Forest Biodiversity Conservation and improvement of rural livelihoods In Cambodia

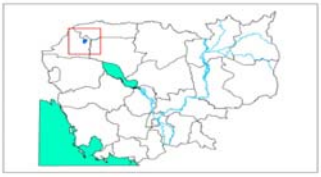
1-14 Nov 2014, Kunming, China

Outline

1. Background
2. Objective
3. Institutional and Legislation
4. Issues and challenges
5. Approaches
6. Lesion Learned
7. Opportunity
8. Conclusion

Background

- ATT is located in the north west of Cambodia.
- It's man made reservoir (20,000 people died from building dam).
- People collected plant and do other activities from the reservoir for their daily livelihood.
- Important feeding ground for Sarus Crane *(Eleocharis dulcis)*



Objectives :

- To protect Sarus Crane and other wildlife species for future generation
- To protect the natural resources for sustainable use of local people.

Institutional and legislative framework

- Established Royal degree on ATT Sarus Crane reserve Conservation and Management Area for Biodiversity Conservation and to improve local people 's livelihoods.
- Established Community Management Committee for implementation and management the work.
- Established role ,regulation and agreement which is recognized by local authority .
- All the work are monitor and evaluation from the Forestry Administration staffs.

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Issues and challenges

- Hunting for food and for sell
- Hunting at night time using home made gun

- Poison water bird for food and selling
- Crane Chick selling in the Cambodia -Thai border and Trapping .

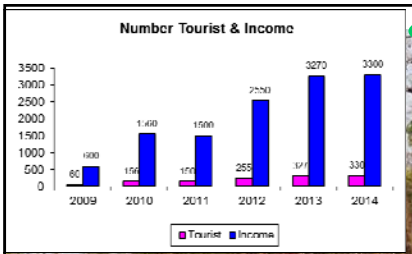
- Canal construction
- Land grabbing and encroachment
- Weak collaboration
- Financing
- The enforcement of these legislations are not strong enough
- There are overlapping responsibilities and involvement of inter agencies.

Approach

- **Community Forestry (CF) and Community Protected Areas Development**
- **Participatory Land Used Planning**
- **Capacity building**
- **Demarcation**
- **Law enforcement and governance**
- **Planting and rehabilitation**
- **Capacity building and education**
- **Involve with all stakeholders on decision makers**

Approach (continue)

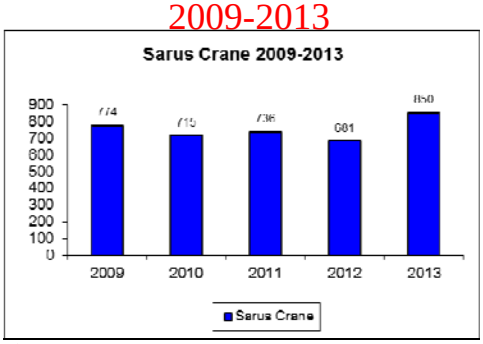
- **Ecotourism**
- **Wildlife Friendly Rice**
- **Rice bank**



Tourists – number & income

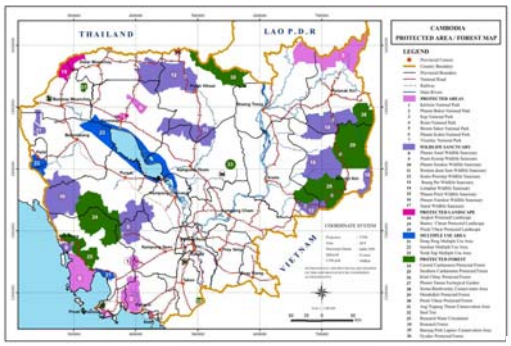
Ecotourism con..

Sarus Crane Count in Cambodia 2009-2013



- Count Crane from the early morning and in the late afternoon
- Count Crane in the same time in different places in Cambodia

Protected area system in Cambodia



Lessons learned

- Sustainable forest and biodiversity management with participation from local community proves to be effective.
- Designation of the Conservation Area and protected forest provides an excellent opportunity for sustainable biodiversity and forest management.
- Collaboration and coordination among involved stakeholders ranging from decision makers to local community donors and NGOs are a powerful tools in sustainable biodiversity and forest management
- Divided the core zone and buffer zone and participatory land use planning.

Opportunities

- More Painted and Milky Storks may come to nest in the ATT Sarus Crane reserve Conservation and Management Area and other large water birds, possibly Black necked Stork, Spot-billed Pelican, Black headed Ibis , Lesser and Greater Adjutant, and Sarus Cranes will follow suit.
- Local community benefits - conservation
- Ecotourism is getting much income for local people because the population of bird increase
- Even more roosting places for water birds
- Ecotourism and Wildlife friendly rice is best chance for improving of local people standards .

Conclusion

- To improve on Forest biodiversity Conservation and improvement of Rural livelihoods in Cambodia are:
- Education program and awareness of Forestry and wildlife law
- To give local people incentive through ecotourism &Wildlife friendly rice.
- To establish of Protected Forest and Conservation Area
- The Cambodia government should provide enough support for capacity building and financial for community Management committee to implement the work.

FIJI COUNTRY REPORT

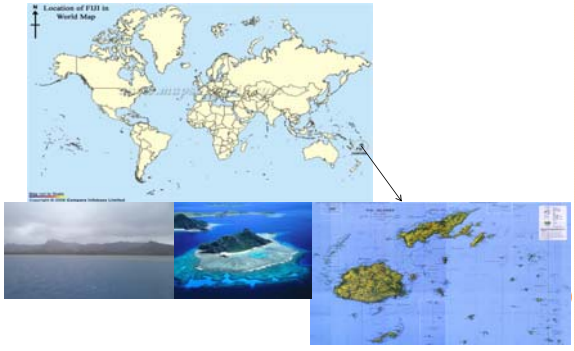
FOREST BIODIVERSITY CONSERVATION AND IMPROVEMENT OF RURAL LIVELIHOODS

Fiji Forestry Department
P. O. Box 2218
Government Building
Suva
Fiji Islands

GEOGRAPHICAL LOCATION

- Fiji is an island nation in Melanesia in the South Pacific Ocean.
- Its closet neighbors are Vanuatu to the west, France's New Caledonia to the southwest, New Zealand to the southeast, Tonga to the east, the Samoa's, France's Wallis and Futuna to the northeast, and Tuvalu to the north.
- The majority of Fiji's islands were formed through volcanic activity starting around 150 million years ago.

GEOGRAPHICAL LOCATION



LAND AREA

The country comprises of more than 332 islands

- 110 are permanently inhabited
- and more than 500 islets,
- amounting to a total land area of 18,300 square kilometers (7,100 sq mi).

POPULATION

- The estimated population of the country is 849,000
- Indigenous Fijians is counted at 511,838,
- while there are 290,129 Indians and 56,071 Others (January 2012). Most Fijians live on Viti Levu's

GOVERMENT

- **Fiji Government** was formed in 1970, when the country gained independence from Britain.
- It was interrupted when a military regime was established in 1987 followed by two coups.
- In 1992 again an elected government came to power.
- The President is the head of state while the Prime Minister is head of **Fiji Government**
- Currently the Government had already release the 2013 draft constitution. As from today the Government is looking forward to the 2014 election.

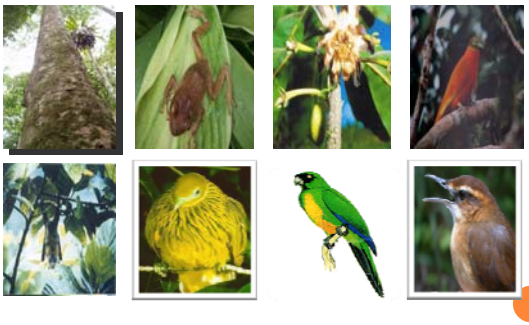
CLIMATE

- Fiji enjoys a tropical maritime climate without great extremes of heat or cold
- **coolest months** (July and August) and **warmest months** (January to February).
- the average temperatures rangers from 18 - 32° C
- Rainfall is usually abundant during the wet season (November-April)
- Annual rainfall in the dry zones averages around 2000mm, whereas in the wet zones, it ranges from 3000mm around the coast

FLORA AND FAUNA

- Fijis Flora and fauna are relatively few in number but high proportion of endemic species
- 10% of the 476 indigenous Fijian plant species identified are endemic
- 2,600 flora and fauna been confirmed to be existed nationwide
- 1600 types of plants and trees are classified to be endemic.
- 1000 types of plants and trees are classified to be exotic
- 310 types of ferns, where at least 30% are endemic.30 types of Palm, where at least 99% are endemic.200 types of plants and tree are native.

FIJI'S RAREST FLORA AND FAUNA



LAND USE

- open grazing 2,700 km² including 950 km² of roadsides
- 280 km² grazing under coconut or forest trees
- 380 km² of crop or fallow under coconuts
- 1,950 km² ha of arable and tree crops other than coconuts
- 1,000 km² of plantation Mahogany and Caribbean Pine

FOREST COVER

- Fiji's Forest cover is approximately 1011,505 hectares in relation to total land mass of 18,376km² which includes;
- Indigenous forest-857,533 ha
- Pine Plantation-93.524ha
- Hardwood Plantations-60.448ha

FOREST TYPE

- Forest is also classified according to their designation and management as follows:
- Multiple Use Forests-498.999ha
- Protection Forest-304.200ha
- Preserved forest-88.800ha
- Production forest-132.278ha

VEGETATION

- Vegetation cover is classified as follows:
- Closed Forest-556.385ha
- Open Forest-342.845ha



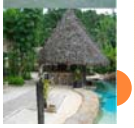

LAND TENURE SYSTEM

- Land in the Fiji Islands is managed through three complementary systems- Native Land, freehold land and Crown Land
- Freehold land can be bought and sold. Native Land and Crown Land cannot be bought and sold but is available only on a leasehold basis
- Leasehold land can be developed as much of it is available on a long-term lease basis (often 99 years)
- 83% of the country is native land, 10% is freehold and 7% is crown land

ECONOMY

- Fiji is one of the most developed countries of the Pacific island economies though still with a large subsistence sector endowed with forest, mineral, and fish resources
- Sugar exports, remittances and a tourism with 400,000 to 500,000 tourists visit the country annually



NATIONAL FORESTRY ACTION PLAN

- Fiji is currently reviewing its Forest Policy in the hope of streamlining its strategies
- to adequately address the ecological, economical and social dimension
- A key principal is the implementation of land use planning at the national, provincial, district and even landscape level
- government will classify land according to their potential use
- higher-value timber production, Afforestation, rehabilitation
- protection and conversion to other land uses

CONTRIBUTION OF FOREST SECTOR TO THE NATIONAL ECONOMY

- Forestry Department's policies and strategies are driven towards the sustainable management of forest resources for the benefit of the rural community in particular the land owners.
- Foreign earnings from the export of timber and other wood based products averaged $42 million a year in the decade.
- Each year the Government allocates an average of $1.3 million to undertake community forest development, landowner's awareness and training on sustainable forest management
- to improve the monitoring and surveillance of logging operations, portable sawmills for resource owners and forest certification to promote and assist landowner participation in the forestry sector.

IMPORTANCE OF FOREST AND TREES TO THE COUNTRY'S ENVIRONMENT

- Fiji islands are rich in biodiversity. Natural forests host unique communities of plants and animals of which many species are endemic
- biodiversity is critically threatened by over exploitation of resources, and the fragmentation of ecosystem and habitat destructions as a result of human activities and the impact of invasive species.
- Sustainable management of forest resources is an important element of sound land use
- it is in the interest of all Fijians to maintain a natural forest cover that is in a position to provide the full range of economic, ecological and social functions for present and future generation

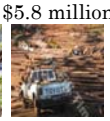
CONT'

- Fiji has exisisting forest estates that are known as forest reserves and protected sites. These sites are under state
- non-governmental organization sees a significant contribution to the long term conservation and biodiversity in collaboration with the custodial communities.
- Nature reserves and protected areas are rich in fauna and flora, wildlife, diversity and have immeasurable benefits

BENEFITS OF FOREST HAVE PROVIDE MEALS FOR THE LOCAL COMMUNITIES

TIMBER PRODUCTION

- Logs are mainly processed into sawn timber, veneer, plywood, block board, molding, poles and posts, and woodchips with total export volumes averaging 266,000 cubic metres each year.
- Total earnings derived from the exports for 2010 was $77.2 million,81% increased, compare to 2009 ($42.6 million).
- The total import for 2010amount to $5.9 million compare to $5.8 million(2% increases)

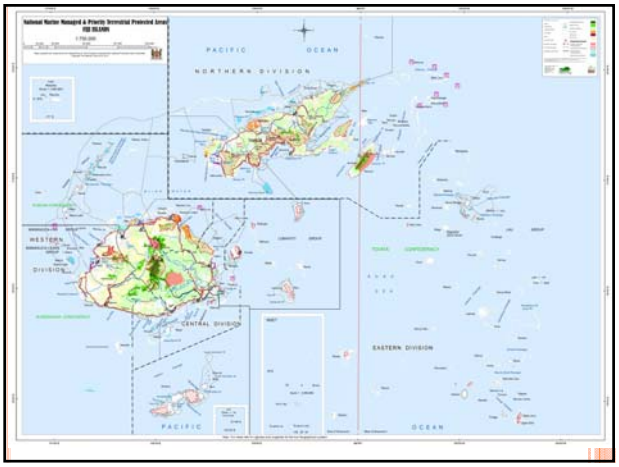


CONT'

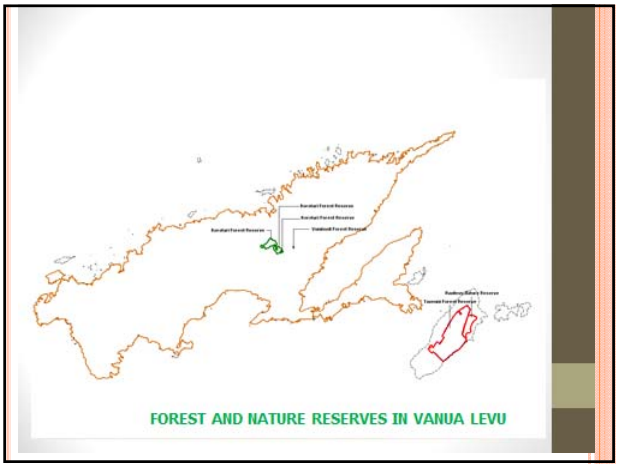
- Most of the wood products are sold to Australia and New Zealand, whilst wood chips are sold exclusively to Japan.
- The American market absorbs approximately 40 percent of all veneer products

TYPES OF CONSERVATION

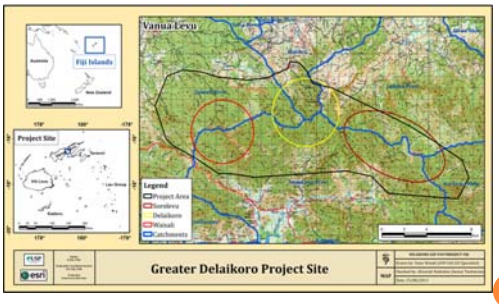
Nature Reserves
Protected Forests
Forest Reserves
Important Birds Area
Heritage sites
REDD +
Marine Protected Areas

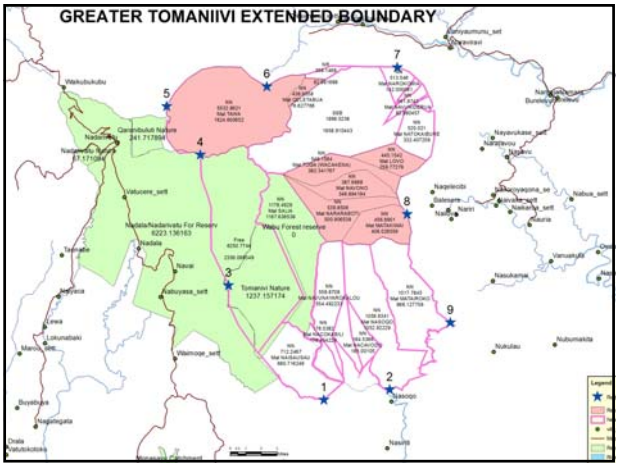


NAME	Type of Protection	Area (ha)	Area SQ_KM
Taveuni	Forest Reserve	11089	110.89
Yunimoli	Nature Reserve	20	0.20
Draunibota Nature	Nature Reserve	41	0.41
Labiko Nature	Nature Reserve	2	0.02
Vuo Nature	Nature Reserve	3	0.03
Ravilevu	Nature Reserve	3939	39.39
Yadua Taba	Crested Iguana Sanctuary	71	0.71
Waisali Forest	Forest Reserve	306	3.06
Garrick Memorial park	Memorial Park	434	4.34
Vaturu Catchment	Water Catchment	218	2.18
Monasavu Catchment	Water Catchment	706	7.06
Sovi basin	Conservation Reserve	20377	203.77
Colo-i-suva	Forest Reserve	497	4.97
Sigatoka Sand dunes	National Park	177	1.77
Namenalala island	Conservation Reserve	43	0.43
Wabu	Forest Reserve	1062	10.62
Tomaniivi	Nature Reserve	1104	11.04
Nagaranibuluti	Nature Reserve	241	2.41
Nadarivatu	Nature Reserve	67	0.67
Nadarivatu/Nadala	Forest Reserve	6246	62.46
Koroyanitu Heritage Park	Koroyanitu Heritage Park	2434	24.34
Rivers Fiji (Upper Navua)	Eco Tourism	859	8.59
Savura Forest Reserve	Savura Forest Reserve	188	1.88
Bouma_Lavena	Community cons areas	3769	37.69
Kago	Forest Reserve	365.00	3.65
Qoya	Forest Reserve	29.00	0.29
Yarawa	Forest Reserve	394.00	3.94
Naboro	Forest Reserve	47.00	0.47
Buretolu	Forest Reserve	2960.00	29.60
Lololo	Forest Reserve	8.00	0.08
Saru Creek	Forest Reserve	1235.00	12.35
Koroutari	Forest Reserve	4186.00	41.86
Total		63117	631.17



