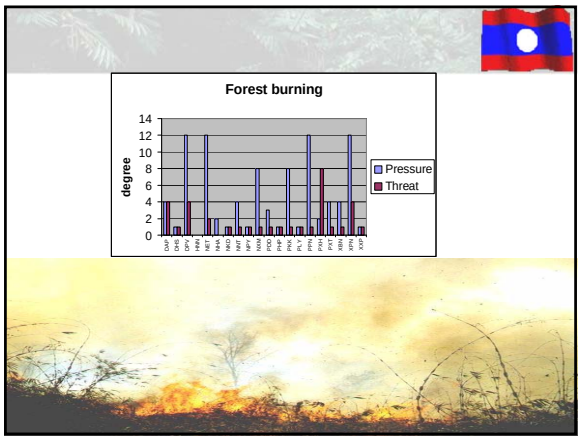
- **Forestry Policy**: *There is a certain contradiction between the commercialization of agriculture and the others. The recent influx of FDI, mainly into the agriculture sector is threatening both food security by taking land needed by local communities for food production and sustainable forest management through clearing and converting much forest land*;
- **Sustainable Forest Management:** *Increasing forest cover into the target there are set out in the SF 2020 and conserving and protecting potential forest areas are very big challenge due to the high pressure by Foreign Direct Investment "SDI".*

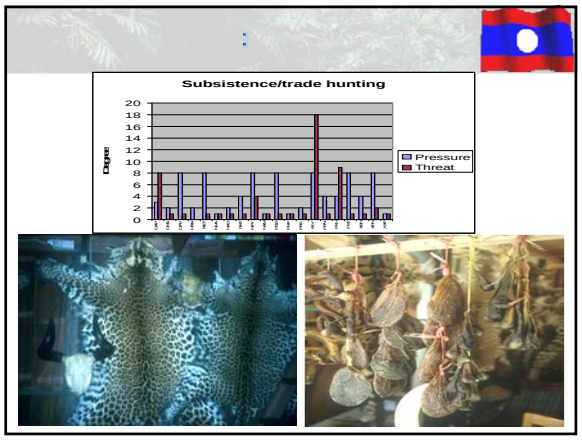
Challenges:

- **Institutional Arrangement**: *REDD+ in Laos lie under two ministries, the new MONRE has the mandate from Gov. to lead on REDD+, but not yet affectively functioning due to mainly capacities and readiness*;
- **Enabling Framework and Regulatory:** *Revision of relevant laws and establishing new regulations can take time, and link with many other issues and agencies outsides forestry sectors.*
- **Requirements of high technical aspects of REL/RL and MRV:** *Current capacities in this area is limited within the central levels, and thus more capacities buildings need for sub-national levels.*


Cash crop agriculture
Degree
Pressure
Threat


Tree felling
degree
Pressure
Threat


Forest burning
degree
Pressure
Threat


Subsistence/trade hunting
Degree
Pressure
Threat


ຂອບໃຈຫຼາຍໆ!!!
THANK YOU !!!

Sustainable Forest Management in Thailand

Wilawan Wichiennopparat*
Prasert Netprachit**

*Royal Forest Department
**Forest Industry Organization

Scopes 1

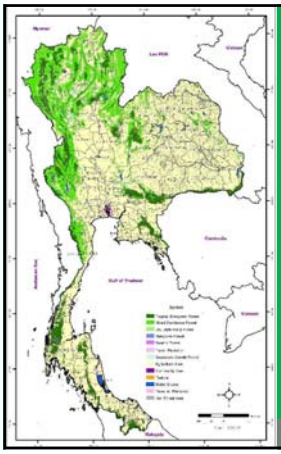
Royal Forest Department (RFD)

- Forest resources in Thailand
- National forest policy
- Framework
- EU/FLEGT
- Community Forests
- REDD+
- Collaborative Projects

Scopes 2

Forest Industry Organization (FIO)

- Logging/plantation/Forest industry
- Sustainable Plantation Management



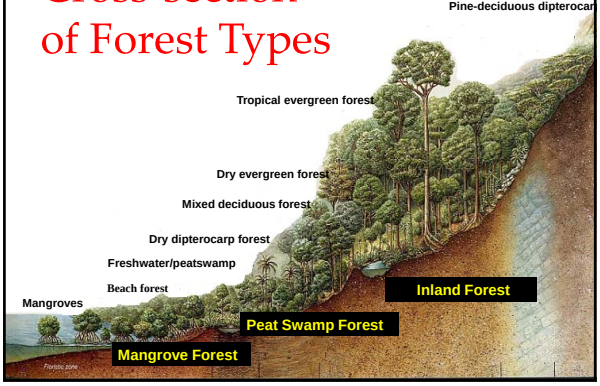
Forest Resource in Thailand

Types of forest

⇨ Evergreen forest (30%)
- Tropical evergreen forest (6%)
- Dry evergreen forest (17%)
- Mangrove forest
- Swamp forest
- Beach forest

⇨ Deciduous forest (70%)
- Mixed deciduous forest (20%)
- Dry dipterocarp forest (47%)
- Pine-deciduous dipterocarp forest

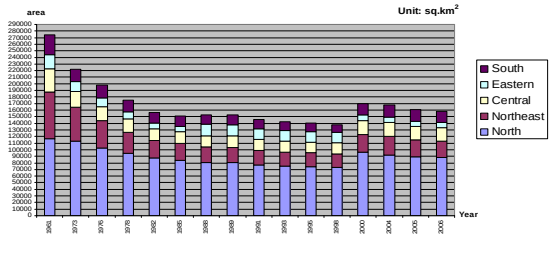
Cross-section of Forest Types



Forest Resource situation in Thailand

Alertness of continued increasing Deforestation

Thai government issued the logging ban in 1989
Cuurent forest area was 33.09 % (2009)



Country Strategy

- Good Governance
- Growth and Competiveness
- Inclusive Growth
- Green Growth (MoNRe/RFD)
  - Improve quality of Live (Environmental friendliness)
  - Clean mechanism development
  - Reduce GHGs
  - Increase energy utilization efficiency
  - Increase forest area

National Forest Policy (1985)[1]

Conservation

To maintain permanent native forest estate in Thailand and to manage that estate in an ecological sustainable manner so as to conserve the full suit of values that forest can provide for current and future generations.

National Forest Policy (1985) [2]

Plantations To increase forest area

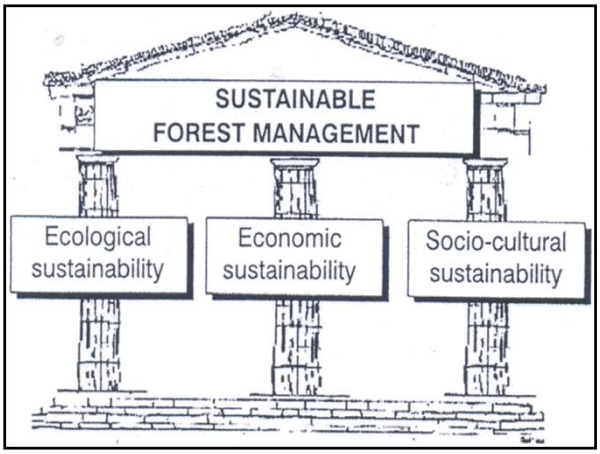
Targeting 40 % of country area (20.5 m ha)
Conservation Forest 25 %
Economical Forest 15 %
(7.36 m ha to achieve the national target)

Framework [1]

- Protection of remaining forest area
- Reforestation, Rehabilitation and Reclaimmation (Promotion/Incentives)
- Reduction of deforestation
- Law enforcement/Amendment of Forest Acts
- Research and Development (Nation/International research projects)
- Increase public awareness/participation
- International responsibility (EU_FLEGT, REDD+, CSR, PES)

Framework [2]

- Increase public awareness/participatory
- International responsibility (UNFCCC, CDB, CDM, EU_FLEGT, REDD+, CSR, PES)



Challenges of Sustainable Forest Management

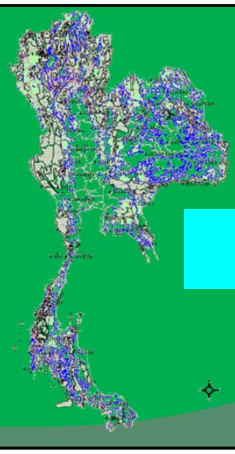
Protective/Protection Forest Management

Multiple uses: Integrated forest management for all stakeholders

Economical forests

Outcomes of community forest management promotion in Thailand

Since 1999, over 8,500 community forests have been approved by RFD
Covering approximately 500,000 ha



11,698 community forests are on the process to register to RFD

Food bank project

- To alleviate poverty and to secure food supply under the concept of "self-sufficiency" and agro-forestry

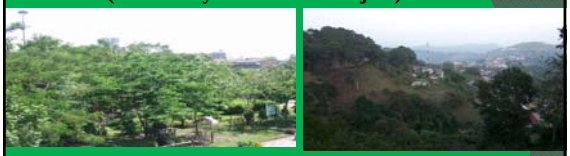
Royal Forest Department's REDD+ Program

- Mitigation of climate change effects through rehabilitation /restoration of degraded forest and ecosystem, environmental service, community forestry and REDD+ activities;
- Conservation of biodiversity and eco-tourism;
- Non-timber forest products development ; and
- Human capacity development (people's forum and training programs)

The King's involvement in Planting Program

New Theory + Efficincy Economy

New Planning for Village Forest Program (under Royal Initiative Project)



- Aimed to integrate the development of people, community, and environment together
- Stop illegal logging and encroachment into forest land
- Encouraging people to participate in forest protection, patrol, and rehabilitating
- Integrate all activities of government agencies into one project (land allocation, infrastructures providing, public healthcare, agricultural extension, education, etc.)

Restoration of the Degraded Area under the Royal Initiative Project

EU-FLEGT

- In 1998, after international meeting of G8, EU adopted the action plan to address the problem of illegal logging and related trade.
- In 2003, EU action plan for Forest Law Enforcement, Governance and Trade was set out to tackle illegal logging.
- In 2005, the EU Commission received the mandate by EU MS to negotiate no FL 2173 and 2008 no 1024 FLEGT License and VPAs were issued.
- In 2010, EU Timber Regulation (EUTR) was applicable on March 3, 2013.

4

Thailand's FLEGT_background 1

- In 2010, RFD established the first RFD's FLEGT Committee.
- In 2011, RFD proposed the Ministry of Natural Resources and Environment (MNRE) to set up the Thai FLEGT committee for preparing of FLEGT.
- Meeting, seminar and public hearing were held to provide more understanding of FLEGT to all stakeholders across the country (3 times)

5

Thailand's FLEGT_background 2

- Office of Forestry Certification was established by the RFD in 2012.
- On December 11, 2012, the scope of VPA was approved by the Council of Ministers.
- In September 2013, Eu and RFD will held a Launching Event.

6

International Research Projects 1

- **APFNet + IFRIT + RFD (2011-2013)**
  Forest Cover and Carbon Mapping in Greater Mekong Subregion and Malaysia
- **APFNet + RFD (2013-2015)**
  Strengthening Urban Forestry Demonstration Site on Bang Kachao (Thailand) for Biodiversity Conservation and Natural Learning Center

International Research Projects 2

AFoCo + RFD (2012-2014)

Reclaimation, Rehabilitation and Restoration of Degraded Forest Ecosystem (RRR-DFE) in Mekong BasinCountries

AFoCo + RFD (2013-2014)

REDD $^{+}$ in Nam Reab Watershed at Nan Prov.: A Community Forestry Initiative for REDD^{+} Concept Based on Climate Change Adaptation SFM

Nursery establishment and seedling distribution

Public awareness enhancement and information distribution

International Research Projects 3

ITTO + RFD (2012-2015)

Management of the Emerald Triangle Protected Forest Complex to Promote Coorperation for Trans-boundary Biodivesity Conservation between Thailand, Cambodia and Laos Phase III

ITTO + RFD (2013-2014)

Development and Implementation of Criteria Indicators for Sustainable Management of Planted Forests and Conservation Forests

International Research Projects 4

JIRCAS + RFD

Development of Techniques for Nuturing Beneficial Indigenous Tree Species and Combined Management of Agriculture and Forestry in Northeast Thailand, Tropical Monsoon Region Phase I

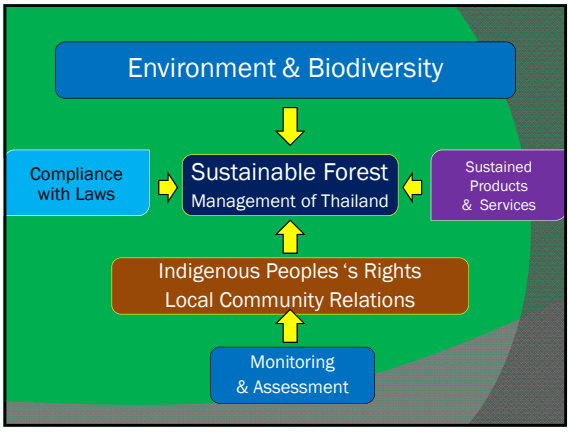
Improvement of utilization techniques of forest resources to promote sustainable forestry II (2011-2016)

Urgent tasks for fulfilling Present and Future Challenges

Need of concrete and up-to-date database
Amendment of forest law
Capacity building
Increase more public awareness/participatory
Responsibility on International issues

Elements of Sustainable Plantation Management in Thailand

1. Compliance with laws
2. Safeguards of environment & biodiversity
3. Good livelihood of local people
4. Sustainable Yield
5. Monitoring of impacts



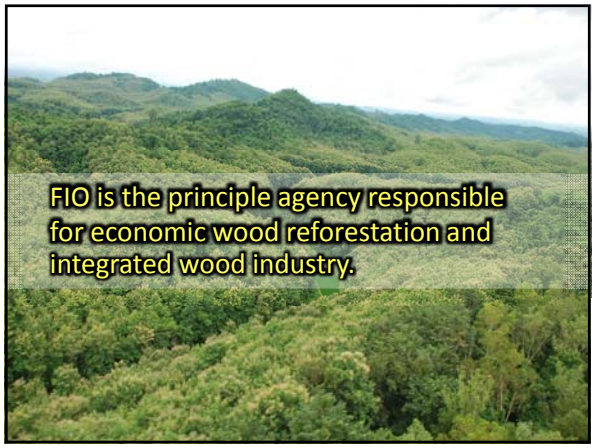
SFM Standards in Thailand

- Organizational level
  [Forest Industry Organization]
- National level
  [Thailand SFM National Standard]
- International level
  [FSC / PEFC]


FSC Certified Teak Plantation of Thailand
Under Forest Industry Organization

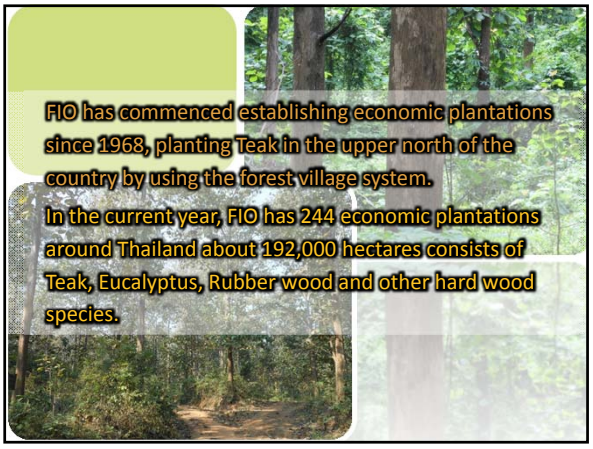

Thank you


Forest Industry Organization (FIO)
is a state enterprises under the control of Ministry of National Resources and Environment of Thailand , set up in 1974.

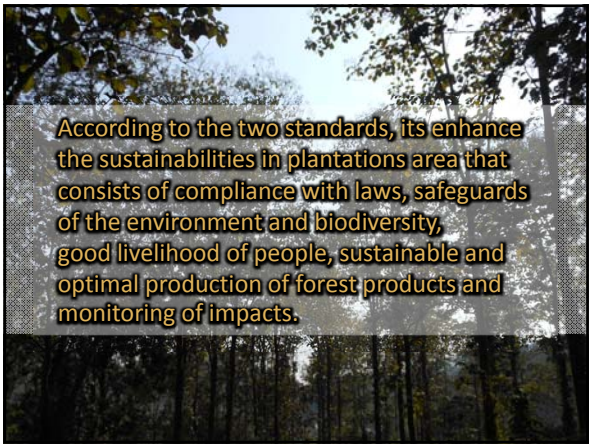

FIO is the principle agency responsible for economic wood reforestation and integrated wood industry.

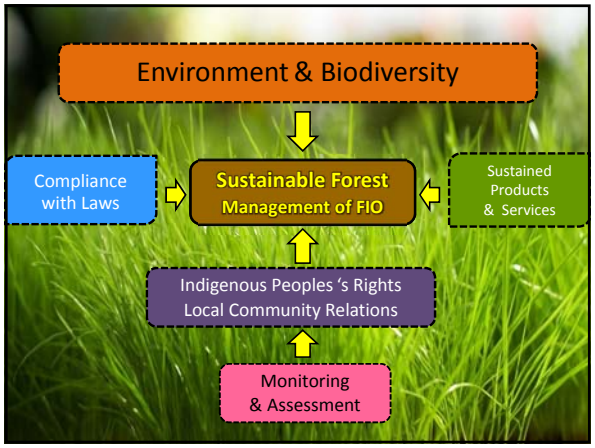

It is also the duty of FIO to conserve environment and biodiversity and ecosystem in the plantation area.

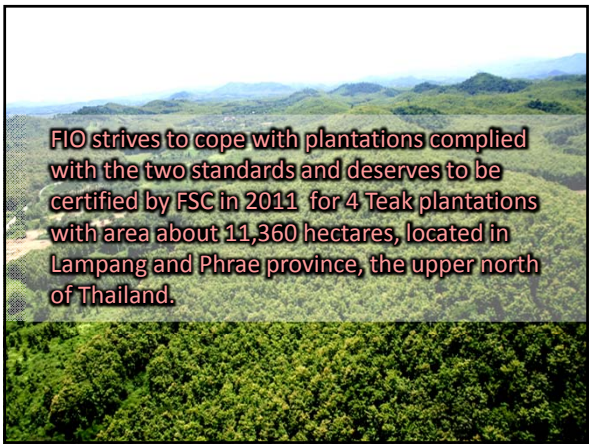

Moreover, FIO takes responsibility for elephants conservation.


FIO has commenced establishing economic plantations since 1968, planting Teak in the upper north of the country by using the forest village system.
In the current year, FIO has 244 economic plantations around Thailand about 192,000 hectares consists of Teak, Eucalyptus, Rubber wood and other hard wood species.


FIO is a forerunner of Thailand in managing economic plantations under the Sustainable Forest Management (SFM) system in accordance with our own FIO standard and FSC principles and criterias.

