

# Lao People's Democratic Republic

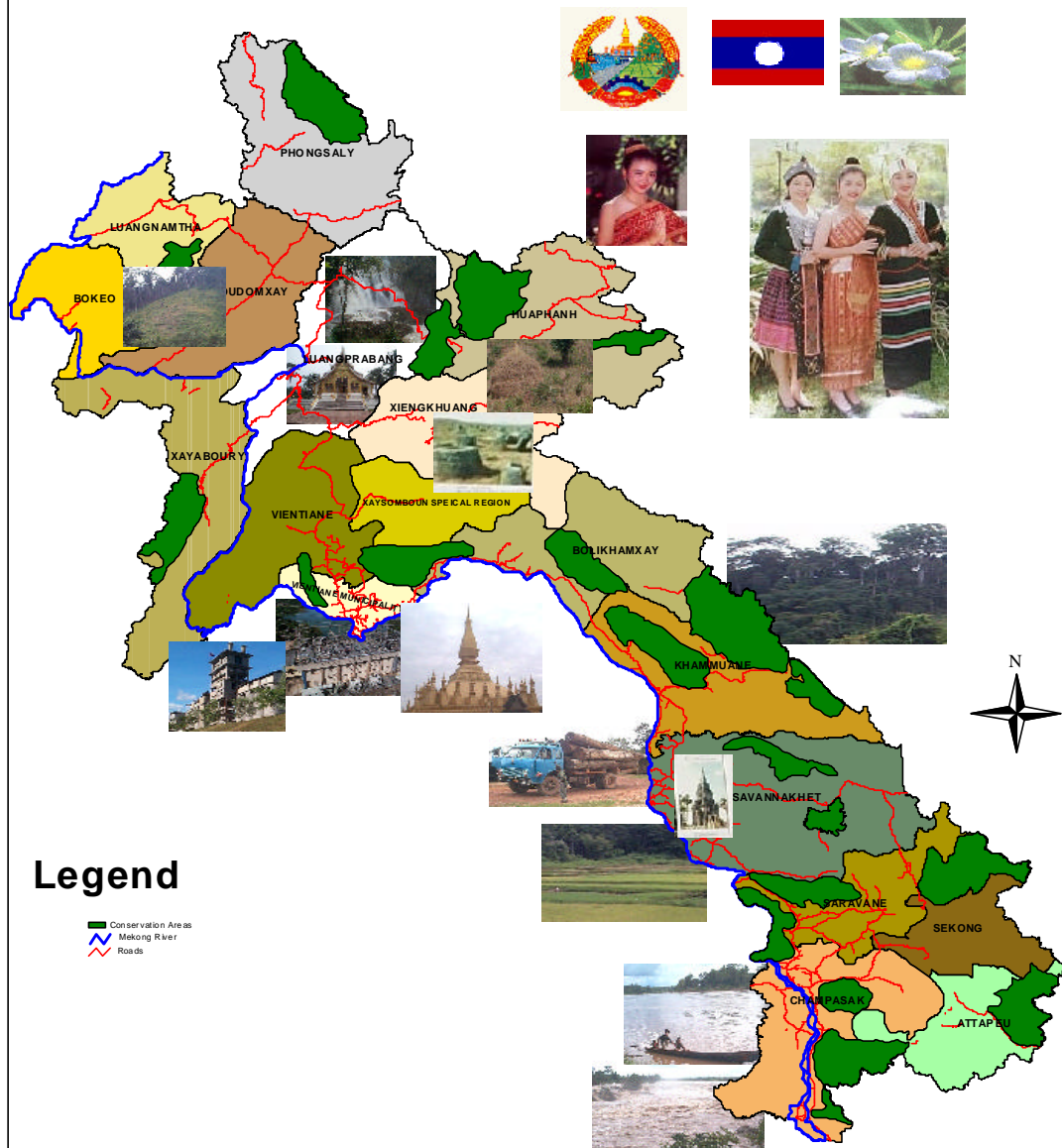
## **Country Progress Report** on the effective Implementation of the UNCCD



*Country Progress Report*  
*Date: 19 April 2000*

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# Lao People's Democratic Republic



## Legend

- Conservation Areas
- Mekong River
- Roads

Condition of the Country Geographic

## **Abstract**

Lao PDR is considered among very few countries in the region to maintain a relatively rich endowment in natural resources, namely forests, biological diversity, water and minerals. This are true although the country's forest cover has decreased significantly in the last three to four decades from 70% in 1950 to about 47% in 1989. The rapid depletion of the nation's natural resources is caused by war in the 70s, poorly planned and managed exploiting, shifting cultivation, forest fires and logging. This has mainly affected soil resources, but water resources remain almost untouched. Ecosystems are still quite intact due to the low population density and the rough terrain.

Approximately 85% of the country is mountainous, which is a barrier to development of economic infrastructure, agricultural production, transportation and communication. The altitude for two thirds of the country ranges from 200 to 2820m. Two seasons predominate, a monsoon season from May to September and a dry season. Annual rainfall varies from 1,300-3000 mm, but often falls short of the level need for paddy rice farming. Dry and rainy seasons are very pronounced – during the dry season, very often there is no rain at all for a period of up to five months and many rivers and streams completely dry out. The rainy season, however, starts with torrential rains, which often take away the dry soil, when it's not covered by vegetation. Therefore, local drought and flooding create periodic crop failures, resulting in food shortages, often most severely hitting the pockets of heavy poverty.

Rural poverty in the uplands is directly linked to land degradation resulting from the management of the agricultural systems practised. The challenge of stabilising shifting cultivation in upland areas cannot be met unless the issues of poverty reduction, provision of alternative source of livelihood, food security, and security of land tenure are addressed simultaneously. This needs to be accompanied by assistance in community-based natural resource management planning so that rural communities have a mix land uses, including conservation forests to protect soils, water resources, wildlife, and other biological resources of value to the community and the region. To address the great complexities of upland livelihood and socio-cultural systems, the Lao Government has devised a " Focal Site " approach to support sustainable decentralised forest land management in the uplands.