NEW CONSERVATION SITE





RATIONALE

Issue 1: Level of CBD is LOW

Issue 2: Poor forestry & agriculture practices result in low productivity and degradation

Conservation Focus:

Biological Diversity Conservation is **"WEAK"**, due to the following **BARRIERS:**

- **Resistance to change** in Local Communities;
- **Poor Coordination**
- **Lack of Capacity** (including resources);
- **Lack of experience** with community-based approaches to conservation;
- **Inadequate/Out-dated** Policy & Legal Framework

AIM: to assist in removing these "BARRIERS"

WAY FORWARD

- Establish Laws and Policy Framework for Protected Area;
- Establish and Ensure Proper Management of Demonstration Sites;
- Build Capacity and Create Awareness;
- Establish Sustainable Financing Mechanism;

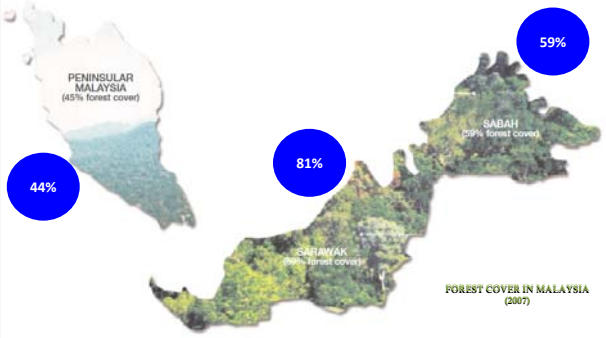
VINAKA ! (THANK YOU)

FOREST BIODIVERSITY CONSERVATION IN PENINSULAR MALAYSIA

Mohd Syahrir Azrin bin Salleh
Forestry Department Peninsular Malaysia Headquarters,
Jalan Sultan Salahuddin, 50660 Kuala Lumpur, MALAYSIA

Largest *Neobalanacarpus heimii*, Pasir Raja FR, Terengganu.

FOREST COVER IN MALAYSIA (2013)



AN OVERVIEW OF FOREST BIODIVERSITY IN MALAYSIA

Flora

- 15,000 flowering plant species
- 2,650 tree species
- 1,100 species of fern and fern-allies

Fauna

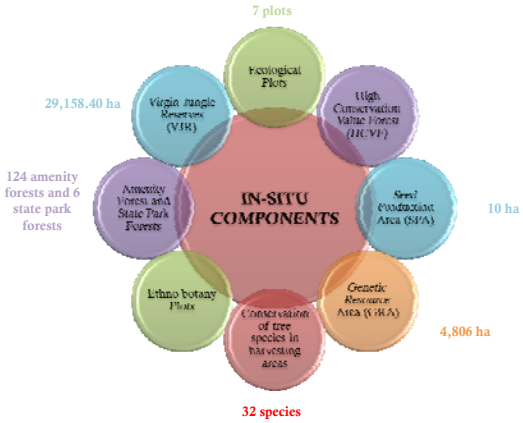
- 300 species of mammals
- 700 – 750 species of birds
- 165 species of amphibians
- 350 species of reptiles
- 300 species of fresh water fish
- 1,200 species of butterflies
- 12,000 species of moths

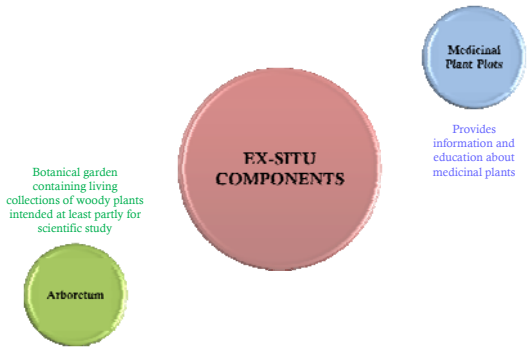
FOREST BIODIVERSITY CONSERVATION INITIATIVES

FDPM's initiatives in conserving forest biodiversity involves two main components:

i. In-Situ:
On-site conservation or the conservation of genetic resources in natural populations

ii.Ex-Situ:
The conservation and maintenance of samples of living organisms outside their natural habitat





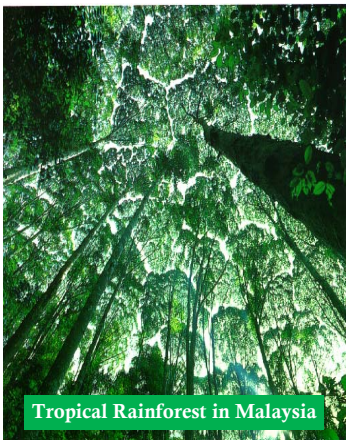
Other initiatives:

i. Forest Biodiversity Scientific Expedition and Seminar; and

ii. Public Awareness and Publication.

CONCLUSION

Conservation of forest biological diversity is essential for sustaining the productive values of forests, for maintaining the health and vitality of forest ecosystems and, thereby, for maintaining their protective and environmental roles. The greatest threat to forests and the diversity is the conversion of forests into other land uses. While it is inevitable that land use changes will occur in the future, such changes should be planned to help ensure that complementary goals are achieved. This can be done by including concerns for conservation as a major component in land use planning and management strategies.


Tropical Rainforest in Malaysia

THANK YOU

http:// www.forestry.gov.my

Workshop Forest Biodiversity Conservation and Improvement of Rural Livelihoods

Mexican Case Payment for Environmental Services (PES)

November, 2014

Reference framework
Extent of forest

Rank	Country	Forest cover 1,000 ha
1	Russian Federation	809,090
2	Brazil	519,522
3	Canada	310,134
4	United States of America	304,022
5	China	206,861
6	Democratic Republic of the Congo	154,135
7	Australia	149,300
8	Indonesia	94,432
9	Sudan	69,949
10	India	68,434
11	Peru	67,992
12	**MEXICO**	**64,802**
-	World	4,033,060

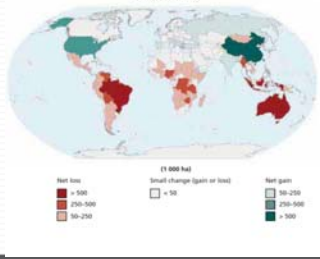
Forest area as a percentage of total land area by country, 2010

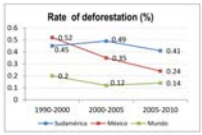
Source: Global Forest Resources Assessment 2010, Food and Agriculture Organization of the United Nations (FAO)

Annual change rate

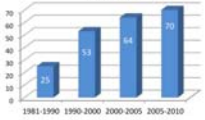
Average deforestation of 155,000 hectares per year

Annual change in forest area by country, 2005–2010





Mexico`s position according to rate of deforestation



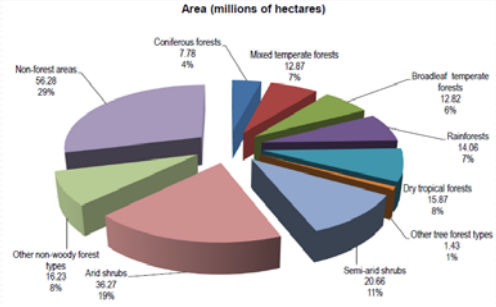
Source: Global Forest Resources Assessment 2010, Food and Agriculture Organization of the United Nations (FAO)

Land use and vegetation types

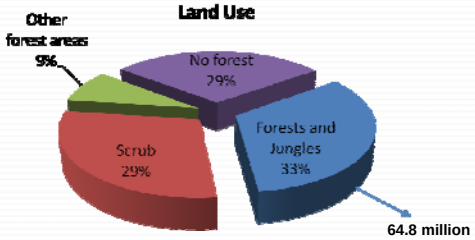
- Total area of Mexico is **195.9 million** hectares
- **138 million** hectares of natural vegetation (**71%**)
- **64.8 million** hectares of tree forests types (**33%**)

Land use and vegetation types

Area (millions of hectares)

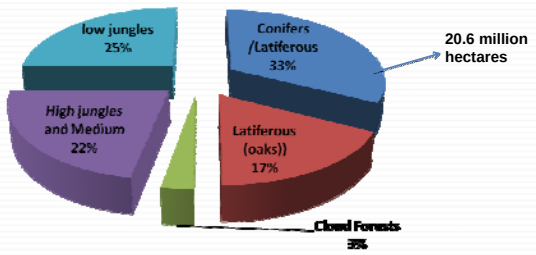


Land Use



64.8 million hectares

Forests and Jungles



Diagnosis of forest sector

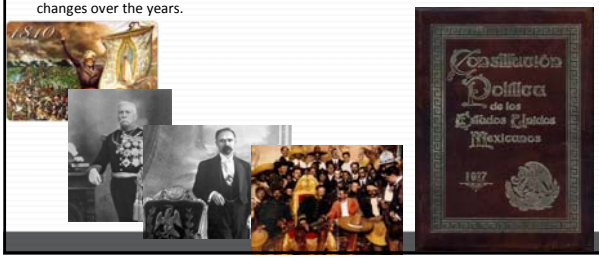
- **7.5 million ha of forest management (utilization).**
- Timber production meets **20%** of domestic consumption.
- The forest products trade deficit of almost **6 billion dollars**
- INEGI estimated that inhabit forest areas **11 million people**.
- The annual net deforestation of **155,000 hectares per year.**

Diagnosis of forest sector

- Approximately 18% of farmers with harvesting rights "sub reports" volumes.
- Replacing imported domestic product by product.
- Reduced capacity of industrialization.
- Contraction of the productivity of links of primary production (farming, mining).
- Low vertical and horizontal integration Forest Enterprises.
- Lack of market information (demand and supply) of alternative vertical and horizontal integration and even features and uses of the products.

The management of forest resources in Mexico

To understand forest management policies on forestry and actions implemented with the community forestry development approach in Mexico, it must be observed which is primarily governed by its constitution of 1917, with a history of independence of 1810, result of the movement of revolution of 1910, and some changes over the years.



It is in this political constitution which set out the basis for the organization of the state, meaning the system composed of a territory, a society and establishing rules for healthy living socialized. In his chapter contended considered a human rights and guarantees, where one can find the **"Article 2. The Mexican nation is one and indivisible "**, recognizing the multicultural composition based on its indigenous peoples descended from populations that originally inhabited the present territory of Mexico and at the beginning of colonization retained their own social, economic, cultural and political, or part them.

The constitution also recognizes and guarantees the right of indigenous peoples and communities.

Mixtecos

Rarámuris

Huicholes

There in Mexico about 65 Ethnic Groups

Amuzgos, Chatinos, Chontales, Lacandones, Mayos, Mazatecos, Mazahua, Mixes, Otomís, Purépechas, Zoques, ...

http://www.cdi.gob.mx/index.php

VI. *Give access, with respect to the forms and property modalities and land tenure established in the Constitution and the regulation of matter as well as the rights acquired by third parties or members of the community, the preferential use of the natural resources of the places they inhabit and occupy communities except those which correspond to strategic areas.*

It's in the previous section VI, where is based on access mode, form and modalities of land ownership throughout the territory the country.

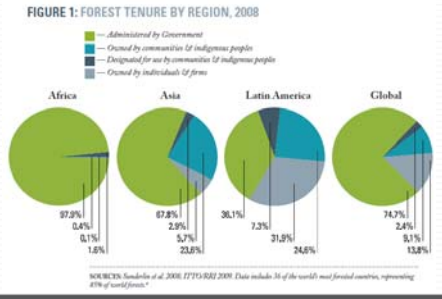
32 States 2,456 Municipalities

Article 27. - The ownership of the lands national territory is vested originally in right to transmit title thereof to privat property.

*.....**The Nation shall have at all times** such that the public interest dictates, as natural elements of ownership, in orde public wealth, care for their conservatio country and improvement of the livi population. In consequence, necessar settlements and establish adequate pr*

*er to execute public works and planning and preservation, improvement and growth of and restore the ecological balance for the o provide, in the terms of the regulatory law, oitation **of ejidos and communities, for the ock, forestry and other economic activities in ruction of the elements and property damage society**.*

Mexico ranks second worldwide, with ownership or control ejido or community forest area, the first place is Papua New Guinea and China third.



Legal Status of Forest Tenure

31,518 Ejidos y Communities (105,949,096.97 Ha.)

Community forestry is conceived as a strategy to achieve sustainable forest management, in about 80% of the forest land of Mexico that are owned by the social figures called ejidos and communities (CONAFOR, 2013), in Mexico there around 15,584 communities and ejidos considered as potential forest with 62,62 millions of Ha. (IICA, 2012).

The legal framework renovated in 1992 (Article 27 of the Constitution and respective Agrarian Law) recognizes three forms of ownership of land and water:

Authorities

The Land Act provides authorities or bodies as the agrarian communities to the Assembly, the ejido commissioner or communal land and the Supervisory Board.

Bodies agrarian groups

- **General Assembly** — The supreme body of the agrarian and it all ejidatarios or comuneros participate.
- **Ejidal Commissariat or Communal Properties** — Body responsible for the implementation of the resolutions of the Assembly, as well as the representation and administration. It consists of a president, a secretary and a treasurer.
- **Supervisory Board** — Monitoring body that acts Commissariat conform to the legal aspects, the provisions of the rules and decisions of the Assembly; also reviews the accounts and operations of the Commissariat. It consists of a president and two secretaries, or a president, a secretary and a treasurer.

Community forestry enterprises

The ejidos and communities, enterprises may establish for the use of their natural resources or other opinionas well as service delivery.

They may participate ejidatarios, organized groups of rural women, children of ejidatarios, comuneros, domiciled and small producers.

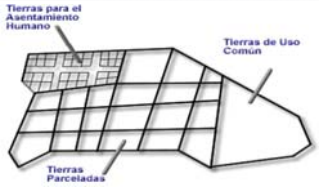
Companies referred to the two preceding paragraphs may take any of the forms of association as provided by law.

Article 108 Agrarian Law 1992

The structure of the ejidos and communities is composed of one or more polygons, they can be in the same state and municipality or several

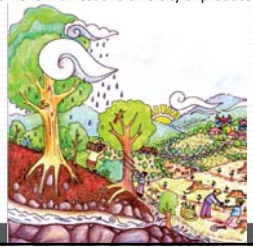
Fate of the land

The land can be used for three types of use in accordance with the determination of the General Assembly:



- ***Parcels of land.***
- **Land for Human Settlements**.
- **Common Land Use.** constitute the economic livelihood of the community life of the agrarian and are comprised of those lands that have not been reserved by the Assembly for the establishment of the center town, nor are parcels of land.

Community forestry or (Latin silva, jungle or forest, and culture, cultivation) in Mexico is conceived as the science for the training and cultivation of forests by ejidos and communities. It is part of its scope, the ability to create or preserve a forest, the theory and practice of regulating the establishment of tree mass, composition and development, not outside its sister science of agriculture, differing from it in the waiting time for harvest and diversity of production.



The production of timber is the source of forest income more important of these communities, but in most cases, also carry various uses of nc forest products, showing that forests are not only central to their iden and customs, but also are important economic assets and their managem primary option to advance their economic welfare.

Potential for timber production (15 mill ha):
- Sustainable forest management
- Supply chains
- 8-10 mill has are under authorized management

Non-timber production (49 mill ha):
- Non timber forest products
- Provision of environmental services 2.38 million ha
- 25.38 million ha under Protected Area status

The historical process in Mexico returning to ejidos and communities ownership of the land and making decisions about their management, shows that this aspect of social dimensions are linked with other elements (economic, technical, legal and agricultural) and a concessions administrative problem that left very little benefit to communities, the Mexican government considered that the claims of communities seeking alternatives to exploit its natural resources were sufficiently reasonable and economically and politically viable, thereby culminating mid of eighty forest concessions policy of this country.

Indigenous peoples and communities → Forest Concessions 80's → Ejidos and Communities

Deriving in the modifications to Article 27 of the Constitution and regulated by the Land Law (1992) and the update of the Forestry Law (1986, 1992, 1997) and vest in the General Law for Sustainable Forest Development (2003).