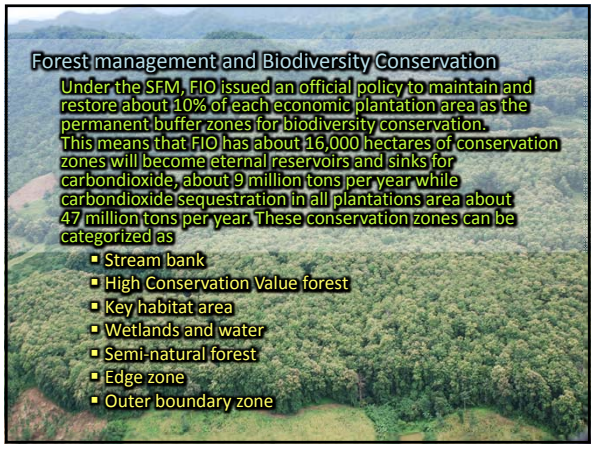

According to the two standards, its enhance the sustainabilities in plantations area that consists of compliance with laws, safeguards of the environment and biodiversity, good livelihood of people, sustainable and optimal production of forest products and monitoring of impacts.

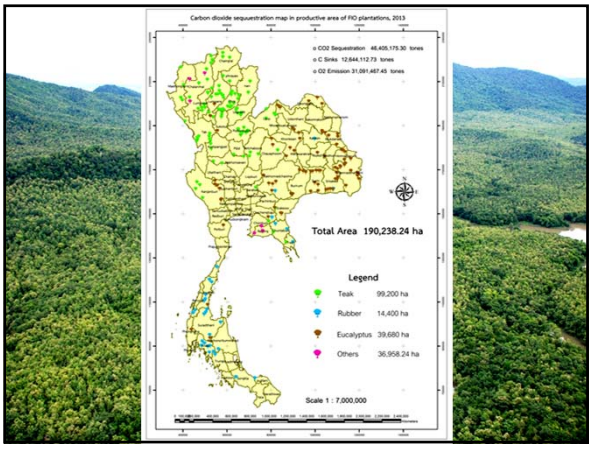

Environment & Biodiversity
Compliance with Laws
Sustainable Forest Management of FIO
Sustained Products & Services
Indigenous Peoples 's Rights Local Community Relations
Monitoring & Assessment

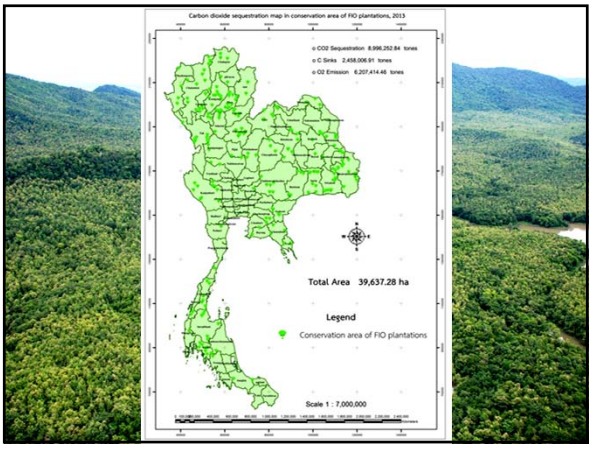

FIO strives to cope with plantations complied with the two standards and deserves to be certified by FSC in 2011 for 4 Teak plantations with area about 11,360 hectares, located in Lampang and Phrae province, the upper north of Thailand.


FSC Certified Teak Plantations under FIO , Thailand


FSC Certificate for FIO 's Plantations
The Rainforest Alliance
FOREST INDUSTRY ORGANIZATION (FIO)
IS CERTIFIED FOR FOREST STEWARDSHIP COUNCIL FOREST MANAGEMENT AND CHAIN-OF-CUSTODY
RAINFOREST ALLIANCE IS AN ACCREDITED FSC CERTIFICATION BODY
FSC


Forest management and Biodiversity Conservation
Under the SFM, FIO issued an official policy to maintain and restore about 10% of each economic plantation area as the permanent buffer zones for biodiversity conservation. This means that FIO has about 16,000 hectares of conservation zones will become eternal reservoirs and sinks for carbondioxide, about 9 million tons per year while carbondioxide sequestration in all plantations area about 47 million tons per year. These conservation zones can be categorized as
Stream bank
High Conservation Value forest
Key habitat area
Wetlands and water
Semi-natural forest
Edge zone
Outer boundary zone





In addition, FIO also declared the compulsory policy to conserve Eternity trees in all plantations such as

- Rare, threatened and endangered species
- Very old trees
- Very big trees
- Fruit trees
- Wildlife sanctuary trees

Payment for Ecological Services : PES

- FIO has been prepared one PES project in FIO plantation, Thungkwian plantation located in Lampang province, the upper north of Thailand with the project area about 1,000 hectares. The concept of the project is to convert from logged forest to conservation forest for environment and biodiversity and eco system conservation and also for being the elephant sanctuary in the future. The project period is from 10-25 years.
- FIO, however, has inadequate budget to carry out the project, it has waited for fund or aid from various sources to fulfill our goal and destination.

FLEGT and REDD+

- In Thailand, The Royal Forest Department and Department of National Park, Wildlife and Floras were appointed as the focal point of FLEGT and REDD+ respectively.
- FIO accepts the two hot issues by sending FIO staffs attending every FLEGT and REDD+ meetings and seminar.
- FIO has been carrying out the REDD+ project of survey the baseline data of carbondioxide stocks, both in conservation zone and in all economic plantations area.
- FIO still needs to have some aids of fund and technologies in terms of MRV for undertaking the project.

Challenges

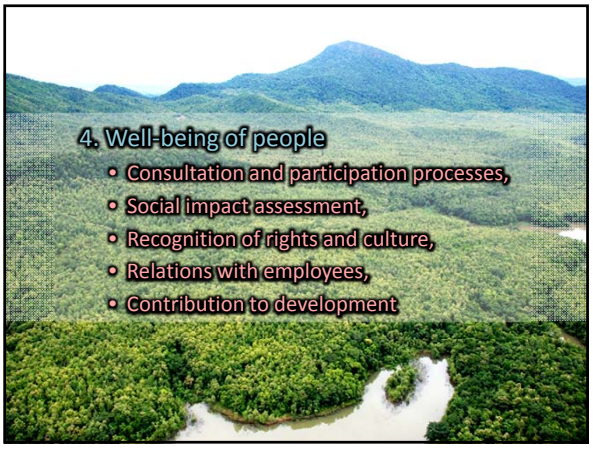
The way forward, FIO will be the for-runner of the economic wood business plantation- based which all of 244 plantations will be certified by both FIO local standard or FSC international standard of SFM within the year 2020.


FIO Forest Policies for the Next Decade
The plantations of FIO have to be managed under the 5 elements of the best practice of sustainable forest management.
They are:
1) Compliance with laws
2) Safeguards of environment and biodiversity
3) Good livelihood of local people
4) Sustainable yield
5) Monitoring of impacts


Strategies and Action Plans for FIO SFM
There are 5 major strategies of FIO's SFM as follows :
1. A legal and policy framework
• Compliance with legislation and regulation,
• Tenure and use rights,
• The organizational commitment and policy


2. Sustained and optimal production of forest products
• Management plantation,
• Sustained yield of forest products,
• Monitoring the effects of management,
• Protection of the forest from illegal activities,
• Optimizing benefits from the forest.

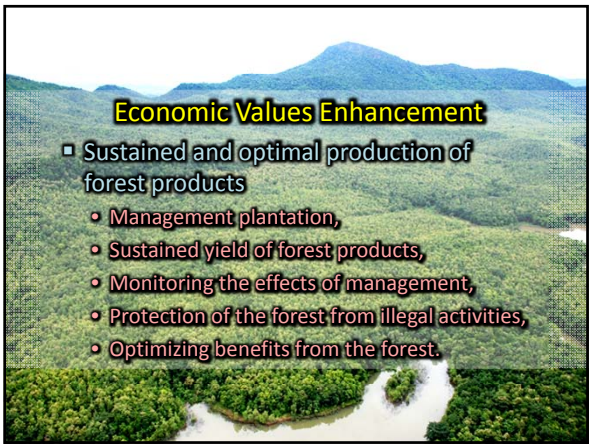

3. Protecting the environment
• Environmental impact assessment,
• Conservation of biodiversity,
• Ecological sustainability,
• Avoid using of chemicals,
• Waste management.

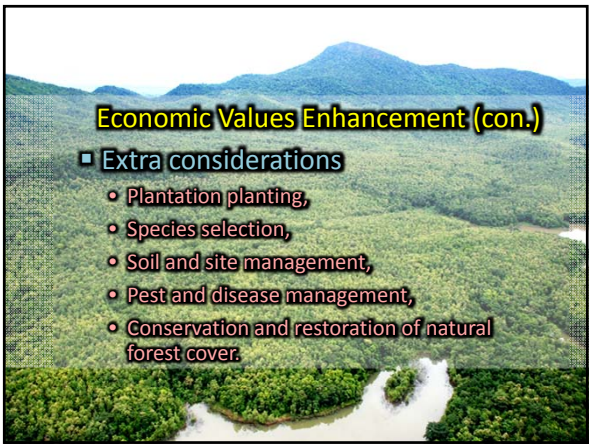

4. Well-being of people
• Consultation and participation processes,
• Social impact assessment,
• Recognition of rights and culture,
• Relations with employees,
• Contribution to development


5. Extra considerations
• Plantation planting,
• Species selection,
• Soil and site management,
• Pest and disease management,
• Conservation and restoration of natural forest cover.


Suggestions for SFM in GMS
What should be done to protect our forest?
Community Forest
Agroforestry
Forest Villages
Private Forest Owners
Stakeholder Participation
Chain of Custody
SFM

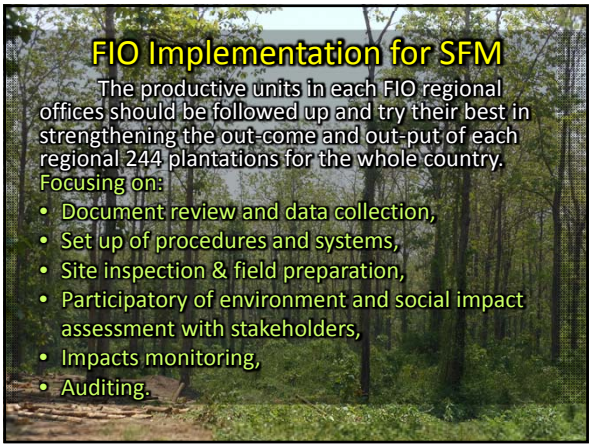

Suggestions for SFM in GMS
How to enhance its social, economic and environmental values?
It should be taken all strategies that I mentioned before, as follows :


Economic Values Enhancement
Sustained and optimal production of forest products
Management plantation,
Sustained yield of forest products,
Monitoring the effects of management,
Protection of the forest from illegal activities,
Optimizing benefits from the forest.


Economic Values Enhancement (con.)
Extra considerations
Plantation planting,
Species selection,
Soil and site management,
Pest and disease management,
Conservation and restoration of natural forest cover.


Environmental Values Enhancement
Protecting the environment
Environmental impact assessment,
Conservation of biodiversity,
Ecological sustainability,
Avoid using of chemicals,
Waste management.


Enhancement of Social Values
Well-being of people
Consultation and participation processes,
Social impact assessment,
Recognition of rights and culture,
Relations with employees,
Contribution to development


FIO Implementation for SFM
The productive units in each FIO regional offices should be followed up and try their best in strengthening the out-come and out-put of each regional 244 plantations for the whole country.
Focusing on:
• Document review and data collection,
• Set up of procedures and systems,
• Site inspection & field preparation,
• Participatory of environment and social impact assessment with stakeholders,
• Impacts monitoring,
• Auditing.


THANK YOU

Overview of FLEGT in Vietnam and management orientation on forest products by 2020

Mr. Nguyen Dinh Hai
Vietnam Forestry University

Content

- Forest area and forestry policy implementation
- Law violation, challenges and opportunities of FLEG in Vietnam
- Management orientation on forest products processing

Forest area legal framework

- Total forestry land of Vietnam is 12.616.699 ha Forest Cover is 38% by the end of 2006 as opposed to 26% in 1994.
- Forestland is an important resource of the 24 mil upland people.
- FLA has been implemented since 1994 to HH, individuals and organizations for long-term and stable uses in order to improve their lives, promote forest protection and development.

Result of forest policy implementation

- Encourage HHs to exploit and utilize appropriately forest resources and to protect and restore the degrading forest.
- Contribute to hunger eradication and poverty reduction and to reduce shifting cultivation
- Develop production forest and proceed to the well-being with forest economy.
- In short:
  - lives of people improved;
  - weariness on the role of forest improved;
  - forest cover increased;
  - resettlement increased; and
  - forest is sustainably managed

Some constraints

- Policy implementation at local level is still ineffective due to:
  - Lack of capacity of local authorities in implementation process
  - Overlapping in management and implementation between DARDs an DONREs upon mapping system criteria;
  - demarcation is difficult on the ground; and
  - land disputes and uses increased.
- Forest management and protection, especially forest & forest land allocation subject to regulation of 2 laws: land law regulating land allocation; Forest protection and development law regulating forest allocation. Resulting in inconsistent policies and difficult for the implementation

Constraints (cont'd.)

- Lack of mechanism for monitoring and evaluation of policy implementation
- Benefit sharing on forest allocation and contract is not explicit
- Capacity of forest owners regarding forest management and protection is insufficient
- Forest protection forces in general and forest wardens in particular could not control the situation in some areas
- Gaps between national and customary laws
- Role of non-state sector is less attention
- Local people have poor access to legal information
- Missing policy on PES

The current status of law violations

The most serious violation is the forest fire for shifting cultivation, caused by the ethnic groups that have the habit of free migration

- Illegal trade of forestry products were conducted mostly by rich people
- The punishments of violations related forest burning were not strict so the people consider forest burning as normal activity.
- The law violations in forest protection and management are very popular with characterized with complicated facts and elements.
- The forest resources are over exploited, the new forest plantations cannot catch up with the intensive illegal logging and destruction

Challenges of FLEG in Vietnam

- Too much state control over forest resources and poor compensation for local people
- Inadequate attention to indigenous knowledge
- Migrants as additional appropriators of the resources
- Unclear benefit sharing mechanism for allocated forest
- Improper implementation of state policies
- Upward accountability of (local) state officials

Opportunities for FLEGT in Vietnam

- Inherit the precious experiences and lessons from other countries
- Many supports from outside (International Aid) for FLEGT process
- Promotion of meaningful devolution of forest management to ethnic villages
- Promotion of community forest management (CFM)
- Development of a pro-poor approach in forestry
- Promotion of understanding and recognition of local land tenure system among state officials

Management orientation on forest products processing by 2020

Processing Situation in Vietnam

- ✓Wood processing sector important, in particular outdoor furniture for export
- ✓Ambitious expansion plans
- ✓Currently based to large extent on timber imports
- ✓Plans to decrease dependence on timber imports
- ✓Increased efforts for law enforcement

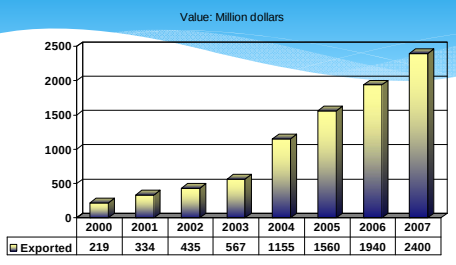
Vietnam Furniture Status

1600 Wood & furniture factories export to 120 countries.

- Factories distribution:
  - Concentrated in HCMC, Binh Duong, Dong Nai, Binh Dinh, Daklak, & Quang Nam – Da Nang.
  - 10% in Northern VN.
- Foreign investment:
  - 200 FDI Companies contribute 56% to the furniture export.

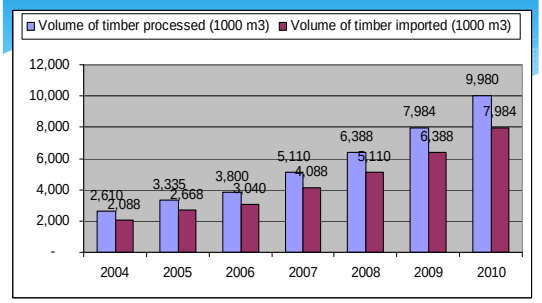
Source: Vietnamese – German Forestry Programme

Furniture export from Vietnam



Source: VN's handicraft & furniture news

Vietnam timber processing and import



Source: VN's handicraft & furniture news

Orientation development of timber & forest products processing by 2020 – *National Strategy for Forestry Development by 2020*

- Competitive & sustainable timber and wood products to basically meet domestic and export demands;
- Forest production value growth speed will be 4 - 5%/year, by 2020, forestry GDP will contribute to 2 - 3% of the national GDP.
- Fire-wood exploitation used in rural area is at the level of 25 - 26 million m3/year;
- Forest products export obtains over 7.8 billion USD (incl. 7 bil.USD of timber products and 0.8 bil.USD of NTFP);
- Processing industry & forest products trade have to be the economic driving force of the forestry sector
- Focus on quality development via innovative managerial mechanism, reform of state owned enterprises and encouragement of private participation so as to create more transparent and fair-play markets

Orientation development of timber & forest products processing by 2020 (Cont.)

- Focus on development of high competitive producxts as indoor and outdoor furniture, handicraft and NTFP products (bamboo, rattan).
- From now to 2015, focus on revision, improvement and upgrading small and medium processing enterprises; develop large-scale after 2015
- Establish and extent forest products processing industry to other regions that have potentiality for supplying stable and sufficient inputs, to ensure benefit generation and competability on international markets.
- Develop and modernize small-scale processing enterprises & traditional handicraft villages at rural areas so as contribute to the diversification of agricultural and rural economic
- Encourage establishment of production and processing units involved in plantation timber & NTFP production.

Forest products import – export orientation

To be in line with the international integration trend, forest products processing industry shall develop towards the direction of inputs based self-sufficient.

- It is important to properly organize import of forest materials and at the same time to strengthen plantation of large wood and NTFP species in order to gradually satisfy materials for processing and reduce dependence on imported materials while increasing added value of the processed products.
- Key export products are indoor and outdoor furniture, handicrafts and NTFP refinery products. Due attention should be paid on large markets as US, EC and Japan.
- Diversification and constantly increasing quality, products label to meet the taste of both national and international clients. Enhance establishment of trade mark and certification for export products

Supports and Steps forwards VPA

1. EC/WB FLEG work in Vietnam

- Survey of customs import data
- Survey of perceptions of forest crime across judiciary and police
- National FLEG assessment (ongoing)
- Wood processing survey (ongoing)
- **Enforcement training**
  - forest crime investigation training
  - case tracking & intelligence database development
  - inter-agency cooperation
- Customs and FPD study tour
- GIS/spatial technologies video-conference seminars

2. EC/IUCN Forest governance project

Conducted the assessment of forest governance barriers influencing sustainable and equitable forest management

II. FLEGT briefing session

Raise awareness of the relevant government officials about FLEG in general and EU's FLEGT action plan.