Since the early 1990s, the Lao government implements a focal site approach to sustain natural resources management namely forests, agriculture land and water resources, specially in the rural or upland areas where most of the country's deforestation is found and where the poorest segment of the population are also located. This approach strongly advocates people participation in natural resources management and protection, and socio-economic development to go hand in hand with sustainable use of forestland and resources.

The aim of the Lao government is to undertake the national socio-economic development with minimal impact to environment, with the sustainable use of the natural resources and agricultural land while preserving its fine customs and traditions. This will has been reflected in all national socio-economic plans, in the constitution, in legislation, in the national Environment action plans as well as in the national priority programmes. It is a declared goal of the government to lift the country out of poverty, so that by the year 2020 it would be among the developing countries(i.e. no longer among the least developed countries).

The government does recognize the need to strengthen the established institution in charge of overall environmental management and the necessity to define a legal and regulatory framework and to join others international activities of the global environment namely the Convention for Combating Desertification and Drought (UNCCD) which ensure that environment concerns become an integral part of the eradicating poverty.

## 1. The Lao context

Laos used to be a very lush country, with abundant forests, mountains and many species of wildlife, for this reason it was called “ Land of million elephant ” in the 14<sup>th</sup> century. The Lao People’s Democratic Republic is established on 2<sup>nd</sup> December 1975. Lao PDR is a multiethnic country in the heart of South East Asia with a total land area of about 236.800 km<sup>2</sup> and a population of about 4,8 million people (1997) giving an overall population density of 20 per km<sup>2</sup>. The population share a rich ethnic diversity, classifying into three broad groups: Lao Loum (lowlanders) 70% live along the Mekong river and its tributaries, Lao theung (highlanders) 20% live on the slopes and hills with an elevation of less than 1000 metres and Lao Soung (uplanders) 10% live in the high mountainous areas.

The country is divided administratively into 17 provinces and 1 special zone. These are in turn divided into 142 districts, 11.390 villages (1997). The country remains a predominantly rural economy, with about 80% of the population living in the rural areas and some 66% relying on subsistence agriculture. Poverty is greatest in the upland rural areas and varies between regions as follows: central region 33,6%, northern region 26,5%, southern region 16,2%. In absolute terms, about 2,05 million of the Lao people are poor based on the poverty incidence measure (in northern region- 46%, central region- 40% and southern region- 60%). The Lao PDR or Laos is among the least developed countries in the world with its GDP of 300 US \$ per capita in 1997. Its economy is virtually undiversified and depends largely on the country’s natural resource base.

Lao PDR is considered, also by international standards, to be still relatively rich in forest, water, biodiversity, mineral and land resources. However, although the country has significant unused land resources, the majority of land is susceptible to degradation and of generally poor quality.

In 1950, closed tropical forests covered approximately 70% of the Laos. That figure has declined to about 47% in the last 30 to 40 years. Despite significant degradation over the past three to four decades, Lao PDR still has extensive natural forests cover and retains one of the highest portions of relatively intact forests in Asia:

Table 1 : Land classification for Lao PDR by cover types (1000 ha)

| Location                     | Total area      | Forest         | Bamboo        | Degraded forest | Barren land   |
|------------------------------|-----------------|----------------|---------------|-----------------|---------------|
| <b>1. Northern Provinces</b> |                 |                |               |                 |               |
| Phongsali                    | 1595.10         | 698.60         | 6.30          | 718.60          | 106.60        |
| Luangnamtha                  | 840.90          | 498.40         | 26.00         | 269.90          | 19.90         |
| Oudomxay                     | 1550.90         | 452.50         | 197.20        | 798.90          | 5.20          |
| Bokea                        | 490.50          | 255.10         | 32.20         | 194.80          | 0.70          |
| Luangphrabang                | 2001.20         | 485.10         | 194.80        | 1080.20         | 62.90         |
| Huaphan                      | 1703.80         | 649.90         | 51.90         | 681.00          | 162.90        |
| Xayabury                     | 1154.00         | 577.10         | 133.70        | 319.10          | 3.90          |
| Xiengkhoang                  | 1491.50         | 747.60         | 46.90         | 321.30          | 181.60        |
| Specialzone                  | 484.50          | 148.40         | 16.30         | 257.70          | 5.70          |
| <b>Total :</b>               | <b>11312.40</b> | <b>4512.90</b> | <b>704.90</b> | <b>4641.50</b>  | <b>549.40</b> |
| <b>Percent :</b>             |                 | <b>39.90</b>   | <b>6.20</b>   | <b>41.00</b>    | <b>4.90</b>   |
| <b>2. Central Provinces</b>  |                 |                |               |                 |               |
| Vientiane municipality       | 367.10          | 128.90         | 39.90         | 62.70           | 10.10         |
| Vientiane Province           | 2001.10         | 854.30         | 351.30        | 358.80          | 77.20         |
| Bolikhamxay                  | 1628.60         | 1114.70        | 22.10         | 281.50          | 31.30         |
| Khammouane                   | 1740.40         | 1081.10        | 20.40         | 215.80          | 10.60         |
| <b>Total :</b>               | <b>5737.20</b>  | <b>3179.00</b> | <b>433.70</b> | <b>923.30</b>   | <b>129.20</b> |
| <b>Percent :</b>             |                 | <b>55.40</b>   | <b>7.60</b>   | <b>16.10</b>    | <b>2.30</b>   |

| <b>3. Southern Provinces</b> |                |                |               |               |               |
|------------------------------|----------------|----------------|---------------|---------------|---------------|
| Savannakhet                  | 2176.50        | 1233.70        | 83.80         | 318.00        | 15.00         |
| Salavan                      | 1034.40        | 574.70         | 39.60         | 163.10        | 15.00         |
| Sekong                       | 911.10         | 505.70         | 107.30        | 206.70        | 40.70         |
| Champachak                   | 1428.60        | 895.40         | 8.80          | 113.50        | 29.80         |
| Attapeu                      | 1079.80        | 735.50         | 78.90         | 70.80         | 24.90         |
| <b>Total :</b>               | <b>6630.40</b> | <b>3945.00</b> | <b>318.40</b> | <b>872.10</b> | <b>125.80</b> |
| <b>Percent :</b>             |                | <b>59.50</b>   | <b>4.80</b>   | <b>13.20</b>  | <b>1.90</b>   |