Based on the above and that the Mexican government has laws and regulations, specifically for forestry, **in 2003 issued the General Law for Sustainable Forest Development (LGDFS)**, which regulates Article 27 of the CPEUM, with the purpose of promote sustainable forest development, its objective expressed in article 2 mentions:

Article 2. The general objectives of this Law:
I.Contribute to the social, economic, ecological and environmental development of Mexico through integrated sustainable management of forest resources and watershed and hydrological-forest ecosystems, subject to the provisions of other laws;
II.Promote forestry and use of forest resources, to contribute to goods and services which will improve the standard of living of Mexicans, especially the owners and forest dwellers;
III.Develop environmental goods and services and to protect, maintain and enhance biodiversity that provide forest resources;
IV.Promote the organization, operational capacity, integrity and professionalism of the public institutions of the Federation, States, Federal District and Municipalities, sustainable forest development, and
V.Respect the right to preferential use of forest resources in the places they occupy and inhabit the indigenous communities.

And it is the job of the National Forestry Commission (CONAFOR), decentralized public body of the Federal Public Administration, created in 2001 with legal personality and its own, where sectoral coordination falls to the Ministry of Environment and Natural Resources (SEMARNAT) in accordance with the applicable legal provisions, as established in Article 17 LGDFS:

Article 17. .... The object of the CONAFOR **will develop, encourage and promote productive activities, protection, conservation and restoration in forestry**, which under this Law are declared as a priority area of development as well as participate in the formulation of plans and programs and the implementation of sustainable forest development policy and its instruments.

Based on the Strategic Forestry Program for 2000-2025 (PEF 2025).

Then, with the above terms and with the purpose of strengthen community forest development and the National Forestry Commission and created in 2001, the operation of the Commission is based on two key elements:

1) Strategic Forestry Program 2025 (2001), and
2) General Law for Sustainable Forest Development (2003).

This vision of sectorial development among its priorities strengthen community forestry, encouraging the use of strategies and guidelines to consolidate communities and establish sustainable management practices that contribute to improving their quality of life based on the use of natural resources . The strategy considers the Community Forest Enterprise (EFC by its Spanish acronym), as an essential tool for community ownership of forest resource management and means to strengthen social capital, strengthening social organization for forest farming, and promote timber harvesting, non-timber and environmental services directly by local communities.

This policy includes as a key element of this development process fostering a permanent social participation to make more efficient and effective interventions.

In this way the National Forestry Commission implements specific actions to promote community forestry, through the Community Forestry Development Program, PROCYMAF, considering that the strategies included in this permit to the Commission:

1) Identify new approaches to health sector;
2) Support specific population groups, such as indigenous and
3) Being the spearhead for institutional synergies sectoral development.

The goal of the **Community Forestry Development Program** is to strengthen and consolidate local development processes ejidos and indigenous forest communities and preferably, promoting the organization and strengthening community institutions, inducing an improvement of traditional management of forest resources on forest development schemes Community.

Particularly encourages the strengthening of social capital, referring to the connections between individuals, social networks and norms of reciprocity and trustworthiness that arise from them, makes the common life, strengthens identity within a group, creating solidarity among its members and at the same time, builds bridges with groups and people outside our own circle, making it easier to deal with common problems, circulate information and promote understanding.

In addition to strengthening human capital, defined as the knowledge and the attitude that each individual possesses.

Particularly Program is characterized by implementing a "**Model of Attention**" to its target population, the model aims to build and integrate a regional forestry development to improve the quality and standard of living in the forest communities and ejidos so self-advocate, considering the characteristics of natural resources, forms of agrarian production, social organization, cultural values and beliefs.

This model, based on the fact that the conditions, characteristics and situation that keep the country's agrarian, remains the collective ownership of forests, based on high-priority social participation in planning and decision making regarding the use and management of forest resources.

To this end, it focuses on the identification and integration of spaces for social participation and consultation (regional forums or regional natural resource committees), which have allowed to spread, plan, evaluate and monitor the construction process and strengthening community development capital.

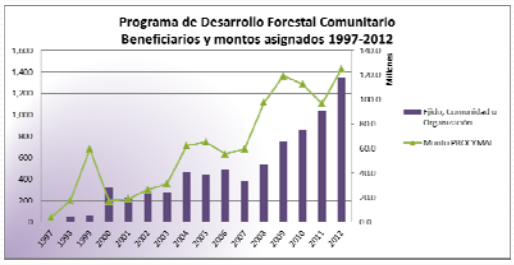
For the formulation of this strategy of care and strengthen community forestry in the country, is considered the implementation of three key components:

- **Establishment of regional spaces PERMANENT social consultation and participation.**
- **Permanent and personalized care in general assemblies**.
- **Presence CONAFOR staff (promoters).**

The Program with the purpose of promote self-advocate discipline in the ejidos and communities, in addition to the above, implemented in subsidy scheme, the implementation of a classification or typology is well known producer, who lives in, differentiate granting certain amount of subsidy depending on the degree of organization present, this classification has four levels:

- **Type I. Potential Producers** (Subsidizes 90% of its projects).
- **Type II. Producers who sell standing** (Subsidizes 85% of its projects).
- **Type III. Forest raw material producers** (Subsidizes 80% of its projects).
- **Type IV. Producers with a capacity of processing and marketing** (Subsidizes 75% of its projects).

Social Representative in the technical evaluation committee



Graphic 1. Beneficiaries vs economic resources allocated from Community Forestry Development Program 1997-2012.

From 2007-2013 the Community Forestry Development Program has allocated an amount almost of 47.7 million of dollars, benefiting 3,013 ejidos, communities or unions. The map shows in green all those ejidos and communities that have gained access to community forest development scheme.

On the map that appears, you can watch the ejidos and communities that have incorporated its surface the Territorial Community Managment, basic tool for planning and regulating the use of natural resources.

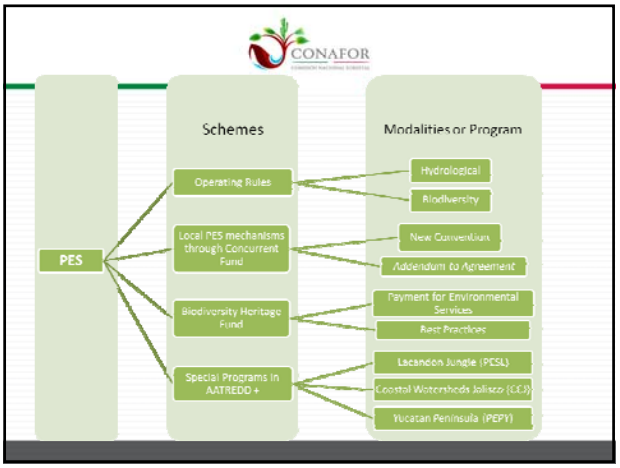
8.2 million hectares

Payment for Environmental Services (**PES**)

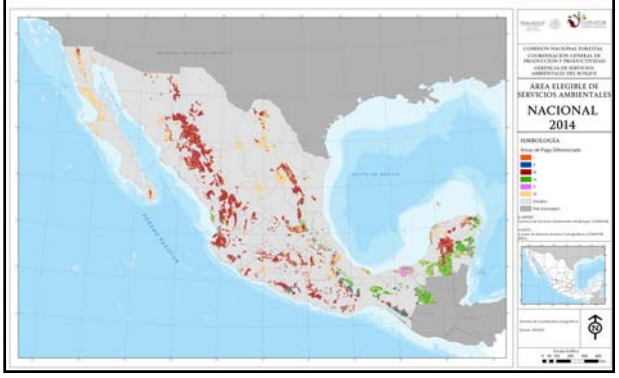
PSA

Objective

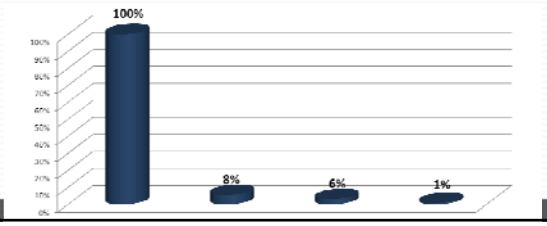
•Provide support to owners of forest land, in order to incorporate best management practices to promote conservation, sustainable management of ecosystems, and promote long-term provision of environmental services (water harvesting, biodiversity conservation the carbon capture and storage).



Eligible Areas
PES 2014



Category	Area (ha)	Percentage
Eligible area	33,916,341	100%
Area requested	2,890,514	8.2%
Feasible area	2,187,728	6.2%
Incorporated area	471,387.84	1.3%



Pay scheme

Annual payment
for 5 years

Signing of Contract

- Forest Management
- Protection
- reforestation
- Maintaining forest cover

Paid Distribution of Resources

50% Reforestation
Gaps against fire
Forest Management

20% Roads

Vehicles

30% Distribution in the community

Differentiated Payments dollars / hectare / year

Arid Zones
21 dollars

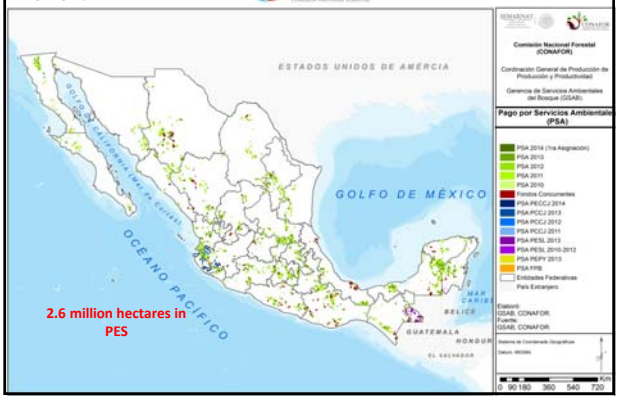
Coniferous forest
29 dollars

Differentiated Payments dollars / hectare / year

Evergreen Forest
42 dollars

Cloud Forest
84 dollars

Beneficiaries PES 2010 - 2014 (geographical distribution)



2.6 million hectares in PES

Current funding sources

CONAFOR COMISIÓN NACIONAL FORESTAL → **60%**

CONAGUA COMISIÓN NACIONAL DEL AGUA
Derechos por uso del agua → **30%**

FONDOS CONCURRENTES → **10%**

PES Through Concurrent Funds

248,000 hectares

Investment
67 million dollars

48%

52%
Local Governments, civil associations and private institutions

NATIONAL FORESTRY PROGRAM
GENERAL PURPOSE

To promote the sustainable use of forest resources in the country, revive the economy of the forest sector and improve the quality of life of the inhabitants of the forest areas, as well as, maintain and increase the provision of environmental goods and services to society and reduce carbon emissions from deforestation and forest degradation.

NATIONAL FORESTRY PROGRAM
EXPECTED RESULTS IN 2018

- Duplicate the area of **commercial forest plantations 242 thousand ha** in 2012 to 485,000 in 2018.
- Duplicate the **forest timber production** from 5.5 million m3 to 11 million in 2018.
- Tripling the forest area under sustainable management that has **sustainable management certification** from 826 thousand certified hectares in 2012 to 2.5 millions in 2018.
- Duplicate the **commercial forest plantations** area from 242 thousand hectares in 2012 to 485 thousand in 2018.

NATIONAL FORESTRY PROGRAM
EXPECTED RESULTS IN 2018

- Generate **25 thousand permanent jobs** in the forestry sector to 2018.
- Recovery of forest vocation surfaces through integrated **reforestation and restoration of micro-watersheds** of one million ha in 2018.
- Increase the **Payment for Environmental Services** from 2.8 million ha on 2012 to 3.1 millions in 2018.
- To have 32 State Inventories of Forest and Land.

FORESTS AND CLIMATE CHANGE

Objetive

To support rural communities in Mexico so they can manage their forests sustainably, develop social organization and generate additional revenue from forest products and services, including the reduction of emissions from deforestation and forest degradation (REDD +) .

Purposes

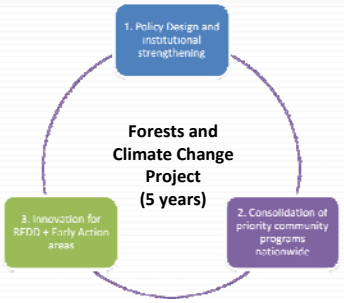
i) Contribute to modernize CONAFOR as a world-class institution that promotes the forestry sector;

ii) Strengthening the interagency collaboration at federal and local levels to serve the sector;

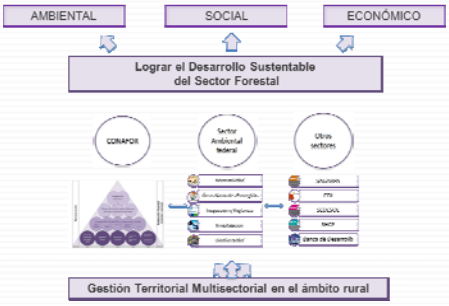
iii) Strengthen and improve CONAFOR´s incentives programs; and

iv) Promote the integration of public policies and innovative approaches to REDD + pilot projects in line with the national REDD + strategy.

Structure



Target Population: Ejidos and Communities

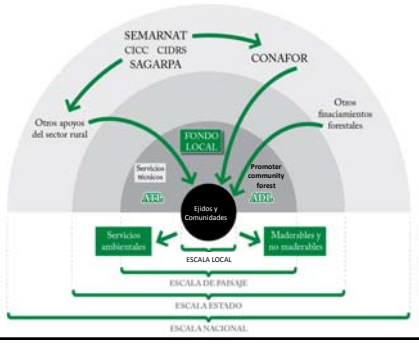


Territorial Management Multisectoral rural areas.

The basic design elements of the strategy, identifies variants in which some of them should be considered within the framework of restructuring and adjustments of CONAFOR and major adaptations to be made to the operational strategy.

Design elements of the strategy of forests and climate change.

ATTENTION MODEL



Case Study

The Lacandon Jungle

The Lacandon Jungle is located in the southeast of the Mexican Republic, on the eastern edge of the state of Chiapas. Ranked 0.16% of the country, covering approximately 1.8 million hectares.

It is one of the natural ecosystems of the country's most important humid tropics, due to its biodiversity and the ecosystem services it provides. On its surface, 20% of all species that live in the country is concentrated, including 31% of mammals, 48% of birds, 10% of higher plants, 44% of butterflies and 14% of freshwater fish.

Case Study

The Lacandon Jungle

The heart of this rainforest is located in the Montes Azules Biosphere Reserve in Chiapas near the border with Guatemala in the Montañas del Oriente region of the state.

Case Study

The Lacandon Jungle, people





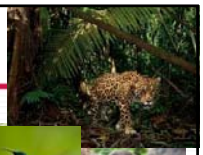

Case Study

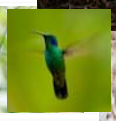
The Lacandon Jungle, Zapatista Army 1994



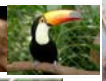

Case Study

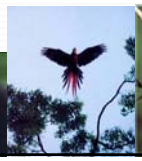
The Lacandon Jungle, biodiversity









Case Study

The Lacandon Jungle, natural resources



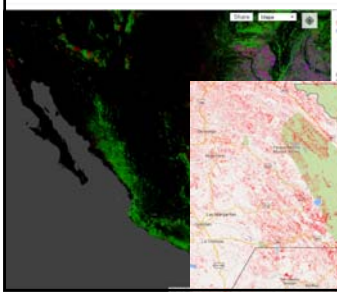


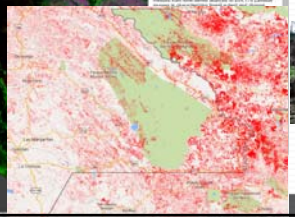




Case Study

The Lacandon Jungle, deforestation




Case Study

The Lacandon Jungle





Thank you

SEMARNAT

SECRETARÍA DE
MEDIO AMBIENTE
Y RECURSOS NATURALES

Status of Forest Biodiversity Conservation and its Role in Rural Livelihoods in Nepal

- Deepa Oli
Program Officer
Multi Stakeholder Forestry Programme
Ministry of Forests and Soil Conservation

Country Background

- Small and landlocked
- Altitudinal range: 70m to 8,848m
- Mountainous topography
- Diverse climatic condition
- Biodiversity of special significance

Introduction:
Habitat Diversity and Biodiversity Resources

- Nepal – small (147,141 sq.km. - 94th rank in the world) and landlocked country.
- 0.1% of global landmass, but has disproportionately high species diversity in wild habitat
  - Ranks 26th globally & 11th among countries of Asian continent
- Within short horizontal span of 193 km, has **five physiographic zones** and **six bioclimatic zones**
- 118 ecosystem types in total (Dobremez, 1970)
  - 112 forest ecosystems

Introduction:
Habitat Diversity and Biodiversity Resources

Physiographic and Bioclimatic Zones of Nepal

Physiographic zones	Coverage %	Elevation (m)	Bioclimatic regions
High Himal	23	Above 5,000	Nival
High Mountains	19	4,000 - 5,000 3,000 - 4,000	Alpine Sub Alpine
Middle Mountains	29	2,000 - 3,000 1,000 - 2,000	Montane Subtropical
Siwalik	15	500 - 1,000	Tropical
Terai	14	Below 500	Tropical

Source: Dobremez (1976)

Introduction:
Habitat Diversity and Biodiversity Resources

Ecosystems by Physiographic Regions

Physiographic region	Ecosystem		
	Total Number	Percentage	Number of Forest Ecosystems
High Himal and High Mountains	38	32.2	37
Middle Mountains	53	44.9	52
Siwalik	14	11.9	13
Tarai	12	10.2	10
Others	1	0.8	'Water bodies', found in all zones except the Siwalik
Total	118	100	

Source: Dobremez (1976), Biodiversity Profile Project (1995)

Introduction:
Habitat Diversity and Biodiversity Resources

Species Richness in Nepal

	Number of species found in Nepal	% of Global	Source
Mammals	208	5.2	Baral and Shah, 2008; Jnawali, *et al*., 2011
Birds	867	9.5	BCN and DNPWC, 2011
Reptiles	123	1.9	Schleich and Kastle, 2002
Amphibians	117	2.5	ICIMOD and MOEST, 2007
Angiosperms	6,973	3.2	UNEP-WCMC, 2004
Gymnosperms	26	5.1	Bista, 2006
Pteridophytes	534	5.1	DPR, 2006

Introduction:
Habitat Diversity and Biodiversity Resources

Endemic Species Richness in Nepal

Faunal Species	Number of endemic species	Floral Species	Number of endemic species
Mammals	1	Angiosperms	246
Birds	2	Pteridophytes	8
Amphibians and Reptiles	11	Bryophytes	30
Fishes	8	Algae	3
Butterflies and Moths	30	Fungi	16
Spiders	108	Lichens	39
Total	**160**	**Total**	**342**

Source: Compiled from various sources in Nepal Biodiversity Strategy, 2002

Introduction:
Habitat Diversity and Biodiversity Resources

- Mountain areas – high biodiversity
  - 34% of plant and animal diversity found in high mountains (above 3,000 m.) & 63% in middle mountains (1000-3000 m.)
  - Highest number of plants occurs from 1500-2500 m.
- Vascular plants even recorded above 6,000 m. in Nepal, e.g. *Christolae himalayayensis*
- Mosses and lichens –recorded upto 6,300 m.
- Mammals and birds even seen above 5,000 m.
- About 63% of endemic flowering plants – from high mountains and 38% from middle mountains
- Of 41 key NTFP species, 14 occur in alpine rangelands.

