



# **STRATEGIC FRAMEWORK FOR NATIONAL SUSTAINABLE DEVELOPMENT STRATEGY FOR LAO PDR**



**Water Resources and Environment Administration  
in collaboration with  
Ministry of Planning and Investment  
on behalf of  
Government of Lao PDR**

**November 2008**



# **Strategic Framework for National Sustainable Development Strategy For Lao PDR**



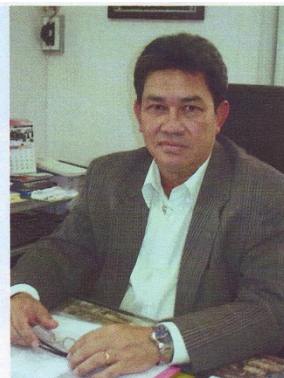
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# FOREWORD

## FOREWORD



The Strategic Framework for National Sustainable Development Strategy for Lao PDR was prepared as part of the process of developing a National Sustainable Development Strategy (NSDS) for the country. This was carried out with technical assistance from the NSDS project of the United Nations Environment Programme. Developing an NSDS is a major undertaking for any country, and especially for developing countries such as Lao PDR in which the policy, legal and socio-economic frameworks have typically developed along sector lines and not within an integrating NSDS framework. This process has had another important benefit as it has facilitated the raising of awareness and understanding of the critical importance of long-term integrated development planning, sustainable development challenges at local, national, sub-regional, regional and global levels, and finally how to operationalize the concept of sustainable development at national and sectoral levels.

This Strategic Framework was developed in an opportune moment as it coincides with the period of the mid-term review of the National Socio Economic Development Plan (NSED) 2006-2010 and the development of the 7<sup>th</sup> NSED. We believe that this Strategic Framework contribute to effective mainstreaming of sustainable development principles into national development planning processes.

A handwritten signature in blue ink, appearing to read 'B. S.', with a stylized flourish underneath.

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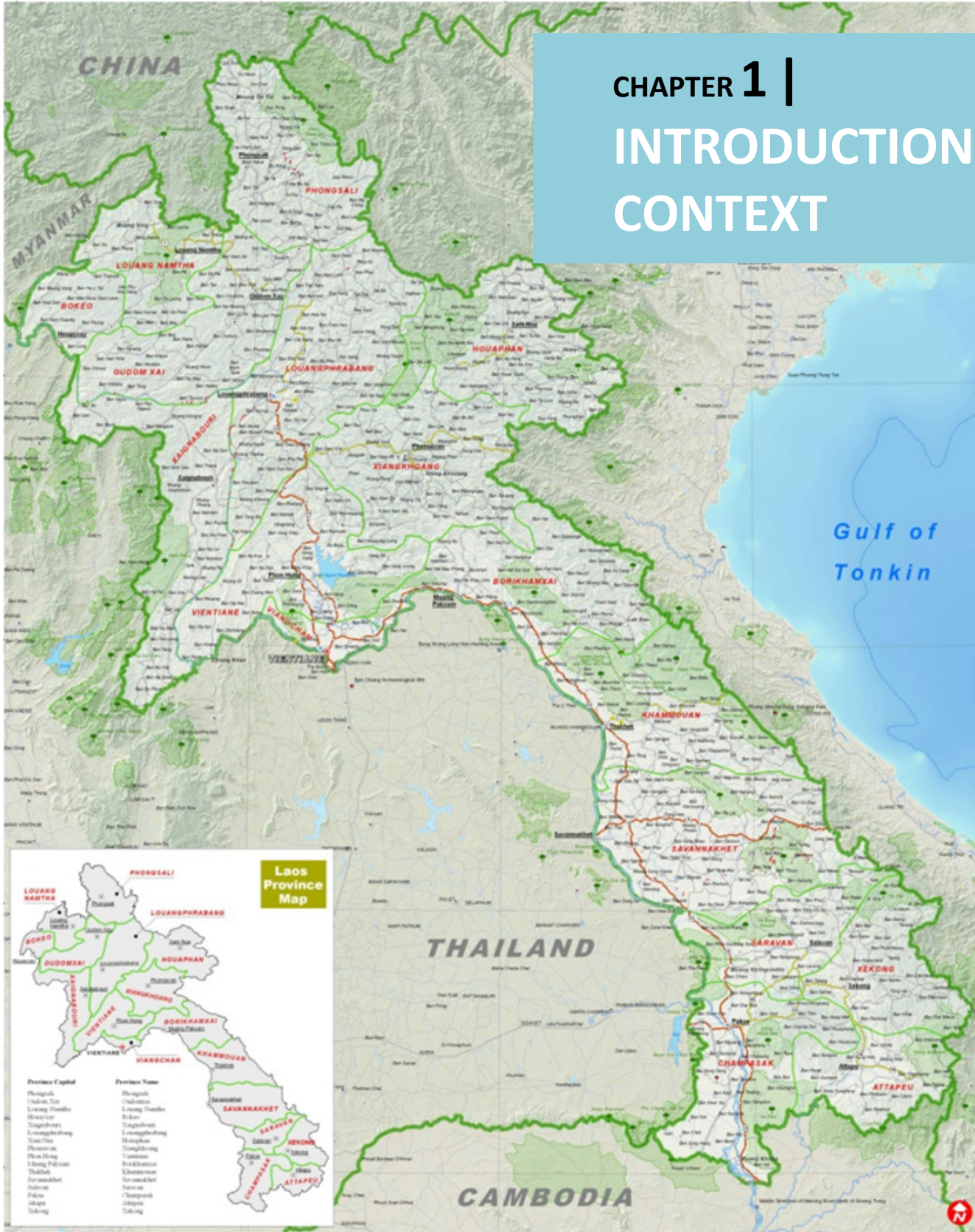
# ACKNOWLEDGEMENTS

The Water Resources and Environment Administration (WREA), as the national NSDS project implementing body, would like to express its sincere gratitude to all of the national and sub-national level stakeholders who participated in this process, as well as the international development partners for their valuable inputs to this report. We are especially grateful to national and provincial stakeholders from different line ministries who participated in the consultation workshops held as part of the NSDS process and who provided constructive comments on the NSDS development process. Valuable technical advice and assistance was provided throughout the development of this report by the NSDS Project Team of the United Nations Environment Programme (UNEP) and the Asian Development Bank (ADB), as well as by the international volunteer advisor and the UN Volunteer to WREA.

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# CHAPTER 1 | INTRODUCTION AND CONTEXT



## 1.1 Sustainable Development

### International Context

Sustainable development has emerged as a new global development paradigm, having been adopted by the international community as an overarching development goal since the United Nations Conference on Environment and Development (UNCED) held at Rio de Janeiro, Brazil in 1992. The concept of sustainable

development was first formally articulated by the World Commission on Environment and Development (WCED), better known as the Brundtland Commission, in 1987 in their report, *Our Common Future*, as “development that meets the needs of the present without compromising the ability of future generations

to meet their own needs". The Rio Declaration at the UNCED of 1992 endorsed a total 27 principles towards achieving sustainable development that are captured in "Agenda 21" and that were adopted by more than 178 Governments at the UNCED as a comprehensive plan of action. Lao PDR is committed to Agenda 21 as well as to the conventions adopted at the Conference including the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity and the UN Convention to Combat Desertification. The Lao PDR has agreed to other key international commitments

### Sub-Regional Context

Lao PDR is situated in the heart of the Greater Mekong Sub-region (GMS), as it borders all five of the other GMS countries (Cambodia, People's Republic of China, Myanmar, Thailand and Viet Nam). Active participation in regional cooperation is crucial for Lao PDR, especially as it is the only landlocked country of the six GMS countries, and thus should take advantage of its geographic location as a 'land-linked' country in achieving its sustainable development objectives.

The GMS countries have strong economic, social, political, cultural and environmental inter-linkages among them. They share a rich and diverse natural resource base, which supports the sub-region's fast growing economy and sustained rural livelihoods. Despite its geographic advantage and resources, about 55 million of the sub-region's 300 million people are still living on less than one dollar a day. Poverty is a common overriding challenge in the region and many of the sub-region's poor populations are heavily dependent on direct utilization of the natural resources supported by the Mekong River basin. More than half of the population is dependent on natural resources and primary sector activities such as forestry, fisheries and

in the area of sustainable development including the UN Declaration on Human Rights, the Millennium Development Goals (MDGs) and other Multi-lateral Environmental Agreements (MEAs).

At the World Summit on Sustainable Development in Johannesburg, South Africa in 2002, governments adopted the Johannesburg Plan of Implementation (JPOI) which called upon countries to take immediate steps to make progress in the formulation and elaboration of the National Sustainable Development Strategy (NSDS), and begin their implementation by 2005.

agriculture for their livelihood and economic development.

The poor populations are becoming ever more vulnerable to environmental degradation, which has immediate effect on their well-being. Rapid economic growth, population pressures, unsustainable exploitation of natural resources, unsustainable urbanization and lack of environmental governance have been putting increasing pressure on the region's shared natural resources and causing deforestation, polluted water bodies, poor urban air quality, trans-boundary pollution, land degradation, declining fish and wildlife population, etc.

The shared challenge facing the countries of the GMS was identified in the GMS Sub-regional Sustainable Development Strategy (SDS) spearheaded by the Thailand Environment Institute (TEI) with support from the UNEP and the ADB. The GMS SDS identified this common challenge as "the balancing of the three pillars of sustainable development", namely, society, environment and economy. In order to achieve balanced development, the GMS SDS urgently calls for coordinated plans and actions that the six countries must undertake jointly in pursuit of goals and targets to achieve a sustained improvement in the lives of their people.