Source : Forest and plantation Centre, Department of Forestry, MAF, 1998

The total agricultural land is about 9-10% of the country available agricultural land similarly varies widely by region. The centre and particularly the southern provinces retain significant arable land resources, of which a marked part remains underdeveloped. The more mountainous north, where demand is highest, has significantly less potential agricultural land. Although Lao PDR's population is small, it is growing rapidly (growth rate 2,5%) and heavily concentrated in the provinces which borders the Mekong River and its tributaries, putting increasing demands on the natural resources in the neighbouring upland areas. Agricultural production in upland areas is still dominated by subsistence crop cultivation under a shifting cultivation or swidden (slash-and-burn) farming system. Most sustained severe deforestation and land degradation in Lao PDR is associated with shifting cultivation. This is particularly true in areas where population pressure has led to a significant decrease in the rotation period or where traditional lowland farmers encroach on neighbouring uplands to make up for low and often declining yields on their lowlands paddy fields.

## 2. Overview of Environment

The natural resource base of Lao PDR consists of forests, which still cover more than a third of the country, of water, in terms of hydropower potential, and of mineral deposits. The bulk of proposals for investment aim at exploring and/or extracting natural resources. The Government is well aware that there is a compelling need to ensure that sufficient attention is paid to the sustainability of the continued economic development in Lao PDR.

Environmental characteristics of the Lao PDR. The most prominent are:

- Although with less than 20 people per km<sup>2</sup> Lao PDR is the most thinly populated country in south-east Asia, agricultural land is scarce. The ratio of population to cultivated cropland is about 3.5 persons per hectare<sup>1</sup>.
- Geographic conditions are difficult with the main portion of the country's surface mountainous and prone to erosion. Road infrastructure is far from sufficient.
- The ecological quality of remaining upland forests and unmodified waterways is partly unique in the region. The natural conditions of most of the territory (climate, soil, topography) are more favourable for silviculture and agroforestry than for sedentary agriculture.
- About half of the country's districts still have to cope with unexploded ordnance. Some are contaminated by wartime defoliants.
- Traditionally regarded as isolated and remote; and began the transformation of its economy from a centrally planned to an open market-based system, the country is now becoming located more in the centre of new trade routes that join booming regional economies.
- The export oriented development of the country's natural resource base is accelerating sharply, in response to internal and external pressure.

<sup>1</sup> source: State of Environment in Asia and Pacific 1996

The main environmental problem in Lao PDR is deforestation, mainly due to the intensive slash and burn shifting cultivation of the upland and highland ethnic group people's farmers. It is also due to mismanaged logging and conversion of forest land to other uses under rapid population growth. In addition, urban environment problems should be taken into consideration at the outset. The national rich biodiversity resources are under increasing danger due to the rapid disappearance of forests and the weak conservation system. The environment issues in the area of water resource management are the threat of watershed degradation in key watersheds and the potential loss of hydropower and irrigation capacity, the absence of an adequate system to assess environment costs of hydropower development and the population's limited access to clean water and sanitation. Mining could lead to severe environmental damage if the necessary environment safeguards are not applied. Degradation of upland areas due to intensive slash and burn shifting cultivation, farming with shortening fallow periods and encroachment by lowland farmers on neighbouring uplands are increasingly becoming a concern.

### **3. Current Government and sectoral policy to effectively implement the UNCCD**

#### **3.1 General Development Policies and Socio - Economic Performance**

The general economic development policy of the government is based on the New Economic Mechanism (NEM) initiated in 1986. The NEM has two main goals: (i) stabilisation of the economy, and (ii) transition from central planning to a market oriented growth strategy. Over the last decade the NEM has a significant impact and success, including increase in foreign investment and a high growth of exports. The New was followed by a phase of structural transformation, which placed high priority on large-scale infrastructure development, such national highways, hydropower plants, urban water supply systems, and large-scale irrigation systems.

The present decentralised rural development policy of the Government is aimed at sustained growth with equity for all citizens and emphasises the dual objectives of conservation of resources and achievement of improved livelihood systems. In 1994, the Government adopted a resolution, which highlighted the importance of decentralised rural development, and national and provincial rural development committees were established.

In the practices, Lao PDR formulated its collective short- and long-term development priorities in its National Socio-Economic Development Plan relating the action programmes to implement the convention such as the main priority programmes:

- **Food production securing self-sufficiency**
  - Basic food security for all Lao people and maintenance of a buffer rice stock.
  - Attain target levels of per capita consumption of meat, eggs, fish and vegetables.
  - Diversification of crops, to improve nutritional status of Lao people and provide better opportunities for commercialisation of agricultural production
- **Stabilisation/reduction of shifting cultivation**
  - stop the increase in slash-and-burn agriculture as population grows.
  - Preserve watersheds and catchment areas
- **Human resources development**
  - health, education, employment and social security, environment and refugee repatriation
- **Infrastructure development**
  - provide the necessary infrastructure support for sustained economic growth through production, trade and the delivery of goods and services, domestically and abroad.
- **Rural development**
  - the rural development programmes consists of various components or programmes :
  - household food security, rural infrastructure, health and education, sustainable use natural resources and etc...
- **Improved socio-economic management and foreign economic relations**

- improve macro-economic management
- expand trade relations, direct foreign investment and access to overseas development financing.
- Facilitate Lao participation in regional groupings such as ASEAN and international conventions

Each of these tackles priority programmes a significant root cause of poverty in Lao PDR.