Introduction:
Role of Forest Biodiversity

- Nepal – still a least developed country
  - 31% of population lives below the poverty line
- Forest biodiversity resources – closely linked to livelihood
- Agrarian society – 66% of population depends on agriculture based employment
- Forest is an integral part of agriculture and livelihood –
  - Agricultural productivity and sustainability, health and nutrition, water resources
- Well being of Nepal – closely linked to its natural resources – forest biodiversity is one of it

Introduction:
Role of Forest Biodiversity

- NTFPs (Non-Timber Forest Products) – 800 species of NTFPs used locally as food, medicine and other purposes (Subedi, 2000).
- Approx. 470,000 households are involved in commercial NTFPs collection and poor peoples involvement is even higher (Olsen 1998).
- Tourism – 45% of tourists visit Protected Areas
  - 30-50% of tourism revenue plough back to local community

Introduction:
Role of Forest Biodiversity

- Community forestry – focused on livelihood enhancement also
  - 35% of total income of community forests – expended for poor, women and disadvantaged groups
- Various projects and NGOs are promoting forest based micro-enterprises in Nepal
  - UNDP supported MEDEP (Micro-enterprise Development Program) – an increase in family per capita income by 56%

Introduction: *Challenges*

- Major factors posing threat to biodiversity, as identified by NBS (2014), are:
  - Loss of habitat (accelerated by encroachment, expansion of cultivation, development of infrastructure, planned conversion of forest land),
  - Degradation of habitat (accelerated by unsustainable overharvesting, uncontrolled forest fire, overgrazing in forests,)
  - Poaching and illegal wildlife trade,
  - Human-wildlife conflict,
  - Invasion by alien plant species, and
  - Stone, gravel and sand mining.
- Status of Encroachment in 2012– 82,934 hectares (66% higher as compared to 1994).
- World Bank (2008) estimated – 25% of Nepal's forest is heavily degraded
  - Loss of biodiversity, increased landslides and soil erosion

Conservation Efforts: *Institutional Arrangements*

- Various institutions at various levels

Parliament	Committee on Environment Protection
Ministry	Ministry of Forests and Soil Conservation (MoFSC) Ministry of Environment, Science and Technology
Departments & District Offices	Departments under MoFSC: • Depart of Forest • Department of National parks and Wildlife Conservation • Department of Soil Conservation and Watershed Management • Department of Plant Resources • Department of Forest Research and Survey District Offices for Field implementation

Conservation Efforts: *Institutional Arrangements*

State Planning	National Planning Commission
Sectoral Committees	High Level Sectoral Committees: • National Biodiversity Co-ordination Committee • National Tiger Conservation Committee • National Wildlife Crime Control Committee • Wildlife Crime Control Bureau • National Wetland Committee • Climate Change Council • REDD Forestry and Climate Change Cell
Elected Local Bodies	• District Development Committee (DDC) • Village Development Committees (VDCs) – grass root level institution
Autonomous Institution	National Trust for Nature Conservation: •Autonomous conservation institution founded by the Parliament – to complement government efforts

Conservation Efforts: *Community Institutions, Private Sector, INGOs, Donors*

- Government of Nepal recognizes the need of involvement of a wide range of sectors
  - Community institutions: Community Forest Users Groups – has become role model for rest of the developing world
  - Private sector: not significant involvement as yet. But new government policies/strategies give high emphasis to private sector involvement
  - NGOs: Federation of Community Forest Users Nepal (FECOFUN), Association of Collaborative Forest Users Nepal (ACOFUN) – key NGOs playing pivotal role in forestry sector
  - INGOs: IUCN, WWF – involved in forest biodiversity conservation and rural livelihood enhancement.

Conservation Efforts: *Bilateral donor agency funded projects*

Projects	Donor	Working policy
1. Forest Resource Assessment	Finland	Direct Funding
2. Participatory Watershed Management and Local Governance Project	Japan	Direct Funding
3. Improving Research Capacity of Forest Resource Information Technology	Finland	Direct Funding
4. Forest Preservation Program Nepal	Japan	Direct Funding
5. Multi Stakeholder Forestry Program	SDC, DFID and FINNISH	Indirect and Direct Funding

Source: MOFSC

Conservation Efforts: *Multilateral donor agency funded projects*

Projects	Donor	Working Policy
Technical Assistance for Leasehold Forest and Livestock Program in Nepal	Finland through FAO	Direct
Strengthening Regional Cooperation for Wildlife Conservation Project (IDA)	World Bank	Direct
Strengthening Institutional Capacity of DNPWC for the Effective Management of Mountain Pas	World Bank	Indirect
REDD Forestry and Climate Change	World Bank	Indirect
PPCR Component 1: Under negotiation	ADB	TBD
PPCR Component 5: Under negotiation	WB	TBD
Kailash Sacred Landscape	ICIMOD	Direct

Source: MOFSC

Conservation Efforts:
List of Development Partners

S.N.	Name
1	World Conservation Union (IUCN)
2	World Wildlife Fund (WWF) Kathmandu, Nepal
3	International Centre for Integrated Mountain Development (ICIMOD)
4	United Nation's Development Programme (UNDP)
5	Food and Agriculture Organizations (FAO)
6	CARE-Nepal
7	Asian Network for Small-scale Agriculture and Bioresources (ANSAB)
8	Action-Aid Nepal
9	Asia Pacific Forestry Commission
10	Convention on Biological Diversity (CBD)
11	International Network for Bamboo and Rattan (INBAR)

Source: MOFSC

Conservation Efforts:
Private Sector and User Groups

S.N.	Name
1	Dabur Nepal
2	Forest Product Development Board
3	The Timber Cooperation of Nepal(TCN)
4	Herbs Production and Processing company limited (HPPCL)
5	Federation of community Forest User's Group Nepal (FECOFUN)
6	Nepalese Federation of Forest Resources Users Group (NEFUG)
7	Nepal Forest products Entrepreneur's Association (NFPEA)

Source: MOFSC

Conservation Efforts:
Policy and Legislative Measures

- Around 4 dozens and legal and policy documents related to forest biodiversity conservation
- Key Legal/Strategy Documents:
  - Forest Act, 1993: provides legal foundation to involve local community in forest management
  - National Parks and Wildlife Conservation Act, 1973: has legal provisions to declared high biodiversity areas and Protected Area (national park and others). Legal provision to involve local community in buffer zone management.
  - Master Plan for Forestry Sector, 1989: Guided Nepalese forestry sector for past 25 years.
    - Expansion of community forests and network of protected areas.

Conservation Efforts:
Policy and Legislative Measures

- Other key policy and legislative measures include:
  - Leasehold Forest Policy – leasing forest to family living below poverty line
  - Forest Fire Management Strategy, 2010
  - Forest Encroachment Control Strategy, 2011
  - National Biodiversity Strategy, 2002/ 2014
  - Herbs and NTFP Development Policy, 2004
  - Rangeland Policy, 2012
  - National Wetlands Policy, 2012
  - Presidential Chure Conservation Program Implementation Directive, 2011
  - National Land Use Policy, 2012

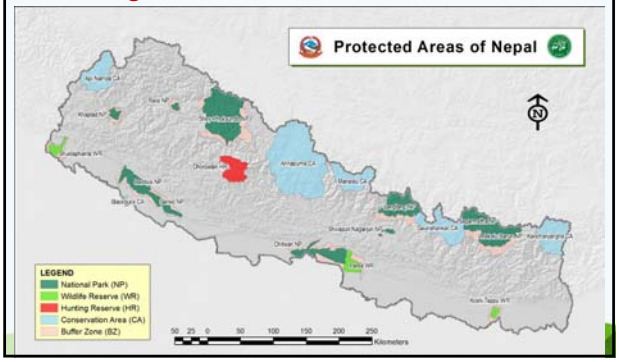
Conservation Efforts:
Management Practices and Initiatives

- Management of Forests of Nepal
  - Forest Act
  - National Parks and Wildlife Conservation Act
- Forest Act 1993 classifies forests as:
  - National Forest
  - Private Forest
- National Forests – Management Category
  - Government Managed Forest
  - Protected Forest
  - Community Forest
  - Leasehold Forest
  - Religious Forest

Conservation Efforts:
Management Practices and Initiatives

- Biodiversity Conservation – paradigm shifts
  - Informal protection based on traditional values and practices
  - Protective model
  - Participatory approach
  - Landscape level conservation approach
- Protected Area Network in Nepal – Cover 23.23% total area of the country
  - National Parks – 10
  - Wildlife Reserves – 3
  - Hunting Reserve – 1
  - Conservation Areas – 6
  - Buffer Zone - 12

Conservation Efforts: *Management Practices and Initiatives*



Conservation Efforts: *Management Practices and Initiatives*

- Protected Forests – Wildlife Corridors
  - Number – 8; Area – 133,754.8 hectare
- Chure Conservation Program
  - 26 *Siwalik* (highly fragile mountainous area) and *Terai* districts
- Afforestation, Reforestation, Reclamation of Encroached Forest Areas
- Medicinal & Aromatic Plants Development Program - 42 districts
- Public land agro-forestry, private forests and trees outside forests
- Initiatives to implement REDD+
- Central Zoo, Botanical gardens, elephant breeding center, vulture breeding center

Major Outputs in terms of Livelihood

- Recent review (2014) of Master Plan for the Forestry Sector concluded -
  - Community and private forestry program had significant impact – halting forest loss/degradation and livelihood enhancement of large number of rural people
- Significant change in coverage of community forestry and leasehold forestry has assured livelihood improvement of a large number of people (42.6% of total households of Nepal).

Categories	Community Forestry - 2013	Leasehold Forestry - 2013	Total
User Groups	18,133	7,413	25,546
Households	2,237,195	74,950	2,312,145
Forest Area (hectare)	1,700,048	42,773	1,742,821

Source: DoF, 2013

Major Outputs in terms of Livelihood

- Collaborative forest – 54,000 hectares
- Buffer zone (community management) – 560,270 hectares
- Income from protected area revenue in 2012/2013 – Approx. US$ 4,706,500
  - 30-50% plough back to local community for biodiversity conservation, livelihood enhancement and local development
- National Labor Force Survey showed 8.25% of HHs to be directly related with forestry sector (NLFS, 2008).
- Forestry sector contributes 9.23% of total national employment (91.30% in informal and 8.7% in formal sector) (LFP, 2011).




Lessons Learnt

- Biodiversity – can play tremendous role in livelihood enhancement and economic development of Nepal.
- Involvement of multiple stakeholders in conservation is needed to assure sustainability.
- Participatory approaches – highly effective for biodiversity conservation ensuring local commitment and sharing of benefits.
- Human interferences are the major challenges to the task to biodiversity conservation in developing countries like Nepal.

Way Forward

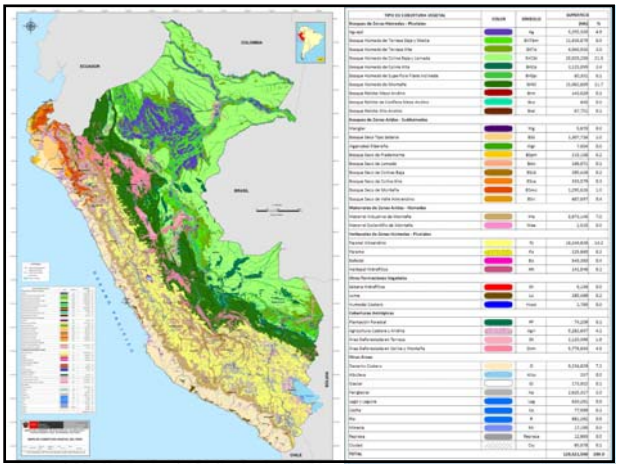
- Forest expansion – “Forest decade program”
  - Concept of “one house – one tree”, “one village – one forest”, “one town – many gardens”.
- Promote public land plantation and urban forestry
- Awareness campaigns
- Plantation in private land
- From subsistence to commercialization
  - Encourage private sector involvement in forestry sector – green enterprises
- Encourage co-operative based NTFPs farming and commercialization.

Improving livelihoods of local communities through sustainable forest management in the Peruvian Amazon: lessons learned and advances in Peruvian forestry legislation

Eng. Victor Raygada.

About Peru and its forests

- **Peru:** 1,285,220 sq km
- **Climate:** from tropical in the East to dry desert in the West; temperate to frigid in the Andes
- **Population:** 28,674,000
- About **170.5 million acres (69 million hectares)** of forested land, about 50 percent of its territory, and more than 80 percent of this land is classified as primary forest. Ninth in the world in forest cover.
- **Peru is the third largest country in South America and boasts the second largest area of tropical rainforest** in Latin America Second in South America. Most of them in the Amazon.
- The Peruvian Amazon forest **is one of the most biologically diverse areas on Earth**. As a nation, Peru has the largest number of bird species in the world and the third largest number of mammals; 44% of bird species and 63% of mammal species inhabit the Peruvian Amazon.



Low land forests > 45 millions of hectares

Rain forests > 15 millions of hectares

Mountain forests < 900,00 hectares

Dry forests < 3.5 hectares. Mangroves <5,800 hectares

Local communities and forest/land tenure (1)

- In Peru there are different groups of local communities: indigenous communities, peasant communities and settlers. Also different land propriety rights
- In Peru you can have the propriety over agricultural land (one that is suitable for agriculture use) but forest, wildlife and forestry / protection lands are national heritage.
- Indigenous communities: have propriety over agricultural land. Forestry lands are given using a contract of access with conservation responsibilities. This “assignment” is permanent and can not be mortgaged
- Peasant communities have full propriety of agricultural and forestry lands.
- Settlers and other local people can have individual l property rights over agricultural land

Local communities and forest/land tenure (2)

The Peruvian Amazon is one of the least populated regions of the country.
The population is very sparse and has few basic services such as water , electricity , drainage , health, education , among others.
The highest poverty rates also occur in this region, especially in rural areas
Amazon forest provide food, clothing, building materials and medicines for local communities.
Subsistence use of timber, no timber products and wildlife do not requires any permission of national or regional (like a state) authorities.
Local communities cannot sell any products used for subsistence.