III. Vietnam – EC Roundtable meeting on market demands for legal and sustainable wood products

About 60 participants from:

- Vietnamese government agencies
- National and international forest produc companies
- Certification bodies
- NGOs and donor programmes


Thank you for your attention!

Viet Nam's Forestry:
Achievements, Constraints & Challenges

Mr. Nguyen Dinh Hai
Vietnam Forestry University
Mr. Nguyen Trong Dien
Vietnamese Academy of Forest Sciences

Outline

1. International and national context in 2012
2. Overview on sectoral performance in 2012
3. Some outstanding achievements in 2012
4. Constraints and reasons
5. Objectives and some solutions for implementation arrangements in 2013

1. Context in 2012

- **International**
  - Negative influences of international economic unstabilities caused by financial and public debt crisis in Europe
  - Global production and trade activities impacted severely together with complicated commodity price fluctuations
- **National**
  - Commodity consumption market shrinking with high inventory level and low purchasing power
  - Bank NPL ratio at worrying with many businesses, especially small and medium enterprises, having manufacturing narrowed down, paused or dissolved
  - ***Government's direction: Give priority to curb inflation, stabilize the macro-economy, and maintain growth at a reasonable level***

Socio-economic achievements in 2012

- GDP increased by 5.03% compared with 2011;
- Inflation was controlled at the rate of 6,81%;
- The value of agricultural, forestry and fishery production increased by 3.4%, including agriculture with 2.8%, forestry with 6.4% and fishery of 4.5%

⇒ Demonstrating the important role of agriculture sector in the context of economic difficulties

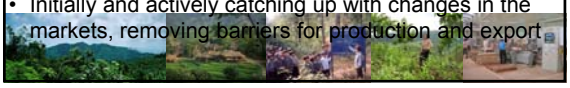
- Social and cultural sector have achieved significant development, social welfare and security has been ensured

2. Overview on forestry sector performance in 2012

- Forestry production value increased sharply in 2012 (approximately at 6,4%).
- Forest protection and forest fire prevention improved remarkably
- The forest cover reached 39,7%
- The Resolution No. 18/2011/QH13 of the National Assembly and the Decision No. QĐ 57/QĐ-TTg of the Prime Minister on the Forest Protection and Development Plan in period 2011 – 2020 have been implemented promtly and effectively

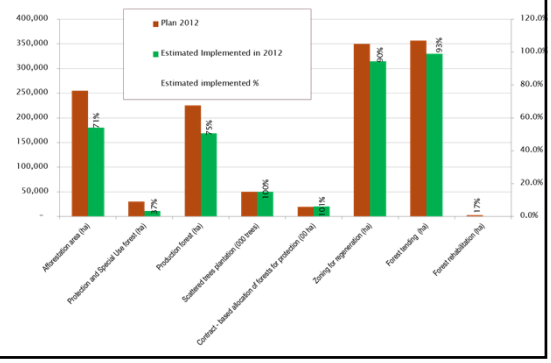
2. Overview on forestry performance in 2012 (cont.)

- PFES policy has truly gone into lives of people, becoming a light-spot of policy on socialization of the forest sector: the revenues from PFES in 2012 gained 1,130.8 bil. VND
- Expor turnover of forest products exceeded the plan and made unprecedented record (approximately 4.8 bil. USD), with robust trade surplus of around 3.5 bil. USD
- Initially and actively catching up with changes in the markets, removing barriers for production and export



3. RESULTS OF THE FORESTRY SECTOR IN 2012

3.1 The implementation of the Forest Protection and Development Plan in the period 2011-2020



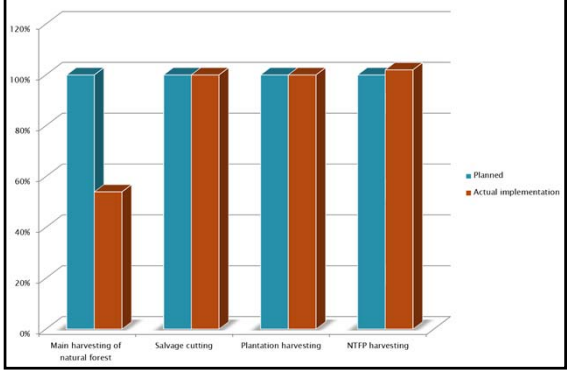
3.2 Forest protection and biodiversity conservation

- Total demaged forest area reduced to 38% as compared with 2011, in which fire – based demage reduced to 24 %, illegal logging decreased to 49%;
- Strict management applied for timber processing enterprises in order to stop illegal logging and utilization;
- Submiting a policy on SUF to Prime Minister for approval (Decision 24/2012/QĐ-TTg); piloting forest co-management (Decision 126/2012/QĐ-TTg);
- Ongoing development of plan on conservation of elephants, tigers and a circular on management of wildlife bear farming for submission to Prime Minister of the Government.

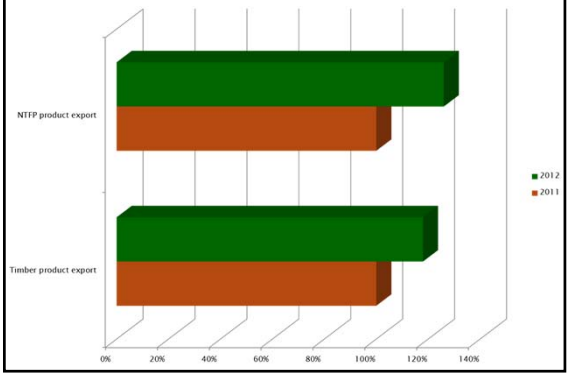
3.3 Payment for forest environmental services

- PFES policy is becoming one of important financial source for the forest sector.
- Provincial Steering Committees are established in 35 provinces and municipalities together with the establishment of Forest protection and development fund in 23 provinces
- Legal regulations on Fund operations and PFES implementation are under implementation for issuance.
- In 2012 PFES money collected is 1,130.8 bil VND (Central: 924.645 bil. VND; Local: 206.2 bil. VND).

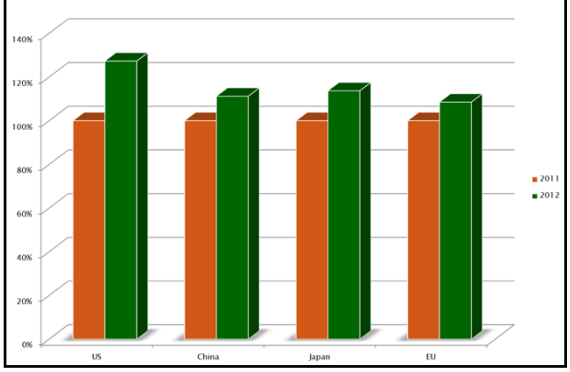
3.4 Harvesting and processing



3.4 Export



3.5 Some major markets for export



3.6 International cooperation and integration

- Forestry – relation international cooperation made substantial progress deeply
- Proactive and responsible implementing tasks of 19 int'l cooperation focal agencies as assigned by MARD
- Effectively attracting and calling for ODA and international support for the sector: Approving 8 ODA projects and new international aids ➔ **28 projects** (**363 mil. USD)**
- Actively involving in and implementing international initiatives (FLEGT/VPA, REDD+…) with substantial progress and encouraging results; and
- FSSP and its units improved on organization and functioned effectively

3.7 Climate change and REDD+

- Awareness on climate change and roles of forests improved
- Forest sector actively implementing MARD's CC adaptation plan (focusing on both mitigation and adaptation), green growth strategy
- REDD+ activities implemented at 3 levels: international, national and local levels;
- VN and Norway signed joint announcement on "Collaboration of REDD+ implementation in development countries" in Doha, Qatar
- PM approved National Action program on REDD+ in 2011-2020 via Decision 799/QĐ-TTg dated 27/6/2012.
- Local level: Plenty projects on REDD and climate change implemented

4. SHORTCOMINGS AND CAUSES

4.1 Shortcomings

- Illegal logging, trading and transportation of forest products in some provinces has become hot spots;
- In spite of the rapid growth with high export value, benefit gained by the timber processing industry is rather low;
- Forest protection and development planning has not been paid due attention by provinces, lack of adequate resources for implementation;

4.1 Shortcomings (cont.)

- Activities related to forest inventory and monitoring of forest resources changes have revealed certain limitations;
- Orientations for sectoral restructuring has not illustrated obvious changes in practice; and
- The rate of disbursement of ODA projects is low in the context of limited investment in the sector

4.2 Causes

- Sectoral policy mechanisms are not synchronized and overlapped with limited guiding and insufficient capacity
- Local authorities are not strict enough and lack of strong mechanisms and sanctions to prevent deforestation and forest burning
- Local forest rangers are poor and unequipped
- The dissemination and communications on the Forest Protection and Development law have not been effectively strengthened and failed to attract participation of society in forest management and protection
- Budget allocation does not correspond to the set targets and tasks causing lack of capital

5. IMPLEMENTATION MEASURES IN 2013

5.1 Objectives in 2013

To reach the forest cover of 40,2- 40,7%, specifically:

- Protection and sustainable development of the existing 13,138,101 ha of forests;
- Forest generation of 360,000 ha;
- Forest development: plantation of 255,000 ha (30,000 ha of protection and special-use forests)
- Rehabilitation of exhausted natural forests: 5.000 ha
- Forest utilization:
  - Natural forest harvesting: 200,000 m^3;
  - Salvage natural forest harvesting: 100.000 m^3;
  - Plantation forest harvesting: 8.000.000 m^3;
- Export of forest products: 4,5 bil. USD; NTFP: 300 mil. USD

5.2 Implementation measures in 2013

To implement synchronously following solutions:

- Strengthening communications and awareness raising;
- Developing workplan of forest protection and development to 2020 at national, regional and provincial levels.
- *Management of forest land planning:* Further review the stable planning of 16,245,000 ha of forests and forest land, establishment of stable national forest areas
- *Forest protection:* Further strictly implement the Instruction No. 1685/CT-TTg and the Decree No. 07/2012/QĐ-TTg on strengthening forest protection measures;
- *Forest and land allocation*: Review and improve policies on forest allocation and lease

5.2 Implementation measures in 2013 (cont.)

- Improving science, technology and forestry extension, develop technical procedures;
- Actively promoting bilateral and multilateral cooperation with regional and international forestry organizations, and continuously implementing international commitments;
- Further promoting trade promotion activities, developing markets for forest products;
- Developing and implementing key projects: restructuring of the forest sector, management of natural forests;
- Further strengthening forest socialization

Thank you for your attention!

Sustainable Forest Management in Myanmar

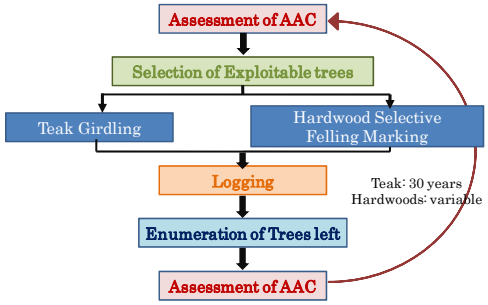
Status of the forest resource management

- Forest Management System applied

Myanmar Selection System (MSS) has been practiced for the sustainable management of forest resources of Myanmar. It is a selection-cum-cultural system.
MSS is practiced within the bound of :

(1) Space/Area limit (Felling series)
(2) Size/Girth limit and (minimum girth limit)
(3) Time limit (a felling cycle of 30 years)

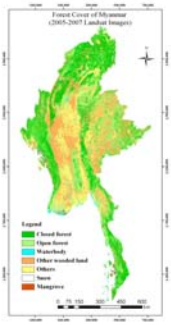
Myanmar Selection System (MSS)



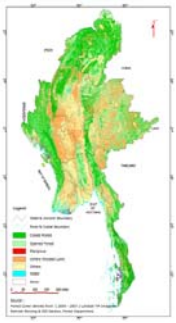
Forest Cover Status of Myanmar (2010)

Forest Cover of Myanmar Derived from 2005-2007 Landsat Images (FRA 2010)

	Area (,000 ha)	% of total country area
Closed forest	13,445	19.87
Open forest	18,329	27.09
Total forest	**31,773**	**46.96**
Other Wooded land	20,113	29.73
Others	13,869	20.50
Water body	1,903	2.81
Total	67,658	100



Legal Status of the forest

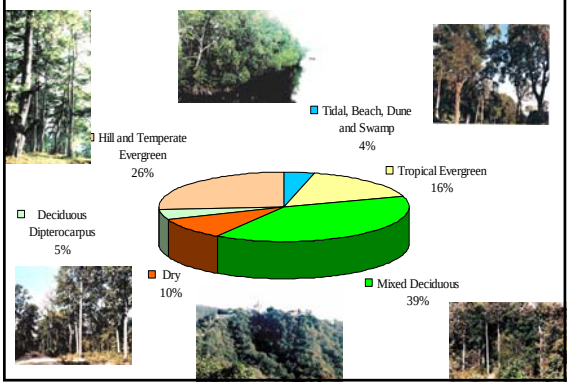


Permanent forest estate (PFE)

Legal classification	Area (km²)	% of land area
Reserved forest (RF)	121,842.91	18.07
Protected public forest (PPF)	40,949.60	6.40
		24.47
Protected area system (PAS)	35,106.85	6.67

Source: Forestry in Myanmar, 2011

MAJOR FOREST TYPES OF MYANMAR



Biodiversity Richness in Myanmar

- Varied forest types are home of numerous flora and fauna

Category	No. of Species
Plants	11,800
Mammals	258
Birds	1,056
Reptiles	297
Amphibian	82
Fresh & Mirine Water Fish	775
Marine Turtle	5
Coral	52







Biodiversity Richness in Myanmar

❖ Myanmar has recorded several endemic species.

Taxonomic group	No. endemic species
Mammals	1
Birds	6
Reptiles	21
Amphibians	3
Plants	8


Black Orchid


Star Tortoise


White-browed Nuthatch


Chin hill lizard


Myanmar spitting cobra


Golden Deer/ thamin

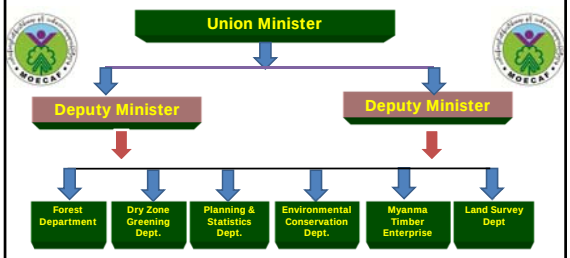
Policy Framework & its enforcement

- Myanmar Forest Policy 1995
- Forest Law 1992
- Forest Rules 1995
- Departmental Instructions
- Standing Orders for Subordinates
- 30-year National Forest Master Plan/10-year District Management Plans
- Community Forestry Instructions 1995
- Procedures (Records/ Forms)
- Protection of Wildlife & Wild Plants & Conservation of Natural Areas Law 1994
- Protection of Wildlife & Wild Plants & Conservation of Natural Areas Rules 2002
- **National Biodiversity Strategy and Action Plan (2011)**

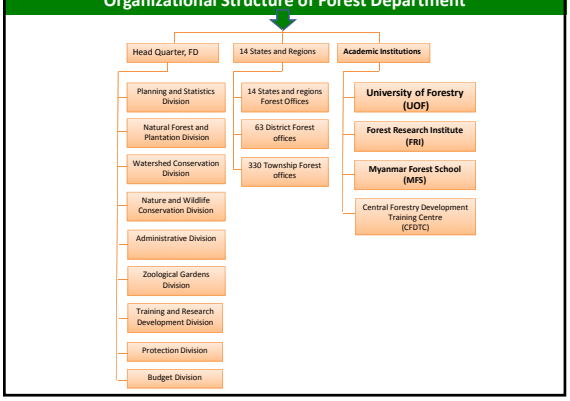
Policy Framework & its enforcement

- State Timber Board Act 1950
- MTE Extraction Manual 1948
- Standing orders for Extraction Staff of MTE 1970
- Logging Rules 1936
- Criteria & Indicators for SFM 2007
- National Code of Forest Harvesting Pratices 2000
- Timber Certification Committee
- Environmental Law 2012
- International Co-operations

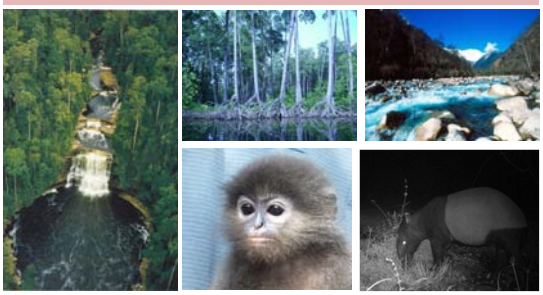
Organizational Structure of Ministry Of Environmental Conservation And Forestry



Organizational Structure of Forest Department



Forest Department (FD) is responsible for protection, and conservation of the wildlife and sustainable management of the forest resources and ecosystems.



FOREST POLICY (1995) & POLICY IMPERATIVES

PROTECTION of soil, water, wildlife, biodiversity and environment;

SUSTAINABILITY of forest resources to ensure perpetual supply of both tangible and intangible benefits

BASIC NEEDS of the people for fuel, shelter, food and recreation;

EFFICIENCY to harness, in the socio-environmentally friendly manner, the full economic potential of the forest resources;

PARTICIPATION of the people in the conservation and utilization of the forests;

PUBLIC AWARENESS about the vital role of the forests in the well being and socio-economic development of the nation.

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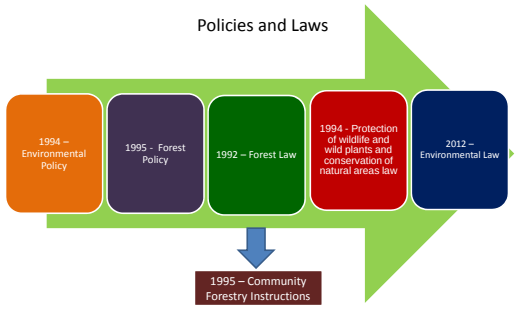
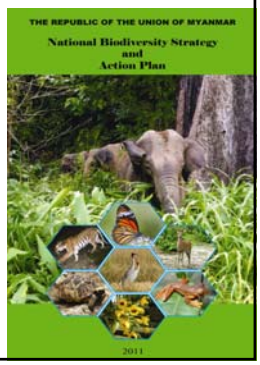


Strategy for Conservation and Utilization of Biodiversity

National Biodiversity Strategy and Action Plan- NBSAP(2011)

- Developed with the multi-stakeholder consultation process.
- A comprehensive framework for biodiversity conservation, management and utilization in a sustainable manner, as well as to ensure to support the National sustainable development strategy.