## Sustainable Development National Context for Lao PDR

KEY SOCIAL, ECONOMIC AND ENVIRONMENTAL INDICATORS	
Population, total (millions)	5.86
Population growth (annual %)	1.7
Poverty (% of population below national poverty line)	33
Life expectancy at birth (years)	64
Mortality rate, under-5 (per 1,000)	75
Literacy (% of population age 15+)	69
Ratio of girls to boys in primary, secondary education	85
GNI per capita (Atlas method, US\$)	580
GNI (Atlas method, US\$ billions)	3.4
Official development assistance and official aid (\$ millions)	364
Forest area (sq. km) (thousands)	161.4
Carbon dioxide emissions per capita (metric tons)	0.2296
Access to improved drinking water sources (% of total population)	60

Source: World Development Indicators 2008 + UN Statistics Division 2007

Lao PDR is a historically, culturally and environmentally rich country with diverse landscapes and ethnic populations. It is located in the center of the Indo-Chinese Peninsula and is surrounded by China, Vietnam, Cambodia, Thailand and Myanmar, providing a potential for a strategic resource base and land-link in the GMS sub-region. The country has an abundance of natural resources including large reserves of mineral deposits, abundant water resources and a wealth of forests, covering 47%

of the country's land area. Economic development of the country is largely dependent on its use of these natural resources.

Lao PDR is currently classified as a 'Landlocked and Least Developed Country' (LLDC) and is considered by the international community to be one of the poorest countries in the world, with a per capita GDP of US\$ 440. The country's human development ranking is 143rd among 175 countries.

## Mainstreaming National Development Priorities

The Lao Government's overarching development goal is to lift the country from the ranks of Least Developed Countries (LDCs) by 2020. The key national development plan, the National Socio Economic Development Plan (NSED) 2006-2010, for example, clearly recognizes some of the essential sustainable development principles as it states that "the socio-economic development of the country must be balanced between economic growth, socio-cultural development and environmental preservation". Pro-poor policies are formulated in other key national plans such as the poverty-focused national programmes on drug control and HIV/AIDS. Gender equity as the third MDG is also addressed as one of the cross-cutting areas of the current NSED. Environment also features in both the NSED and the National Growth and Poverty Reduction Strategy (NGPRS) as one of the main inter-sectoral issues. The

importance of environmental conservation and the poverty-environment linkages are generally acknowledged in these national plans and strategies.

However, the acknowledgement and recognition of the issues of mainstreaming environmental sustainability have not provided for specific linkage to sectoral policies or emerging socio-economic issues. For instance, sustainable management of natural resources and ecosystem services are not fully mainstreamed into key sectors such as the coal industry, mining and hydropower. NSED and NGPRS, as well as sectoral strategies and policies, are intended to be playing a role as an effective strategic framework to enhance coordination and to create synergies amongst them all. Currently, sectoral working groups and informal donor working groups have been set up to carry out inter-sectoral or inter-

ministerial coordination and policy integration within the national development planning processes.

At the moment, structural changes are being made within the government and a number of national sectoral strategies will soon be formulated in the near future, including a water resource strategy and national land management strategy among others. Amidst

the on-going rapid development process, it is crucial for the country to be equipped with a long-term strategic framework for sustainable development to avoid repeating the same mistakes of unsustainable economic growth as carried out by previously industrialized countries, and to effectively adopt a sustainable development path toward the future.

## 1.2 Need for a Strategic Framework for Sustainable Development

### Key Sustainable Development Challenges

Significant economic reforms have been undertaken towards a more market-orientated economy and great progress has been made in economic growth with an ongoing annual growth rate projected to be 6-7% in real GDP terms between 2006 and 2010. This projected growth will mostly be generated by increased foreign direct investment in natural resource exploitation, agriculture and tourism as shown in the sector shares in GDP (agro-forestry: 45,4%, industry: 28,2% and service: 26,4%). Poverty reduction has also shown progress, with decline in the number of poor households falling to around 31 % of the total in 2005. However, this recent economic progress is facing some key fundamental challenges, including maintaining macroeconomic stability, improving competitiveness and advancing trade reforms (UN CCA for Lao PDR, 2006).

Moreover, results of this economic growth have been uneven, resulting in increasing socio-economic inequities. The acceleration of economic growth, which is largely natural-resource dependent, has been putting increasing pressure on the natural resource base and posing a significant challenge to its sustainable management. A large number of the poor are being adversely affected by environmental degradation combined with inadequate provision and delivery of environmental services. Given that the hydropower and mining sectors are major sources of economic growth in the country, it is critical to ensure environmentally and socially sound resource extraction and equitable use of its revenues are occurring in order to translate this resource exploitation into benefits for the whole population that sustain social and economic development throughout the country.

#### UNSUSTAINABLE TRENDS

- Unsustainable use and overexploitation of forest resources (forest area declined from about 70% of the total land area in the 1940s to about 41.5% in 2006)
- The loss of biodiversity is causing a significant adverse impact on the livelihood, especially that of poor and marginalized people.
- Public expenditures for the environmental sector declined significantly between 2002 and 2005.
- Inadequate institutional and management system.
- Weak enforcement of the existing laws and regulations.
- Occurrence of floods, droughts, landslides, forest fires and climate change impacts.

Source: PEI

Sustainable development can only be realized when economic, social and environmental considerations are effectively considered and integrated into all human activities and decision-making. In line with the global commitments made at the UNCED and the WSSD, a National Sustainable Development Strategy (NSDS) has been formulated and is being implemented by a number of countries as a key national strategic planning mechanism to translate the goal of sustainable development into concrete policies and actions towards meeting their targets. An NSDS is a cyclical, interactive and adaptive process of planning, participation and action in which the emphasis is on managing progress towards achieving economic, social and environmental objectives in a balanced and integrated manner, rather than simply producing a plan as an “end product”. The focus should be on incorporating principles of sustainable development into key local and national decision-making, policy formulation and implementation processes.

The Government of the Lao PDR does not currently have a separate NSDS or its equivalent. Its key national development strategies and plans include the “Long-Term Strategy of Socio-Economic Development to the Year 2020, the National Socio-Economic Development Plan (NSEDPlan), the Strategy on Industrialization and Modernization, the National Growth and Poverty Eradication Strategy (NGPES), the Regional Development Strategy and other sectoral, thematic and sub-sector strategies and plans. These existing strategies and plans do include some elements of the NSDS, such as participatory multi-stakeholder consultation processes, building on existing strategies and plans, political commitment and addressing global commitments.

However, these existing national strategies and plans lack in some of the essential elements of the NSDS. These include the following:

- integration of economic, social and environmental objectives across sectors, territories and generations
- sector-wide mainstreaming of sustainable development principles and poverty-environment linkages
- sustainable development policy instruments
- indicators to evaluate the overall status of national sustainable development
- institutionalized mechanism for public participation,
- linking short-term to medium and long-term goals in addressing inter-generational equity
- coordinating different sectors and territories

In order to complement the stated elements above, Lao PDR needs a strategic planning process that complements the existing ones, that strengthens the sustainability elements of existing macro and sectoral strategies and that develops synergy amongst them all. An NSDS, as a tool for informed decision-making, would help the country to institutionalize processes for consultation and consensus building on priority national issues. Lao PDR would benefit from an NSDS which would help build capacity, develop policies and legislative frameworks and use limited resources efficiently to address inter-related social, economic and environmental problems ranging from poverty reduction and environmental degradation to globalization and climate change. Furthermore, the NSDS process will enhance participatory governance as it will target not only the Lao PDR’s government officials involved in development planning processes at the national and sub-national levels, but also various stakeholders, including civil society organizations, media, the private sector and the scientific community, for their active engagement in the nation’s efforts for achieving sustainable development.


## 1.3 About the Strategic Framework for Sustainable Development Action Plan

In response to the above-stated need for an NSDS, a project to develop a strategic framework for sustainable development action was initiated by the Government of Lao PDR, represented by the Water Resources and Environment Administration (WREA) of the Prime Minister's Office, with technical assistance from the United Nations Environment Programme.

This report provides a conceptual framework for formulating the Lao PDR's NSDS. It is aimed at helping the government of the Lao PDR to better integrate sustainable development principles into national and sectoral development planning as an overarching policy guideline. Progress reported here focuses on two main outputs. The first is an NSDS Implementation Framework that provides the key guidance for the next steps to achieve a full NSDS for GOL. The second is an extensive analysis of national and sectoral policies, strategies and plans (Sector Review). The Sector Review is appended as Annex 2. The NSDS content development process is built on existing strategies and plans which include the National Socio-Economic Development Plan 2006-2010, National Growth and Poverty Eradication Strategy (NGPES) and various sectoral policies and plans. Assessment of current economic, social and environmental

strategies and policies was undertaken by the NSDS national focal point in Lao PDR. Existing strategies were analyzed with the view to develop synergy amongst the various existing plans, particularly through the thematic issues covered, the stated objectives and outcomes and the timeframes for achievement. Key problems/constraints were identified and priorities were set through a consultation processes.

This strategic framework applied the multi-stakeholder participatory principle of the NSDS development into the country-specific context of national development planning process of the Lao PDR. A series of consultation workshops as along with informal inter-ministerial consultations were organized that effectively mobilizing key national and international stakeholders. They included an inception workshop in January 2008 and drafting and informal consultations by May 2008, 1<sup>st</sup> National and Provincial Consultation workshop in June 2008, 1st Expert Group meeting, the 2<sup>nd</sup> Expert Group in September 2008 for having common understanding and common position amongst various line agencies. On 19 September 2008, the final workshop was organized to present the final task done on the Development Guideline for Lao NSDS.



## CHAPTER 2 | PRINCIPLES, VISION AND GOALS

### 2.1 Policy Guiding Principles of Sustainable Development in the Lao PDR

The following policy guiding principles of sustainable development are identified based on the existing ones included in the existing key national development strategies and plans. All policies and strategies at national and regional levels should systematically integrate the following principles.