- Trade of forest products and wildlife needs a permit given by national or regional autorithy. This permit requires a management plan and the payment of a fee for the use

Tamshiyacu Tahuayo experience (1)

- Lowland forests in Amazon located in Loreto region in northwest.
- Region of Loreto has enormous biological wealth, and its 36.8 million hectares (an area larger than Ecuador) are largely covered with Amazonian forests. However, there is rapidly mounting pressure on these natural resources, fueled by the region's growing population and economic activity that is based on the over-exploiting of natural resources for short-term revenues
- Forests in Tamshiyacu Tahuayo River have a high concentration of biodiversity and endemic species.
- We were interested in conserve more than two thousand five hundred square meters in an area of Regional Communal Conservation

Tamshiyacu Tahuayo experience (2)

- Project co-chaired by Regional Government of Loreto (regional forest and wildlife authority), Research Institute of the Peruvian Amazon (IIAP) and Nature and Cultute International (NCI).
- Resources: public and private (Moore Foundation)
- Presence of other institutions on the field: Wildlife Conservation Society-WCS/Peru, Durrell Institute of Conservation and Ecology - DICE - of Kent's University,, National University of the Amazonia Peruana-UNAP, National Agrarian University The Molina-UNALM, the Center Primatologist Aleman-DPZ, between others.
- Past projects on the area had some results on improving the management of lakes and fisheries. Also WCS worked in wildlife management.

Tamshiyacu Tahuayo experience (3)

- Local communities in Tamshiyacu Tahuayo don´t like protected areas due to past experiences in Loreto. They have fear and thought that we would take away the areas they occupied.
- Local communities had no formal access to ownership of their land. They were located in the buffer zone of the protected area we wanted to establish.
- Their main economic activities depends on forest management like small scale timber extraction, fishing (with baits or "ties": "pijuayo" y "huaca", fishhook and nets), subsistence agriculture, hunt (for subsistence and sale of meat and skins)

Forest and Wildlife Conservation Issues

- Since from 1970 the area was exploited extensively by local residents and foreign extractors that realized fishing with refrigerating boats, hunt for wild fauna with commercial ends, illegal extraction of wood
- During the decade of 1980, local communities of Tahuayo started to taking communal initiatives to protect the natural resources. This work reduce the illegal logging rates until government officials told the communities that did not have any authority to restrict access by outsiders. On that moment, communities left their conservation efforts
- Such exploitation caused that the natural resources in the zone were diminishing rapidly becoming scanty.

Intervention Strategy

- As regional authorities we had to gain the lost confidence
- We proposed them to work under a model of productive conservation , in which forest management and wildlife was used wisely to generate benefits for them
- Furthermore, although they had no ownership of the land , we proposed a system of co-management ; in which they were the protagonists of the management decisions
- To combat illegal logging activities we proposed them an alliance. They were organized into committees to control logging and we give them the equipment and the necessary legal support. When they stop someone we always arrive with the national police and they stand their actions

Legal challenges

- Forest law (until 2010) do not recognize community control, except if there are voluntary rangers so there was not legal mechanism to empower them.
- This system need a strong communal organization: not they all were devoting themselves to take advantage of the forest.
- Also there were illegal rafters that tried to corrupt authorities in the communities
- Communities were not informed about permissions and requirements for the managing their own forests
- The persons of the communities, did not know the value of the timber. Illegal loggers were taken advantage paying them a few percentage of the real value.

Improving livehoods: sustainable use of the forest

- At the same time we strengthened the control of illegal activities we develop productive activities to use forest
- We had chambira management programs , which is a palm tree that grows in the Amazonian forests
- I worked with women to generate additional revenue without need to go out of house. We held them to organize an artisans. The community was assigning plots to them for reforestation and managing of chambira.
- It was not necessary neither infrastructure nor equipments. We only develop skills and the knowledge for the production of crafts. If some woman wants left there group there were no problems, the knowledge always was staying there.

Improving livehoods: sustainable use of the forest

- We give assistance for capacities building in trade and sale.
- Regional government was using their products to position its institutional with renowned guest (Princess Ann, President of the Republic).
- In some communities were this women who achieve agreements to avoid illegal logging
- They can produce this handicraft without going out of their home on their free time.
- Up to today they export
- They have all de production chain form reforestation and managing up to commercialization
- Familiar Income> 300 % superior to the previous year, 500 - 1500 S/. Month. Women were more responsible with money: reinvestment of benefits> 70 %
- Products with market in USA (San Diego Zoo)
- Develop of brand, labels, web, facebook.

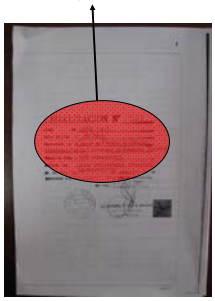
Comunal management agreements for natural resources

- Are formal agreements that regulates the use of the forest, wildlife and fisheries. They details quotas, sanctions, etc.

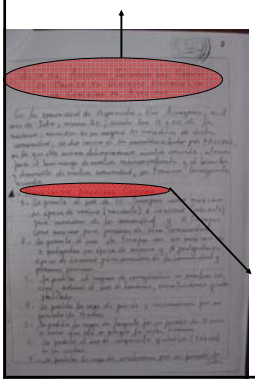
i.example:

Fisheries: it is allowed to use 10 traps in summer and summer. People from other communities can fish, but using only 5 tramps

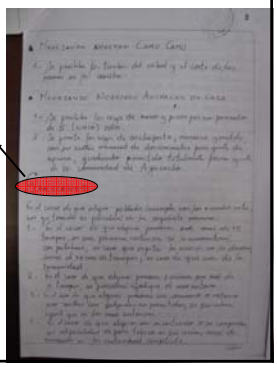
Acts book legalized for the communal agreements



Act of Internal Agreements of the committee of Ayacucho community



Sanctions



About managing our lake: zoning, how much we can fish, etc

If some one breaks this agreements, he/she will receive a sanction . The first time will be a warning . The second time the number of networks that he/she can place in the lake will be reduced seized.

What we learned

- Local communities can realize an effective control of illegal activities when the forest benefits them, they have training and forest authorities accompaniment them nearby.
- The approach of “productive conservation” is strategic to preserve the forest and natural resources. People take care of the forest only if they receive a benefit from it
- The internal regulations can be management plan plans for low scale use and self-consumption

How this experience became part of our national forestry legislation (1)

- In 2009 we had a great national conflict by the adoption of a new forestry law. People in the Amazon felt that this law limited their access to the forest
- We started a negotiation with indigenous organizations to build a new forestry law. It was the first case of Free, Prior and Informed Consent (FPIC) process in Peru. Started in 2009 finished in 2011 with Congress approval of the final proposal.
- Complex process because it was needing to construct confidence

How this experience became part of our national forestry legislation (2)

Improvements of new forestry law

•It recognizes that communal forest management is an important tool for forest conservation and their right to control illegal logging on their lands.

•Respects that communities as the right to decide management objectives and have an exclusive right to use forest.

•Government role is to give technical and legal support

•Recognize pre existing rights of local communities (we can not give new forestry concessions until we finish to give them their land´s rights.

•We have to do previous consultation of any forestry project or law that concerns PPII

•It recognizes internal regulations as a management plan (wildlife) and productive conservation as strategy for the managing of the forest

•It defines that the classification of the forest in the lands of communities will be defined by the community, with assistance.

•We have to develop a capacity-bulding plan for communities and give assistance in negotiations with rafters for the purchase and sale of products of the forest. Also we have to propose a format of contract.

•Creates the national forest and wildlife service (SERFOR)

Regulation of Forestry Law

- Led by the National Forest Service and of Wildlife
- Approximately six regulations: one of them for local communities
- A wide participative process was had and its initiating previous consultation process. We hope that can be approved in January, 2015.
- To assure the sustainability in the management of the resources of the forest and in the search of improvements, SERFOR wants that the regulation of the Forest Law and of Wildlife N° 29763 can be done in partnership with stakeholders.
- First draft was published 30 of September of 2013 in order to receive the contributions of the civil society, the regional governments and all the citizens interested in taking part.
- The conduction of the process is a responsibility of the intergovernmental group, led by the SERFOR and integrated by the Department of the Environment - MINAM, Organism of Supervision of the Forest Resources and of Wild Fauna - OSINFOR, Department of Exterior Trade and Tourism - Mincetur, Department of Culture - MINCULTURA, Department of the Production and the Regional Governments to slant of the Interregional Amazonian Council - CIAM, besides the Defense of the People who takes part as observator .

Biodiversity Conservation and Rural Livelihood in Forest Management

Luz Maria S. Lansigan

Department of Environment and Natural Resources (DENR)
Forest Management Bureau

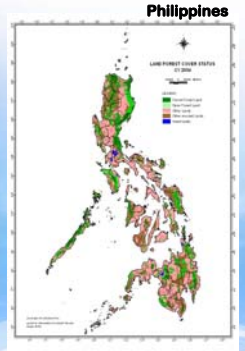
A paper presented during the Workshop on Forest Biodiversity Conservation and Improvement of Rural Livelihoods
November 1-14, 2014, Kunming, China

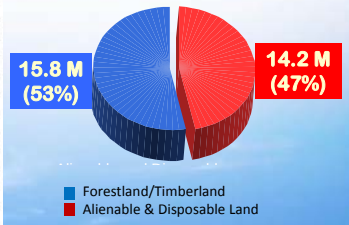
Biodiversity Profile of the Country: An Overview

- Considered as a mega-diversity country
- The forest cover can be related to the current biological diversity
- Also listed as one of the major biodiversity hot spots in the world
- Philippines is number four (4) among the World's 10 Most Threatened Forest Hotspots

LAND CLASSIFICATION

Philippines

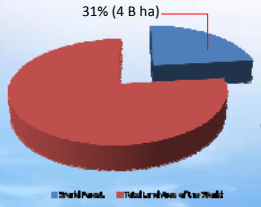




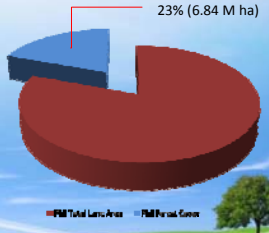
Total Land Area - 30 M ha

FOREST COVER

World's Forest Cover (FRA 2010)

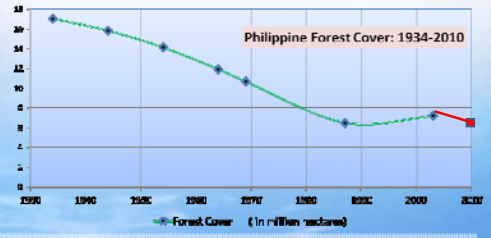


Philippines' Forest Cover (2010)



CURRENT STATE OF THE FOREST

Forest Cover change of the Philippines



- Forest cover decreased by 328,682 ha i.e. from 7,168,400 ha in 2003 to 6,839,718 ha in 2010 or an ANNUAL FOREST COVER LOSS of 46,954 ha.

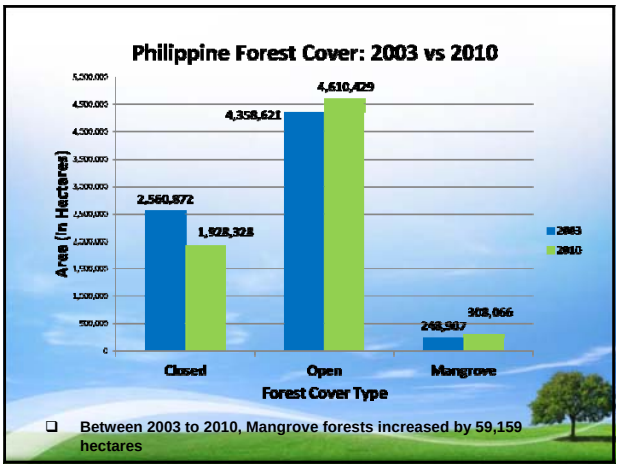
Philippine Forest Cover 2010

Forest Cover	Area (in ha)	%
Total Forest	**6,839,718**	**100.00%**
Closed forest	1,934,032	28.28%
Open forest	4,595,154	67.18%
Mangrove forest	310,531	4.54%

- 2010 Forest Cover of the Philippines was reduced to 23% of the total area of the Philippines from 24% in 2003 i.e. from 7,168,400 ha in 2003 to 6,839,718 ha in 2010

ANNUAL FOREST COVER LOSS (DEFORESTATION)
- 46,954 Hectares

ANNUAL FOREST DEGRADATION
- 142,347 hectares



- Between 2003 to 2010, Mangrove forests increased by 59,159 hectares

Towards achieving Biodiversity Conservation and Rural Development

- Issuance of tenurial instrument to communities to give access and control over forest resource
- Implementation of the National Greening Program

Tenure instruments

- Through the Community-Based Forest Management, communities and beneficiaries are allowed to utilize natural resources for a period of 25 years and renewable for another 25 years
- CBFMA holders are required to plant 60% of Indigenous Species and 40% of Exotic Species
- As of December 2012, a total of 4, 307 tenure instruments exist with an aggregate area of 2.9 M hectares

Tenure instruments

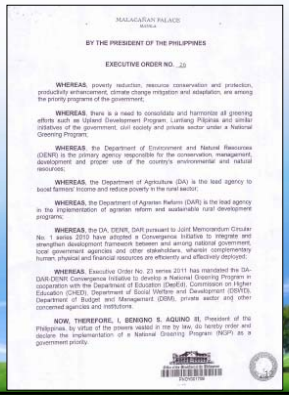
- Communities, organizations or individuals are required to establish plantations, 90% indigenous Philippine forest tree species, 10% exotic species
- This is mandated by the government to ensure quality of biodiversity in the given area.

THE NATIONAL GREENING PROGRAM

NATIONAL GREENING PROGRAM

Background

- Executive Order No. 26 signed on February 24, 2011
- Guidelines issued on March 8, 2011
- Launched on May 13, 2011


MALACAÑAN PALACE
MANILA

BY THE PRESIDENT OF THE PHILIPPINES

EXECUTIVE ORDER NO. 26

WHEREAS, poverty reduction, resource conservation and protection, productivity enhancement, climate change mitigation and adaptation, are among the priority programs of the government;

WHEREAS, there is a need to consolidate and harmonize all greening efforts such as Upland Development Program, Lumlang Pilipinas and similar initiatives of the government, civil society and private sector under a National Greening Program;

WHEREAS, the Department of Environment and Natural Resources (DENR) is the primary agency responsible for the conservation, management, development and proper use of the country's environmental and natural resources;

WHEREAS, the Department of Agriculture (DA) is the lead agency to boost farmers' income and reduce poverty in the rural sector;

WHEREAS, the Department of Agrarian Reform (DAR) is the lead agency in the implementation of agrarian reform and sustainable rural development programs;

WHEREAS, the DA, DENR, DAR pursuant to Joint Memorandum Circular No. 1 series 2010 have adopted a Convergence Initiative to integrate and strengthen development framework between and among national government, local government agencies and other stakeholders, wherein complementary human, physical and financial resources are efficiently and effectively deployed;

WHEREAS, Executive Order No. 23 series 2011 has mandated the DA-DAR-DENR Convergence Initiative to develop a National Greening Program in cooperation with the Department of Education (DepEd), Commission on Higher Education (CHED), Department of Social Welfare and Development (DSWD), Department of Budget and Management (DBM), private sector and other concerned agencies and institutions;

NOW, THEREFORE, I, BENIGNO S. AQUINO III, President of the Philippines, by virtue of the powers vested in me by law, do hereby order and declare the implementation of a National Greening Program (NGP) as a government priority.

NATIONAL GREENING PROGRAM

Coverage

The National Greening Program shall plant some 1.5 Billion trees covering about 1.5 Million hectares for a period of six (6) years from 2011 to 2016.

NATIONAL GREENING PROGRAM

NGP: BEYOND REFORESTATION

OUR MISSION

- Food Security
- Poverty Reduction
- Environmental Stability
- Biodiversity Conservation
- Climate Change Mitigation & Adaptation

Bringing together agencies, efforts, people:

Convergence Works.