Myanma Timber Enterprise (MTE) is responsible for timber harvesting, milling and downstream processing and marketing of forest products.

Development of Criteria & Indicators

Myanmar became a member of ITTO in 1995 and committed to achieve SFM.

Myanmar drafted C&I for SFM in 1996 based on ITTO's Criteria.

Revised its C&I in 1998 based on ITTO's revised set of C&I.

It was revised again in line with the latest ITTO C&I in 2005.

7 criteria and 50 indicators in the Myanmar C&I at the FMU levels.

C&I are being tested for adequacy and applicability.

Timber Certification Committee

TCC (Myanmar) was formed in 1998.

TCC consists of official from MOECAF and a representative from a local NGO, Forest Resources and Environment Development Association.

With the participation of Timber Merchants Association, TCC was reformed in 2005.

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Gap Assessment of Timber Legality Assurance System in Myanmar

- With the cooperation of European Timber Trade Federation (ETTF), the gap assessment of the performance of timber legality system in Myanmar against the EUTR was done in March 2013.
- The Danish organization on Nature, Environment and People Consultancy (NEP Con), accompanied by the personnel from USA's The Nature Conservancy conducted the assessment.
- The separate assessment for the same was also carried out by the Switzerland-based The Forest Trust (TFT).
- Closing out the gaps identified in the gap assessment will be implemented through trainings , workshops and seminars.
- Third party audit by CBs under the MFCS will credibly verify when all requirements are met.

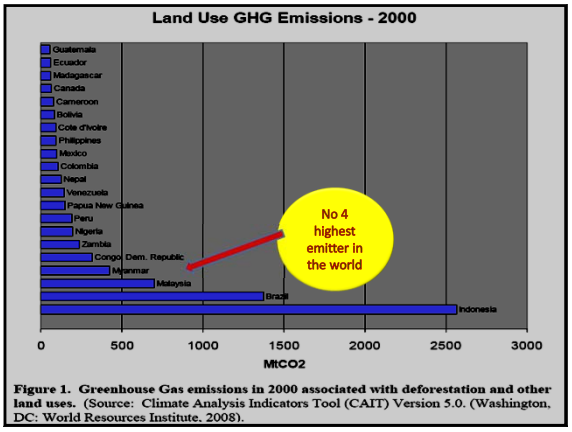
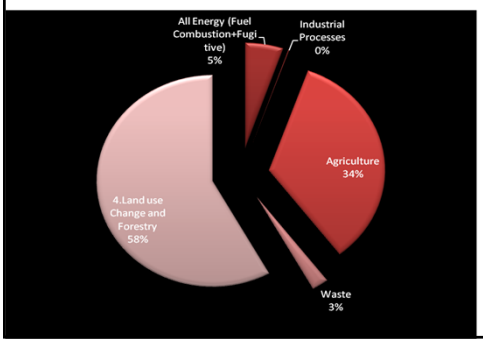
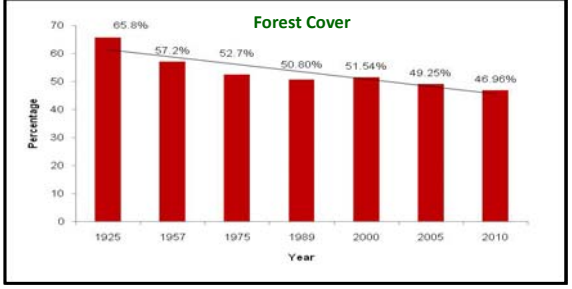


Figure 1. Greenhouse Gas emissions in 2000 associated with deforestation and other land uses. (Source: Climate Analysis Indicators Tool (CAIT) Version 5.0. (Washington, DC: World Resources Institute, 2008).

Gross GHG Emission in Myanmar – Base year 1990
Source: ALGAS, NCEA/ADB



- Deforestation



ISSUES

Illegal logging

Slash & burn agriculture

Land use changes

Fuelwood consumption

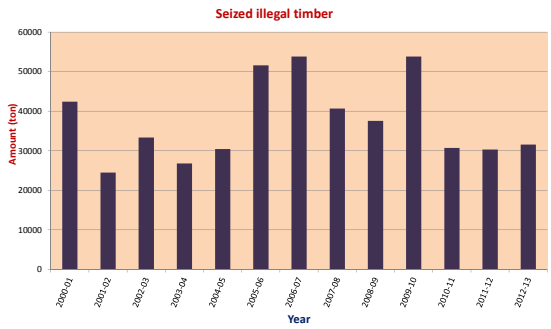
REDD+ Readiness

- Myanmar signed the United Nations Framework Convention on Climate Change (UNFCCC) on 11 June 1992 and ratified the convention on 25 November 1994.
- A partner country of UN-REDD programme in December 2011
- Forest Department and UN-REDD Programme has been finalizing REDD+ Roadmap

REDD+ Readiness

- Project Proposal to implement the REDD+ Roadmap in cooperation with UN_REDD Programme in order to seek the financial assistance from the Norwegian Government
- With the support of Korea Forest Service, 2 year project on "Mitigation of Climate Change Impacts through Restoration of Degraded Forests and REDD+ Activities in Bago Yoma
- 3 year ITTO Project on Capacity Building for Developing REDD+ Activities in the Context of SFM

Combating illegal logging and trade



Illegal logging and trade in border areas

Carbon enhancement (Re-afforestation)

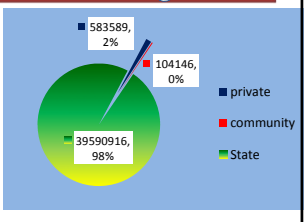
Area of forest plantations (1981-82 to 2009-2010)

Plantation type	Area (ha)	% of total area
Commercial	450,656	53.7
Industrial	72,519	8.6
Village supply	180,009	21.5
Watershed	135,459	16.2
Total	838,642	100

Source: Forest Department, 2011

Annual planting rate reached 30,000 ~ 40,000 ha across the country.
Area of private Teak Plantation accounts for 19,713 ha while private hardwood (non-teak) plantation amounts to 13,253 ha. (Since 2006)

Private Sector & Community Involvement in Forest Management



Signatory to the major international agreements

- UN Convention to Combat Desertification (UNCCD) in January 1994;
- UN Framework Convention on Climate Change (UNFCCC) in November 1994;
- UN Convention on Biological Diversity (CBD) in November 1994;
- International Tropical Timber Organization (ITTO) in November 1993;
- Ratification of the International Tropical Timber Agreement (ITTA) in January 1996;
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in June 1997;
- Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention);
- Botanical Gardens Conservation International in November 1998; and
- The Cartagena Biosafty Protocol in March 2001.
- International Bamboo and Rattan INBAR
- International Centre for Integrated Mountain Development ICIMOD
- Myanmar acceded to the following Ozone Agreements on 24 November 1993:
  (1)Vienna Convention;
  (2)Montreal Protocol;
  (3) London Amendment to the Montreal Protocol

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Challenges for SFM

- lack of recognizing the multiple values of forests and valuation of ecosystem services
- weakness in policy and legal provision to cope with changes in illegal logging pattern
- Inefficient mechanism to combat illegal loggers well equipped with advanced facilities
- inadequate cooperation among the enforcement agencies; multiple standard in punishment
- insufficient data and information about the forest resources and illegal operations;
- corruption
- weak coordination among relevant government agencies as well as in regional cooperation
- security constraints and inaccessibility (eg. Border areas and armed conflict areas)
- lack of decent markets despite the increasing global demand on timber and forest products as a result of trade embargo and economic sanctions
- Neighboring with resource hungers
- very little consideration on Corporate Social Responsibility
- no decent job opportunity for local community

Challenges for SFM Contd.

- Lack of integration of forestry policies and planning into other sectoral policies as well as national development plans though NSDS and NBSAP were initially developed
- Forests vs. other landuse
- Very little attention to rights, interests and traditional knowledge of indigenous people and local communities
- Rapid development of irresponsible extractive industry (eg. Mining, energy)with very little legally binding instruments to forestry sector

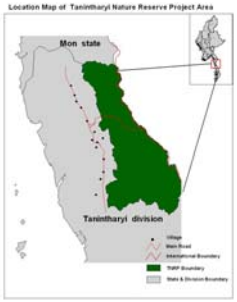
Effective law enforcement and good governance is essential for sustainable economic development, poverty reduction and environmental protection..

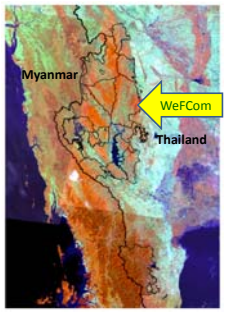
Opportunities for FLEGT and SFM

- Still rich in forest resources (47% of total area)
- Well established policy, legal framework and institutions
- Long history of forest management practices for SFM inclusive of CoC for legal timber
- Established stakeholder networks (govt., NGOs, CSOs, private, media etc)
- Increasing international cooperation (FLEGT, WEN, CITES, Timber Certification, Ratification of UN Anti-corruption)
- Promoting service economy (Green Economy, Green Growth)
- Increasing economic opportunities in other sectors
- Efforts to be a member of EITI
- Political will for "Clean Government and Good Governance"
- In the process of Decentralization and devolution
- Moving to people-centered approach
- Improve relation with international community

Potential for Transboundary Conservation

- Biodiversity Corridors in Southern Myanmar bordered with Thailand's Western Forest Complex





Way forward

- More collaboration with International/ Regional Partners for SFM
- Advocacy on land use policy
- Review Policy & legal framework for SFM
- Institutional strengthening
- Resource mobilization
- Decentralization & Devolution
- Corporatization of MTE
- Privatization/ Joint venture in Forest Management

THANK YOU!

Lao's Country Paper for Advanced Workshop on Sustainable Forest Management in Goal Millennium Strategy (GMS).

1. Review the current forest management status in Lao PDR.

The Lao Peoples Democratic Republic is particularly endowed with valuable, productive and ecologically unique forests which are not only a vital economic resource but provide essential contributions to the nutrition and income of the rural population and, in particular, the rural poor. They also provide a habitat for the nation's rich natural biodiversity and protect its soils, watersheds and water resources. Some eighty percentage of the population are heavily reliant on the forest for timber, food, fuel, fibre, shelter, medicines, condiments and spiritual protection. In rural areas, forests provide one of the few available economic activities and non-timber forest products often provide more than half of a family's total income.

In 2001 forests contributed 3.2 % of GDP by log production and its share would be higher if subsistent use and processing of wood and NTFP were counted. Wood products also provided some 25 percentage of total export earnings in 2001 . In terms of energy consumption, wood energy, including charcoal and fuel-wood, is the dominant source of energy for cooking, even in the capital city of Vientiane, and in highland areas it also provides necessary heating.

According to the land use and forest cover study, of the country's total land area of 23,680 million hectares, current forest which has more than 20% of canopy density now cover some 41.5 percentage. It is shown that forest has been declined at an alarming rate as compared to an estimated 70 percentage in the mid-sixties. Forest change, which encompasses decreases in stocking, changes in species composition and size structure, loss of wildlife and plant habitats, and declines in wildlife and plant population, is as alarming as deforestation itself.

There is at present growing concern over the adverse social, economic, and environmental impacts of these trends. Moreover, deforestation and forest degradation affects most severely the poorest segments of Lao society, and particularly women and ethnic groups whose livelihoods are more closely dependent on the health of nation's forests.

2. Discuss the Implementation situation of the hot issues in forestry for Lao PDR.

2.1 Forest Management and Biodiversity Conservation.

2.1.1 Forest Management:

Forests in the Lao PDR are classified into three categories are as follows:

1. ***Production Forests*** are forests and forestlands used in regularly providing

timber and other forest products on a sustainable basis for national economic and social development requirements and for people's livelihoods without significant negative environmental impacts.

2. ***Conservation Forests*** are forests and forestlands classified for the purpose of protecting and conserving animal and plant species, natural habitats and various other entities of historical, cultural, tourism, environmental, educational or scientific value

3. ***Protection Forests*** are forests and forestland classified for the protection of watershed areas and prevention of soil erosion. They also include areas of forestland with national security significance, areas for protecting against natural disaster and areas for protection of the environment.

In order to maintain and proper management and conservation those forest categories in sustainability manner the consistency model are applied e.g., 1. ***Forest and Land Use Management Planning:*** Land use planning is taken as the logical starting point and central core of the system, beginning in a group of a few villages and slowly expanding to form a network of guardian villages who cooperate and assist each other with both conservation and local development activities; 2. ***Community Development and Extension:*** Annual shortfalls in subsistence rice, lack of alternative income sources and rapid and uncontrolled population increases are forcing villagers to rely on non-sustainable methods of hunting and forest product extraction to sustain their livelihoods. To help solve these problems, an integrated conservation and development (ICAD) approach which supports farming, livelihood and community strengthening activities is a central component of the system; and 3. ***Conservation Co-management:*** Conservation activities aim to provide guardian communities with a stake in the resources they are being asked to help protect. Rather than banning extractive activities entirely, the model emphasises sustainable use of resources for both subsistence and income generation, at the same time it develops roles and responsibilities for the villagers who manage these resources.

At the present time about 14% of the area of Production forest is being managed in accordance with Forest Stewardship Council (FSC) principles for Sustainable Forest Management with the support of the Sustainable Forest Management and Rural Development project (SUFORD). The DOF will be applying these principles to the remainder of the 3.1 million ha of Production Forest Areas in the coming years. The experience from SUFORD is that the introduction of Sustainable Forest Management (SFM) results in a reduction of emissions as a result of the delineation of the forest boundaries and the participation of local communities in protection of the forest. These emission reductions can be achieved by extending the SFM to all Production Forest. Studies in the SUFORD Production Forest Areas show that current harvesting techniques result in substantial quantities of residues being left in the forest in the form of high stumps, split and crooked logs and branch-wood that could be utilised. Efforts to minimise the quantity of residues and collateral damage to

standing trees that can result in death or decay will also have a positive impact on reducing emissions and will be tested and evaluated to assess the potential reductions. The recently issued Harvesting Codes of Practice require the application of Reduced Impact Logging in Production Forest Areas, and in Infrastructure projects and these will be applied in all PFAs and infrastructure logging operations as an important measure for reducing emissions from legal logging operations. Studies by Putz and Pinard (1993)[3] in Malaysia suggest that emissions could be reduced by around 30% with improved management of harvesting operations.

2.1.2 Biodiversity Conservation:

Lao PDR is rich in species with a high degree of endemism and biological distinctiveness. At least 8,100 plant species, 166 species of reptile and amphibian, 700 bird species, and 100 mammal species occur in Lao PDR. As an example, more than 430 bird species found in the Nakai-Nam Theun NBCA represent one twenty fifth of all bird species found world-wide and more than half of all bird species in the Lower Mekong system. Similarly, there are eighty-seven known families of fish in the Indochina region, whilst 74 families have been identified in the whole African continent, and 60 families in South America.

The program to establish a national biodiversity conservation system has been active since 1989. PM's Decree Nº 164/1993 established 18 NBCAs, later increased to 20 plus two corridor areas. The current area totals 3.4 million hectares or 14.3% of the country's area. In addition, provinces and districts have designated their own conservation areas and protection forests bringing the overall national total to 5,3 million hectares or 22.6% of the total land area.

The four most important legal instruments are PM Decree Nº 164/1993, the Forestry Law, the MAF' NBCA implementing regulation No. 0360/2003 and National Biodiversity Strategy and Action Plan for 2020 (NBSAP 2020). A complete list of relevant legislation is presented in the report on the Legal Framework of the Forestry Sector (2003) prepared by DOF with Sida support. The following provides a brief summary of the main points in each of the main documents.

Management approaches may be broadly grouped as integrated conservation and development (ICAD) and participatory management (PM). ICAD is generally more suitable for the Lao PDR since the livelihood systems of villagers put pressure on biodiversity, and poverty eradication through development intervention is necessary possible. PM is endorsed by the Government to involve villagers in NBCA management decisions and conservation activities, as they already often manage local forest resources in a sustainable way.

Both models are compatible and integrate well given the overall policy to decentralise NBCA management to the local level. Virtually all NBCA management projects have taken some sort of PM approach, however, since pressures on NBCAs is often from outside, fostering residents' participation may not be enough and PM

should, therefore, be expanded to include all relevant local stakeholders.

2.2 Payment for Ecological services (PES).

The review of the legal aspects concerning businesses undertaken in the hydropower electricity, mining, land lease/concession and tourism sectors related to the commitments for environmental protection or resource use royalties shows that these are promising options of financial mechanisms with high possibility for consideration in the sustainable financing legal framework for sustainable forest management. However, in order for any such mechanism to be effective and enforceable there must be a specific legal act (law) enacted and institutionalized within the state budgetary system. Any revenues (collected through such mechanisms) will then be earmarked for sustainable forest management implementation via the state budget expenditure under the budget unit account of the Ministry of Agriculture and Forestry and/or the Forest and Forest Resources Development Fund (FRDF) in line with the expenses plan of the Sustainable Forest Management as the main financial mechanism.

2.3 Forestry Law Enforcement, Governance and Trade (FLEGT).

Lao PDR has recently been approached by the EU regarding the FLEGT process and it has been proposed that the process of negotiating a VPA should be begun. . If an agreement is reached before the Draft R-PP is finalized the implications of this will be incorporated. In Lao PDR, it has been concluded that to speed up creation of market links, it would be beneficial to work towards establishing certified sources of controlled wood by certifying Production Forest Areas using FSC-STD-30-010 FSC Controlled Wood standard (CW). This standard has been designed to allow companies to avoid trading in illegally harvested wood, wood harvested in violation of traditional and civil rights, wood harvested in forests where high conservation values are threatened by management activities, wood harvested in forests being converted to plantations or non-forest use, wood from forests in which genetically modified trees are planted. Compliance with this standard allows companies to supply FSC Controlled Wood to FSC certified chain of custody companies for the purpose of mixing with FSC certified material.

It allows companies to demonstrate that they are implementing best efforts to avoid the trade in illegally harvested timber, in support of the international Forest Law Enforcement, Governance and Trade (FLEGT) program. It allows companies to start implementing their own responsible sourcing policies.

The Government of Lao PDR established a national FLEGT focal point at the Department of Forestry Inspection (DoFI) in early 2011, and started an engagement on strengthening forest law enforcement with agencies under the Ministry of Agriculture and Forestry, Ministry and Industry and Commerce and private sector representatives. The project will formerly commence once the new building for DoFI has been completed. Pilot provinces have been proposed for Xayabouli and

Khammouane, but no final decisions have been taken. There is some progress are undertaken so far such as the preparation to start up negotiation of Voluntary Partners Agreement between Lao and Europe; Lao, Asia, Middle East, Southern-eastern and eastern-European have signed an agree minutes of Euro 5.8 million to support the Lao-Eu FLEGT; Access to the value wood product market in EU; Improving the forestry and forest inspection plan and strengthen the forest governance.