“Freeing our Country from the State of Underdevelopment by the Year 2020”<sup>2</sup>  
 Our long-term development goal is to free the country from the long term development goal status by the year 2020 **through sustained and equitable economic growth**. Quitting the Long term development goal status means eradicating mass poverty. This implies two strategies: high economic growth with equity and access to social services and markets for everybody, particularly those in the rural areas. The objectives and targets set for the period 1996-2000 stress the need to press ahead with our strategies and accelerate the transition of the Lao PDR ‘s rural areas away from subsistence production to market production.

The financing of Lao development has been heavily dependent on foreign savings through loans, grants and private investment. Four fifths of public investment is funded by foreign capital inflows, since domestic savings, both government and private, are very low.

Economic development in the future will also be dependent on the ability of the Lao Government to improve the road and communication network throughout the country. There is only one road which links the north and the south and many secondary roads are only passable during the dry season. The Infrastructure Development Programme focuses on the modernisation, by the year 2000 of the transportation and telecommunication network nationwide. While acknowledging that this situation needs urgent improvement, the Government still takes precautions to protect its environment such as natural disaster prevention and protection.

### **3.2 Trend to environmental protection**

Since the adoption of the New Economic Mechanism as an overall economic reform process in 1986, the Government has engaged in an ambitious programme to transform the national economy from a centrally planned to a market oriented one. With its economic base relying heavily on the exploitation of natural resources (agriculture, forests and hydropower), sustainable socio-economic development closely depends upon the adoption and implementation of comprehensive natural resources management policies and programmes. In its efforts to reform and reformulate national strategies, the Government prepared a number of policy documents for natural resource management in early 1990s, the tropical forestry action plan, the National Forestry Action Plan, the Environmental Action Plan and the Socio-economic Development Strategies.

**3.2.1 The Environmental Action Plan** lists the key environmental issues for the country and identifies the following areas:

- Development of planning and management framework for environmental aspects;
- Forestry resources management;
- Biological diversity conservation;
- Land resources management;
- Water resources management;
- Industrial, mining and access infrastructure development; and
- Institutional, legal and regulatory framework

On 3<sup>rd</sup> April 1999, National Assembly of Lao PDR enacted the environmental protection law. The Government has started numbers of efforts, which clearly requested Science Technology and Environment Agency, the line Ministries and Provinces at all levels to take necessary

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<sup>2</sup> Source information : State Planning Committee (Socio-economic development strategies t o the year 2020)



action for effecting environmental management and sustainable use of natural resources in the country.

This Law provides the framework for environmental policy; it defines five distinct principles of environmental protection (Art. 5):

- environmental conservation is the main task and comes before mitigation and restoration
- planning for environmental conservation should be done together and included into socio-economic development plans
- all persons and organizations residing in the Lao PDR have to actively contribute to environmental conservation
- whoever has caused damage to the environment is responsible for the impact
- all use of natural resources, raw materials and energy has to be careful, avoiding pollution and waste for sustainable development.

### 3.3 Forest resource management

#### 3.3.1 General Issues

As mentioned before, the Lao PDR is still highly dependent on forest resources as a source of foreign exchange and income for a large share of its people. Given the economy's and particularly the export base's limited diversification, Lao PDR will remain dependent on income generated by the forest sector in the foreseeable future. What is therefore needed, is a balance between sustainably managed production forests and protection forests in key areas, such as critical watersheds and areas worthy of protection because of their rich bio-diversity.

Based on the National Reconnaissance Survey of 1992, the sustainable annual rate of timber extraction from the country's commercial forests is 288,000 m<sup>3</sup>. This is approximately equal to

both the annual allowable cut adopted by the Tropical Forestry Action Plan and recent annual quotas. In addition to this figure, another 100,000m<sup>3</sup> are estimated to be cut annually by forest-

based communities for sale and to meet local needs (building materials etc.). The major part of this comes from open area scattered stands and individual trees and does not affect potential commercial forests. Finally, some 80% of the country's energy consumption is wood based. It has been estimated that per head fuel wood consumption averages 1 m<sup>3</sup> per annum based on the present population. Most of this is harvested by local communities for their own use and often is taken from understorey shrubs and natural mortality of larger canopy tree. Fuel wood harvesting does not appear to represent a serious environmental problem in the Lao PDR, particularly in rural areas.

In the country's development vision 2020, indicative targets were set to achieve a rehabilitation of 2,0 million ha of degraded forests and 500.000 ha of afforestation, in addition to natural forest regeneration on more than 16,5 million ha. This is to be implemented in parallel with sustainable exploitation of remaining forest resources, which maximum allowable annual cut is not to exceed 500.000 cubic metres.