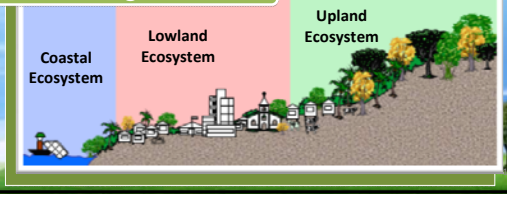
NATIONAL GREENING PROGRAM

NGP FRAMEWORK

Species

Species selection depends on objectives;
preferably indigenous/native/endemic species;
for the production zone: ***Species- Site- Market Matching***
for the protection zone: ***Indigenous/native/endemic species***

Planting Sites



NATIONAL GREENING PROGRAM

NGP Commodity Roadmap CY 2013 - 2016

Region	Timber	Fuelwood	Coffee	Cacao	Rubber	Bamboo	Rattan	Other Fruit Trees	Indigenous Species		Mangrove		Urban	Mixed Commodities*	Total
									Protection Forest	Protected Area	within PA	outside PA			
NCR												8			8
CAR	44,000	20,000	9,000	5,000	800	2,600	1,000	14,000	1,300	1,435					99,135
Region 2	8,000	20,000	1,000	2,000		5,000		4,000		850	510				41,360
Region 3	10,000	10,000	12,000	12,000	4,000	500	400	12,000		3,414	40	100			66,454
Region 4	10,000	15,000	5,000	5,000	4,000	10,000	5,000	10,000	10,000	18,004	75				92,079
Region 5	20,000	10,000	5,000	5,000	5,000	10,000	10,000	10,000		23,794	266	3,500			102,560
Region 6	20,000	15,000	5,000	5,000	5,000	1,000	1,000	20,000	13,000	1,399	14,119	5,000			107,518
Region 7	20,000	10,000	4,000	4,000		6,000	500	20,000	1,500	2,490	500	5,000			71,990
Region 8	20,000	5,000	1,000	1,000	800	1,000	2,000	8,000		6,000	600				45,400
Region 9	30,000	14,000	4,000	3,000	2,000	2,000	1,000	8,000	6,000	1,100	700	1,200			73,000
Region 10	15,000	15,000	5,000	5,000		4,000	5,000	15,000	4,000	30,400	500	4,000			122,900
Region 11	25,000	10,000	5,000	1,000	30,000	1,000	1,000	5,000	1,500	1,265	240	500			81,505
Region 12	20,000	5,087	2,000	2,000	8,200	2,000	1,000	5,000		5,844	31	300			51,462
Region 13	50,000	10,000	5,000	5,000	10,000			15,000		2,300	140				97,440
Region 14	25,000	20,000	10,000	2,000	25,000	10,000		15,000		3,735	189	300			111,224
Region 15	29,314	1,489	14,903	3,725	16,394	745		7,786	4,205			593			79,154
Subtotal	346,314	180,576	87,903	60,725	111,194	53,845	27,900	168,786	41,505	126,030	17,810	20,501			1,243,189
2013	47,711	1,542	2,554	1,477	5,675	571	78	9,741	7,867	2,535		1,315	1,250	46,342	128,558
2012	33,887	2,875	2,100	768	3,930	1,401	902	3,367	5,100	8,300	144	711	2,009	156,209	221,703
Total	774,216	365,569	180,460	123,695	231,993	109,722	56,780	350,680	85,977	262,895	35,964	41,028	3,259	202,451	2,834,699

Recommended by:

RICARDO C. CALDERON
Director, Forest Management Bureau
National Coordinator, NGP

ERNESTO D. ADOBO, JR.
Undersecretary
Staff Bureaus

DEMETRIO L. IGNACIO
Undersecretary
Field Operations

MANUEL D. GEROCHI
Undersecretary
Policy and Planning

Approved by:

RAMON J.P. PAJE
Secretary

POLICIES and PROGRAMS

- May 30, 2013, issuance of DENR-DILG JMC No. 2013-03 - Guidelines on the establishment and implementation of Barangay Forest Program and establishment of nurseries and production of planting materials in support to NGP, including development of communal tree farms for fuelwood and other domestic uses.

- May 22, 2012 – issuance of DMC 2012-01 addressed to all Regional Directors enjoining them to shift from the use of exotic species to indigenous species

- April 16, 2013 -DMC No. 2013-06 guidelines and procedure for plantation development for NGP with area coverage of 100 ha -1,000 ha within public forestlands through the engagement of services of private sectors, civil society organizations, NGOs, POs, LGUs and other government entities

- DMC No. 2013-06
  For Peoples Organization, contracting shall be made through a Memorandum of Agreement with DENR

  The Circular also outlines the responsibilities of the DENR and the PO

CONVERGENCE WORKS

- NGP works under the National Convergence Initiatives through the Joint Memorandum Circular No. 1 Series of 1999 (DENR-DA-DAR) in collaboration with all government agencies, LGUs, People's Organizations NGOs, and in partnership with the private sector and civil society

NGP MILESTONES

IMPROVED CONSERVATION, PROTECTION AND REHABILITATION OF NATURAL RESOURCES

NATIONAL GREENING PROGRAM

Accomplishments CY 2011-2013

Major Program/ Project	Performance Indicator	2011		2012		2013		Total	
		Target	Accom	Target	Accom	Target	Accom	Target	Accom
NGP	area planted (ha)	100,000	**128,558**	200,000	**221,763**	300,000	**333,161**	600,000	**683,482**

Brgy. Baluno, Naga, Zamboanga Sibugay
(Mangrove Plantation)

Brgy. Banban, Ayungon, Negros Oriental
(Mangium Plantation)

IMPROVED CONSERVATION, PROTECTION AND REHABILITATION OF NATURAL RESOURCES

NATIONAL GREENING PROGRAM

Accomplishments CY 2011-1st Quarter of 2014

Major Program/ Project	Performance Indicator	2011	2012	2013	1st Quarter 2014	Total
National Greening Program	**Jobs generated (no.)**	335,078	380,696	466,990	10,018	**1,192,782**
	Persons employed	47,868	55,146	65,198	3,887	**172,099**

Bagging of soil in Mt. Malindang, Misamis Occidental

Nursery operations in Mt. Malindang, Misamis Occidental

NGP ACCOMPLISHMENT

Jobs Generations

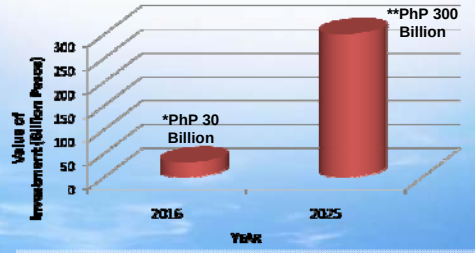
YEAR	Target (ha)	Total Area Planted (ha)	% Accom	*No. of Job Generated	*Persons Employed
2011	100,000	128,558	129%	**335,078**	**47,868**
2012	200,000	221,763	111%	**380,696**	**55.146**
2013	300,000	332,748	111%	**456,389**	**65,198**
Total	**600,000**	**683,069**	**114%**	**1,172,163**	**168,212**

*Source: Office of the Undersecretary for Policy & Planning

Paluan, Occ. Mindoro

EXPECTED PROGRAM OUTCOME

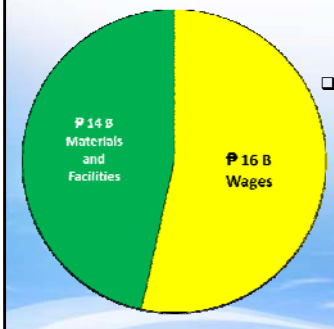
10-year Financial Return of Investment



* 1.5 Billion seedlings in 1.5 Million ha.
** 150 million seedlings (assuming 10% harvestable at year 10)
1 Tree = 1 cubic meter
1 cubic meter = Php 2,000 per cubic of Fuelwood
❑equal to ☐300 Billion in 10 years vs. ☐30 Billion investment

NGP as a Vehicle for Inclusive Growth

(Based on the engagement of the Program)



- More than half of the 2011-2016 National Greening Program budget of 30 Billion directly benefits the upland communities/Peoples Organizations

P30 Billion Investment

LESSONS LEARNED

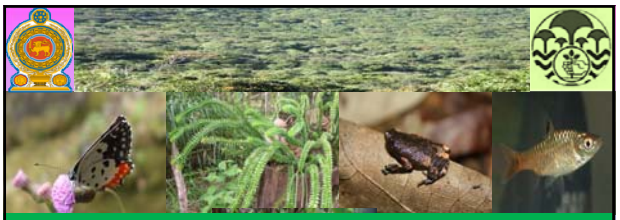
- Success of the programs can easily be achieved thru the high support from the government
- Attainable objectives with logistics and technical know-how support

Ways Forward

- Continuous information and education campaign
- Development of appropriate capacity building development program

Thank You!

Department of Environment and Natural Resources
FOREST MANAGEMENT BUREAU
Visayas Avenue, Diliman, Quezon City
Tel. No. 927-4788 Fax: 928-9313



Forest Biodiversity Conservation and Improvement of Rural Livelihoods in Sri Lanka

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1st Nov 2014

Location of Sri Lanka

Sri Lanka is located in the Indian Ocean

between 5^0 54'' and 9^0 52'' North Latitude 79^0 39'' and 81^0 53' East Longitude

There is no land connection with India

Administrative Provinces and Districts

9 Provinces

25 Districts

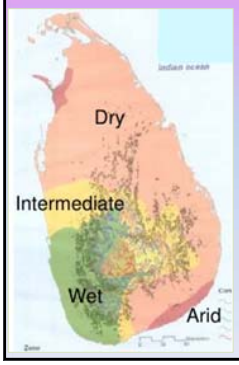
COUNTRY PROFILE

- TOTAL AREA : 65,610 KM^2
- TOTAL POPULATION : 21,481,334
- POPULATION DENSITY :322.4 persons /km^2
- POPULATION GROWTH RATE : 0.913 %
- RURAL POPULATION :78 %
- LABOR FORCE :47 %
- UNEMPLOYMENT: AMONG LABOR FORCE 4%
- ANNUAL PERCAPITA INCOME:US $2,887

Land area and other important areas

- Total Land area 62,710 Km^2 Remaining areas containing by rivers and reservoirs
- Coastal line ins about 1,620 km.
- Total natural forest cover - 1,951,472 ha (29.9%)
- Forest plantations - 76, 560 ha (1.16%)
- Major rivers 103
- Reservoirs and lakes 12000

Climatic Zone

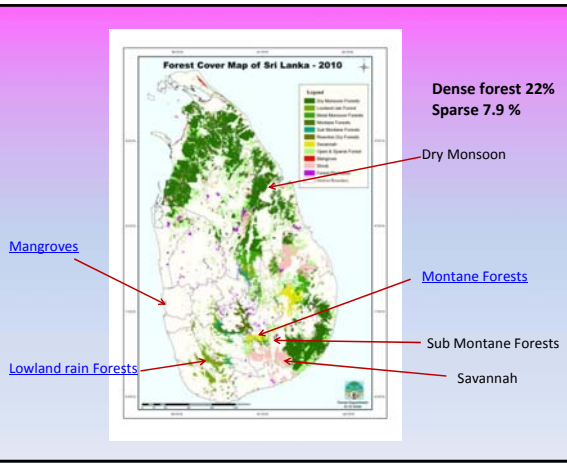


Climatic zone	Rainfall mm per annum	Average temperature
Wet	2500-5000	Average Tem < 27° C
Intermediate	1900-2500	Average Tem < 30° C
Dry	1250-1900	Average Tem 30° C
Arid	Less than 1250	Average Tem more than 30° C

Ecosystem Diversity of Sri Lanka
Forests Types of Sri Lanka

- Tropical wet evergreen forest (lowland rain forest)
- - Tropical moist evergreen forest (Moist Monsoon)
- - Tropical dry mixed evergreen forest (Dry Moist)
- - Tropical montane forest
- - Tropical sub montane forest
- - Riverine dry forest
- -Mangrove forest
- -Savannah
- -Tropical thorn forest
- -Dry montane grasslands dry patanas

} Open & Sparse Forests



Ecosystem Diversity of Sri Lanka
Coastal and marine ecosystems

- Mangroves
- - Salt marshes
- - Sand dunes and beaches
- - Mudflats
- - Seagrass beds
- - Lagoons and estuaries
- - Coral reefs
- - Coastal seas

Ecosystem Diversity of Sri Lanka
Inland wetland ecosystems

- - Flood plains
- - Swamps
- - Streams and rivers
- - Reservoirs and ponds
- - Wet Villu grasslands
- - Wet montane grasslands wet patanas

Ecosystem Diversity of Sri Lanka
Agricultural ecosystems

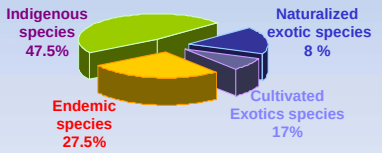
- - Paddy lands
- - Horticultural farms
- - Small crop holdings or other field crops (pulses, sesame etc)
- - Crop plantations
- - Home gardens
- - Chena lands (slash and burn cultivation)

Forest categories and Administrate Relevant Main Departments

Forests Department			Wild Life Conservation Department		
Established 1887 Forest Ordinance 1907 National Heritage and Wildness Area -No.3 0f 1988			Established 1949 Fauna and Flora Protection Ordinance -No.2 0f 1937		
Categories	Numbers	Extent (ha)	Categories	Numbers	Extent (ha)
National Heritage	01	11,187	Strict Nature Reserve	03	31,537
Conservation Forests	112	131,839.5	National Park	21	512,425
Reserved Forests	518	980,240.7	Nature Reserve	05	44,086
Residual Forests	257	563,567	Sanctuaries	64	283,326
Forests Plantations		76,560	Jungle corridors (proposed)	03	

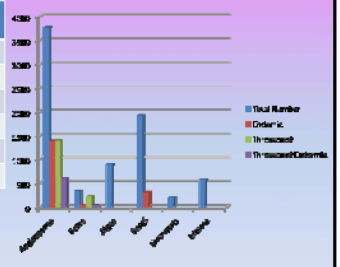
Bio-Diversity Composition of Flowering plants in Sri Lanka

3771 Angiosperm 214 Families 1522 Genera



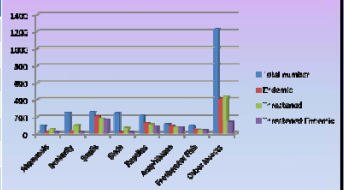
Bio-Diversity Composition of Flora in Sri Lanka

category	Total No. & (Endemic)	Threatened (Endemic0
Angiosperms	3771 (1383)	1385 (594)
Ferns	335(49)	219(33)
Algae	896	
Fungi	1920(307)	
Liverworts	190	
Mosses	575	

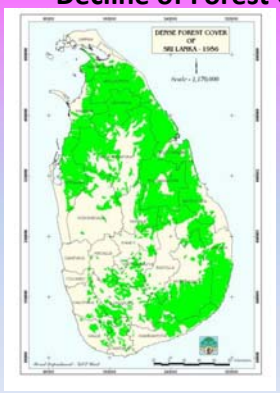


Flora and Fauna in Sri Lanka

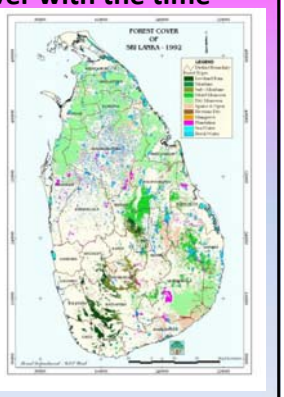
Type of Fauna	Total Spp. (Endemic)	Threatened (Endemic)
Mammals	95(21)	53(18)
Butterfly	245(26)	99(22)
Snails	253(205)	179(162)
Birds	240(18)	67(18)
Reptiles	211(124)	107(87)
Amphibians	111(95)	73(71)
Freshwater Fish	91(50)	45(39)
Other Insects	1229(413)	433(139)



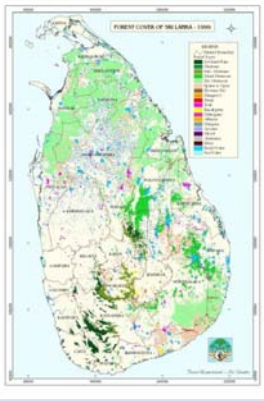
Decline of Forest Cover with the time



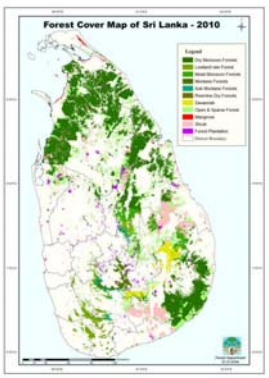
1956 Forest Cover 44%



1992Forest Cover 24%



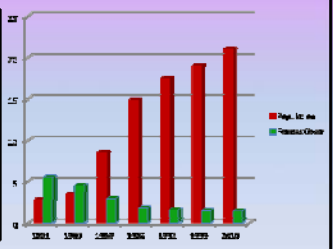
Forest Cover 22.5%



Forest Cover 22%

Relationship between Forest Cover(Closed Canopy) and Population

Year	Population (millions)	Forest Cover (million ha.)	Forest Cover (%)
1881	2.8	5.46	84.0
1900	3.5	4.50	70.0
1956	8.5	2.90	44.6
1983	14.9	1.75	26.9
1992	17.5	1.56	23.9
1999	19.0	1.46	22.4
2010	21	1.43	22.0



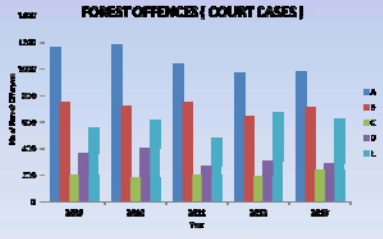
Causes of Forests Cover Decline in Sri Lanka

- Development of large scale Agriculture schemes
- Un controlling sifting or chena cultivation
- Renovation and Expansion of Irrigation channels and reservoirs
- Human settlement
- Infrastructures development
- Encroachment for Tea & other cash crops cultivation
- Establishment of Aquatic farms
- Collection of medicinal plants
- Un sustainable removal of NTFP
- Hydro and Mini Hydro development programmes
- Illegal and un planed Mining activities
- Excavation of Gravel and Sand

TOTAL NUMBER OF FOREST OFFENCES (Court Cases) – 2009 to 2013

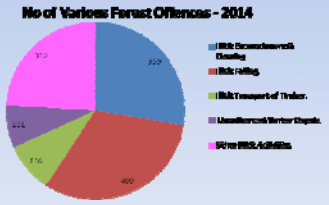
Year	A	B	C	D	E
2009	1169	756	203	365	559
2010	1183	726	179	400	616
2011	1040	750	199	274	483
2012	975	647	195	308	674
2013	983	708	246	292	626
Total	5350	3587	1022	1640	2958

A. Illicit Encroachment & Clearing.
B. Illicit Felling.
C. Illicit Transport of Timber.
D. Unauthorized Timber Depots.
E. Other Illicit Activities.