2.4 Reducing Emissions from Deforestation and Forest Degradation (REDD+).

Reducing Emissions from deforestation and Forest Degradation (REDD+) has become an important driver in project development in the forestry sector over the past three years in Lao PDR, and 2011 was no exception. In 2009, pilot activities and new projects under the Ministry of Agriculture and Forestry (MAF) sponsored mainly by bilateral government efforts were driving REDD Task Force committed considerable time planning and preparing documents for donors to support future REDD+ activities in Lao PDR.

During 2011, q number of new projects and proposals were submitted to the Department of Forestry, however, the source of the proposals was not from bilateral donors, but from the private sector, NGOs and Regional REDD+ programs. As a result, considerable capacity building was done trough out 2011 at national and provincial levels focusing on raising public awareness on REDD+, increasing the Lao Government's capacity to monitor and report forest information, and engage in stakeholder consultation:

- The reestablishment of the REDD+ Task Force to include new members;
- The Department of Forestry and REDD+ Task Force issued its plan for the future set up of the REDD+ Office based on the R-PP. The REDD+ Office will remain under the Department of Forestry at a division level, in light of government restructuring;
- Lao PDR submitted its Forest Investment Plan to the Forest Investment Program (FIP).

One of the key changes for REDD+ in Lao PDR in 2012 was the establishment of the Ministry of Natural Resources and Environment, which also saw changes in the structure, organization and activities for the Ministry of Agriculture and Forestry.

The Ministry of Agriculture and Forestry (MAF) still maintains the Department of Forestry (DoF), which historically has been the driving force behind Lao PDR's rapid REDD+ development over the past 5 years. Nonetheless, the establishment of the new Ministry of Natural Resources and Environment (MONRE) and its Department of Forest Resource Management (DFRM), means that the institutional landscape for implementing REDD+ and forestry projects in Lao PDR is expected to change.

Four demonstration projects are preparing documentation for performance based carbon finance:

- SUFORD REDD+ Dong Sithuane PFA will be validated and verified under the Verified Carbon Standard (VCS) and Climate Community and Biodiversity (CCB) standard;
- PAREDD in Luang Prabang is moving towards validation either under the VCS or Japanese Bilateral Crediting Offset Mechanism (BCOM);
- CliPAD project in Xayabouli and Huaphanh changed their project areas to implement REDD+ under the VCS Juristictional Nested REDD (JNR) and;
- WWF REDD+ in Xe Pian NPA will validate under the VCS and CCB standards in 2013

In addition several projects have consolidated their project areas during 2012:

- Lowering Emissions from Asia's Forests (LEAF) have confirmed their sites in Huaphanh and Attepue provinces;
- SNV has now confirmed its research site in Vientiane province;
- WWF conducted a feasibility study in Xe Sap NPA as part of the CarBi project.

In addition, over USD 90 million in finance is either under implementation or planning in Lao PDR from a variety of multilateral, bilateral development partners, Non-governmental Organization, and International Research Organizations. If regional projects are included, some USD 120 million of REDD+ projects are under planning or implementation.

2.5 Forest Management for Livelihood Improvement.

To strengthen the role of forestry in poverty eradication, Government has established policy that villagers in production forest areas, organized into village forestry organizations (VFOs), should participate in forestry planning and operations at the field level and should share in the derived proceeds.

The success of villagers' involvement in forest management has already been demonstrated in the Lao PDR in two major projects: in 1993 the Joint Forest Management Project (JFM), supported by the Lao-Swedish Forestry Program (LSFP) and in 1996 the Forest Management and Conservation Project (FOMACOP), supported by IDA Credit and a grant from Finland. Villagers were involved in many aspects of forest management including boundary demarcation, land use mapping and planning, forest inventory, management planning, harvesting, and selling produce. Both projects trained personnel and produced a range of technical manuals and guidelines including forest survey and management manuals. However, the projects and concerned villagers paid most of their attention to harvesting logs and gaining revenues, and little to NTFP management and tree planting.

Department of Forestry/Provincial Agriculture and Forestry Office (DOF/PAFO) will define different alternatives in order to target villages to be involved in every planning activity and actual operations, working together with District Agriculture and Forestry Office (DAFOs) within the framework defined in the Prime Minister's Order

on Decentralization 01/2000, with remuneration commensurate with their effort. In order to improve management and technical capacity available now, specific support resources will be allocated to strengthening the capacity of both DAFOs and the concerned village organizations.

2.6 A Case Study related with any of the hot issues above.

Due to government of Laos' acceptance of the rights of communities to reside in protected areas, a recognition of communities rights to sustainable resources use in these areas, and a policy emphasis on developed planning, the Lao PDR offers a quite unique opportunity for successfully integrated conservation and development. The reasons for the significant success of a number Integrated Conservation and Development activities (ICAD) in Lao PDR should be analyzed and documented as case studies, as lessons learned for a worldwide audience. If done properly, eco-tourism has a high potential as an integrated conservation and development activity in the Lao PDR. Community-based nature tourism increases family incomes through the sale of produce, handicrafts and food, and the provision of accommodation, guide services, etc. At the same time, it demonstrates to villagers the value an importance of the protected area and give them a vested interest in conserving these resources to maintain their source of income from eco-tourism. It can target hunters or the poorest of the poor as guides and is also gender focused; as it provides equitable opportunities for women to benefit through handicraft production and working as guides, cooks and cleaners.

The Participatory National Biodiversity Conservation Area Management System makes full use of Community study tours as a tool for ICAD. Cross visits, either to villages within the community network or further afield to other projects and program, is used not only to replicate existing ICAD activities to other villagers, but also to introduce ideas for new activities which have been pioneered elsewhere.

3. Main Challenges and Opportunities to be addressed for Sustainable Forestry Management.

3.1 Challenges and Issues for Sustainable Forest Management.

3.1.1 Shifting Cultivation:

where primary forest is cleared is still responsible for some forest destruction, although the scale of its nationwide impact declined gradually during the last two decades. Rural households carry out pioneering shifting cultivation, which is often linked to their cultural traditions and ethnic affiliation to secure their livelihood and seldom as a means to generate cash income. Rotational shifting cultivation generally involves clearing only secondary forest that has recovered from previous use, but land pressure is tending to result in the fallow periods being shortened, which has negative impact for agro-biodiversity conservation and for REDD+.

3.1.2 Illegal Logging:

Although official logging quota has been reduced significantly since 2001, there are indications that wood extraction has actually increased in recent years as a result of increased illegal logging, which has become a matter of serious national concern and a hot topic discussed at the National Assembly. Agents involved in illegal logging and closely related timber trade include domestic and foreign business men from neighboring countries, the military, local people and sometimes government officer. The central and southern regions and especially forests near the national borders are mainly affected and NCF's, which still harbor the majority of better stocked forests including many valuable tree species that attract agents that remove timber illegally.

3.1.3 Wildlife Trade:

Trade in wildlife is substantial, with an estimate in 2000 of US$ 11.8 million. Trade has recently been increasing as a result of the opening of domestic and international markets, improved access to rural areas and increasing numbers of foreign visitors. Most wildlife trade is driven by foreign demand. The final destination of much of the trade in wildlife are mostly the neighboring countries where wildlife products are high demand for trophy, meat in restaurant and pet as well as for medicinal. With respect to domestic trade and consumption, these exert a lesser threat but are still problematic despite Government seizures and the public destruction of un-authorize traded wildlife.

4. Forest Policy/strategy/action plans for Sustainable Forest Management in 5 to 10 year times.

Forestry Strategy for 2020, which is endorsed by the Lao Government, is the official document guiding development of the forestry sector in accordance with national socio-economic development plans and environmental conservation measures. It is the foundation for formulation of annual and medium-term forestry related work plans of both the Government and cooperation programs and projects. Owing to socio-economic development dynamics and environmental condition changes, FS 2020 will be regularly reviewed and updated accordingly.

The objectives of the Forestry Strategy for 2020 (FS 2020) are to define and agree on a set of policy and institutional arrangements and to allocate relevant roles and responsibilities among the main stakeholders to achieve sector objectives and targets through implementation of the chosen strategies, policies and actions.

More directly, the strategy provides guidelines to strengthen the management within the forestry sector so those sector objectives are efficiently achieved. In doing so, a further objective of FS2020 is to attract and focus donor support and to provide a framework for the coordination of donor activities.

5. Suggestions for Sustainable Forestry Management in GMS.

5.1 The lessons learned and success story of Sustainable Forest Management

should be shared to one another during this training workshop;

5.2 Strengthening coordination and cooperation amongst the parties to fulfill the GMS;

5.3 Developed countries must assist to lead develop and developing countries on combating the driver of deforestation and forest degradation in order to enhance the global environmental protection and conservation;

5.4 Developed countries must consider to support lead develop and developing countries to overcome the capacity building of their human resources development;

5.5 Strengthening information, knowledge sharing and created the proper network mechanism amongst parties;

5.6 Commencing a demonstration or pilot project site on sustainable forest management, if it has successful and efficiency then scali.

Forest Sustainable Management in Thailand

Mr. Prasert Netprachit*
Wilawan Wichiennopparat**

This paper reviews the forest sustainable management in Thailand representing two forest organizations: Royal Forest Department (RFD) and Forest Industry Organization (FIO). RFD is the government body and FIO is a state enterprises, both are under the Ministry of National Resources and Environment.

General information of Thailand

The Kingdom of Thailand is located in Southeast Asia (Figure 1), between latitudes 50^0 37' - 20^0 15' North and longitudes 97^0 22' - 105^0 37' East. Total area is 513,115 km^2. Mountainous areas in the upper part of the country form the headwaters of its most important river, the Chao Phraya. Highlands in the Northeast run eastward to the Mekong River and act as a natural border with Lao PDR. The long peninsula of southern Thailand separates the South China Sea in the east and Andaman Sea in the west.

Forest types

The total forest cover in Thailand by 2006 was estimated at 15,865,260 hectares, representing about 30.92% of the total land area.This forest area was assessed from LANDSAT-5TM satellite interpretation imageries by excluding fruit tree orchards and rubber plantations. Forests in Thailand can be classified into two main types; namely, evergreen forest and deciduous forest.

Evergreen forest

Evergreen forest consists largely of evergreen trees that retain green foliages throughout the year. It can be subdivided into four types as follows:

1. Tropical evergreen forest comprising:
   - 1.1 Tropical rain forest
   - 1.2 Dry evergreen forest
   - 1.3 Hill evergreen forest
2. Coniferous forest
3. Swamp forest comprising:
   - 3.1 Fresh-water swamp forest
   - 3.2 Mangrove forest
4. Beach forest

Deciduous forest

Deciduous forest is mainly characterized by the presence of deciduous tree

species and always associates with the very long period of dry season. It is commonly found throughout the country except in the southern region and also in Chanthaburi and Trat provinces in the southeastern region. Deciduous forest is broadly subdivided according to the species compositions into three types as follows:

1. Mixed deciduous forest
2. Deciduous dipterocarp forest or dry dipterocarp forest
3. Savanna forest

1. The current forest management status

Forest resources are of utmost importance to the economic and social development of the country. Protection and enrichment of forest resources for sustainable benefits therefore, are crucial functions which involve various forestry activities.

Forestry Conservation

Ministry of Natural Resources and Environment is the primary state agency being responsible for forest conservation of the country. Its main objectives are to manage the forest resources sustainable benefits to people and communities and to maintain the balance of ecosystem and environment. Its mandates thus include establishment of protected areas for forest conservation, reforestation and rehabilitation of degraded forests, conducting and development on forestry and related subjects, and promoting people in forest conservation in harmony with the lifestyle of local communities

The important forest conservation areas in Thailand are national park, wildlife sanctuaries, no hunting areas, forest parks, biosphere reserves, areas in watershed class 1 and watershed class 2, botanical gardens, arboretums and various experimental areas such as species, provenance and progeny trials. For the national parks and wildlife sanctuaries there are specific laws and regulation stipulated for the protection, control and management.

Reforestation

The Royal Forest Department established the first teak plantation in Phrae Province in 1906. This plantation was established of the experiment by Phraya Wanphrukphijarn (Thongkham Savetsila) who further continued to establish a few planting trials in subsequent years. In 1941, the Royal Forest Department set up the reforestation program as its mandate and thereafter has established plantations of both teak and other timber species annually according to the allocated budget. The plantations established by the Royal Forest Department consist commercial plantations, watershed improvement plantations for restoration of degraded reserved forests, plantations for environmental conservation and plantations for the Royal Initiative Projects. The government organization dealing with restoration of country are Royal Forest Department, Department of National Parks, wildlife and plant

Conservation, Department of Marine and Coastal Resources and two state enterprises, namely Forest Industry organization and Thai Pl plywood Co., Ltd. (in the process of merging with Forest Industry organization) The total plantation area established by government organizations by 2007 amounted to 1,302,647 hectares.

The reforestation in Thailand has also been carried out by private sectors more than 30 years. Teak (*Tectona grandis*), Pinus spp., Casuarina spp., Eucalyptus spp., and Acacia spp.,are the main tree species selected for reforestation. Particulary, *Eucalyptus camaldulensis*, which is an exotic fast growing tree species, is mostly chosen for reforestation by private sectors.

The Government Forest Industry Organization [FIO] is a state enterprises under the control of Ministry of National Resources and Environment of Thailand, set up in 1947. FIO is the principle agency responsible for economic wood reforestation and integrated wood industry. It is also the duty of FIO to conserve environment and biodiversity and ecosystems in the plantations area. Moreover , FIO takes responsibility for elephants conservation.

FIO has commenced establishing economic plantations since 1968 , planting Teak in the upper north of the country by using the forest village system.In the current year, FIO has economic plantations area around Thailand about 192,000 hectares consists of Teak , Eucalyptus,Rubber wood and other hard wood species.

FIO is a forerunner of Thailand in managing economic plantations under the Sustainable Forest Management [SFM] system in accordance with our own FIO standard and FSC principles and criterias.

According to the two standards, its enhance the sustainability in plantations area that consists of compliance with laws, safeguards of the environment and biodiversity , good livelihood of people, sustainable and optimal production of forest products and monitoring of impacts.

FIO strives to cope with plantations complied with the two standards and deserves to be certified by FSC in 2011for 4 Teak plantations with area about 11,360 hectares, located in Lampang and Phrae province ,the upper north of Thailand.

2. The implementation situation of the hot issues in forest in forestry

2.1 Forest Management and Biodiversity Conservation:

Thailand is among a few countries in the world that possess tropical forest there are many types of tropical in different regions throughout the country . with its diverse geographic characteristics, Thailand is therefore one of the countries in the worldthat is rich in biodiversity. It possess approximately 7 % of the world flora and fauna. There are more than 2,000 species of flora and fauna that are endemic only to Thailand

There are approximately 15,000 species of flora and fauna in Thailand and these account for 5.56% of the species found in the world. There are about 633 species of ferns, more than 1,000 species of orchids, more than 3,000 species of fungi, and more than 1,000 species of medicinal plants.

For the fauna found in Thailand there are approximately 11,408,500 species which are approximately 2.6-10% of the species found in the world. There are 292 speciesn of mammals, 962 species of birds, 318 species of reptiles, 123 species of amphibians, 606 species of fresh-water fishes, 1,672 species of marine fishes and many invertebrate species (data from biodiversity-Based Economy Development office, 2008). For the microorganisms, ther about 7-10 % of biodiversity found in the world.

The decline in forest areas during the past 30 years affected the abundance and integritry of forest ecosystems and the status of many plant and animal species. Some have been extinct while species are endangered. Thailand is very concerned about the importance of the biodiversity because it is fundamental to the sustainable economic and social development. Therfore,policies, measures and plans for conservation and sustainable utilization of biodiversity have bee established and used for national operational famework.Ther were three issues of the policies, measures and plans established so far,i.e the frist issu (1998-2002), the importance contents of these three issu are reduction of the loss of biodiversity of the county; conservation of forest areas containing high biodiversity; protecting the endangered speciese and genotypes as well as the critical ecosystems; survey and biodiversity of plans, animal,insects,and mioroorganisms; duilding the motivation to local communities and the network for biodiversity conservation;campaing for the sustainable utilization of the biodiversity in the existing community forests;enhancing the abundance of biodiversity in order tobe the frim foundation for the livelihood of Thai people; research on the merits of biodiversity for the sustainable utilization of the country;and duilding the mechanisms for the fair and equitable accesss as well as sharing from biodiversity development for country.

Moreover, Thailand has ratified the Convention on Biological Diversity(CBD) on 31 October 2003 and the convention has thereafter been effective since 29 January 2004. As a consequence, Thailand has become the 188th mender party of the Convention.

Under the SFM, FIO issued an official policy to maintain and restore about 10 % of each economic plantation area as the permanent buffer zones for biodiversity conservation. This means that FIO has about 16,000 hectares of conservation zones in all economic plantations. These conservation zones will become eternal reservoirs and sinks for carbondioxide , about 3 million tons per year while carbondioxide sequestration in all plantations area about 47 million tons per year. These conservation zones can be categorized as:

- Stream bank

- High Conservation Value forest
- Key habitat area
- Wetlands and water
- Semi-natural forest
- Edge zone
- Outer boundary zone

In addition, FIO also declared the compulsory policy to conserve Eternity trees in all plantations such as:

- Rare, threatened and endangered species
- Very old trees
- Very big trees
- Fruit trees
- Wildlife sanctuary trees

2.2 Payment for Ecological Services : PES

FIO has been prepared one PES project in FIO plantation, Thungkwian plantation located in Lampang province ,the upper north of Thailand with the project area about 1,000 hectares. The concept of the project is to convert from logged forest to conservation forest for environment and biodiversity and eco system conservation and also for being the elephant sanctuary in the future. The project period is from 10 – 25 years.

FIO, however, has inadequate budget to carry out the project, it has waited for fund or aid from various sources to fulfill our goal and destination.

2.3 Forest Law Enforcement, Governance and Trade (FLEGT)

In Thailand, The Royal Forest Department and Department of National Parks ,Wildlife and Plant Conservation were appointed as the focal point of FLEGT and REDD+ respectively.

The summarized process concerning FLEFT by RFD are as follows.

- In 1998, after international meeting of G8, EU adopted the action plan to address the problem of illegal logging and related trade.
- In 2003, EU action plan for Forest Law Enforcement, Governance and Trade was set out to tackle illegal logging.
- In 2005 the EU Commission received the mandate by EU MS to negotiate no FL 2173 and 2008 no 1024 FLEGT Licence and VPAs were issued by implementing legislation.
- In 2010, EU Timber Regulation(EUTR) applicable from 3 March 2013.

Thai FLEGT_background

- In 2010, Royal Forest Department (RFD) has established the first

RFD's FLEGT Committee. (1818/ 2010).