- **Living within environmental limits:** Development activities and economic growth, which are essential for poverty reduction, must be subject to physical and biological environmental limits
- **Intra and Inter-generational equity:** Protecting the most vulnerable and marginalized sectors of the population, without compromising the ability of future generations to meet their own needs
- **Participatory:** Involvement of non-government actors from business, civil society, media, and the general public
- **Policy Integration:** Promote integration of economic, social and environmental considerations so that they are coherent and mutually reinforce each other by making full use of policy instruments for better regulation, such as balanced development impact assessment and stakeholder consultations
- **Policy Alignment and Coherence:** Promote alignment between all national and sectoral policies and coherence between local, regional, national and global actions
- **Using best available knowledge:** Ensure that policies are developed, assessed and implemented on the basis of the best available knowledge and that they are economically feasible and cost-effective
- **Precautionary Principle:** Where there is scientific uncertainty or lack of sufficient information, implement evaluation procedures and take appropriate preventive action in order to avoid damage to human health and to the environment

## 2.2 Long-term Vision and Strategic Goals

### Long-term Vision

A long-term development vision of the Lao PDR was formulated in the late 1990s within the ASEAN framework. It defined the goals and projected future outcomes for the government's national development objectives. The government's overarching national goal is to lift the country from the rank of LDCs by 2020 through a strategy of growth with equity and the eradication of basic poverty by 2010.

The strategy states that "socio-economic development should progress continuously and be stable; there should be balance between social, economic and cultural development and

the protection of the environment, so ensuring sustainability".

Based on this existing national vision to 2020, the national sustainable development vision was proposed as a result of consultation processes as follows:

*"Achieving the sustainable well-being of all people of the Lao PDR through the simultaneous and integrated pursuit of a prosperous economy, equitable society and healthy environment"*

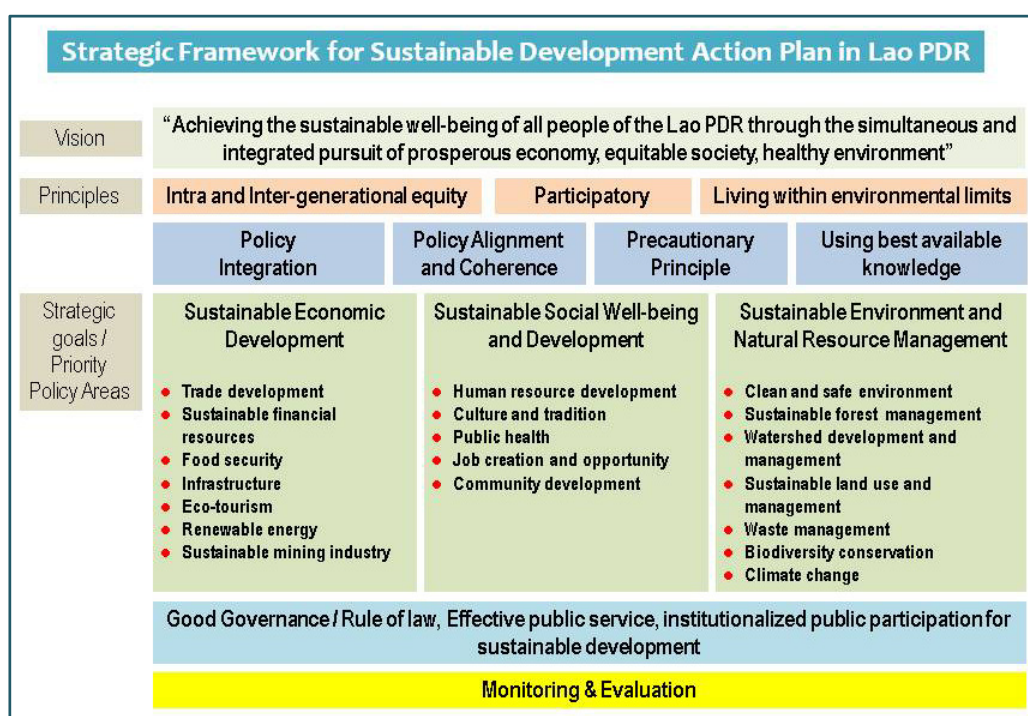
### Strategic Goals to Transform the Vision into Reality

Clear goals are needed to guide the government's overall development objectives towards realizing this long-term vision. Stakeholder consultations, in particular, through the Inception Workshop held in January 2008, identified the following key strategic goals:

1. Sustainable Economic Development
2. Sustainable Social Wellbeing and Development
3. Sustainable Environment and Natural Resource Management

#### 4. Good Governance

Each of the four strategic goals is addressed by proposed sectoral responses. This is elaborated in the following chapter where sectoral responses include a situation analysis, identification of lead and collaborating organizations and their respective responsibilities, existing strategies and policies, overall objectives, operational objectives and targets, proposed strategic actions and systemic sustainable development progress indicators.





## CHAPTER 3 |

# PRIORITY POLICY AREAS OF THE STRATEGIC GOALS

### 3.1 Strategic Goal 1: Sustainable Economic Development

#### 3.1.1. Sustainable Trade Development

##### Situation Analysis

Following examples from China and Viet Nam, the Government (GOL) of the Lao PDR committed itself to pro-market reforms under the structural New Economic Mechanism (NEM) policies in the mid 1980s. The strategic objective of these policies was and remains the

shifting of resource allocation in the economy away from Government control and towards a market driven mechanism, with increased reliance in international trade and foreign investment. Some so-called “strategic sectors” most notably timber, still remain tightly control

by GOL, but by and large, market liberalization and increased reliance on the private sector for economic growth is the hallmark of the current economic structure in Lao PDR.

The Government of the Lao PDR has been developing the policy for promotion of export to enable domestic industries to have improved opportunities to maximize their economic benefits through participating in the global economy. Exports are the factor driving the achieved growth to date, and this growth is targeted to increase approximately 12 percent per year. Lao PDR is increasingly diversifying its export structure, and improving upon the quality of its export products. Export commodities mainly comprise coffee, electricity, clothing, minerals, wood and products, garment and the products of mining. Import items include automobiles, fuel and lubricants, fertilizers, drugs and chemicals. Lao PDR trades with more than 30 countries, with the most important being Thailand, Vietnam, Japan, China, Singapore, Hong Kong, France, Germany and the US. In 2005, more than 50% share of exports from Lao PDR was directed to Thailand, followed by Vietnam (23%) and a few European countries including Germany and France. Major importing sources within ASEAN in 2005 included Thailand (81%), China (11%), and Vietnam (8%). Lao PDR is increasing its economic integration both regionally and globally. To a great extent, the strategy for reforming the economy is being situated in the context of Lao PDR's commitments under the ASEAN Free Trade Area (AFTA) and the process of WTO accession, as well as increasing bilateral relations with neighboring countries in the Greater Mekong Sub-region (GMS). The country is also involved in negotiations between ASEAN and China on a free trade agreement (CAFTA). It is clear that trade is expected to be the engine of growth and development for Lao PDR. Moreover, expectations are high. The government has committed to increasing exports by 18 percent by 2010 (CPI/UNDP, 2006).

However, Lao PDR's share of exports as a proportion of GDP remains quite low. Furthermore, exports are still concentrated in a few products, mainly commodities that are subject to fluctuating world prices, unprocessed agriculture products, and low-value manufacturing. The government strategy is to boost exports in labor-intensive and higher value-added production, but it recognizes that labor productivity is low, entrepreneurship skills are weak, and technology use not currently up to date.

A critically important element in all of this is the need to ensure sustainable trade development that takes into account economic, social and environmental impacts on the environment and social fabric of the country. This is particularly relevant for the context of the Lao DPR as it is taking the natural resource-dependent development path and its export growth comes primarily from the extraction and sale of its natural resources. Lao PDR currently lacks effective environmental governance mechanisms, policies and measures aimed at mitigating environmental threats and enhancing environmental opportunities of trade and trade liberalization. The trade and environment assessment undertaken in 2007 by an advisory panel comprising of the Government of Lao PDR, the International Institute of Sustainable Development (IISD) and the World Conservation Union provides useful analysis and policy recommendations for minimizing the environmental impacts of trade liberalization in key export sectors including hydrology, mining, construction materials, wood and wood products, garments, tourism, organic agricultural products, silk handicrafts, medicinal plants and products and biofuels. However, there is a strong need for additional assessments and nation and sector-wide consultations followed by appropriate policies and measures to ensure that trade development benefits the widest possible populations and minimizes adverse environmental impacts.

### Lead organization

- Ministry of Industry and Commerce (MIC)

## Collaboration organizations

- Lao National Chamber of Commerce and Industry (LNCCI)
- Ministry of Agriculture and Forestry (MAF)
- Ministry of Energy and Mines
- Water Resources and Environment Administration (WREA)
- Economic Research Institute on Trade (ERIT)

## Existing policies and strategies

- Export Promotion Policy
- Decree on Trade Competition 2004
- Decree on Import and Export Management
- Business Law No. 03/94/NA dated 18 July 1994,
- Decree on the Customs Law No. 04/94 dated 18 Jul
- National Growth and Poverty Eradication Strategy (NGPES)
- National Social-Economic Development Plan 2005 - 2010

## Overall objective

- Promote trade development that contributes to national sustainable development priorities, without causing adverse impacts on the environment, through sustainable trade policy frameworks and processes

## Operational objectives and targets

- Develop and implement a sustainable trade policy framework and processes that are embedded in the broad national and sectoral development planning processes
- Strengthen trade policy and institutions
- Increase the volume and value-added of exports and diversify export products and markets
- Become a member of the WTO by 2009 and AFTA

## Strategic actions

- Develop a sustainable trade strategy that is fully integrated into key national and sectoral development strategies such as the NSEDP and the NGPES
- Establish a legal and institutional framework for sustainable trade facilitation and regulations including the *Trade Sustainability Impact Assessment* and the *Trade Environmental Impact Assessment*
- Develop and implement a sustainable management plan of key trade sectors
- Develop incentive schemes and regulations to promote sustainable production of key industries
- Improve law enforcement in key export sectors especially regarding unsustainable production practices
- Establish effective mechanisms for inter-sectoral coordination as well as for the collection, dissemination and analysis of trade related information
- Establish trade and investment promotion facilities supporting and attracting socially and environmentally responsible private sector development and international business