Forest Offences up to July 2014

Type of offences	Total No
Illicit Encroachment & Clearings	359
Illicit Felling	409
Illicit Transport of Timber.	116
Unauthorized Timber Depots	101
Other Illicit Activities.	312



Impact on Biodiversity in Sri Lanka

- Habitat losses
- Habitat degradation
- Habitat fragmentation and Isolation
- Loss of Traditional Crops and live stocks varieties and breeds
- Over Exploitation of Biological resources
- Spread of Alien Invasive species
- Increasing pollution
- Human wildlife conflicts
- Increasing human population
- Introducing monoculture farming systems

Legislation in Sri Lanka to Conserve Biodiversity

1.National Conservation Strategy 1988
Central Environmental Authority

2.National Policies	3.International Conventions
Forests Policy 1995	RAMSAR 1971
Wildlife Policy 2000	CITES 1973
Environment Policy 2003	Bonn 1979
Wet land Policy 2005	Biological Diversity 1992
Elephant conservation 2006	

National Forest Policy Objectives (1995)

• To conserve forests for posterity, with particular regard to biodiversity, soils, water, and historical, cultural and aesthetic values.

• To increase the tree cover and productivity of the forests to meet the needs of present and future generations for forest products and services.

• To enhance the contribution of forestry to welfare of the rural population and strengthen the national economy, with special attention paid to equity in economic development.

Forestry Sector Master Plan(1995) (Included 13 development programmes)

- *Conservation of biodiversity in forests.*
- *Soil and water conservation.*
- *Multiple- use forests.*
- *Home gardens and other non forest tree resources.*
- *Forest plantations.*
- *Wood products.*
- *Non wood forest products, Bio energy.*
- *Policy, legislation and institutions.*
- *Human resources.*
- *Forestry research.*
- *Extension and support services.*
- *Planning, monitoring and evaluation.*

Issues and Difficulties on Biodiversity Conservation

- It is difficult to carry out above tasks alone by Officials of the Forest Department.
- Crucial Involvement of Local People Participation
- Involvement and co-operation of the interest groups of general public, defense forces and other government and non-government organizations is required.
- Implemented People participation projects since 1982 in Sri Lanka

Prioritized Activities in the Forest Protection, Enhancement and Biodiversity Conservation Through People Participation Projects

Forestry Related Activities

- Establishment of nurseries
- Establishment Agro Forestry Wood lots and Block Planting (AFW /BP)
- Multiple use Buffer zone Planting and enrich planting
- Home Garden Development (HGD)
- Tree planting in public and government places (Misc)
- Establishment of Fire line and maintenance
- Rural People participation on detection and avoidance of
  - forest offences
  - forests fires
  - various illegal land clearing and encroachment activities
- Develop a mechanism to gather the information on illegal activities in forests through the public.
- Conducting awareness programmes.

Non Forestry Activities to promote rural people livelihood

- Training on Self Employment Activities for income generation
- Cottage industries development, improvement and introduce new technology
- Support to improved Agric and Aqua farming systems
- Improvement of Micro Enterprises
- Infrastructure development
- Provide Market Facilities and guidance
- Cultural centre and development
- Strengthen to formal and informal Educational programmes
- Social Involvement and provide Health camping
- Library and other facilities development (Knowledge acquiring)
- Opportunity to participate as a stakeholder to Eco tourism activities
- Introducing and improving Micro Finance Activities

FORESTRY PROJECTS WITH PEOPLE PARTICIPATION & ACHIEVEMENT

Project	Duration	Donor	Achievement
Community Forestry Project **(CFP)**	1982-1990	ADB	AFW 4055ha, Fuel wood 14,000 ha
Participatory Forestry Project **(PFP)**	1993-2000	ADB & Aus AID	AFW 9,771 ha, PWL 4,238 ha, Misc. 2028 ha.HGD 387,000 Family benefited 387,000
Participatory Forest Management Project **(PFMP)**	1996-1998	Overseas Development Agency, United Kingdom	Ordinance amended to enjoy local community to collect NTWP
Upper Watershed Management Project **(UWMP)**	1998-2004	ADB	Buffer Zone 2,328 ha Improved Farming System 12,196 BD 600km

FORESTRY PROJECTS WITH PEOPLE PARTICIPATION Con…

South West Rain Forest Conservation Project (GEF)	2000-2005	UNDP/GEF	30 CBO established & trained to participate Eco tourism & Self Employment
Forest Resource Management Project **(FRMP)**	2000-2008	ADB	AFW 3,865 ha. existing 7,479 ha AFW improved, HGD 12,321,BZ 2,300 ha Enriched 2,341 ha. Benefitted 3,300hh
Protected Area Management and Wildlife Conservation Project **(PAM&WLCP)**	2001-2007	ADB, UNDP/GEF and Govt of the Netherlands	protected areas mapped and complete socioeconomic survey of Adjacent Community
SLANRMP	2003-2009	Aus AID	55CBO established & trained 11,600 ha. Regenerated HGD 2440, 55,000 Families benefitted.
Community Forestry Program **(CFP)**	2012-2016	UNDP	Target to Improve 23,000 ha an dry and intermediate zone. 90,000 families will get benefit.

Current Strategies to achieve the National Forest Policy Objectives

- Sri Lanka is committed to increase the National Forest Cover up to 35% of the total land area within next 6 years (2020) under the concept of "*Mahinda Chinthana*" to Protect Environment, Biodiversity and welfare of the rural population and strengthen the national economy
- Preparation in progress of Forests Protection National strategy plan (2015-2020) with People Participation
- Accordingly, Forest Department is planned to ;
  - Protect and develop the existing forest areas
  - Establish of 350,000 hectares of new forest areas

To Achieve Concept of Mahinda Chinthana Honorable Minister of Environmental and Renewable Energy Mr. Susil Pram Jayantha advice to format Forests Vigilance Committee for one by one each & every Forests in the whole Island

Inauguration Meeting At Anuradhapura 01/06/2014 Preside by Honorable Minister

Structure/Composition of the "Public Vigilant Committees"

- **Lead by Range Forest Officer**

- **Other Members**
  - Beat Forest Officer
  - Police Officers
  - Religious Leaders
  - Grama Niladari
  - Samurdhi Officer
  - Agricultural Research Assistant
  - School Principles /Leaders
  - Civil Defense Committee members
  - Rural executives
  - Representatives from Other non governmental organizations
  - Forest Field Assistants

Expectations and Objectives of "Public Vigilance Committees"

- Develop a mechanism to get the involvement and participation of vigilance committee members in the forest protection activities and facilitate to prevent forests fire
- Management, Development and Improvement of existing forests and Establishment of new forests through the co-ordination of Public Vigilance Committees
- Vigilance Committee Members be a stockholder of Forestry Activities

Confront to Implement People Participation

- Difficult to promote willingness of community
- Maintain confidence of community
- Subsidy can not provide, level of community expectation
- Community that low dependency on forestry, difficult to encourage participation on forestry activities

The Way Forward

- Assess whether the program is reducing deforestation and forest degradation, based on such indicators as the change in the forest resource (Forest Offence, Quality of forest etc.)
- Provide continues awareness to community
- Assess Reduction of the dependency on forest
- Promote research on socioeconomics development in the programme areas previous and subsequent

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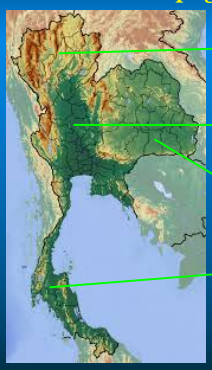
Overview of Forestry based on Biodiversity Conservation and livelihoods in Thailand

Wichan Eiadthong
Faculty of Forestry, Kasetsart University Chattujak Bangkok (THAILAND)

Topography of Thailand

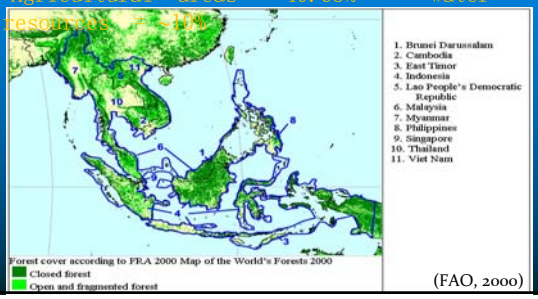


- **Northern part:** a mountainous region characterized by natural forests, narrow, alluvial valleys.
- **Central part:** the basin of the Chao Phraya River, is a lush, fertile plain.
- **Norheastern part:** is an arid region characterized by a

Biodiversity conservation status in Thailand

Country land area = 513, 115 km²

- Forest area = 31.57 % (2013)
- Agricultural areas = 40.63% Water resources = <1%



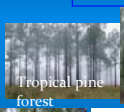
(FAO, 2000)

Forest types in Thailand

Tropical deciduous forests

Tropical evergreen forests

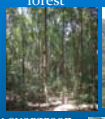
Mixed deciduous forest including teak forest and without teak forest)



Tropical pine forest

Lower montane evergreen forest

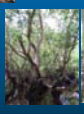
Dry deciduous dipterocarp forest



Moist evergreen forest

Dry evergreen forest

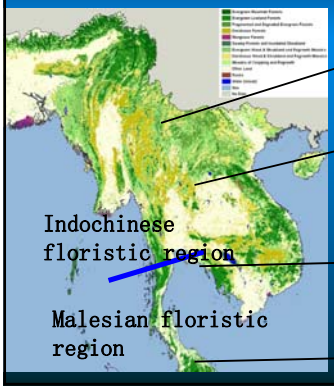
Beach forest



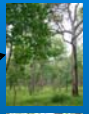
Mangrove forest

Swamp forest

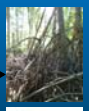
Forest types in Thailand



Lower montane evergreen forest



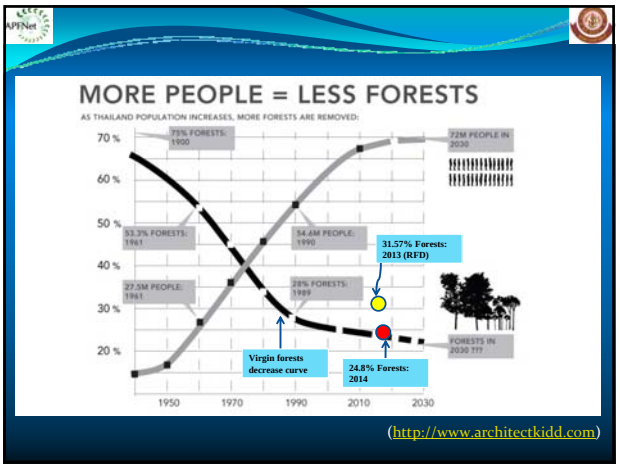
Dry deciduous dipterocarp forest



Mangrove forest

Moist evergreen forest

(http://www.grida.no)



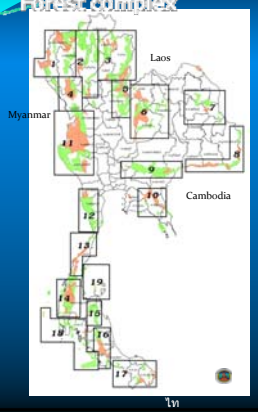
(http://www.architectkidd.com)

Protected areas in Thailand

Types of Protected areas in Thailand (totally 411 sites)

- National parks: 123 sites (11.73 % of country land area)
- Wildlife sanctuaries : 58 sites (7.18 % of country land area)
- Forest parks : 113 sites (0.24 % of country land area)
- Non-hunting areas: 60 sites (1.02 % of country land area)
- Arboreta: 56 sites (0.008 % of country land area)

Protected areas : 19 Forest complex



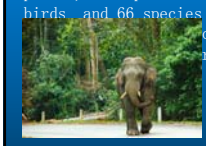
ไท

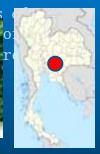
กลุ่มป่าสำคัญของประเทศไทย

1. กลุ่มป่าลุ่มน้ำป่าย-สาลวิน (Pai - Salawin watershed areas forest complex)
2. กลุ่มป่าศรีลานนา-ขุนตาล (Sri lanna-Khuntan forest complex)
3. กลุ่มป่าดอยภูคา-แม่ยม (Doi Phuca-Mae Yom forest complex)
4. กลุ่มป่าแม่ปิง-อมก๋อย (Mae Ping-Omkoi forest complex)
5. กลุ่มป่าภูเมี่ยง-ภูทอง (Phu Miang-Phu Thong forest complex)
6. กลุ่มป่าภูเขียว-น้ำหนาว (Phu Khiew-Nam nao forest complex)
7. กลุ่มป่าภูพาน (Phu phan forest complex)
8. กลุ่มป่าพนมดงรัก-ผาแต้ม (Panom dong rak-Phataem forest complex)
9. กลุ่มป่าดงพญาเย็น-เขาใหญ่ (Dong phraya yen-Khao yai forest complex)
10. กลุ่มป่าตะวันออก(รอยต่อ 5 จังหวัด) (Eastern forest complex)
11. กลุ่มป่าตะวันตก (Western forest complex)
12. กลุ่มป่าแก่งกระจาน (Kaeng krachan forest complex)
13. กลุ่มป่าชุมพร (Chumporn forest complex)
14. กลุ่มป่าคลองแสง-เขาสก (Klong saeng-Khao sok forest complex)
15. กลุ่มป่าเขาหลวง (Khao Luang forest complex)

Khao Yai national park

The first national park of Thailand established in 1962. Its area cover 2,168 km² and its altitude ranges from 400 to 1,350 m above sea level. There are 3,000 species of plants, 320 species of birds and 66 species o

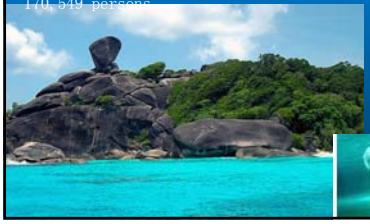


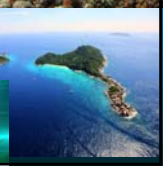


Khao Yai national park was declared a Natural UNESCO World Heritage Site under the name *Dong Phaya Yen - Khao Yai*

Similan Islands National park

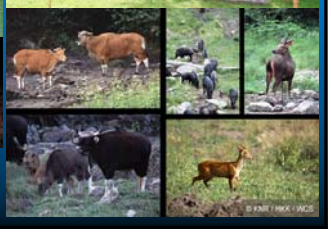
Its was established in 1982. Its area cover 12,800 ha There are 27 species of small mammals, 22 reptile & amphibian species and 39 bird species. The number of tourists in 2013 had recorded 170,549 persons





Huai Kha Khaeng Wildlife Sanctuary

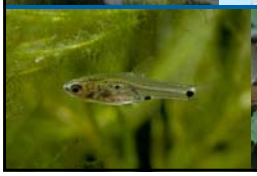
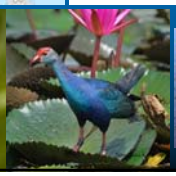
It established in 1972. Its area cover 2,574.64 km², There are 582 species of wildlife including 355 species of birds, 7



Khao Yai national park was declared a Natural UNESCO World Heritage Site under the

Kut Thing Wetland : Ramsar site

It was declared a Ramsar site in ranking no.1926. Its area cover 2,640 ha, There are ~200 species of wildlife including >1


Species diversity of plants, fungi and mushrooms in Thailand

No.	Organisms group	World (species)	Recorded in Thailand (species)
1	Bacteria	4,000	219
2	Fungi & Mushroom	80,0000	6,0000
3	Cryptogramae (non-vascular plants)	?	2,154
	3.1 Algae	> 20,000	1,600
	3.2 Bryophytes	?	925
4	Trachaeophytes (vascular plants)	>262,700	12,000 (4.6%)
	4.1 Ferns	12,000	628
	4.2 Gymnospermae	700	30
	4.3 Angiospermae	250,000	11,000




Species diversity of animals in Thailand

No.	Organisms group	World (species)	Recorded in Thailand (species)
1	Earthworms	8,000	100
2	Mollusks (shells, sea cucumbers, squids, etc.)	>300,000	5,300
3	Arachdina (spiders)	>40,000	922
4	Insects	9,600,000	>10,250
	4.1 ants	?	~1,000
	4.2 Butterflies	?	~4,000
	4.3 beetles	?	~12,000
5	Fishes	28,500	2,820
6	Amphibians	5,473	137


Convention on Biological Diversity

- Thailand's ratification & party of the convention On 29 Jan. 2004.
- Cartagena protocols: party &accession on 8 Feb 2006
- Nagoya protocol: no party

Rtf= ratification
Acs= accession

(http://www.cbd.int/)

Causes of biodiversity loss

✖ Agricultural crops invaded forest areas more than 3.76 million ha (news on 17 Oct. 2014)

During 2008-2012 (NWP) reported agricultural crops were planted in forest areas (3.76 mha)

- Para – rubber : 43.14 %
- Corn: 21.27 %
- Cassava: 4.87%
- Oil palm: 5.68%

Causes of biodiversity loss


Anthropogenic impacts

- shifting cultivation
- Monoculture (corn, cassava, sugar crane)

Illegal logging : Siam rosewood (*Dalbergia*

Illegal trading for Java pangolin (*Manis*

Illegal trading for wild orchids

Institutions related to Biodiversity Conservation

1. Department of National park, Wildlife and Plant (DNP) : P
2. Royal Forestry Department (RFD) : Forest management; Nati
3. Department of Marine and Coastal Resources (DMCR) : Marin
4. Office of Natural Resources and Environmental Policy and

All under Ministry of Natural Resources and Environment

Mission Preserve, conserve, develop and rehabilitate natural resources and the environment to ensure their sustainable use, with active participation and support

What are the main occupations of the Thai people?