Table 2 : Total area distributed on land use and vegetation types, including sampling error, whole Country

| Land use group/land use and vegetation type |     | Area   |          |
|---|-----|--------|----------|
|   |     | %      | 1,000 ha |
| 1. Current forest                           | CF  | 47.162 | 11,167.8 |
| Dry Dipterocarp                             | DD  | 5.095  | 1,206.5  |
| Lower Dry Evergreen                         | LDE | 0.361  | 85.5     |
| Upper Dry Evergreen                         | UDE | 4.480  | 1,061.0  |
| Lower Mixed Deciduous                       | LMD | 3.657  | 866.0    |
| Upper Mixed Deciduous                       | UMD | 31.457 | 7,448.9  |
| Gallery Forest                              | GE  | 0.369  | 87.5     |
| Coniferous                                  | S   | 0.559  | 132.3    |

|                               |    |         |          |
|-------------------------------|----|---------|----------|
| Mixed Coniferous/Broadleaved  | MS | 1.184   | 280.5    |
| 2. Potential Forest           | PF | 37.791  | 8,949.0  |
| Bambo                         | B  | 6.469   | 1,531.9  |
| Unstocked                     | UT | 28.680  | 6,791.4  |
| Ray                           | RA | 2.642   | 625.6    |
| 3. Others Wooded Areas        | OW | 6.099   | 1,444.4  |
| Savannah/Open Woodlands       | SH | 3.854   | 789.4    |
| Heath, Scrub Forest           | SR | 2.245   | 531.7    |
| 4. Permanent Agriculture Land | PA | 3.587   | 849.5    |
| Rice Paddy                    | RP | 3.334   | 789.4    |
| Agriculture Plantation        | AP | 0.075   | 17.8     |
| Other Agriculture Land        | OA | 0.179   | 42.3     |
| 5. Other Non- Forest Land     | NF | 5.361   | 1,269.5  |
| Barren Lands /Rock            | R  | 0.490   | 116.1    |
| Grassland                     | GE | 3.474   | 822.8    |
| Urban Areas                   | U  | 0.356   | 84.2     |
| Swamps                        | SW | 0.149   | 35.4     |
| Water                         | W  | 0.891   | 210.9    |
| Total                         |    | 100.000 | 23,680.0 |

Source : Forest and plantation Centre, Department of Forestry, MAF, 1998

### 3.3.2 Deforestation and its causes

The total forest area of the Lao PDR has decreased by 67,000 ha per year over the last decade. In addition to loss of forest land, there was also considerable degradation of the remaining area, causing concern within the Government and leading to the declaration of 20 National Protected Areas, which cover approximately 12% of the country's total area, the approval of the National Tropical Forestry Action Plan and the adoption of the forest law in 1996. This law defines five distinct categories of forestland, the estimated area cover<sup>3</sup> of respective categories already surveyed and demarcated to date are as follow:

- Protection forest (484 areas with a total area coverage of 2.2 million ha)
- Conservation forest : 1) National Conservation Forest (20 areas. 3.2 million ha) and 2) Provincial Conservation Forest (118 areas. 2.9 million ha)
- Production forest (456 areas. 2.4 million ha)
- Regeneration forest (164 areas. 181.920 ha)
- Degraded forest land and barren land (6.5 million ha)

Table 3 : Forest cover for different regions of the country (1,000 ha)

|                 | North | Centre | South | Total area |
|-----------------|-------|--------|-------|------------|
| Total land area | 9,821 | 7,229  | 6,630 | 23,680     |
| Total forest    | 3,583 | 3,739  | 3,866 | 11,168     |
| % of total area | 36 %  | 52 %   | 58 %  | 47 %       |

Source : Forest and plantation Centre, Department of Forestry, MAF, 1998

The depletion of the country's forest resources is due to a number of factors, including poorly planned and supervised forest fires, encroachment and shifting cultivation.

It is estimated total over 300,000 ha are annually cleared under shifting cultivation. Although, at present, the three causes of deforestation (illegal logging, encroachment, shifting cultivation) seem to be equally important, it is estimated, that to the extent that population continues to grow rapidly and fertility in the uplands is declining, expansion of shifting cultivation into forest lands will increasingly become an issue. The Government therefore

<sup>3</sup> The area cover for other potential forests have not been included. e.g. bamboo forest. other wooded areas (open woodlands and scrub forest) (Table-3)

pays attention to shifting cultivation and declared the reduction of slash-and-burn area a national goal is one of the national priority programme.

**3.3.3 The forest policy and action programmes.** Current forest policy in Lao PDR has its origin in the first national conference on forestry in May 1989. Results in strategic guidelines for the forest sector up to 2000. These recognised a variety of aims and need including:

- Protection of biological diversity provided by natural forests and the need to strike an appropriate balance between conservation of forests and their potential to provide economic returns;
- A desire to increase existing forest cover up to 70% of total land area in the Lao PDR through natural regeneration of forest areas;
- Linking afforestation activities to the need for food production and food security;
- The need to stabilize shifting cultivation and provide alternative occupations for these people by 2020.

The following on from these aims of forest policy, government endorsed this programme as the National Forestry Action Plan in 1991 and since that time has served as the basis for forest sector planning and development. It contained some action programmes relating the CCD implementation such as: institutional strengthening, human resource development, protection of watershed, sustained use of natural forests, plantation forest and sustainable alternatives to shifting cultivation.

### **3.3.4 Forest Strategy**

The Government is aware of the need to sustainable manage its forest resource, which is very crucial to the Lao economy and society and therefore has decided to focus on several core programmes which provide the implementation framework for an improved system of resource management. The key points are:

- **Improved management of logging operations:**
  - clear demarcation of production, community and protection forests
  - development of forest management plans to guide commercial timber extraction in specific production forest areas
  - rendering forest enterprises contractually responsible for harvesting in accordance with forest management plans and forest plantation plans
  - improved coordination between logging and local processing to reduce and recycle wastage
- **Institutional strengthening:**
  - establishment of effective enforcement and control mechanisms to minimise illegal logging, mis-specification and surreptitious exports.
  - training of forestry staff to strengthen its capacity in forest inventory and land use planning, forest management, silviculture, scaling and protection.
  - establishment of a Forest Management Fund financed by a fixed percentage from forest taxation revenues, so as to assure sustainable funding for improved forest management activities and
  - development and adoption of comprehensive land use and forestry legislation
- **Involve local communities in resource management:**
  - granting long term use and access rights to forest land areas traditionally controlled by a given community in exchange for adherence to resource use and management plans
  - assistance to lowland farmers to help increase yields so as to stop encroachment on neighbouring uplands and
  - development and gradual introduction of more sustainable upland production systems to limit extension of shifting cultivation areas into forest land.