## SD Progress indicators

- Sustainable trade strategy developed and implemented
- Legal and institutional framework established for sustainable trade development
- Number of companies with sustainable production methods

### 3.1.2. Sustainable Financial Resources

#### Situation analysis

Adequate financial resources are a prerequisite for the implementation of the national sustainable development priorities. Lacking of sufficient financial resources is a major constraint for the Lao PDR. The ratios of savings and investment to GDP, although significantly improving, are still low compared to the potentials and the development requirements. The difference between domestic saving and public investment is significantly high and requires the use of foreign funds, mostly in the form of loans. The mobilization of savings for investment is still limited since the Government has not yet secured the sources of adequate revenues, and enterprises in different economic sectors have not yet sufficiently developed. Also, there are still no policies and detailed mechanisms to convert land and other resources into sources of capital. Furthermore, the mobilized funds for investments are limited and are not concentrated on developing potentials of different sectors, including the development of labour force skills, eradicating hunger, reducing poverty and sustainably managing natural resources. Investments in infrastructure are scattered and the implementation of projects is often delayed. Debts incurred for financing the construction of infrastructure are substantial, and the debt service obligations create pressure on fiscal budgets and local commodity prices. It is estimated that public and private investments in sustainable natural resource

management and environmental protection remain low, whereas many development activities are based on the sale and extraction of natural resources having significant environmental implications.

Annual budget revenues increased rapidly and steady due to the various measures taken by the Government, including tax policies and measures to increase and promote investment. Due to the reorganisation of the tax structure, tax revenues collected on domestic production has risen quickly and now constitutes the most important part in the state budget revenue, rising from 63 percent of the total budget revenue in 2001 to 71.5% in 2005. Total budget expenditures over the five year period (2006 – 2010) are expected to reach 22.830 billion Kip, at an average growth rate of 13 percent per year. The proportion of development expenditure (investment) in total public expenditure has remained at a high and stable level of about 49.5%. However, the domestic share in total development expenditure (investment) accounts for only one-third and is decreasing, while the international share accounts for two-thirds and is increasing. The state budget deficit in the five years (2001-2005) reached 7.820 billion Kip, averaging around 7.4% of GDP annually, which was a fairly high rate of change. The deficit was covered mainly by external loans and grants, with domestic borrowings covering only a small portion of this.

#### Lead organization

- Ministry of Finance

#### Collaborating organizations

- National Bank
- Ministry of Planning and Investment
- National Leading Committee for Rural Development and Poverty Eradication

#### Existing policies and strategies

- Budget Law
- Banking Law
- Accounting Law
- Budget, revenue and expenditure policies
- Monetary and Exchange Rate Policy
- Banking Reform

## Overall objective

- Ensure new and additional financial resources and improve resource allocation for environmentally sound development programmes and projects

in accordance with national development objectives, priorities and plans

## Operational objectives and targets

- Achieve an annual growth rate of 17.2% in total revenues in the national budget
- Increase public expenditure on pro-poor and environmental programmes
- Promote Domestic and Foreign Direct Investment in sustainable development initiatives
- Improve fiscal transparency and budget management and execution
- Improve balance of current and capital expenditure and increase share of social expenditure
- Decrease aid dependency ratio and improve external debt and foreign aid management

## Proposed strategic actions

- Maintain and strengthen prudent fiscal management
- Ensure medium-term fiscal sustainability through progressively raising the revenue to GDP ratio and the use of external concessional assistance
- Promote domestic savings
- Undertake measures to diversify financial resources including domestic, international, public and private sources
- Develop Green GDP and Green Accounting mechanisms
- Modernize tax system and broaden overall revenue base
- Reinforce Capabilities of: (i) Tax Department, focusing on large taxpayer units (LTUs), especially in the provinces; and (ii) of Customs Department
- Transfer Budget Planning and Revenue Collection Procedures to provinces and districts
- Strengthen Land Tax administration
- Review Pricing and Royalties on Resource Products
- Improve financial services to rural areas through the Agricultural Promotion Bank and other self-sustaining, market oriented rural financial institutions as well as the national strategy for rural credit and micro-finance
- Improvement of intermediation and outreach of the national banking system through the reform programme aimed at improving the performance of the state-owned commercial banks
- Attract domestic and foreign investment through investment facilities and ensure the sustainability of investments in relation to potential social and environmental impacts

## SD Progress indicators

- Aid dependency ratio (% of GNI)
- Total revenue in the national budget
- Proportion of development expenditure (investment) in total public expenditure
- Level of domestic savings (% of GDP)
- % of public expenditure on environment and poverty reduction
- % of private investment in environment and poverty reduction
- Percentage of rural population with access to adequate financial services
- Number of sustainable rural microfinance institutions

### 3.1.3. Food Security

#### Situation analysis

Global food prices have risen 83% over the last three years (2006 – 2008). The recent global food crisis threatens millions of the poor and vulnerable and has the largest impact on extremely poor households who typically spend 55-75% of their income on food (World Bank estimates). Rising food prices contributed to an acceleration of inflation across the Asia and Pacific region during 2007, and in 2008 the further rise in food prices has reached alarming proportions. There is a clear and present danger that rising food prices will have significant adverse impacts on the on-going poverty reduction efforts in developing countries in Asia.

Key contributing factors to the recent food price increases are due to both demand-side and supply-side causes. Demand for meat, dairy and high value food has experienced rapid growth throughout the Asia region with the increasing wealth of populations, especially in China. This has had a ripple effect for Lao PDR. Causes on the supply-side include declining productivity, population growth outstripping productivity growth, underinvestment in agricultural R&D, land degradation, water scarcity, increasing land conversion to non-agricultural uses, rising energy prices and growing demand for bio-fuels driven by oil prices and climate change concerns. In ensuring sustainable food security, it is critical to address the ecological foundations of agriculture, namely, land, water, biodiversity and the atmosphere.

The country's strategic vision for agricultural development has comprehensively analyzed the agro-economy of the Lao PDR in two areas; namely the low-lying alluvial floodplain areas along the Mekong and its tributaries and the upland areas. In the past five years, the growth of agricultural production in the lowlands has shifted from a self-subsistence economy to market oriented production as farm households can now more readily produce sufficient produce for their own consumption and have a surplus for reserve and/or sale on the market. In contrast, the farmers in the upland mainly depend on subsistence production; have no market connection due to limited infrastructure, use primitive production techniques and lack the necessary financial capital for development. Moreover, the growth of human population in the highland areas increases the pressure on the use of natural resources, thus increasing environmental degradation trends. The Comprehensive Food Security and Vulnerability Analysis (CFSVA) was the first nation-wide food security study, and was undertaken in rural Lao PDR by the World Food Programme. The Study found out that two thirds of the rural population are food insecure (13%) or live on the edge of food security and could become food insecure should a shock occur during any one year. The study findings indicate that chronic malnutrition is as high today as it was ten years ago and the poor are very vulnerable to natural hazards (floods and droughts), other climatic variables and future projected climate change scenarios.

**Table: Comparison of flatland and sloping regions in Lao PDR**

Condition in Flatland Areas	Condition in Sloping Land Areas
Good road linkage and access	Poor Road Linkages
Adequate production technologies and regional marketing	Agricultural Technologies very limited
Rural saving mobilization and agricultural lending mechanisms beginning to function	Credit very limited or non-existent
Domestic and regional markets interacting together	Little interaction of domestic and external market forces
Access to Market information	No Access to market information
Monetized rural economy	Non monetized rural economy
Domestic and foreign business investment (including human capital)	Lack of incentives for domestic and foreign business investment and human capital due to complicated marketing systems and remoteness
Favorable physical conditions for agriculture	Balance between geographical conditions for agricultural production and protection of environment required

Source: *The Government's Strategic Vision for the Agricultural Sector (MAF, 1999)*

While the country's food needs are currently being met from domestic production, a stable food supply remains uncertain because of inappropriate farming methodologies and inadequate and outdated domestic marketing systems. Reassessment of the land-forest allocation programme is needed, particularly as it applies to upland areas where shifting cultivation is widespread; shortened fallow periods, together with population pressures, have resulted in declining agricultural yields and increased hardships in some upland areas.

Sustainable food security depends upon the area of land, its productivity, agricultural technologies and sciences. Sustainable urbanization must not cause or lead to a loss of productive agricultural land, which has been the trend for many towns and cities in Lao PDR. Looking long-term, uncontrollable increases of urban populations will necessitate an increase

in rice and other foodstuffs production through utilization of chemical fertilizer and pesticide. This will in turn have negative implications for overall human health as well as contributing to increased land degradation, followed by a need to import more food, thus decreasing overall food security. Additionally, there is a need to raise awareness of the farmers to the real and practical need to conserve local biodiversity based on their dependence on these vital ecosystem services. It is crucial that the Government make food security a high priority, especially in rural areas. Food security policy measures should be comprehensive, including not only rice availability, but also production, access, consumption and environmental sustainability of agricultural development as well adequate infrastructure, market access and educational efforts.

### Lead organizations

- Ministry of Agriculture and Forestry
- Ministry of Planning and Investment
- National Leading Committee for Rural Development and Poverty Eradication
- Ministry of Health, Department of Food and Medicine

### Collaborating organizations

- Ministry of Public Works and Transport
- Ministry of Industry and Commerce
- Water Resources and Environment Administration

**Existing policies and strategies:**

- National Socio Economic Development Plan 2006-2010
- National Growth and Poverty Eradication Strategy
- Strategic Vision for the Agricultural Sector (MAF, 1999)
- Master Plan Study on Integrated Agricultural Development in Lao PDR 2001
- Strategic Vision for an Integrated Watershed Management Approach for Sustainable Upland Development and Poverty Alleviation in Lao PDR, 2002
- MAF Instruction No. 8 on Land-forest Allocation
- Policy and Strategy for Agriculture and Forestry Development 2006 - 2010

**Overall objective**

- Achieve food security and eradicate hunger and malnutrition in the country while maintaining environmental/ecological sustainability in an integrated manner with comprehensive policies and measures covering agriculture, forestry, rural development, land, climate change and natural disaster management.