Labor force by occupation (%) (CIA World Fact book, Aug 2014) (~ 35.3 million persons)

- Agriculture 38.2 (rice, rubber) mostly in rural areas

Biodiversity Conservation practices in rural areas

1. **Home garden :** all plants were planted in areas where around the house, for food, medicinal plants, ornamental plants, ct

Glochidion wallichianum for fresh vegetable.

Chili, lemon grass, Acacia insuavis for spicy and fresh vegetable.

Biodiversity Conservation practices in rural areas

2. **Agroforestry:** Trees were cultivated mixed agricultural crops (or others) in same areas, having many patterns.

2.1 Agrosilviculture (Tree + Crops) : Trees mixed cash crops;

northern part of

Teak + agar wood + spicy ginger

•**Mixed trees garden (สวนสมรม)**: Many trees (Tree & fruit trees) were planted to arrange by canopy height.,

champada durian

mangosteen

dukon

•**Multipurpose tree or shrubs on farmland**: Trees were planted intercropping with agricultural crops in paddy field, northern &

2.2 Silvipasture (Trees + pasture) :

2.3 Agrosilvipasture (Trees + crops + pasture) :

2.4 Apiculture (Trees + bees) :

Apis mellifera in longan garden

Apis cerana in mixed ees garden

3. Community forests (ป่าชุมชน) : is an evolving and dynamic concept, which underlines the significance of process of local people's participation. In accordance, with this concep luable

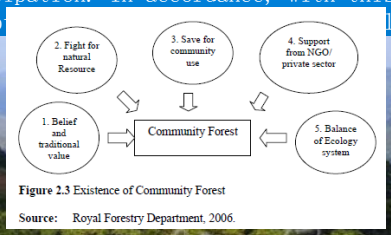


Figure 2.3 Existence of Community Forest

Source: Royal Forestry Department, 2006.

highest

Table 1.2 Community Forests in Thailand Under the Royal Forest Department (2000-2008)

Region	Number of Village	Number of Project	Area (Conserved Forest) Rai	Area (Forest Act.) Rai	Total Area Rai
North	2,140	2,045	999,200	172,274	1,171,599
North East	3,528	3,081	485,138	350,456	835,972
Middle	903	804	233,475	85,387	318,949
South	658	651	83,262	28,154	111,488
Total	**7,229**	**6,581**	**1,801,075**	**636,271**	**2,438,009**

Source: Royal Forest Department, 2009.

6.25 rai/ha

Table 2.3 Community Forest Classification

Type of Forest	Size	Customary Law	Local Protection by
Watershed Forest (Pa-Ton-Nam)	300-10,000 Rai (120-28,000 acres)	Strict rules and severe punishment against violation.Logging is strictly forbidden	Watershed spirit (Phii-Khun-Nam)
Ceremonial Forest (Pa-Pra-Pe-Nee)	30-300 Rai (12-120 acres)	Preserved for cremation and other ritual purpose.	Guardian Spirit
Productive Forest (Pa-Chai- Soi)	Large areas close to villages	Economic used	Less controlled than other area

Source: Yos Santasombat, 1999.

Ceremorial forests

Lampang province

Productive forests

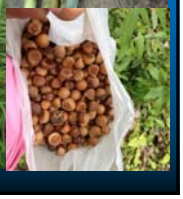


Table 2.4 Benefits of the Community Forest

Dimension	Area of Importance
1. Ecology	Community forest helps to increase the balance of ecology system. The increase number of forest facilitates rainfall, fertility of soil, and biological diversity.
2. Politics	Community forest supports development of community organization, which is fundamental to democracy.
3. Social and Culture	Community forest helps preserve local belief, norm.
4. Science and Technology	Community forest helps preserve diversity of indigenous plant and animal.

Table 2.6 Characteristics of Community Forest in Thailand

Region	Characteristics
North	The area is largely comprised of highlands and inhabited by various ethnic tribes such as the Karen, Lua, Akha, and Lahu. Most community forests in the North are original forests, conserved and managed through traditional beliefs and cultures.
Northeast	Villagers conserve patches of forest at the edge of their cultivated fields to provide source of food and medical plants.
West	This area is inhabited mostly by the Karen, who have a long tradition of forest care.
East	Most community forests are mangroves. They were set up when forest degradation became apparent and rampant through commercial logging concessions and shrimp farms.
Central Plain	The community forests in this region are scattered around Uthai Thani, Nakorn Sawan, and Supan Buri provinces. Most of forests are managed based on traditional belief.
South	The community forests range from watershed forests in the hills to coastal peat swamp forests and mangroves. The conservation of original forest trees, left growing intermixed with cultivated economic especially, is practiced at the family level.

Sufficiency economy and a healthy community to biodiversity conservation

The philosophy of Sufficiency Economy (SE), bestowed by HMK, is a holistic concept of moderation that acknowledges interdependency among people and with nature. It calls for a balanced and sustainable development as its objectives of development.

Meanwhile, natural resources and environment have been deteriorated. An impact of rapid modernization on natural resources and environment has two dimensions: macro and micro. At the macro level, growth-oriented development has induced deforestation, high rate of energy consumption, wider use of hazardous chemical products without proper treatment,

Sufficiency economy and a healthy community to biodiversity conservation

- Applied SE in reducing poverty and achieving healthy community.
- Applied SE in their integrated community development activities leading to healthy

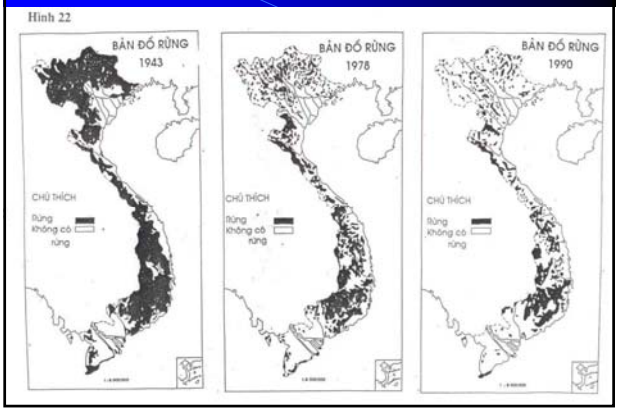
Sufficiency economy and a healthy community to biodi

Thank you for your attention

Biodiversity conservation and livelihood development in vietnam

LE THI TUYET ANH
VIETNAMESE ACADEMY OF FOREST SCIENCES

CHANGE OF FOREST AREA



DESTRUCTION RATE

- TOTAL FOREST AREA
- 1943: 43% of total land area (14.3 million ha)
- 1980: 27.1 %
- 1985: 26.2 %
- 1999: 33.2 %
- 2002: 35.8%
- RATE OF DESTRUCTION: about 100,000 ha/yr during 1945 – 1980s.
- REASONS: long-lasting wars (3 million ha), over-exploitation, shifting cultivation,

Mangrove forest destroyed by defoliant chemicals

A Luoi – Hue forest destroyed during 1970s (1974)

A Luoi in 1987

65

FOREST DESTRUCTION

FOREST RESOURCES (Million ha)

Year	Natural Forest	Plantation	Total	Coverage
1945	14.300		14.300	43%
1976	11.077	0.092	11.169	33
1985	9.308	0.584	9.892	30
1995	8.252	1.050	9.305	28
1999	9.444	1.471	10.916	33.2
2005	10.283	2.333	12.616	37
2011	10.285	3.229	13.138	39.7

Forest Area Change 2000-2005

Country	Forest area (1000 ha)	Change of forest area	
		1000 ha/yr	% change
Cambodia	10.447	- 219	**- 2%**
Myanmar	32.222	- 466	**- 1,4%**
Laos	16.142	- 78	**- 0,5%**
Thailand	14.520	- 59	**- 0,4%**
Vietnam	12.931	+ 241	**+ 2%**
Total of 5 countries	**86.262**	**- 581**	**- 0,7%**

Development strategy

	2005	2010	2020
Forest land:	19,02	16,24	16,24
Forest:Protect	9,47	5,68	5,68
Special-use	2,32	2,16	2,16
Production	7,1	8,4	8,4
Coverage%:	37%	42,6%	47%

FOREST TYPES

- Natural forest:
  - Timber
  - Bamboo
  - Mixed timber-bamboo
  - Mangrove
  - Limestone
- Plantation: 3,32 million ha
- Bareland: some million ha

DIVERSITY OF PLANT

- Total: 15,000 plant species

- Wood supply : >1000 species of 100 genera,
- Material for paper : 100 species
- Essential oil supply : 500 species (160 valuable)
- Fat oil supply : 260 species
- Tannin supply : 600 species
- Dye supply : 200 species
- Medicine : >4000 species

Plant Diversity in 1997

Phyllum	Number of		
	Family	Genus	Species
Bryophyta	60	182	793
Psilotophyta	1	1	2
Lycopodiophyta	3	5	57
Equisetophyta	1	1	2
Polypodiophyta	25	137	669
Gymnospermae	8	23	63
Angiospermae	299	2175	9787
Total	378	2524	11,373
Percentage of endemics	0%	3%	20%

TIMBER SUPPLYING FOREST

DRY DIPTEROCARP FOREST

MIXED PINE FOREST

BAMBOO FOREST

MANGROVE FOREST

EXPLOITATION REDUCTION

- Ban on exploitation from natural forest
- Exploitation during 1980-1990s
  About 4 million m3/year
- Now: 300 000 m3 from natural forest
- However: 24 million people live in or near forest → they need fuelwood (about 15 million m3/year, free of charge) + other NTFPs

Acacia auriculiformis

Clone AA1

21,5 - 32,6 m³/ha/yr

Clone AA9

25,3 – 25,7 m³/ha/yr

SHIFT IN FORESTRY

- Change: from using timber exploited from natural forest to using wood from high yielding plantations
- Technology change: from processing big logs to small logs
- Change: from exploiting to planting
- Change: from large enterprises to small households

WHERE TIMBER COME FROM?

- Natural forest: 100 000 m3/yr
- Import: Timber and processed wood from other countries
- Plantation: ~ 3 million ha of commercial plantation (Eucalypts, Acacia, pines)
  - ~1 million m3 import
  - ~6-8 million m3 from plantation
- Scattered tree planting

WOOD PRODUCT EXPORT

1996: 61 million USD
2000: 219,3 m USD
2002: 435 m USD
2003: 576
2004: 1,080 billion USD
2005: 1,57
2006: 2
2007: 2.7
2012: 4.5 billion USD

Forest Ecological Service

- PFES
- 2004: the first research project was started by FSIV, finished in 2006
- 2008: Dicision from Prime Minister to apply in two provinces: Lam Dong and Son La
- 2011: Decree from Prime Minister to apply in the whole Vietnam

Forest Ecological Services

- **Who pays**:
- Hydro-electric power plants
- Clean water-supply companies
- Ecotourism companies
- **Who are benificiaries**:
- Local Farmers who protect the forest
- Forest Management Board, Enterprises

Forest Ecological Services

- **How much**:
- 20 VND/1 KWh for electricity
- 40 VND/1 m3 commercial clean water
- 1-2% of total money obtained from ecotourism
- **How to pay**:
- "**K**" coefficient recognized
- "**Forest Protection and Development Fund**"

CURRENT SITUATION

I. National Park	: 27	957.330 ha
II. Nature Reserves	: 60	1.369.058 ha
IIa. Reserves	: 49	1.283.209 ha
IIb. Species/habitat	: 11	85.849 ha
III. Landscape reserves	: 39	215.287 ha
Total	: 126	2.541.675 ha.

RED BOOK – PLANTS 1996

- The first Red Book
- MOSTE, 1996
- Total: 356 species

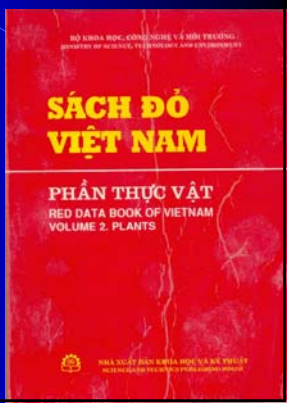
I. Magnoliophyta: 305 species

I.1.Magnoliopsida: 231 species

I.2.Liliopsida: 74 species

II. Pinophyta: 27 species

- Endangeredment: E, V, R
- T and K (unknown)



RED BOOK - REDLIST, 2007

RED BOOK 2007

MOST and Vietnamese Academy of Science and Technology

Included 462 species of which

I. Magnoliophyta: 411 species

I.1.Magnoliopsida: 294 species

I.2.Liliopsida: 117 species

II. Pinophyta: 30 species (12 Cycas)

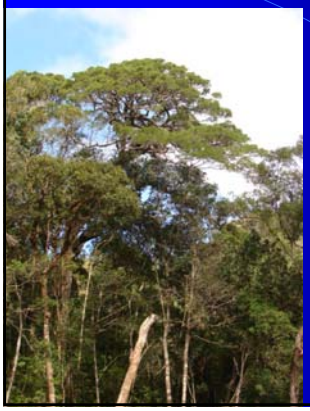
- IUCN Categories, 1994

glyptostrobus pensilis–thuû tïng

glyptostrobus pensilis–thuû tïng

cupressus torulosa – hoµng ®µn

Flat-needle pine – *p. krempfii*



measures for conservation

1. **Seed bank**: only for orthodox tree species
2. **Collection of living trees in field**: Arboretum, Bambusetum, Botanic Gardens → a few trees (1-20 individual) per species
3. ***Ex situ* conservation stands**: only for some important species with bigger areas (1-10 ha per species, 400 trees/ha)
4. ***In situ* conservation**: in Nature Reserves

measures for conservation

1. ***In situ* conservation**: in Nature Reserves aiming at saving important, sensitive ecosystems and species:
   * Evergreen Forest Ecosystem
   * Mangrove Forest Ecosystem
   * Special (sandy, wetland, dry) Forest Ecosystems
   * Marine Ecosystem
2. ***Ex situ* conservation**: for some important species
   * Economically valuable species
   * Scientifically valuable species

Some key issues and challenges of biodiversity conservation related to livelihood improvement in Vietnam

- - Some small protected areas and their weak linkage make limit to the conservation activities;
- - The boundary of the protected areas are mostly not been clearly in the field;
- - The budget for conservation are limited, mainly from the State; Some current policies of investment and buffer management without encouragement to attract the big scale in forest production for local;
- - The local's income is still low (15 -20 kg of paddy rice/person/month in 1997 – now)

- - The activities of illegal logging on a large scale has been continuously happening.
- - The system of Vietnam classification does have some unsuitable points in comparision with IUCN's classification;
- - The current management is mostly strict protection without the integration modern outlook between conservation and development.
- - The payment policies for forest environmental services are not applied in most of biodiversity areas.
- -…

Some lessons learnt from case-study in Xuan Thuy National Park

- *- To protect diverse natural resources and migratory wild birds,* XTNP has *conducted many integrated activities* for the conservation and development, including: forest protection, reforestation, Cooperation and Scientific research , environmental education, community development.

- From Buffalos to Mushroom and Honey Production: Strengthening Community Participation through Livelihood Development in XTNP (

Buffalos in the core zone before project

Restored forest after project

Farmer cropping mushroom

Honey model in Giao An commune

- Co-management in each core-zone with the mainstream role of women in using and managing forest resources can manage forest more efficiently.

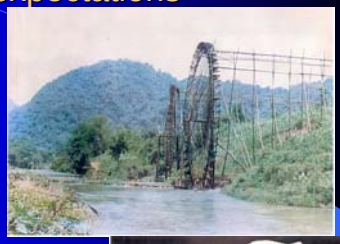
- Developing the tourism through international volunteers

Some conclusion

Urgently solving some synchronization solutions:

- - Need complete and specific policies of biodiversity conservation integrated livelihood improvement to apply instantly;
- - Need have the specific policies in each area that attract all members of society engaged in biodiversity conservation;
- - Need establish some important protected areas to rescue species at high risk of extinction due to illegal hunting of man and climate change;
- - Need have the specific programs in each area to raise awareness about biodiversity protection for the community as well as the sectors and levels.
- - Need strengthen international cooperation on biodiversity conservation and climate change from region to international level.

Our expectations



THANK YOU FOR YOUR ATTENTION