## **3.4 Land resource management**

### **3.4.3 The land policy**

Current land policy in Lao PDR, government has promoted land development by issuing policies, method and measures: education campaign and creation of fund in order to conserve

and improve land so that it may become better quality and more fertile. With the Land Law in place, the Government now is concentrating on the following issues:

- Land data survey and allocation
- Land measurement and quality evaluation
- improved upland farming systems
- improved lowland production
- facilitate agricultural research and extension

The following on from these aims of land policy, government endorsed this programme and action plan recognised a variety of aims and needs including:

- protection of land and environment;
- land survey and classification of regions and land categories;
- management of forest,
- management of agricultural land, and
- management of water-area land.

### **3.4.2 The land management**

The effects of the expansion of permanent agricultural land and shifting cultivation areas on forest resource degradation show clearly that land and forest resource management are closely related in the Lao PDR. Expansion of agricultural land into forest lands not only contributes to the deforestation, but also, unless agricultural production systems are well adapted to the soil conditions of former forest lands, cultivation can result in serious land resources degradation and further downstream effects such as siltation and decreased stream flow.

Although population density in the Lao PDR is comparatively low, arable land is not only scarce but the potential for further expansion is limited because of the geographic conditions. Much of the unused land in the country is of inferior quality or inaccessible. The Government has the task to intensify its agriculture, in order to maintain its growing population. This task, however, is further hampered by the country's topography, which limits the potential for irrigation. It is estimated that less than 260,000 ha (15% of arable land with slope below 5%) could be irrigated during the wet season and only 116,600 ha are suitable for dry season irrigation. Less than half of the wet season and less than a third of the dry season potential have so far been developed.

Another factor impeding both the expansion of arable and the proper cultivation of crop-land is the wide-spread contamination with unexploded ordnance of our country-side. Every year many people, mainly farmers or their children are killed and maimed by these remnants of the "secret war". Lao PDR belongs, with a share of 1 tonne bombs per head of population, to the heaviest bombed nations of the world ever. First efforts are undertaken to clear rural areas from bombs and grenades. The National Unexploded Ordnance Awareness and Clearance Programme is a major priority for socio-economic development.

## **3.5 Water and water resources management**

Lao PDR possesses both abundant surface and ground water resources. With approximately 60,000 m<sup>3</sup> per capita, the country has the highest availability of renewable freshwater resources per capita in Asia (and 20 times more than the Asian average). Although the hydrological figure is strongly influenced by the marked dry and wet seasons, acute water shortages and competition for water resources are only local issues. The key areas on environment issues in the water resources sector are hydro-power development, water supply and sanitation. Issues discussed hereunder refer to inland waters only, because the Lao PDR is a landlocked country.

### **▪ Rivers and Lakes**

The main water artery of the country is the Mekong, which forms the main borderline with Thailand. According to the Mekong River Commission, approximately 35% of the Mekong river from Lao PDR. However, 90% out of the total surface of the country belong to the basin.

Therefore it can be said that all actions affecting the Lao rivers also affect the Mekong. The Mekong and its tributaries are of tremendous importance to the country - they provide water for usage and irrigation, they provide food (fish, water animals and plants) and feed (water spinach, water hyacinth) for the farm animals. In many remote parts of the country travel is only possible by boat. Catastrophic drought and flooding in 1991 was the main cause of the fall of the agricultural growth rates from 8.3% in 1993 to 4.9% in 1995, and again in 1996, when severe and widespread flooding seriously compromised output growth and food security for 1997.

#### ▪ **Ground Water**

The Lao PDR has extensive groundwater resources, which receive significant annual recharge during the rainy season. Its internal renewable water resources are estimated to 270 Cu km per year. As stated earlier, the per capita availability of the country (55,100 Cu km per head of population) is one of the most favourable in the region but maybe misleading because of the low population density. In fact, the availability of ground water varies considerably over the country. While in some areas the groundwater table is not very deep and enough groundwater exists to satisfy the needs of the population, other areas suffer a shortage of water. No thorough research, however, has been conducted in this area.

#### ▪ **Sectoral Water Use**

The main bulk of water in the Lao PDR is being used by the agricultural sector (82%), while industrial and domestic withdrawals count for 10% and 8% respectively.

In order to prevent unsustainable use of its water resources, the Government has formed the National Task Force for Water Resources Management, comprising of members of the most important line ministries of water usage and management under the chairmanship of Science Technology and Environment Agency (STEA). The Water Law was promulgated in 1996.

Manmade Reservoirs, after implementation of its hydro-power development programme, the country's surface will be covered by several reservoirs. Each will need a management plan in order to prevent siltation and erosion. The people of adjacent villages also need to adjust their farming techniques (e.g. from riverine to pond fishery) or even way of life from migratory to a more sedentary life.

At present there is only one large reservoir, the Nam-Ngum lake. The capacity of the attached hydro-power station is 150 MW.

Hydropower. An issue, which is not only of national interest, is the intention of the country to accelerate economic development by exploitation of its big hydro-power potential for generation of foreign revenue. The Mekong river mainstream and its tributaries possess a vast potential for hydropower. The basin's hydropower potential from the Mekong and its tributaries in Laos is about 18,000 MW of installed capacity and 110,000 GWh/year of annual energy. The use of such development, however, needs to be carefully assessed with regard to resettlement requirements, environmental and socio-cultural impacts. Rural electrification is one of the factors to enhance socio-economic conditions in the region, especially in the remote mountainous regions. Using the possibilities of transmission line extensions is one of the options for the electrification, together with local mini-hydropower projects. A national transmission grid would increase these opportunities.