**Operational objectives and targets**

- Secure sufficient food and access to food throughout the country
- Project the minimum rice output by 3.3 million tons (450 / 500 kg paddy/person) till 2010.
- Secure a reserve of 60,000 T and sufficient foodstuffs production (meat, fish, eggs should increase of 5% per year)
- Accelerate the dynamic development of agricultural production in the lowland farming areas: maintain a growth rate in agricultural output of 4-5 per cent annually
- Stop slash and burn cultivation by 2015
- Maintain a healthy and productive forest cover as an integral part of the rural livelihood system, and generate a sustainable stream of forest products: increase forest cover up to 70% by 2020

**Proposed strategic actions**

- Increase the productivity and sustainability of land ecosystems and make sustainable agricultural production a priority through pro-poor policies
- Promote sustainable natural resource management in the agriculture and forestry sectors
- Implement integrated water management improving irrigation systems for drought and floods and their efficiency, and introducing innovative water pricing systems and incentives
- Assess impacts of climate change on the food production and agriculture sector and undertake priority adaptation measures on agriculture, forestry and fisheries
- Reducing vulnerability of the agricultural sector to natural disasters
- Increase technology transfer through North-South and South-South cooperation and enhance regional and international cooperation for food security
- Promote community based natural resource management
- Diversify farming systems and promote organic farming
- Improve communities' access to markets and establish pro-poor rural

- finance systems using domestic and international resources
- Undertake measures for biodiversity protection in rural communities
- Develop villages in coordination with agro-forestry development
- Improve quality and standards control and disease prevention
- Ensure the implementation, evaluation and monitoring of the agriculture and forestry development strategy and policies
- Establish effective food security monitoring systems especially in rural upland areas

## SD Progress indicators

- Number of malnourished people (disaggregated data for lowland and upland and gender)
- Level of agricultural land degradation
- Incidence of slash and burn cultivation
- Rice output (Ton per year)
- Agricultural growth rate
- Food price index

### 3.1.4. Sustainable Transport Development

#### Situation analysis

Transportation is fundamental to socioeconomic development of the Lao PDR. Efficient and effective transportation system is required to enhance the national competitiveness. Transport system also needs to be safe and socially and environmentally sustainable to enhance people's quality of life.

In 2005, the number of districts linked with all-weather roads was 125, 88% of the total number of the 142 districts of the country. Thanks to the achievement in building the transport infrastructure, Lao PDR is increasingly being viewed as a "land link" for the six countries that share the Mekong River. In 2006 the total length of the roads in the Lao PDR was 35,554 km. The country's partners in development have also been very supportive in helping to build other aspects of the transportation system, including corridors linking the Lao PDR with Thailand, Viet Nam and Myanmar, and upgrading airports and strengthening the transport agencies.

The road network in Lao PDR was severely constrained by the lack of investment and poor maintenance during the 30-years of armed conflict. Despite rising investments from external sources in recent years, only 14% of the entire road network was paved until the 1990's. The Government has stepped up its road development program under the Third Plan (1991-1995) and the main network of national roads was completed by the year 2005.

Lao PDR has two major road lines serving the north-south and east-west axes, Route 13 and Route 9. Road maintenance is funded through the central budget with funds allocated according to the length and condition of the road.

Lao PDR has no railway system at present. However, this will change soon through cooperation with the Kingdom of Thailand. The railway construction of the first 3 km on the Lao territory will soon connect with the national railways system of Thailand, and is near completion. Lao PDR has a fervent hope that in the near future, international and regional development partners will assist the country to develop railway infrastructure system from Vientiane to the central part of the country, and then connect with the railway system of Viet Nam, which would provide the GMS with a greatly improved regional transport system.

Whilst considerable progress has been made over the past decade in extending and upgrading the system, there are still many areas that are remote and isolated. The rural poor have identified this as one of the main root causes of their poverty. Due to the difficulty in accessing markets to sell their surplus agricultural produce and other goods, the rural poor are locked into subsistence farming. Lack of access to all-weather roads, or roads of any kind, has also meant lack of access to schools, health facilities and other basic services, such as

electricity and potable water. Thus, the lack of infrastructure results in intergenerational poverty for poor people with limited opportunity and capacity to climb out of their poverty.

The government has recognized the importance of environmentally sustainable transport for national development and has developed the national strategy on Environmentally

Sustainable Transport (EST). In addition, government has identified a transport sector as key factor of poverty reduction and set the goal for the transport sector as linking all economic sectors together to create appropriate environment for trading and to enhance accessibility to basic infrastructure and services such as health, education, markets.

### Lead organization

- Ministry of Public Work and Transport

### Collaborating organizations

- National Post and Telecommunication Authority
- Water Resources and Environment Administration

### Existing policies and strategies

- Law on Land Traffic, Land Transport and National Road Protection
- Law on Urban Planning
- Law on Environmental Protection
- National Strategy on Environment to the year 2020 and action plan for the years 2006—2010
- National Strategy and Action Plan on Environmentally Sustainable Transport (EST) up to 2020

### Overall objective

- Build a sustainable transport system to support the achievement of the national development target to graduate from the status of LDCs
- Transform the country from landlocked to a 'land-linked' country in the Mekong Sub-region
- Provide an enabling environment for trade and commerce and access for all Lao people to basic services

### Operational objectives and targets

- Ensure connection with all 142 districts of the country with all-season passable roads by 2010
- Fatality from road accident must be less than 4 persons per 10,000 vehicles by 2013
- Decrease diseases caused by transport by 2013
- Promote non-motorized vehicle such as on foot and bicycle up to 30% of total travelling by 2013
- Promote travelling by public transport up to 10% of total travelling by 2013
- Establish effective public transport system in urban centers by 2013
- Apply zero emission standard by 2018

## Proposed strategic actions

- Formulate and improve absent/inappropriate legislations to the implementation of national strategy and action plan of EST
- Promote an awareness on EST continuously
- Strengthen the capacity of the organizations in charge of implementing the national EST strategy by improving capacity on technology to formulate standard, monitoring and management.
- Create financial mechanism on environmental transport (ET) and encourage government organizations and private sector participation towards ET funding for the protection and improvement of environmental quality
- Strengthen international cooperation to request assistance on technique-technology, fund, and human resource development relevant to EST
- Manage urban air quality to international standard
- Identify the best alternative transport system (i.e. public transport system), fuel substitution, materials/design methodologies to reduce noise, using environmentally friendly vehicles
- Establish and implement a legal and policy framework for green vehicles
- Support the development of transport facilities for vulnerable groups such as women, children, and the disabled
- Conduct feasibility study on bus rapid transit (BRT) at Vientiane Capital City

## SD Progress indicators

- Percent of people with adequate access to transport
- Number of people who die from traffic-related accidents
- Rate of incidence of diseases caused by transport sector
- Effective public transport system established in major urban centers
- Railroads constructed
- Number of low pollution cars

### 3.1.5. Eco-tourism

#### Situation analysis

Tourism has been increasingly taking a significant place in the world economy. The United Nations World Tourism Organization (UNWTO) in its “Tourism 2020 Vision” forecasts that the number of international tourists will increase from 670 million in 2000 to 1.4 billion in 2010, and the tourism industry will account for 11.6% of the global GDP and 9 % of the total employment in the world.

The rapidly growing tourism industry is expected to exert an ever greater pressure on the environment, society and culture. Sustainable tourism is thus urgently needed as an integral part of sustainable development. Several international organizations, in particular the UNWTO, has called on the governments to implement sustainable tourism that simultaneously preserves traditional cultures

and the local environment in tourist sites, while increasing equitable economic and educational benefits over the long-term. At the WSSD, the international community agreed to promote sustainable tourism at the local, national and international levels in order to preserve local cultures, society and the environment, as well as to maximize the benefits of tourism to local communities.

The Lao PDR has a low population density, relatively unspoiled diverse ethnic lifestyles and traditions, and perhaps the richest, most extensive network of ecosystems on the Indochina Peninsula. There are over 800 species of birds and more than 100 large mammals already identified in Laos. Currently, there is a network of 20 National Protected Areas (NPA) in place to protect and conserve these

irreplaceable resources. The Lao PDR's NPA system is often cited as one of the best designed Protected Area Systems in the world. In addition to the country's vast protected forests and aquatic resources, Laos has two UNESCO World Heritage Site - The Ancient City of Luang Prabang and the pre-Angkorian Vat Phou Temple Complex. There is also the mysterious Plain of Jars, a forthcoming World Heritage Site that has significant archaeological, historical and natural values.

Since 2004, with more favourable domestic and international conditions, tourism in Lao PDR has regained momentum and resumed its strong development. Income from all tourists' activities amounted to US\$113 million in 2002, making the tourism industry a main contributor to national income (7-9% of GDP) and employment. By mid-2005, the country had 364 tourism sites to attract domestic and foreign tourists. Overall, the total number of foreign

tourists to the Lao PDR over the five-year period 2001-2005 increased annually by 9 percent. The sector revenues reached over USD 100 million per year.

The government of Lao PDR has put much importance on ecotourism as an important driver of national economic development and poverty reduction and has formulated a "National Ecotourism Strategy and Action Plan". Ecotourism is defined in the NSEDP as "tourism activity in rural and protected areas that minimises negative impacts and is directed towards the conservation of natural and cultural resources, rural socioeconomic development and visitor understanding of, and appreciation for, the places they are visiting." The Strategy adopts community-based and participatory tourism development, the enhancement of specific tourism-related infrastructure, research and information development and capacity building.