- In 2011, RFD proposed the Ministry of Natural Resources and Environment (MNRE) set up the Thai FLEGT committee for preparing of FLEGT by Secretary of MNRE is a chairman (187/2011)
- Meeting, seminar and public hearing was used to make an understanding of FLEGT with all stakeholders across country (3 times)
- Office of Forestry Certification was established by the Royal Forest Department since the end of August, 2012.
- Every week on Wednesday from July 2012 till September, the parliamentary committee of Law, justice and human right discuss with particular stakeholder to prepare for FLEGT. (political level)
- On 29 August 2012, the national FLEGT committee (187/2011) has agreed

1. Finalized draft of scope of Voluntary Partnership Agreement (VPA) for negotiation relevance to the article 190 of Constitution
2. To establish 3 National FLEGT Subcommittees.

- On 26 October 2012, MNRE offered the scope of VPA negotiation to the Council of Ministers for considering (constitution article 190 of the kingdom of Thailand)
- On 11 December 2012, the scope of VPA was approved by the Council of Ministers.
- On 29 January 2012, the scope of VPA negotiation was endorsed by the National Assembly.
- On 14 December 2012, Set up 3 National FLEGT Subcommittees.
- On 1 February 2013, Announcement of interest to start VPA negotiation by RGoT.
- On 20 February 2013, the first meeting of 3 National FLEGT Subcommittees was held at meeting room of RFD.

Thai FLEGT_on Going

- March 2013, Response by EU.
- April 2013, Official start of negotiations/ announcement at high level event.
- May 2013, Development of a working structure on the EU and RGoT side and agreement to negotiation road map
- May 2013, Stakeholder process focusing on defining legality, control measures and role of stakeholders in implementation.
- June 2013, Drafting of Timber Legality Assurance System (TLAS)
- July 2013, Negotiation sessions of VPA legal text and annexes between EU and RGoT
- August 2013, Drafting of Agreement
- September 2013, Initial test of TLAS
- January 2014, Agreement concluded and ratification process initiated both i n Thailand and in EU

2.4 Reducing Emissions from Deforestation and Forest Degradation (REDD+)

Nowadays, global warming has affected the living of almost all organisms on earth and the situation is getting worse. Therefore, the appropriate measures need to be set up to retard or inhibit this situation. Thailand has considered this matter as the priority task requiring urgent action. Therefore, the processes to support Clean Development Mechanism (CDM) Project in forestry have been prepared. Forests play an important role in improving the better global climate. In Thailand, there are many types of tropical forests scattering throughout the count the country. These tropical forests can absorb carbon dioxide efficiently. Each individual tree will absorb carbon dioxide from the atmosphere, fix carbon into wood and release oxygen to the atmosphere by which it can decrease the global warming effectively. In addition, protecting the existing forests and minimizing destruction and degradation of forest resources are also the important activities that can decrease the global warming and also support the policy in Reducing Emission from Deforestation and Degradation (REDD+).

Thailand has formulated the National Strategies on Climate Change Mitigation (2008-2012) as follows:

1. To build up the adaptability to deal with and minimize the risky impacts from the climate change;
2. To support the reduction of greenhouse gases emission and the increase of gases absorption by sink based on sustainable development;
3. To support research and development for clearly understanding of the climate change;
4. To encourage the awareness and participation in solving the problems of the climate change;
5. To enhance the potential of personnel and agencies in dealing with the climate change;
6. To develop the operational framework for international collaboration.

In the forestry context, reforestation, forest resource conservation, community forest establishment, providing continuous education, promoting people's participation in forestry activities and strong law enforcement, all are major efforts to protect and increase forest resources. These efforts are in part aimed at reducing the greenhouse gases which are the major causes to the global warming.

Moreover, the Royal Forest Department has promoted tree planting in various important events throughout the year and also designated these events as the important days of the Department as follows:

1. National Forest Conservation Day (14 January)
2. World Forestry Day (21 March)
3. Arbor Day (Visakha Bucha Day of every year, usually in May)
4. Anniversary of the Royal Forest Department Establishment Day

5. National Annual Tree Care Day (21 October)

RFD's Community Forest Program: an opportunities for REDD+ in the GMS Region

(More details to be added later)

FIO accepts the two hot issues by sending FIO staffs attending every FLEGT and REDD+ meetings and seminars.

FIO has been carrying out the REDD+ project of survey the baseline data of carbondioxide stocks,both in conservation zone and in all economic plantations area.

FIO still needs to have some aids of fund and technologies in terms of MRV for undertaking the projects.

2.5 Forest Management for Livelihood Improvement

In this topic, the roles of Community Forest, the Royal Initiatives Projects (through the King's New theory and the concept of efficiency economy) will be reviews as major program that take important roles for the improvement of the livelihood.

A legal community forest establishment project

Forest situation in Thailand in the past 50 years, approx. 50% of country area was forest. But, currently forest remains only of 33%, although national forest targets at 40%. To achieve target, several forest programs have been conducting for years especially after logging concession was banned in 1989.

Mainly, the Royal Forest Department of Thailand (RFD) tasks on forest conservation are through the programs of protection of remaining forests and restoration of degraded forest areas. Community forestry is also one of those, and becomes increasingly influence the management of forest. This approach has been developing gradually for years from a simple campaign, tree planting to the encouragement of people participation to conduct forest activities.

However, all forest lands belong to state. Any activities in forest areas are needed to be allowed by Royal Forest Department. But in fact, there are a number of communities living in and near forest and utilizing forest products. To meet the need of law enforcement, people livelihood and sustainable forest management, the RFD initiates a mechanism to make them legal status and successful forest management through a legal community forest establishment project firstly launched in 1999. The project comprises several activities such as awareness raising, site demarcation, establishment, training on forest management, including financial support. Now, after 14 years of its implementation, more than 8,700 community forests with a total area of 554,000 ha are registered across the country.

Royal Initiative Projects

His Majesty King Bhumibol Adulyadej has been very concerned and aware of the problems and crises of forests in Thailand. Since forest depletion has occurred rapidly because of the population growth and the economic development. Consequently, drought, unpredictable rain, sudden flood and severe soil erosion often follow. These are very problematic to agricultural practices from which it has become major difficulty to the farmers throughout the country. His Majesty the King has initiated and introduced a number of significant forestry concepts in order to ameliorate their difficulty. Each of these concepts is simple, unsophisticated, reasonable and practical. It can be applied to solve the problems and mitigate the difficulty so that the benefits could be truly gained and the sustainable development could be achieved.

Some important concepts in forest rehabilitation and development of His Majesty the King include;

- Forest rehabilitation without planting,
- Reforestation on highland,
- Reforestation on watershed areas,
- Reforestation on deforested areas,
- Planting three types of trees to receive four types of benefits.

Royal initiative projects have been carried out under the initiative thoughts and suggestions of Their Majesties the King and Queen including Royal Family by the responsible agencies which adopt His Majesty the King's concepts on forestry development as the guidelines for the implementation. The purpose is to assist people who are facing the crises and problems throughout the country in order to raise their living standard and quality of life and improve the environment.

In 2008, there were 137 Royal initiative Projects in forestry context carried out throughout the country; i.e. 65 projects in the northern region, 21 projects in the northeastern region, 25 projects in the southern region, 25 projects in the central, eastern and western regions.

'Forestry officials, first of all, have to plant trees in the minds of people who will then plant trees on the land and tender those trees by themselves.'
This is His Majesty the King's address given at Thung Cho Watershed Development Unit in 1976. It is the truly great philosophy in forestry theory of His Majesty the King.

2.6 A case study related with any of the hot issues above

A review of case study is to be added later.

Biodiversity and Carbon Monitoring in Community Forests Project

Community forestry currently plays an important role to protect remaining forests, and to restore degraded forests via local people participation. Now, about 8,700 communities covering an approximate total area of 554,000 ha are registered formally as community forest in Thailand. This illustrates not only potentiality of food security, but also biodiversity sources and forest carbon sinks enhancement. In addition, both indirect and direct forest benefits tend to generate better communities' livelihoods.

According to the legal community forest establishment project, each registered community forest (CF) area will be granted to manage the forests for only 5 years. However, a renewable 5 year extension is always available for any CFs with positive assessment. Therefore, the Royal Forest Department (RFD) of Thailand has emerged the biodiversity and carbon monitoring in CF project for few years. This project aims to develop a better indicator to assess community performance relative to changes in biodiversity, structure and carbon quantity in CF over the 5 year period. Furthermore, its information may provide a better CF planning to strengthen forest management as communities' needs with least forest disturbance. Also, value of carbon trading may act itself as additional incentive for local people to conserve the forests, if both financial national and international bodies are clear in mechanism.

Objective

To estimate and monitor biodiversity and carbon stock in community forest registered by RFD.

3. Main challenges and opportunities to be addressed for SFM in your region

3.1 Challenges and issues for SFM

The government of Thailand through RFD has tackle the deforestation in the country and has put an strong effort to promote SFM in all levels of the stake holders. RFD has long realize the importance of SFM and its roles as a key factor to successful forest management of the country. Nevertheless, several urgent matters are still needed to be done to reach the goal of applying full option SFM in the country. RFD has reviewed such problems and obstacles and has set some priorities on such matters. Some of the high priority. Some of the high priority included development of systematic forest database, enhancing administrative efficiency by using IT (live conference and social network), Smart forester, enhance participatory, strengthen law enforcement and public relation

3.2 Opportunities

There is a high hope that, as a part of GMS, if RFD can come across and get pass the obstacles mentioned above, it should has a good opportunity to apply SFM in its forest program at every levels, and then, take a small part in successful SFM in GMS.

In this Fiscal Year (2013), RFD has launched several new projects that involved the Thai people in planting the trees. One of the project called '800 millions seedlings for our beloved King'. This project encourage every Thai people to join several planting project organized by RFD and they can register their names as part of the project.

4.Strategies of FIO Sustainable Forest Management.

FIO commenced to manage plantation under SFM system in 1997. And FIO has been striving to handle perpetually all economic plantations, complied with SFM system.

Country Strategy

1. Good governance (internal process)
2. Growth and competitiveness
3. Inclusive growth
4. Green growth

Under the 'Green Growth' strategy, The Thai government issues the following guidelines.

- Improve quality of life (environmental friendliness)
- Clean Mechanism Development
- Reduce greenhouse gases
- Increase energy utilization efficiency
- Increase forest area

The Ministry of Natural Resources and Environment is the main body responsible for the natural resources and environment of the country. Its missions are to reserve, conserve, rehabilitate and develop the resources and environment with the participation and active integration of all sectors. The strategies regarding forest resources are as follows:

1. To balance between the conservation and the utilization of the natural resources in conformity with the sustainable development approach;
2. To manage the sustainable and fair utilization of biodiversity;
3. To manage the water resources by integrating into watershed systems;
4. To manage and develop the natural resources and environmental quality by the participation and integration at all levels.

NATIONAL FORESTRY POLICY

Thailand established the National Forest Policy in 1985 in order to manage and develop the forest resources for sustainability and in conformity with the development of other natural resources so that the country will reap social, economic, stability and environmental benefits. The content of the national forest policy is presented as follows.

To achieve a long term and coordinated national forest administration and

development and for better understanding between state and private sectors, it is hereby declared as a national forestry policy that

1. Long term guidelines for forest management and development shall be established to maximize national social and economic benefits and national security, with sufficient measures provided for environmental protection. Emphasis shall be placed on harmonized utilization of forest resources and other natural resources.

2. Role and responsibility sharing among various government agencies and the private sector in forest management and development shall be promoted.

3. National forest administration shall be reorganized in line with the changing quality and quantity of forest resources and environment.

4. Forty percent of the country area shall be kept under forest. The forest area shall be divided as follows

4.1 Protected forest: 15% of the country area shall be kept as protection forests for nature conservation and environmental quality protection.

4.2 Production forest: 25% of the country are shall be designated as production forest of produce timber and other forest products.

5. Public and private sectors together shall develop and manage the forest are to achieve the objective of providing perpetual direct and indirect benefits to the country

6. Science and technology to increase the efficiency of agricultural production shall be enhanced to reduce the risk of the forest being destroyed to increase agricultural land.

7. The State shall establish a forest development plan as part of the natural resources development plan in the national Social and Economic Development plan to harmonize a mutual utilization action between forest resources and other natural resources

8. Efficiency in timber production shall be increased through appropriate forest management techniques using both selection and clear-cutting systems. In the clear-cutting system, the cleared area shall be replanted immediately.

9. To conserve and protect natural environment, the State shall accelerate the city planning process and designate specific area for forest, residential, rural and agricultural areas in each province to prevent forest land encroachment.

10. National Forest Policy Committee shall be established under the Forest Acts for policy formulation, supervision and management of national forest resources.

11. The State shall undertake extension programs to create public awareness, instill positive attitude, and proper skills on the wise-use, as apposite to the negative effects of forest destruction and wasteful use, of forest resources.

12. The State shall promote reforestation by the public and private sectors for domestic industrial consumption. Export of wood and wood products shell be encouraged. Community forestry such as reforestation on public land by private sector, tree planting on marginal agricultural land and establishment of forest woodlot for household consumption shall also be promoted.

13. The State shall encourage integrated wood utilization and pulp and paper

industries to realize the whole-tree utilization concept.

14. Amendment of forest acts shall be made to support efficient forest resources conservation and utilization.

15. Wood energy as a substitute of fossil energy shall be promoted through energy plantations.

16. Any land with the slope of 35% or more on an average shall be designated as forest land. No title deed, or land use certificate under the Land Acts shall be issued for the land of this category.

17. Explicit guidelines shall be established to deal with various forest degradation problems e.g. shifting agriculture, forest fires, forest clearing by the hill tribe minorities, etc. Measures on enforcement of law and penalty codes shall be specified and respective due processes shall be established Regional Forestry Law Enforcement Center shall be established, Measures shall also be devised to penalize corrupted government official and influential person.

18. Incentive systems shall be established to promote reforestation by the private sector.

19. Human resources and rural settlement planning must be in conformity with national natural resources management and conservation plans.

(Cabinet Resolution on 3 December 1985)

The Royal Forest Department has formulated the action plan based on the strategies of the Ministry of Natural Resources and Environment in order to achieve the objectives and goals addressed in the Ministry's missions and Eleventh National Economic and Social Development Plan (2012-2016). The main targets are forest protection, forest rehabilitation, conservation and management of forest resources and biodiversity, research and development on forestry, technology transfer, promoting people's participation and community forest establishment, verifying the rights of the people to live in the national reserved forests, enhancing the better quality of life of the people in rural and urban areas.

Thailand has promulgated many forest laws which have been effective to control and define the processes for forest protection and forest resource management toward the stability and sustainable utilization of forest resources. At present, there are six forest laws being employed to regulate the forestry activities as follows:

- Forest Act B.E. 2484 (1941) and subsequent amendment B.E. 2532 (1989),
- National Park Act B.E. 2504 (1961),
- National Reserved Forest Act B.E. 2507 (1964) and subsequent amendments B.E. 2522 (1979) and B.E. 2528 (1985),
- Wildlife Preservation and Protection Act B.E. 2535 (1992),
- Forest Plantation Act B.E. 2535 (1992),
- Chainsaw Act B.E. 2545 (2002)

There are 5 major strategies of FIO's SFM as follows :

1) A legal and policy framework
   - Compliance with legislation and regulation,
   - tenure and use rights,
   - the organizational commitment and policy.
2) Sustained and optimal production of forest products
   - Management planning,
   - sustained yield of forest products,
   - monitoring the effects of management,
   - protection of the forest from illegal activities,
   - optimizing benefits from the forest.
3) Protecting the environment
   - Environmental impact assessment,
   - conservation of biodiversity,
   - ecological sustainability,
   - avoid using of chemicals,
   - waste management.
4) Well-being of people
   - Consultation and participation processes,
   - social impact assessment,
   - recognition of rights and culture,
   - relations with employees,
   - contribution to development.
5) Extra considerations
   - Plantation planning,
   - species selection,
   - soil and site management,
   - pest and disease management,
   - conservation and restoration of natural forest cover.

5. Suggestions for SFM in GMS

What should be done to protect our forest and enhance its social, economic and environmental values ?

5.1 What should be done to protect our forest?

Certainly, there are numerous ways to protect our forest, but the most effective way would be building more understanding of the community on the importance of the forest to their livelihood through education, public relations, participation etc. Other concerns are presented as follows and will be further discussed later.

- Develop a strong Network
- Strengthen law enforcement
- Community Forest program

- Agroforestry
- Forest Villages
- Private Forest Owners
- Stakeholder Participation
- Chain of Custody
- SFM

5.2 How to enhance its social, economic and environmental values?

It should be taken all strategies that were mentioned above, as follows :

Economic Values Enhancement

Sustained and optimal production of forest products

- Management plantation,
- Sustained yield of forest products,
- Monitoring the effects of management,
- Protection of the forest from illegal activities,
- Optimizing benefits from the forest.

Extra considerations

- Plantation planting,
- Species selection,
- Soil and site management,
- Pest and disease management,
- Conservation and restoration of natural forest cover.

Environmental Values Enhancement

- Protecting the environment
- Environmental impact assessment
- Conservation of biodiversity,
- Ecological sustainability,
- Avoid using of chemicals,
- Waste management.

Social Values Enhancement

- Well-being of people
- Consultation and participation processes,
- Social impact assessment,
- Recognition of rights and culture,
- Relations with employees,
- Contribution to development

FIO Implementation for SFM

The productive units in each FIO regional offices should be followed up and try their best in strengthening the out-come and out-put of each regional 244 plantations for the whole country. Focusing on:

- Document review and data collection,
- Set up of procedures and systems,
- Site inspection & field preparation,

- Participatory of environment and social impact assessment with stakeholders,
- Impacts monitoring, and
- Auditing.

VIETNAM FORESTRY AND FOREST MANAGEMET AN OVERVIEW

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HANOI, 26 AUGUST 2013

VIETNAM FORESTRY AN OVERVIEW

I. INTRODUCTION

Vietnam has an elongated S-like shape, a total area of 331 123 km^2 , and a north to south length of 1650 km. The country is characterized by two main basic topographies. The coastal plains of the Red River delta and the Mekong delta are connected by a strip of coastal plain along the remainder of the country. Nearly three-quarters of the country's total territory is hilly, highland or high mountains that reach a maximum altitude of 3000 m in the Hoang Lien Son mountain range in the northwest. Because of its geography, only 15% of Vietnam's area is farm land.

Vietnam's climate is tropical monsoon; it is subject to the southwest monsoon from May to October and the northeast monsoon in winter. The country has two distinct climatic zones. From the 160 latitude parallel to the north, winter lasts from December to February, but without a marked dry season. From the 160 parallel southward, a marked dry season occurs from November to April. The average national rainfall is 1300–3200 mm. In some areas near the Southeast Sea annual rainfall may be less than 500 mm, while in some mountainous locations it may reach 4800 mm.The annual average temperature is 21^{o}C in the north and 27^{o}C in the south.