### **3.6 Natural disaster management policy**

The natural disaster prevention and protection in the Lao PDR is anchored in the Environmental Protection Law of the country:

“Disasters are extremely harmful incidents which occur either naturally, are man-made or caused by other reasons. They affect health, life, belongings, and the environment. Disasters in Lao PDR can be: floods, droughts, lands slides and erosion, fires, typhoons, pests epidemics, major oil spills or others.”

"Disaster Protection and Prevention Measures. The government founds a National Disaster Prevention Committee. The Natural Disaster Prevention Committee must cooperate with the

local administration for developing of disaster response and prevention plans. They must regularly monitor the threatened areas in advance."

Before the Environmental Protection Law Summit, there was no organization responsible for general and macro-disaster management matters. After April 3, 1999, the National Disaster Management Office was founded by Prime Minister Decree<sup>4</sup> to serve as centre for coordination and main manager of UNCCD related activities. National Disaster Management Office is cooperating on disaster prevention and protection within the country is promoted by the existing Line Ministries and Provinces on natural disaster management and protection which consists of representatives of key ministries, institutions and provinces.

Generally speaking, macro-level disaster management is being carried out by Ministry of Labour and Social Welfare (LSW) and Science Technology and Environment Agency (STEA), while each technical ministry and province has responsibility over their respective environment relating the disaster management in close cooperation with MLSW, STEA; Lao Red Cross (LRC), the Ministry of Agriculture/Forestry and Ministry of Health etc.

#### **4. National Legislation to effectively implement the Convention**

The Lao PDR has joined the convention on combating Desertification and Drought on 20/9/1996.

As party of the Convention, the Lao PDR is planning to elaborate legislation according the National Constitution, Environmental Protection Law, Land Law, Forest Law, Water and Water Resources Law, Agriculture Law and even though the government of the Lao PDR considered decentralized land management, forestland management and water resources management as the key national priority programmes and national strategy to eradication of poverty in the whole country, and that a number of policy and legal framework concerning the effective implementation of the UNCCD.

The mentioned legislation is not translated, however, into action plans. Under this programme, it is planned to extract all important measures into an implementation programme on desertification, which shall be approved and used by all technical and local levels.

#### **5. Action programmes in Lao PDR relating the CCD implementation**

**5.1 The first workshop on National Awareness on Combating Desertification /Drought (CDD)** on behalf of the government, the Disaster Management Office under Ministry of Labour and Social welfare in collaboration with UNDP organized national awareness workshop on Combating Desertification/Drought, which was held in Vientiane province September 21-29, 1999. Participants included representatives of some donor institutions and line ministries concerned, participants from 10 provinces and non-government organizations.

- The objectives of this workshop were :
  - Introduce the main features of the Convention to Combat Desertification/Drought was adopted in 1994 and signed by Lao PDR government in September 20, 1996.
  - Define elements of government priority programmes for the country action plan relevant to combat desertification and drought; and need of country action programmes to combat drought.
  - Assess the potential of regional and sub-regional cooperation with Asian and other countries.
  - Agroforestry concepts for managing land use in mountainous areas.

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<sup>4</sup> National Disaster Management Office. (Decree N°. 158./PM, 23 August 1999)

- The recommendation and problem to be address from the workshop were :
  - Strengthening the capacity building concerned to drought and land prone to desertification problems particularly in mountainous and barren areas.
  - Allocating the necessary fund to support action programmes in combating desertification and drought

**5.2 Drought mitigation programmes, case study in Northern province** (Meuang Sing district). **Activities of the Project.** The target areas of the project are the high mountains, where people make a living through crop cultivation and animal husbandry. Subsistence agriculture based on shifting cultivation is the main activity. Slash and burn practised by upland farmers has destroyed the forest, causing the imbalance of the environment and nature. The project objectives participated concepts and approaches in solving the problems to protect the environment, reduce the deforestation and improve land for permanent agriculture and increasing yield for producing sufficient food.

The problem that should be initiated in the future. The villages or local community have capabilities for preparing themselves for drought years. However, limits are found in issue of unclear ownership of resources that need the help from the contribution :

- Systematic approach in managing the land use on the mountains.
- Assignment of forests and forest land to local communities for administration and use.
- Creating awareness and understanding of local people about the importance of forests, help the communities in taking maximum benefit from forests, which is the laws and regulations of the Lao PDR in protecting natural resources.
- Training Local people on how to protect forest trees and to prevent forest fire.
- Legal framework for reforestation and tree plantation, especially around areas of water sources,

**5.3 Activities of the project survey forest plantation** or agro-forestry system in upland areas were implemented by Department of forestry :

This survey has tracked down forest plantation activities over the period from 1976. In 1980, the forest plantation decree was issued, establishing a National Arbour Day, which is held annually on 1<sup>st</sup> June. Every government unit and many citizens of the Lao PDR plant trees on that day. The purpose of the Arbour Day is to provide wood for further generations, to protect watersheds and to preserve the country's eco-systems.

Suitable trees for plantations under Lao conditions (soil and micro-climate) are teak, mahogany, Xylia, Dalbergia, Terminalia, Leuceana, Albizzia, Acacia, Dipterocarpus, Pinus, Gmelia, Cassia, Hevea, Anacadium, Melia, Styrax, Stercula, Protium, Anisoptera and Sindora.

Forest plantation in the country since 1976-1990 (100 ha)

| Part of Country | Before 1976 | 1976-1990 | Total areas |
|-----------------|-------------|-----------|-------------|
| Northern        | 0.3         | 19.5      | 19.8        |
| Central         | 0.3         | 18.6      | 18.9        |
| Southern        | 10.8        | 13.0      | 23.8        |

Source : Forest and plantation Centre, Department of Forestry, MAF, 1998

Plantation activities in the Lao PDR focus on different levels: the family, planting of government owned land, and plantations of private entities.