### **Key challenges facing sustainable ecotourism development in Lao PDR include:**

- Unclear definition of roles and responsibilities of key agencies
- Coordination among sectors concerned and at local levels is not done well.
- Provisions and regulations are not sufficient and updated.
- Inadequate infrastructure leading to poor access to existing and potential sites
- Lack of national experience and capacity in ecotourism industry: knowledge, information by rural communities, tourism planners and authorities in ecotourism
- Lack of direct participation of communities in the economic benefits and preservation of culture and environment
- Financial constraints due to inadequate domestic and international funds and limited access to credit for investment
- Lack of sound investment policy and regulations to ensure the benefits of the population of the country
- Increase in oil price that affects the service cost.

### **Lead organization**

- National Tourism Authority

### **Collaborating organizations**

- Ministry of Information and Culture
- Ministry of Agriculture and Forestry

### **Existing policies and strategies**

- National Ecotourism Strategy and Action Plan 2005-2010
- Lao PDR Tourism Strategy 2006-2020
- National Biodiversity Strategy to 2020 and Action Plan to 2010

- National Growth and Poverty Eradication Strategy
- National Socio Economic Development Plan 2006-2010
- Sustainable Tourism Network

## Overall objective

- Develop and promote a thriving ecotourism sector that can deliver long-term socio-economic and environmental benefits to rural communities

## Operational objectives and targets

- Position Lao PDR as ecotourism center of GMS
- Incorporate national ecotourism strategy in the heart of the national tourism strategy
- Contribute to attracting 1.6 million tourists by 2010, 2.2 million tourists by 2015, and 3 million by 2020
- By 2020, have 2-3 additional world heritage level sites, 5 national level ones,, 10 provincial level ones

## Proposed strategic actions: based on the National Ecotourism Strategy and Action Plan 2005-2010

- Strengthen institutional framework for planning and managing ecotourism growth by:
  - Creating or assigning an existing high-level body with the responsibility to lead the development of the sector
  - Including the National Ecotourism Strategy as a key component of the newly revised National Tourism Master Plan and the National Socio Economic Development Plan
  - Developing operational guidelines for the creation of inclusive provincial level bodies to lead and direct the development of ecotourism activities at the local level
- Support training, capacity building and the promotion of good practice by:
  - Establishing a mobile training unit under the auspices of the Lao National Tourism Administration (LNTA) to coordinate and develop a range of standardised training programmes and manuals for key groups such as tour guides, national and local government staff and local communities, and service providers
  - Encouraging the development of vocational, diploma and bachelors degree courses in the ecotourism, and tourism and hospitality sectors
  - Creating an LNTA-based sustainable tourism network to share information among all stakeholders on, for example, ecotourism practices, responsible business practices, NPA management issues, verification schemes, etc.
  - Developing a wide ranging media and marketing campaign
  - Developing an annual “National Ecotourism Awards” programme to recognise and encourage good practice
- Support environmental protection and nature conservation by:
  - Introducing ecotourism funding mechanism and fees to finance biodiversity conservation programmes and the implementation of the National Ecotourism Strategy
  - Promoting the development of participatory ecotourism plans for NPAs

- Reviewing the legal and regulatory mechanisms related to tourism, the environment and NPAs
  - Assessing the capacity building requirements for the effective implementation of environmental rules and regulations
- Enforcing the use of Environmental Impact Assessment (EIA) procedures for tourism projects that involve a significant change in land use.
- Promoting partnerships between NPA managers, local communities and the private sector.
- Support socio-economic development and cultural heritage protection for host communities by:
  - Supporting projects that seek to develop and promote community-based ecotourism
  - Encouraging the development of vocational ecotourism, tourism and hospitality courses at the provincial level
  - Encouraging community and NPA partnerships to promote conservation and ecotourism activities
  - Encouraging local participation in decision-making frameworks
  - Providing access to credit and funding mechanism for community ecotourism projects
  - Encouraging local and foreign investment that support conservation objectives and local socio-economic needs
  - Encouraging the design of mechanisms to ensure the equitable distribution of economic benefits
  - Promoting the development of visitor codes of conducts to promote respect for local culture
- Develop ecotourism research and information by:
  - Developing an inventory and data-base of existing and potential ecotourism products and services
  - Developing tourism and conservation research partnership with international bodies
  - Supporting research into environmental, social and economic aspects of ecotourism
  - activity both at the national and local levels
  - Supporting research into certification and accreditation schemes that will help set new standards for Lao ecotourism
  - Make ecotourism data and information accessible to government policy-makers

### SD Progress indicators

- Level of involvement of local people in decision making of local tourism policies and projects
- Availability of tourism infrastructure
- Amount of domestic and international funding generated for ecotourism
- Revenue from eco-tourism (US\$)
- Number of activities and schemes for ecotourism promotion
- Number of tourism and conservation projects
- State of environment in tourism sites

### 3.1.6. Energy security through renewable energy

#### Situation analysis

Lao PDR has plentiful sources of renewable energy including hydropower, and biomass. However, Lao PDR has one of the lowest levels of electrification in Asia; only 20 percent of all villages and 34 percent of households have access to electricity.

Two dominant primary-energy carriers are (non-commercial) biomass and hydropower. Their combined share in domestic primary-energy production was more than 90% in 2001 and just below that mark in 2005. Biomass accounted for 78% of the total energy consumption in 2002, followed by petroleum products (16%), and electricity (6%).

Lao PDR Power Exports, began in the early 1970s, has declined from 88% in 1979 to between 60-70% currently (Electricite du Laos). Current electricity production covers about 4% of potential hydropower nationwide, excluding potential thermal power. The electricity production varies from year to year depending on the volume of water flowing into the reservoirs, especially in conjunction with the volume of annual precipitation. 2006-2007 revenue from electricity export was USD\$92,5 million, of which USD\$10,5 million was from Electricite du Laos (EdL). Import of electricity by EdL from Viet Nam, Thailand and China totaled equivalent to USD\$18.8 million (National Socio-Economic Development Plan 2007-2008).

Lao PDR has a high potential for the further development of its hydropower resources. Hydropower is already a major contributor to economic growth, government revenues and export earnings. However, only 623 Megawatts (MW) out of an estimated 18,000 MW of hydropower potential has so far been developed. Upon completion of the Nam Theun 2 Dam in 2010, exports are expected to increase to US\$354 million. However, hydropower should be carefully developed so as to prevent and minimize its adverse environmental impacts on forest resources, water resources and biodiversity, as well as its social impacts on the population settlement included in the impact zone.

Lao PDR could potentially generate about 3.9 million tons of agricultural residues per year. Of this volume, about 2.9 million tons would be in the form of rice straw, 0.44 million tons as rice husk, and 0.15 million tons as maize stalks. An estimate shows that about 264 million cubic metres of gas per year could be generated from the manure of buffalo, cows and pigs. The country also has significant solar and wind resources. Solar energy is significant in the southern part of the country, where annual solar radiation is placed at about 1800 kWh/sqm, possibly less in mountain areas. Wind speeds of around 1 m/s have been observed at Luang Prabang and Vientiane, and mountain areas would likely have higher wind speeds (Hydropower Development Strategy Study, Worley, Lahmeyer International, January, 2000).

The high proportion of fuel wood consumption reflects its widespread use, particularly in the rural areas. Wood fuels consumption in 2002 was 2.4 million tons and accounted for 69% of total energy consumption in Lao PDR. It is estimated that about 94% of the households use wood fuels for cooking.

In most remote rural areas of the country household lighting is based on kerosene or diesel lamps, of which both are considered highly air polluting methods. Since 2001, solar energy has been introduced to remote rural communities in Lao PDR by the Sunlabob Rural Energy Ltd., a private company that was established in 2001. Through this company over 1,800 solar-home-systems (SHS) and 500 solar lanterns are being rented to families in 73 different villages across Lao PDR. The project is highly replicable.

At the present, renewable energy sources explored in the country are hydropower and solar energy for electricity as well as biomass based fuel wood and charcoals. Other renewable energy sources for various applications are less explored.

Lao PDR does not yet have a comprehensive institutionally supported approach to the planning and implementing of energy programs in general, although many energy sub-sectors

appear to have articulated policies and strategies for their own sector.

Renewable energy has potential to be sourced locally, which can be explored to meet demand and support socio-economic development,

particularly in rural areas. However, there are several constraints and barriers to a more widespread use of renewable energy in Lao PDR. Some of the barriers are noted below:

### **Awareness barriers among policy makers, consumers, suppliers etc.**

- Lack of knowledge concerning opportunities, reliability and lifetime of technologies;
- Lack of knowledge concerning impacts on environment from renewable energy production;
- Lack of information on resources available and sustainability, in particular with regard to biomass

### **Financial barriers**

- High capital investment costs and high costs of operation compared to conventional fuels;
- Lack of suitable financing system at low interest rates;

### **Legal/Institutional barriers**

- Lack of coordination among government agencies and the private sector which hampers renewable energy development and promotion in Lao PDR;

### **Technical barriers:**

- Lack of local standards for renewable energy equipment and systems as renewable energy technologies are relatively new to the market

### **Environmental and social impacts:**

- Lack of effective measures to prevent the adverse social and environmental impacts of large scale hydropower projects

### **Lead organization**

- Ministry of Energy and Mines

### **Collaborating organizations**

- Electricite du Laos (EDL)
- Water Resources and Environment Agency (WREA)
- Technology Research Institute (TRI)
- Ministry of Commerce and Industry for liquid fuel and LPG
- Lao National Committee for Energy (LNCE)
- Committee of Investment Management and Foreign Economic Cooperation
- National University of Laos (NUOL)
- Lao Women Union
- Renewable Energy for Sustainable Development Association (RESDALAO)