The total population of Vietnam was 81 million in 2003, with an annual growth of 1.47% and an average population density of 245/km2. Three-quarters of the total population live in rural areas (GoV 2005). Vietnam's national economy grew fast after the economic reform in 1980s, with average economic growth in 1990s reaching 7.68% (Nguyen T.Q. 2005).

Vietnam's complicated topography and climate explain its diversity of natural forests including mangrove forests, Melaleuca forests, muddy forests, monsoon forests,evergreen broad-leaved forests, semi-deciduous forests on high and low

mountains, and on limestone rocky mountains and mixed evergreen coniferous forest on high mountains

Vietnam now has 13.388 million ha of forest (as of December 31, 2010) and 750,000 ha of forest regeneration, 1,250,000 hectares of new plantations in the period 2011-2014: 2015 forest area is about 14.27 million hectares, 15.1 million hectares in 2020;

As of 2010, the total forest land area is 16.2 million ha, including 5.6 million hectares of forest land, 2.2 million hectares of forest land and 8.4 million hectares of productive forest land. In recent years, new planting, natural regeneration of forest regeneration is of particular concern: The natural reforestation of degraded natural forest and bare land with scattered trees. As of 2006, the country has been zoned for natural regeneration and planting with additional 818 398 ha. However, the area of forest regeneration into low, medium only 150,000 ha / year (2001-2005). Vietnam currently has 128 nature reserves with 30 national parks, 47 nature reserves, 13 conservation areas, 38 protected landscape areas and a total area of 2.34 million ha, of which 1, 93 million ha of forest, 412,000 ha are not forests. 95.7% of the total forested area of natural forest characteristics.Over the years, 661 projects and programs, and national projects and other international support for protection forest management boards and provincial protected areas and forest protection organization for the community, households to generate income for the farmers who depend on forests. Area for protection during 2001-2006 average of 2.7 million ha / year.

FOREST TYPE

Tropical closed evergreen moist broadleaf rainforest ecosystems: The vegetation of these ecosystems is very rich and diverse, distributed below 700m above the sea level in various northern provinces, and below 1000m above sea level in some southern provinces. Average annual temperature is about 20 - 25^0C while average annual rainfall is between 2,000 - 2,500mm. There is no annual drought month but a 3-month dry season. This ecosystem is dense with many closed layers of canopy together with large evergreen broad - leaved timber trees species

Evergreen broad-leaved forest ecosystems on limestone mountains: These ecosystems occur on over 1.1 million ha of rocky areas (mainly limestone), of which approximately 0.4 million ha was forested in 1999. They occur in 24 provinces including Cao Bằng, Lạng Sơn, Tuyên Quang, Hà Giang, Hoà Bình, Ninh Bình, Thanh Hoá, and in the northern Truong Son mountain ranges and some islands. Vegetation on limestone mountains is the characteristic indigenous flora of Northern Viet Nam and Southern China. It is scattered across the landscape in a belt of 300-1200m above sea level with an average annual temperature of 20^0C, producing many microclimate habitats

Deciduous broadleaf forest ecosystems (Dipterocarp open forest): Deciduous broadleaf forests occur in the provinces of Dac Lac, Dac Nong and Gia Lai, and in some smaller areas of Lam Dong, Ninh Thuan, Binh Thuan, Binh Phuoc and Tay Ninh; mainly at 400 - 800m above sea level. Deciduous broadleaf forest ecosystems suffer an extremely long dry season that lasts from November to April. Dipterocarp tree species

are dominant in this ecosystem**.**

Mangrove forest ecosystem: Mangrove ecosystems are distributed along 28 of Viet Nam's coastal provinces and cities. The composition of mangrove trees species varies on the basis of the ecological environment. They contain 47 flora families and many fauna species, together with important bird sancturaries. Coastal areas of Cà Mau Province has the ecosystem with the most diverse composition of trees species with the fastest growth-rate

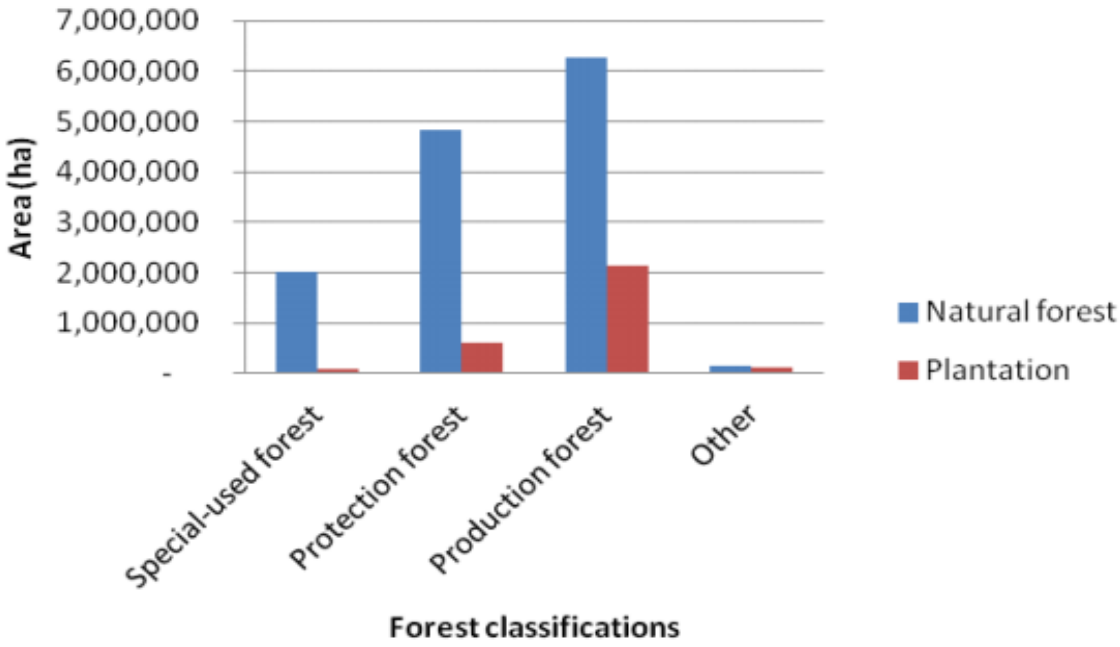
Tropical closed semi-deciduous broadleaf moist forest ecosystems: Such forest ecosystems are located in some mountainous provinces of the north, north central and southeastern regions, Central Highlands, etc. In the north they occur below 700m above the sea level, and below 1000m in the south. The average annual air temperature is about 20–25^{0}C, while the average annual rainfall is between 1,200 and 2,500 mm. The dry season lasts from 1 to 3 months when the rainfall is less than 50mm, and under 25mm in some months. The forest structure consists of 3 layers of typical timber trees species, such as *Liquidambar formosana and Lagerstroemia tomentosa*. The average canopy height is 40m and some trees have buttress roots. Lower vegetation layers are scattered and open

Natural coniferous forest ecosystems include low mountain subtropical coniferous ecosystems distributed in provinces such as Son La, Nghe An, Ha Giang and Lam Dong. In the south, *Pinus merkusii* is distributed from 600-1000m above sea level while in the north it occurs at lower altitudes. *Pinus kesiya* occurs above 1000m in temperate coniferous forest ecosystems on medium to high mountains at Sa Pa, Tuan Giao, Ha Giang, Tay Con Linh, Chu Giang Sinh, Lam Dong, etc above 1600m altitude in the north and above 1800m in the south. In subtropical coniferous forests, the main species are *Pinus merkusii, Pinus kesiya*, etc.. In the temperate coniferous forests of the higher mountains, the main tree species are *Fokienia Hodginsii, Cunninghamia Lanceolata, Dacrycarpus imbricatus,* etc.

Melaleuca forest ecosystems are mainly located in 7 provinces of the Mekong River Delta where they are occur below 2m above the sea level, depending on the duration of inundation in each region, which can last from 3 to 9 months each year. These ecosystems require waterlogged conditions where only highly adapted species can survive, resulting in a simple structure of species composition and layering.

Bamboo forest ecosystems in Viet Nam are diverse with more than 133 bamboo species. The most common bamboo species are *Bambusa procera, Dendrocalamus barbatus, Indosasa/Acidosasa spp, Schizostachyum spp* and *Bambusa balcoa*. Bamboo is distributed thoughout the country, with the largest area in the Central Highlands and north central, northeast, southeast and northwest regions. Bamboo is an important early stage of forest succession.

FOREST CATEGORIES



Protection forest primarily serves the purpose of protecting and enhancing the natural capabilities the on: the regulation of water sources, soil conservation, erosion control and desertification prevention, mitigating natural disasters, climate control, and ensuring ecological balance and environmental security.

Protection forests include: 1) watershed protection forests, 2) wind- and sand-shielding protection forest, 3) Wave-breaking protection forest, and 4) Environmental protection forests. Some provinces also have boundary protection forests.

There are 276 management boards covering 4.17 million ha of protection forests in Viet Nam.

Production forest is mainly used for the manufacturing and trading of timber and NTFPs in combination with some protection and conservation functions. Production forests include natural production forests restored by zoning for natural regeneration and planted forests. Based on average standing volume of timber, each hectare of natural forest,is also classified as rich, medium, or poor. Plantation production forests include plantations (post-harvesting afforestation and reforestation forests) and seed forests, Natural and plantation forests are selected, transformed and certified.

Special-use forest is established with the aim of: preserving natural resources, representative forest ecosystem types of the country, and genetic sources of forest flora and fauna species, conducting scientific research; and protecting historical sites and beauty spots for a combination of tourism and environmental protection. Special-use forest includes National Parks, Nature Conservation Areas (including Nature Reserves, and, Species and Landscape Conservation Areas), Landscape Protection Areas (including historical, cultural sites and beauty spots) and scientific experimental and research areas.

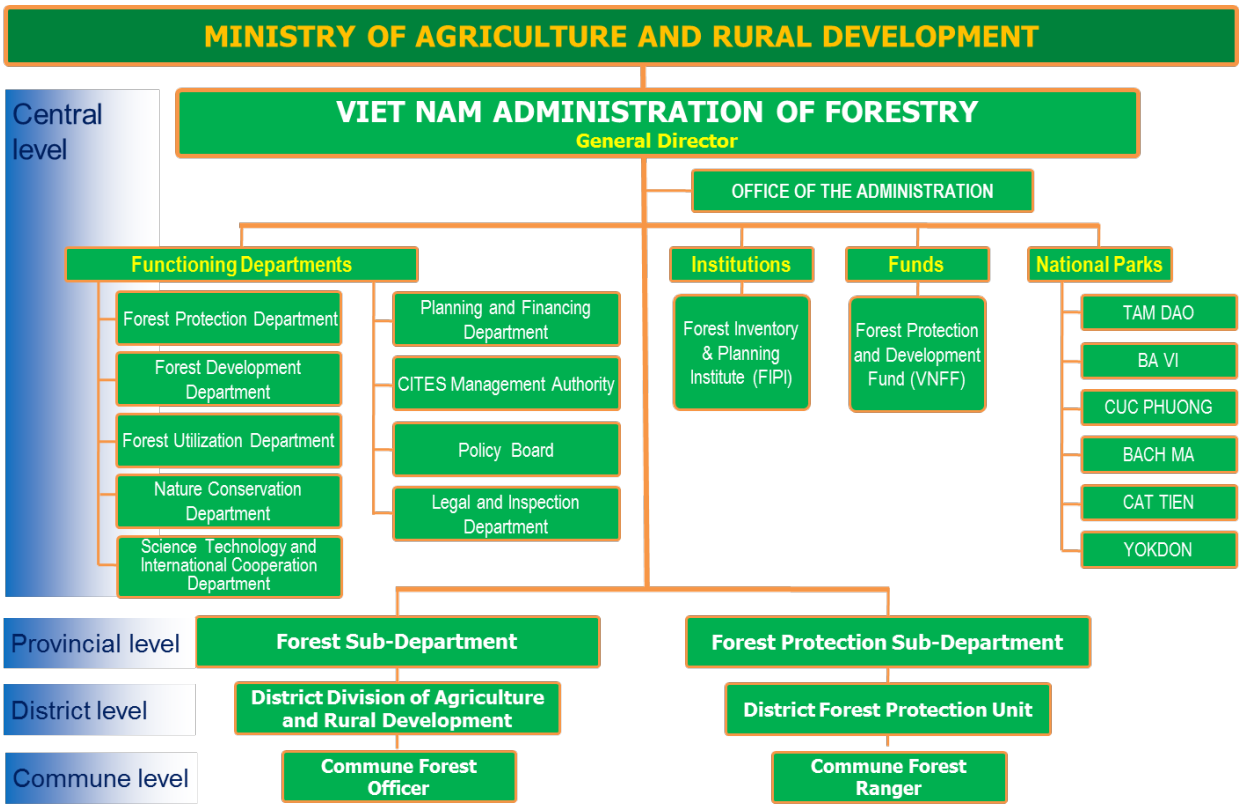
Viet Nam Administration of Forestry (VNFOREST)

Established by Decision 04/2010/QĐ-TTg, dated 25 January 2010 by the Prime Minister. VNFOREST is an agency under the Ministry of Agriculture and Rural Development (MARD) VNFOREST performs the function of advising and assisting MARD in State management and implementing State management tasks on forestry in the country, and managing and instructing public service activities under the VNFOREST management scope.

Forest Protection Department is an agency under VNFOREST which performs the function of advising and assisting the VNFOREST Director General in implementing State management on forest protection, and ensuring legal enforcement on forest protection, development and forest product management under the management scope of VNFOREST.

Provincial Sub-Department of Forestry under the Department of Agriculture and Rural Development (DARD) performs State administration tasks on forestry development.

Provincial Sub-Department of Forest Protection under the DARD performs State administration tasks on forest protection and biodiversity conservation



Milestones in organization of forest sector	
❖ 1954 – 1975: General Dept. of Forestry	❖ 1995 – 2009: Dept. of Forestry and Dept. of Forest Protection
❖ 1976 – 1994: Ministry of Forestry	❖ 2010 to present: Viet Nam Administration of Forestry

II. Institution and policy

FOREST PROTECTION AND DEVELOPMENT LAW XI National Assembly of the Socialist Republic of Viet Nam at its 6th session on 3 December 2004, and took effect on 1 April 2005, replacing the 1991 Law on Forest Protection and Development. This Law provides for the management, protection, development and use of forests, and forest owners' rights and obligations. This Law applies to State agencies, domestic organizations, households and individuals, overseas Viet Namese as well as foreign organizations and individuals involved in forest protection and development in Viet Nam.

LAW ON BIODIVERSITY was passed on 13 November 2008 by the XII National Assembly of the Socialist Republic of Viet Nam at its 4th session, and took effect on 1 July, 2009.

This Law provides for biodiversity conservation and sustainable development; and rights and obligations of organizations, households and individuals in biodiversity conservation and sustainable development.This Law applies to organizations, households and individuals in the country, overseas Vietnamese, foreign organizations and individuals carrying out activities related to the biodiversity conservation and sustainable development in Viet Nam.

LAND LAW was passed by Legislature XI of the National Assembly of the Socialist Republic of Viet Nam at its 4th session on 26 November 2003, and took effect on the 1 July 2004.

This Law governs the powers and responsibilities of the State as representative of the ownership of land by the entire people for uniform administration of land use; and the rights and obligations of land users.This Law shall apply to: (1) State bodies exercising rights and discharging responsibilities as representative of the ownership of land by the entire people and carrying out the tasks of uniform State land

administration; (2) Land users; and (3) Other entities involved in the admin

DECREE ON THE POLICY ON PAYMENT FOR ENVIRONMENTAL SERVICES was issued by the Government of Viet Nam on 24 September 2010 and took effect from 1 January 2011. This decree regulates the policy on payment for forest environmental services (PFES) in Viet Nam,

Continue to apply mechanisms and policies on forest development project on planting 5 million hectares of forest. In the 2011-2015 period, the task of forest protection and development done in accordance with Decision No. 60/2010/QĐ-TTg September 30, 2010 of the Prime Minister promulgating the rule, criteria and norms for allocation of investment funds developed in the period 2011 - 2015; Decisions: 147/2007/QĐ-TTg of September 10, 2007 on a policy of forest development production period 2007 - 2015 and the 66/2011/QD-TTg December 9, 2011 amending and supplementing a number of articles of the Decision of the Prime Minister 147/2007/QĐ-TTg.

Continue to apply existing policies on food aid for the mountain to tame burn deforestation for cultivation, conversion to plantation land is upland forest land Resolution No. 30a / 2008/NQ-CP December 27, 2008 of the Government program supporting rapid and sustainable poverty reduction for poor District 62, Decision No. 73/2010/QD-TTg November 15, 2010 of the Prime Minister Government issued regulations silvicultural investment in construction and Decree 117/2010/ND-CP of December 24, 2010 of the Government on the organization and management of special use forest system.

The policy on encouraging enterprises to invest in agriculture and rural development provisions of Decree No. 61/2010/ND-CP June 4, 2010 on policies to encourage enterprises to invest in agriculture, Rural Government's credit policies for agricultural development, rural Decree No. 41/2010/ND-CP on April 12, 2010 of the Government to attract investment from all sectors other economic development objectives and forest protection.

Forest protection: To amend and supplement some provisions of Decree No. 99/2009/ND-CP November 2, 2009 of the Government on sanctioning of administrative violations in the field of forest management, forest protection and forest product management and Decree No. 23/2006/ND-CP of March 3, 2006 on the implementation of the Law on Forest Protection and Development in order to more closely manage the switch uses the type in the local forest.

Regarding forest management: Review policies on forest management Decision 186/2006/QĐ-TTg August 14, 2006 of the Prime Minister promulgating the Regulation on forest management, ensure consistency and compliance with the provisions of the law of land, avoid duplication, overlap.

On allotment, lease forest land: Ministry of Agriculture and Rural Development in coordination with the relevant ministries and agencies of the practice, the government issued a policy to replace Decree No. 01 / 01 dated 04 January 1995 promulgating the regulations on the allotment of land for the purpose of agricultural production, forestry, aquaculture in the state-owned enterprises and Decree No. 135/2005 / ND-CP of November 8, 2005 of the Government on the allocation of forest and forest land.

Credit policy: Vietnam Development Bank shall, in collaboration with the relevant ministries and agencies to develop policies on lending to forestry projects, for permission to use the ownership and use rights forest for joint ventures in forestry projects and forest services, mortgage loans.

The Ministry of Finance shall submit to the Government amending and supplementing Decree No. 151/2006/ND-CP of December 20, 2006 of the Government on investment credit and export credit of the State, and Decree 106/2008/ND-CP of September 19, 2008 of the Government amending and supplementing a number of articles of Decree No. 151/2006/ND-CP of investment credit and export credit of the State, create favorable conditions for organizations and individuals plantation repay loans and crop cycle, lending additional objects, including households, businesses small-scale afforestation and expand trades, borrow areas, including reforestation projects and large wood processing projects MDF, particle board, plywood bar. Research revised forest policy towards royalty revenues from forest royalties are used primarily to protect, regenerate the forest.