However, total plantation activities do not cover the area lost. From 1975 – 93, a total area of approximately 8,500 ha<sup>5</sup> was re-planted. Reforestation cannot be reached by re-planting alone, it shall be complemented by natural re-growth of degraded areas.

What is needed furthermore, is more awareness in the population about the importance of forest recovery and tree plantations. Very often, commercial tree plantation companies see only the short-term benefits of “land clearing” (timber extraction) but this is frequently not appropriately followed by re-planting or regular maintenance.

## **6. Conclusion : recommendation and problems to be addressed**

### **▪ Recommendation**

Issues and future trend associated with the process of decentralisation of the CCD implementation:

Even though the government of Lao PDR is considered decentralized environmental management including land use, water resources and forestland management as one of the key national priority programmes to eradication of poverty in the whole country, and that a number of policy, legal frameworks and different decentralized disaster management approaches/mechanisms and modalities have been formulated, adjusted and tested to support these efforts of decentralization , there are still however a number of constraints with regard to filling the institutional vacuums that have emerged from this decentralization process.

Major deficiencies concern the limited capacities and financial mechanisms at the provincial and district levels for carrying out management and development activities at local levels, continued appropriate training and establishment of support services are needed at provincial and district level. This needs to include training on the interpretation of the data and information collected to allow the identification and classification of focal sites to form the basis for promoting land use, water resources and forestland management plans to be tailored to different recommendation domains.

### **▪ Problem to be addressed**

- the lack of technical knowledge and mechanism to arrange the establishment of coordinating bodies (amongst relevant sectors at central and provincial cooperation this metter on implementation of UNCCD)
- The of financial resources and mechanism to promote the programmes activities
- The lack of capacity building, education and public awareness
- The lack of the transfer, acquisition, adaptation and development of the technology
- The lack of proper data on desertification

### **▪ Workplan**

- Country Action Programmes to implementation of the UNCCD
- Identify data sources
- Identify report design and presentation media, bulletin production
- Collect information about suitable solutions in other countries and establishment of a regional or sub-regional network
- Capacity building within desertification unit and funding support

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<sup>5</sup> Assessment of re-planting and land allocation (Department of Forestry, Lao – Swedish Forestry Forest Survey Project 1994)



## REFERENCES:

- State Planning Committee , Socio-Economic Development Plan by 2020
- Government Action Plan for 8<sup>th</sup> Priority Programme ,1999
- Ministry of Agriculture and Forestry, Trend and Planning of the Agro-forestry From year 2000 to 2003 and Agro-forest strategy by year 2020
- Reporting of the Forestry Plantation Survey 1991 by
- Department of Forestry, Forest Research Center, First Workshop Report on Forest Plantation and Classification of the forest land, 1994
- Department of Agriculture, Agricultural Land Research Center, Progress Report of the Land and Land Use management, 1998
- Land Research Center, First National Workshop Report on Land Survey and Classification of the agricultural land ,1994

## **PROGRAMME OF ACTIVITIES**

For preparation of National Progress Report

### **First week of April 2000**

- ◆ Selection of the national Contracting Environmental Research Institute as National Consultant for formulating of the National progress report on UNCCD implementation;
- ◆ The data collection from key line Ministries and concerned sectors such as
  - State Planning Committee (SPC)
  - Ministry of Labour and Social Welfare : ( National Disaster Management Office)
  - Ministry Forestry and agriculture :
  - NAFRI ( Department of forestry : Forest and plantation Research Center and Department of Irrigation : Soil Research Center, Agricultural land research Center, water & watershed management section);
  - Department of Meteorology.

### **Second week of April 2000**

- ◆ Additional data collection at Central and Provincial level ( Sectors or projects concerned and specific areas);
- ◆ Formulation of first draft national progress report by National Consultant;

### **Third week of April 2000**

- ◆ Organize the discussion on the draft of national progress report on CCD implementation;
- ◆ Revision of the draft national progress report after receiving comments from the meeting;
- ◆ Finalization of the draft national progress report and submit to STEA for approval;
- ◆ Translation of the National Progress Report;
- ◆ 25 April 2000, send the report to the UNCCD Secretary.

### **From 25April to 25 August 2000**

National Consultation Workshop will be organized above one month before COP-4

◆ **Financial covering and cost sharing contribution :**

the total budget is 4,000 US\$

- National Expert 1,500 US\$
- Internal travel 500 US\$
- Workshop 1,000 US\$
- Daily Spend allowance 500 US\$
- Translation and copies 500 US\$

◆ **Schedule activities**

| Programme activities   | 24/3 -<br>7/4 | 8-<br>15/4 | 16-<br>25/4 | 25/<br>8 |
|--|---------------|------------|-------------|----------|
| - Informed the results of the TPN 2 meeting to line Ministries or research Institutes concerned  | ■             |            |             |          |
| - Preparation of the meeting   | ■             | ■          |             |          |
| - Organize meeting on formulation of the NPR on CCD implementing   |               | ■          | ■           |          |
| <b>Internal travel :</b>   |               |            |             |          |
| - Group field trip & case study at the affected zones soil erosion (Phongsali province) and to become desert Champhone area Savannakhet province ) | ■             | ■          |             |          |
| - Revision and improving of the NPR after receiving comment from each participant  |               | ■          | ■           |          |
| - Send the Draft NPR to STEA policy maker (to agree with Department of Environment directed to the Vice president) for suggestion and comment      |               |            | ■           |          |
| - Revise the National Progress report on the CCD implementation by the NFP Unit  |               | ■          | ■           |          |
| - Send the final National progress report to UNCCD Secretary   |               |            | ■           |          |
| - Will continue discussion and formulation of the National Action Programmes on UNCCD implementing   |               |            | ■           | ■        |
| - Organize the National Consultation workshop  |               |            |             | ■        |
| - Submit reporting of the results of the national workshop to the STEA and inform to UNCCD Secretary   |               |            |             | ■        |