## Existing policies and strategies:

- National Growth and Poverty Eradication Strategy
- 8<sup>th</sup> Congress Party's resolution
- Power System Development Plan
- Electricity Law
- Study on Rural Electrification Project by Renewable Energy in Lao PDR, JICA, 2000

## Overall objective

- Achieve national energy security through renewable energy
- Facilitate access to electricity for people in all areas of the country in order to foster integrated socio-economic development

## Operational objectives and targets

- Achieve 90 per cent electrification by 2020 through some grid extensions and mostly by decentralized renewable energy supply options with intermediate targets of 70 percent in 2010
- Develop sustainable hydropower to meet the country's energy needs as well as to provide greater export earnings from electricity sales to neighboring countries
- Strengthening institutional capacity in the energy sector particularly in the field of training, policy formulation, and project implementation and financial management

## Proposed strategic actions

- Develop appropriate legal, institutional and economic policy frameworks to encourage renewable energy development by public and private entities
- Implement appropriate pricing policy that will positively influence consumption patterns and assist the government in achieving its fuel substitution and conservation objectives
- Accelerate small scale power development which is suitable for rural electrification
- Tap significant financial sources for funding renewable energy projects in Laos through existing and new international and regional financing mechanisms, such as the Clean Development Mechanism (CDM) and Climate Investment Funds, etc.
- Ensure rural energy security by:
  - Directing a percentage of the profits from regional trade to rural electrification program
  - Tapping macro and micro hydropower
- Strengthen sustainability impact assessments of hydropower projects and ensure effective implementation of adequate measures to prevent any social and environmental impacts through enhanced multi-stakeholder participation

## SD Progress indicators

- Rate of rural electrification
- Per capita Electric Power Consumption
- Energy Production
- Number of sustainable energy projects implemented
- Number of sustainability impact assessments undertaken and the following measures undertaken for energy projects
- Institutional mechanism for multi-stakeholder participation established for energy development projects

### 3.1.7 Sustainable mining industry

#### Situation analysis

The Lao PDR is well endowed with mineral resources including barite, coal, copper, gemstones, gold, gypsum, iron ore, lead, silver, tin, and zinc. There is also considerable potential for discovery of substantial additional mineral resources of iron ore, potash, and rock salt. The government is promoting further exploration for coal, copper, gemstones, gold, iron ore, lead, potash, tin, and zinc. Currently, the Ministry of Energy and Mines is aiming to increase investor confidence in the mining sector by formalizing the approval and operating process through a more structured regulatory legal framework. As of December 2007 the Lao Government had granted permits for 171 mining projects to 109 companies. This includes 50 projects under exploration and 72 under study, with the remainder in operation.

Private investment in the mineral sector has increased almost 34% per year over the past five years. The mineral sector comprises 19.5% of the output of the entire Lao PDR industrial sector, and continued growth is expected at a rate of approximately 11% per year during the period 2006-2010 (MINDECO 2006). There are currently over 200 companies engaged in various activities related to exploration, development and/or mining operations within the country. Of this number, 34 are foreign companies. Two world-class mines are operational for gold and copper extraction, and there are 55 new mines under development (WREA 2007). Recently, the government has

begun to survey all mineral deposits in the country and has finished 30% of total survey plan. The export value of production by the mining sector was estimated to be 4.7 trillion kip (USD\$538,66 million ) in 2007. It is expected that within the next 12 years the mining sector will generate between USD\$1-2 billion and will comprise 25 per cent of Laos' GDP by 2020.

Amid this rapid development and expansion of the mining industry, there is a growing concern in the society regarding the social and environmental sustainability of mining development activities. The Government is facing significant challenges in addressing environmental issues with regards to the rapidly growing mining sector. The environmental sustainability challenges from mining include an increased pressure on water resources, increased water pollution, land contamination, hazardous chemicals use, and the potential for increase negative impacts of improperly managed discharges on downstream areas, which then becomes a human health issue as well. It is critical to ensure the development and enforcement of appropriate legislation preventing and minimizing adverse impacts and to strengthen the government capacity and financial resources for conducting accurate EIAs , whilst adhering to recommended measures, environmental monitoring and assessment and regulation of foreign investors for the sustainable development of the mining sector.

#### Lead and collaborating organizations

- Ministry of Energy & Mining
- Water Resources and Environment Agency

#### Existing policies and strategies

- Long term development of the sector up to 2020
- National Socio Economic Development Plan
- National Growth and Poverty Eradication Strategy

## Overall objective

- Develop the mining industry within the framework of sustainable development, integrating land, water, forestry, rural

development and poverty reduction policies

## Operational objectives and targets

- Halt the export of unprocessed minerals by 2015 and instead export semi-finished and finished products only
- Improve social and environmental management of the mining industry by

enforcing mining laws and enhancing administration capacity and procedures

- Ensure that the mining sector's growth is linked to poverty reduction and sustainable natural resource management

## Proposed strategic actions

- Build capacity of provincial and central government agencies to manage the social and environmental impacts of mining operation, especially through effective mining law enforcement and environmental monitoring of mining projects
- Strengthen investment procedures and EIA processes, including mechanisms for coordinating a response to EIA recommendations and for ensuring that those recommendations are incorporated into the decision-making process
- Step up efforts to ensure mining laws and laws relating to the environment are applied to all investors, domestic and foreign, in line with international norms (World Bank 2006)

- Develop and implement sustainable mining policies to promote the private sector's responsible participation and investment, such as through the promotion of Corporate Social Responsibility (CSR)
- Encourage the transfer of state-of-art technology and management practices to prevent and minimize any negative impacts on the environment
- Establish participatory planning, implementation, monitoring and evaluation mechanisms for mining projects, especially, reflecting the needs and concerns of the local population affected
- Reinforce the penalty system to regulate illegal mining activities

## SD Progress indicators

- Number of jobs created for local people by the mining industry
- Number of mining incidences with negative social and environmental impacts
- Participatory planning, implementation, monitoring and evaluation mechanism established

- Ratio of EIA recommendations incorporated in the final decision-making process of mining projects
- Number of mining companies in the country which have adopted sustainable mining principles and standards in line with the international norms
- Number of penalties enforced to illegal mining operations



## 3.2. Sustainable Social Well-being and Development

### 3.2.1. Human Resource Development

#### Situation analysis

In the past 20 years, the education sector has developed both in quantitative and qualitative terms. The kindergarten enrolment rate increased from 8 percent in 2000 to 8.2 percent in 2005, and the primary enrolment rate increased from 79 percent to 84.2 percent. The lower secondary enrolment rate increased from 46.6 percent to 54.8 percent, and the upper secondary enrolment rate rose to 34.4 percent in 2005 as compared to 22.6 percent in 2000. As of 2005, the adult literacy rate has seen an increase to 73 percent and the ratio of students to the overall population has increased to 845 per 100,000 people. According to the human development index in 2005, the Lao PDR was ranked 133 of the 177 countries in the world, up from the 141st of the 173 countries in 1993.

Efforts are being made to develop and increase access to primary education at the national level, with particular emphasis being placed on isolated remote areas. Permanent school

structures are being built in larger districts, and districts with difficult access are receiving permanent and semi-permanent school structures. Vocational, university and higher education are also being developed to a higher capacity and greater access. In the five-year period (2001-2005), the National University opened two branches: Pakse University in Champasak Province, and Souphanouvong University in Luang Prabang Province and vocational education is being developed and strengthened.

In the nonformal and informal education sectors, short-term training courses are being organized for civil servants. The number of in-country and overseas training courses for teachers have increased significantly from a decade ago. An increasing number of civil servants have been sent abroad for continuing study. From 2001 to 2003, Vietnam alone received 1,910 civil servants, which accounts for

an increase of 460 more than that in the period from 1996 to 2000.

However, in comparison to other countries in the region, the investment in human resources development in the Lao PDR is still low.

The United Nations declared the period 2005 to 2014 as the UN Decade of Education for Sustainable Development (UNDESD) to

promote Education for Sustainable Development (ESD). The Asia and Pacific region also organized a 'launching ceremony of a 10-year education strategy for sustainable development' in September 2005. Lao PDR still needs to develop its national action plan for implementing ESD in order to development national human resources for promoting sustainable development.

## Lead organization

- Ministry of Education

## Collaborating organizations

- National University of Laos
- Water Resources and Environment Agency

## Existing policies and strategies

- National Socio Economic Development Plan
- 8th Party Congress Resolution
- Program of Action for Education for All 2006-2010

## Overall objective

- Enable all the people of Lao PDR to fulfill the rights to education
- Develop competitive human resources for national development and poverty reduction

## Operational objectives and targets

- Ensure that all boys and girls complete a full course of primary schooling (MDG Goal 2 Indicator)
- Education for sustainable development incorporated in the school curriculum
- Make Lao labour force more competitive to skilled foreign workers according to ASEAN Framework
- Establish policy frameworks, facilities and instruments for skills development and vocational training

## Proposed Strategic Actions

- Increase public and private investment in education and human resources development
- Integrate educational priorities in rural development and poverty reduction programmes
- Formulate and implement a national action plan for ESD through a series of stakeholder consultations
- Review the current school curriculum in relation to sustainable development issues and ensure the inclusion of sustainable development in all the school curriculum
- Promote the integration of sustainable development disciplines in higher education
- Ensuring the vocational training system meets current market requirements in relation to the private sector and higher educational institutions
- Encourage private enterprises to undertake staff development initiatives

## SD Progress Indicators

- Share of the education sector in government budget
- Primary School enrolment (MDG 2 target)
- Number of Lao skilled workers
- National Action Plan for ESD developed and implemented

### 3.2.2. Culture and Tradition

#### Situation Analysis

In the current context of accelerated globalization, the preservation of cultural heritage and tradition emerges as a key social issue in Lao PDR. With the increasing influx of foreign investment and tourists, the culture and tradition of Lao PDR is becoming more vulnerable to foreign influences. Considering the importance of the country's culture and tradition in achieving sustainable development, there is a considerable need for further efforts to value Lao PDR's culture both tangible and intangible while preserving and safeguarding it into the future.