3. Construction mechanism, new policy

Ministry of Agriculture and Rural Development in coordination with the relevant ministries and research and development policies mainly follows:

policy for protection forests towards allowing all owners of the forest sector in water protection, development and rational use of forests with stable revenues from the forest.

Policy logging and forest products: Ministry of Agriculture and Rural

Development regulation standards, specific indicators of forest exploitation, ensuring the autonomy of production forest owners in business plan sustainable forest management approval.

Implement forest co-management: From now until 2014 the mechanism of benefit sharing in a number of special-use forests towards fundamental change from the form of state control over forest protection to manage the various forms in which the local community to share management responsibilities and benefits with the state agency.

Policy support investment in building infrastructure, forestry training, especially for ethnic minorities.

Policies to encourage investment in processing and consumption of plantation timber.

Mechanisms and policies for restructuring forestry company owned by the state

III. Reducing Emissions from Deforestation and Forest Degradation (REDD)

Since the 2007 Climate Change Conference in Bali, Viet Nam has been moving rapidly to prepare for REDD+ implementation. Viet Nam participates in both the UN-REDD Programme and Forest Carbon Partnership Facility (FCPF). REDD+ plays a crucial role in achieving the goals of the National Strategy on Climate Change, the National Green Growth Strategy, the National Program on reducing emissions in agriculture and rural development sector, and National Action Plan on Forest Protection and Development for the period from 2011-2020.

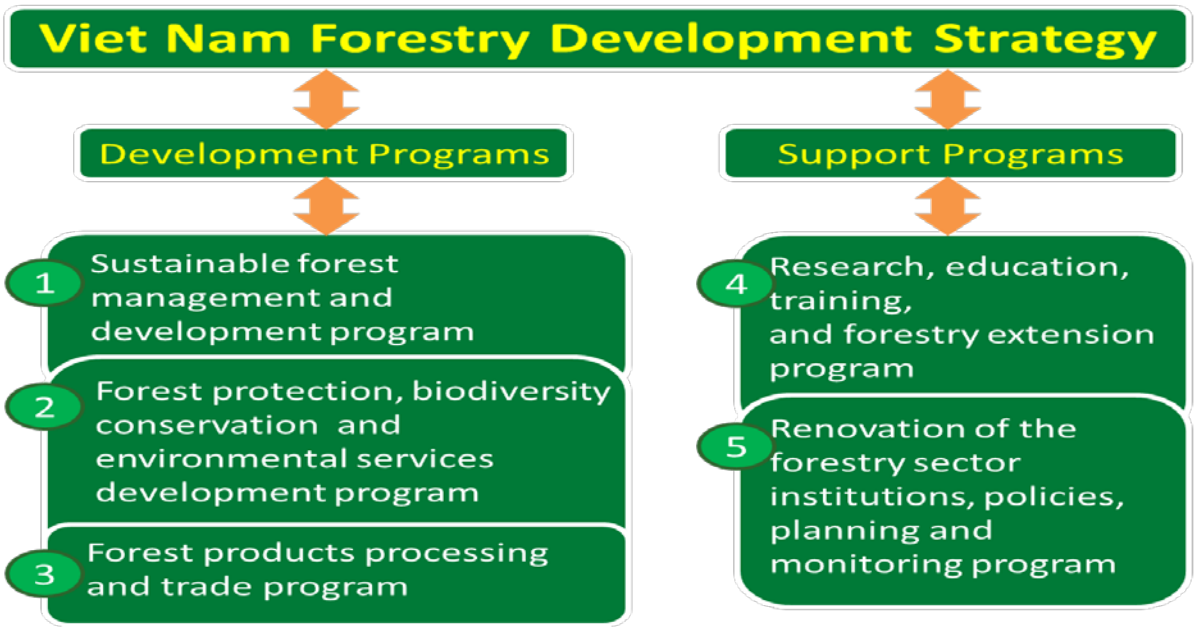
The National REDD+ Action Program was approved by the Prime Minister in June 2012. The National REDD+ Steering Committee and its standing office – Viet Nam REDD+ Office were established in January 2011. Viet Nam REDD Network was established in 2009 and is supported by 6 Sub- technical Working Groups, including: Measuring-Reporting-Verification (MRV), Benefit Sharing, Governance, Local Implementation, Private Sector Engagement and Safeguards.

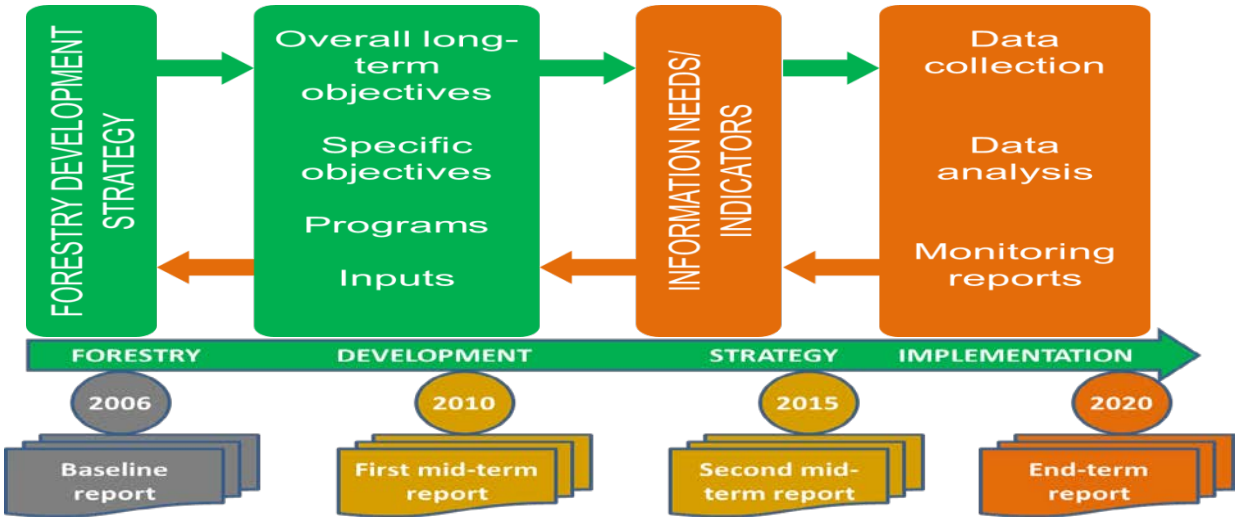
Under support of the UN-REDD Viet Nam Program Phase I and other international development partners, key elements of REDD+ are being developed. During the period from 2012-2015, Viet Nam will continue to strengthen capacities for REDD+ readiness at national and local levels, and carry out demonstrations in 8-10

provinces under support of Phase II of the UN-REDD Viet Nam Program, FCPF, USAID Viet Nam Forests and Deltas Program, and other projects and initiatives.

In August 2010, Viet Nam officially announced to start formal negotiations for a FLEGT Voluntary Partnership Agreement (VPA) with the European Union (EU). The conclusion of these negotiations between the two sides will be a cooperation agreement over the legality of timber and timber products exported by Viet Namese operators to European markets. This agreement will improve the competiveness of Viet Nam timber and timber products in EU markets in the context of the EU Timber Regulation which will enter into force in March 2013. Until now there were 3 Technical Working Groups (TWGs) and 7 Joint Expert Meetings (JEMs) and a series of video conference and informal meetings between the two sides have been held. An intensive consultation plan has been designed and implemented in order to engage all interested stakeholders, including local Government and industry in the negotiation process, especially on the development of a Viet Namese framework on a Legality Definition and Timber Legality Assurance System (TLAS) - the two core elements of the VPA. So far, the negotiation progress is on the right track and is expected to conclude in September 2013. Together with other international initiatives such as REDD+ and PFES, the FLEGT VPA is a crucial instrument for contributing to an improved forest governance policy by the Government of Viet Nam.

VI. PROTECTION PLANS AND DEVELOPMENT





Protect existing forest area, forest resources and use the land for forestry planning is effective and sustainable. Increase forest cover to 42-43% by 2015 and 44-45% by 2020, increase productivity, quality and value of forest industry restructuring towards improving value; meet Basically the demand for timber and forest products for domestic consumption and export.and To create jobs, raise incomes for people living associated with forestry, poverty contributing to poverty reduction, security and defense.

1) Protect forests

Protection and sustainable development of forests is 13.388 million hectares (as of December 31, 2010) and 750,000 ha of forest regeneration, 1,250,000 hectares of new plantations in the period 2011-2014: the forest area in 2015 was about 14.27 million hectares, 15.1 million hectares in 2020,reduce the violations of basic laws on the protection and development of forests and to evelop effective protective function, protecting the ecological environment, the biodiversity of the orest, contributing to economic development - social sustainability of the country.

2) Development of forest

- The period 2011 - 2020:

+ Plantation: 2,600,000 ha, of which planting protective forests, special-use 250,000 ha (average 25,000 ha / year), planting one million hectares of production forest (an average of 100,000 ha / year) and replanting 1,350,000 ha of forest after harvesting (average 135,000 ha / year);

+ Regeneration: 750,000 ha (mainly forests, special-use), in which the transition regeneration 50,000 ha, new regeneration 400,000 ha;

+ Improving poor natural forest 350,000 ha (average 35,000 ha / year);

+ Planting of trees: 500 million trees (trees average 50 million / year);

+ Improve the quality of natural forests, plantations yield production increased 25% in 2020 compared to 2011.

- Period 2011 - 2015:

+ Plantation: 1,250,000 ha, of which planting protective forests, special-use 150,000 ha (average 30,000 ha / year), planting 500,000 hectares of production forest (an average of 100,000 ha / year) and reforestation following exploitation 600,000 ha (120,000 ha per capita / year);

+ Regeneration: 550,000 ha, of which regeneration 350,000 ha of forest transition, new regeneration 200,000 ha;

+ Improving degraded natural forests: 150,000 ha (average 30,000 ha / year);

+ Planting of trees: 250 million trees (trees average 50 million / year);

+ Improve the quality of natural forests, plantations yield production increased 10% in 2015 compared to 2011.

V. PERFORMANCE MEASURES

1. Promote advocacy, awareness

a) Regularly organized propaganda on the mass media in economic value, social, environmental, security and defense of the forest.

b) Strengthening legal education on forest protection and development of the people and raise awareness of the protection of people, the movement of families living near the forest and a commitment to protect the forest, building and implementation of forest protection, cognitive changes, business practices and extensive forestry production to intensive timber production combined small and large timber.

2. In the planning and management of forest land

a) To review the planning stability for 16.245 million ha of forest and forest land (of which 2.271 million ha of special-use forest land, 5.842 million hectares of

forest land and forest produce 8.132 million ha), unified management plan on the basis of national forest establish stability in the sub-system, plot, plot on the map and Demarcation three forest types in the field.

b) Strict management, timely adjustment of irrational planning of 3 forest types, forest promote long-term stability for organizations, individuals, households, institutions of direct State manage about 50% of the total forest area, including the entire area of special-use forests, 65% of forests and 30% of the productive forest area.

c) development planning and processing industries associated with commercial forestry plantation areas building materials industry focus. Focus on development planning of production villages, forest products processing, development of farm forestry. Not planning processing facilities, sawmills in and near special-protection.

d) ensure that the state budget for the census, forest inventory.

3. Forest protection

a) Continue to promote social forestry under the motto of protection is the responsibility of all agencies, organizations, households and individuals.

b) consolidate and build protection forces from the central to grassroots levels and forest owners; increased authority and legal responsibility of the rangers in the management, protection and enforcement .

c) Strengthening of inspection and control the implementation of the law on forest protection and development, processing time, strict violation of the law on forest protection and development.

d) To strictly follow the provisions of the law on forest protection and development, deployment mechanisms refund the value of biodiversity and forest regulations instead of moving to the area used for forest other purposes.

4. On transport, forest lease

a) Overall, improve forest protection policies for organizations, households and individuals, rural communities, in line with regional planning, forest recipients assigned long-term stability forest conditions to benefit directly from the forest. State support forest management and protection of degraded forest area is not collected in accordance with Decision No. 60/2010/QĐ-TTg September 30, 2010 of the Prime Minister promulgating rules , criteria and norms for allocation of investment funds

developed in the period 2011-2015.

b) People's Committees of provinces and centrally-run cities shall review, boost traffic, leasing forests to organizations, rural communities, households and individuals, to ensure that all areas Forest managers specifically. The completion of the forest, forest lease and certificate of land use rights associated with the forest in 2015.

State budget to ensure funding for the establishment and implementation of complete documents forests, forest lease with an average of 200,000 VND / ha. Provincial People's Committees spending decisions to suit the specific conditions of each local forests under the guidance of the Ministry of Agriculture and Rural Development.

c) The forest area by commune-level People's Committees under management (over 2.7 million hectares), or organizational communication for rural communities, households, organizations, individuals, businesses hire. For those areas not assigned or leased by the organization assigned to the ranger force to protect and advise the commune authorities perform the tasks of state management of forest protection and development.

SUF management boards, protection, state forestry companies implementing co-management mechanisms with local communities on the basis of shared responsibility for management and protection of forests, forest development and benefit from the forest on the basis of the contribution.

5. Science, technology and extension

a) Develop and improve processes, technical regulations on fire prevention, forest fires, forest exploitation, intensive afforestation on sites and ecological zones.

b) To promote research and technological transfer, paying special attention to new research breeding of high yield, good quality, applied research and advanced technology suitable successor and promoted traditional experience to improve the efficiency of resource use, output value and quality of forest environmental services.

c) Applications mining equipment, processing technologies suitable mounting research with production and product diversification to enhance value, reduce environmental pollution.

d) Strengthen extension system at the grassroots, especially the more communal forest and forest land, the geographical regions and remote areas.

6. Regarding international cooperation

a) bilateral cooperation and multilateral organizations in the forestry sector and internationally. Continue to implement the international commitments of the Vietnam Forestry participants such as international conventions on wildlife trade (CITES), the

Convention on Biological Diversity (UNCBD), the Convention on anti-laid desertification (UNCCD), United Nations Framework Convention on Climate Change (UNFCCC), the International Convention on Wetlands (RAMSAR), REDD +, the international organization of tropical timber (ITTO).

b) Continue to implement the activities of international economic integration, especially in the framework of ASEAN cooperation and issues of forest management, forest law enforcement and forest products trade. Develop and implement cooperation agreements with countries in the Mekong sub-region, especially in Cambodia, Laos and more-

7. On the market

a) Promote the active trade promotion, market development and forestry products.

b) Implementing innovation in cargo traffic management forest products ensure legal origin, to encourage all economic sectors to participate in the market, creating a healthy competitive environment and ensure the interests of the harmonious producers and consumers, creating market incentives to promote forest production in developing countries.

8. Develop, implement projects, key projects

a) afforestation project breakwaters, sea walls protect against coastal erosion.

b) Planting and protection headwater river basins.

c) scheme to improve the productivity of forest plantations and natural enrichment.

d) reforestation project area boundaries associated with resettlement.

e) The certification scheme is only sustainable forest management according to international standards.

f) enhance project management capacity of state forest.

g) construction project, develop a network processing, forest products trade.

h) Capacity Building Scheme rangers.

i) Develop wildlife parks countries in Ninh Binh province.

9. Capital requirements and mechanisms for mobilizing funds.

a) Total capital requirements during the period 2011 - 2020 was 49 317 billion, of which: Capital budget: 14,067 billion, accounting for 29% of the total demand for capital, the average annual 1,407 billion; budget capital: 35 250 billion, accounting for

71% of the total demand for capital, the average annual 3,500 billion, mainly spent on afforestation and forest production.

Period 2011 - 2015: Total capital demand is 24 562 billion, of which: Capital budget: 8,062 billion (up 33%), the average annual 1.612 billion and loans and other capital investments afforestation production: 16.500 billion (up 67%). Capital expenditure for development investment (planting, tending, forestry infrastructure, ...) up 5.512 billion, an average annual 1,102 billion; business economic capital (forest protection and regeneration) : 2,550 billion, an average annual 510 billion.

In 2 years from 2011 to 2012, the state budget has allocated 1.925 billion (715 billion in 2011 and 1.210 billion in 2012). Demand for 3-year budget (2013-2015) is 6,137 billion, an average annual 2,045 billion.

b) Mechanisms for mobilizing funds

- Integrating planning and development of forest protection with economic development plans - social programs, other projects in the same area to improve the overall efficiency of the economy - society, environment protection , security and defense;

- Capital investment budget development central focus for hedge planting project scale, national parks, projects in the districts under Resolution No. 30a/2008/NQ-CP day December 27, 2008 of the Government program supporting rapid and sustainable poverty reduction for 62 poor districts, Northwest, Central Highlands, to support the development of production forests, supporting forestry road construction in the area planting materials focus but traffic conditions are difficult, the experimental research project, the project investment in advanced technology equipment, information technology applications in planning, management and protection, investment research, high technology applied in breeding, seed production base, technology intensive afforestation. Local budget allocated to other projects in public policy;

- Business economic capital of the State guarantee for forest protection, regeneration, monitoring of forest and forest land, and other business expenses under current regulations;

- To mobilize maximum resources of the economic sectors in the country, mobilizing financial support for a plan to protect and develop forests (ODA) from international organizations;

- To mobilize financial resources legally, including revenues from payments for forest environmental services, forest royalties ...

VI. IMPLEMENTATION

Plan forest protection and development period 2011 - 2020 Regulations made under the management and implementation of national target programs.

At the central : Establishment of the Steering Committee of the State Plan forest protection and development period 2011 - 2020 on the basis of merger steering committee urgent issues on prevention of forest fires and perform Steering Reforestation Project 5 million hectares of forest by the Deputy Prime Minister, Minister of Agriculture and Rural Development Standing Vice Chairman and the members are leaders of ministries concerned,establishment of the Office of the Steering Committee to help the state plan to protect and develop forests period 2011 - 2020 is located at the General Directorate of Forestry, Ministry of Agriculture and Rural Development.

At the local: Establishment of the Steering Committee on Protection Plan and development phase 2011 - 2020 provinces and centrally-based merger steering committee urgent problems of forest fire prevention and Steering Committee the project on planting 5 million hectares by the Chairman or Vice Chairman of the provincial People's Committee to be the Chairman.

Department of Agriculture and Rural Development Committees in the provinces and cities directly under the Central Government implementation plan and manage projects in the Plan forest protection and development period 2011 - 2020 in Local management.

References

- 78/2011/TT-BNNPTNT Circular dated 11/11/2011 of the Ministry of griculture and Rural Development guiding the implementation of Decree No. 117/2010/ND-CP ated 24/12/2010 of the Government on the organization and management system SUF system

- 57/QD-TTg Decision dated 9/1/2012 of the Prime Minister approving the plan of forest protection and development stages from 2011 to 2020

- 186/2006/QĐ-TTg Decision, dated 14/8/2006 of the Government on the issue of forest management regulations,

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