The government has implemented a policy to maintain the national identity, traditional and modern cultures. In addition, the government will also attempt to conduct research into Lao

language, literature, cultural art and archaeology, and then, widely disseminate the research results throughout the society. The aim is to educate people to be more aware of their national heritage and to value its continuation, while promoting the innovation of the national arts and enhancing the number of cultural products (Textbooks, Magazines, Musical CD and so on). The government also aims to promote more cultural activities within the libraries, exhibition centers, cultural clubs, museums, which will be made widely available to the general public. The government needs to encourage the public ownership of culture and allow the public to contribute efforts in the development of the charming culture of Lao PDR.

#### Lead organization

- Ministry of Information and Culture

#### Collaborating organizations

- Provincial Information and Culture Division
- District Information and Culture Office
- Village Authorities

#### Existing policies and strategies

- Law on the National Heritage

#### Overall objective

- Value Lao PDR's culture and tradition both tangible and intangible and preserve and safeguard it

#### Operational objectives and targets

- Sensitize the youth to cherish one's own culture
- Promote the awareness to preserve and protect Lao PDR's cultural heritage
- Protect cultural properties

## Proposed Strategic Actions

- Undertake research and inventory of cultural heritage and tradition
- Enhance the awareness of the cultural heritage and the importance of its preservation through workshops, events and mass media as well as through the school curriculum
- Encourage community participation in promoting and preserving cultural heritage
- Hold annual traditional arts or culture competition
- Disseminate knowledge and experience in preservation of cultural heritage through mass media
- Enhance the awareness of the value of cultural heritage and properties among the public
- Enforce the laws relevant to national heritage
- Create the national heritage fund
- Build a national historical and cultural museum in Vientiane as well as provide for the development of provincial museums
- Renovate and maintain national historical and ancient places and promote them for World Heritage Site consideration
- Build cultural research institutes and linguistic centers

## SD Progress Indicators

- Number of workshops and events on culture and tradition undertaken
- Review of the school curriculum in relation to culture and tradition
- Number of offences to the law on the national heritage
- Number of national historical and ancient sites renovated
- Number of sites designated at World Heritage Site

### 3.2.3 Public Health

#### Situation Analysis

Health is affected by a combination of biological factors, one's personal condition, along with the social, economic and environmental conditions. Economic conditions include such areas as poor living condition, poverty, unemployment. Social impacts affecting health include low education, poor community organization, and lack of good traditions and values. Environmental conditions include pollution, solid waste and degraded natural resources.

The government has made an effort to extend the health service to rural areas at the same time as it works to improve the overall quality of health service. At present, the whole country has 141 hospitals, an increase of approximately 1.3 times, and 524 primary healthcare centers, or 4.8 times more compared to 1976. The average life expectancy rate is 59 years old. The

health network is constantly being continuously and more widely expanded. Furthermore, the existing health network has improved and reorganized, especially with regards to mother, and child' health care. Concurrently, disease control and health promotion is become priority tasks. The health service has been strengthened particularly in family planning and HIV/AIDS prevention and treatment by improving the primary health network throughout the country.

At the present time, the primary health care service has greatly improved. Two central hospitals have been modernized gradually. Furthermore, provincial hospitals are also being renovated and upgraded. The provincial and district hospitals, local primary health care centers and dispensaries are currently being greatly upgraded.

By the year 2005, the life expectancy rate has risen to at least 63 years. Therefore, the mother mortality rate has decreased to less than 350 persons per 100,000 live births and the infant mortality rate (less than 1 year old) and (less than 5 years old) has been merely reduced to 62 and 70 persons per 1,000 infants respectively. The vaccination rate and clean water consumption rate is now more than 80% and 57% respectively.

Cross-border issues are also of critical concern for public health. Nearly half of the 17 projects that have been implemented under the GMS cooperation program on human resource development have been for the prevention and control of HIV/AIDS. In this regard, a project on ICT and HIV/AIDS Preventive Education in the Cross Border Areas of the GMS developed ICT learning materials for HIV/AIDS preventive education in local languages, and helped in building the capacity of teachers, health workers and other stakeholders on the use of ICT for HIV/AIDS preventive education; and delivering ICT- based interventions to isolated, marginalized and vulnerable populations. A major cross border Communicable Diseases Control (CDC) Project covering Lao PDR and GMS neighbouring countries has commenced implementation in 2006. Several of Lao PDR's activities in this area of cooperation are noteworthy, including the successful implementation of a Malaria Control Programme in the border areas of the Lao PDR and GMS neighboring countries from 2005 onwards, under which a Pilot Programme on Malaria Prevention and Control aimed at

regularizing information exchange and capacity building, was initiated in 2006; and the launching of an HIV/AIDS programme which covered the Lao PDR and GMS neighboring countries initially and subsequently.

However, the public health sector is faced with the following challenges:

- Too high a number of sicknesses and deaths in children below 5 years of age, particularly in the rural areas;
- Threats from diseases caused by unclean water, bad sanitation and lack of appropriate hygiene will continue in remote area;
- Incommunicable disease, e.g vessel disease, high blood pressure, diabetes, accident, cancer and mental sickness have become a social problem in urban population;
- People in remote area are at a higher risk of health concerns caused by indoor air pollution in households;
- Pollution from vehicle emissions is quickly becoming a problem in urban areas;
- High number of injuries/dead from road accident is high;
- Health management of working people, workers, farmers;
- Low effectiveness in relevant law enforcement
- Hazardous chemicals and harmful waste contaminating water, soil and food

### Existing policies and strategies

- Law on Hygiene and Health Promotion,
- Food Law
- Regulation on Waste Management and Health Service Station
- Regulatory on Private Clinic
- Strategy on health care of 2020
- Law on health care, protection and good health promotion
- Law on food and medicine, drug
- Policy on Impact Assessment on Health
- National Policy on Nutrition

### Lead organization

- Ministry of Public Health

## Collaborating organizations

- WREA
- Lao Women's Union
- Lao Youth Union

## Overall Objective

- Realize universal rights to a healthy life

## Operational Objectives and Targets

- Increase average life expectancy to 72yrs old by 2020
- Decrease infant mortality to 32.4 by 2020 (year/1000)
- Decrease maternal death to 200 by 2020 (100000)
- Increase clean water provision to 100 percent by 2020

## Proposed Strategic Actions: 12 Programmes

1. Campaign on health education and information
2. Expansion of Health Service Network to rural area
3. Building capacity for health officials
4. Mother/Child health promotion
5. Vaccination
6. Clean water allocation, hygiene, sanitation and environment
7. Control communicable diseases
8. HIV/AIDS/STD Control;
9. Develop Medical Fund
10. Foods and Drugs Safety
11. Promotion of herbal medicines and drugs
12. Strengthening of sustainability in health sector

## SD Progress Indicators

- Av. life expectancy
- Death rate per 1000
- Infant mortality rate <1 year/1000
- Child mortality <5 / 1000
- Women's death per 100,000
- Number of population who suffer chronic malnutrition, acute malnutrition
- Number of children who are underweight
- Percentage of population with improved access to clean water and sanitation, especially, in rural areas

## 3.2.4. Job Creation and Opportunity

### Situation Analysis

Lao PDR is least developed country; around 33 percent of its population lives in poverty conditions; the Human Developed Index (HDI) measuring life expectancy, school enrolment, literacy and income, ranked Lao PDR 133<sup>rd</sup> out 177 countries worldwide. The total Lao population in 2005 was 5,621,982; of which people aged 10 years and above (i.e working age population) counted to 4,171,199 or 74.2 percent of the total population; while labor force participation rate was 66.6 per cent. The

rural population of both sexes currently becomes economically active earlier and retires later than the urban population. Female, urban and rural people join the labour force earlier than male. It has been observed that the labour force level is higher in rural areas, especially in regards to the female labour force rate in rural areas, where it is significantly higher than that in urban areas. In 2005, 2,738,893 (98.6% of economically active population) of Lao people were considered employed. It is obvious that

1,149,906 unpaid family workers and 1,260,671 self-employed are a majority of the workforce and shared approximately 88 percent of the total employed. The formal sector, not including 168,388 government staffs, offered only 152,718 jobs or 5.5 per cent of the total workforce employment. Most working people or 78.6 percent are involved in the agriculture sector. The other 21.4 percent are working in non-agriculture related jobs.

The main factor for the employment situation is the low level of education and skills of Lao workers, which can be proved by the statistics on labor force education. Only 45 percent of Lao working age population has completed primary education. This share decreased sharply to 1.13 percent for those who have a university diploma. Large projects like dam and road construction are not able to hire Lao employees because they are low/unskilled and seasonal labourers and the project time is usually limited. As a result many Lao labourers head to neighbouring countries, and newly created jobs in Lao PDR are filled by foreign workers.

The United Nations Environment Programme (UNEP) has recently published a report on “green jobs” which addresses the linkages between labour and the environment. The pace of green job creation is likely to accelerate in the coming years ahead. A global transition to a low-carbon and sustainable economy has the potential to create large numbers of green jobs across many sectors of the economy, and indeed can become an effective engine of development. Lao PDR’s labour-related policies will need to take into consideration the

increasing trend in demand for these “green jobs” which are expected to be generated in environmental and clean-tech sectors.

Lao PDR is facing many problems and difficulties in the development of its labour force and employment promotion at all levels which can be summarized below:

- Lack of Labour Market Monitoring System to give information on job demand for trainers, employees and employers
- Existing Employment Service companies are interested only in exporting Lao workers abroad and importing skilled labours for large projects in Lao PDR. High employment service fee and long process time has partially led to an increase in illegal employment services and has some links to trafficking.
- No coordination between the Ministry of Labour and Social Welfare, Ministry of Education and the Ministry of Planning and Investment in formulating skills development plans to meet the needs of the demand side.
- No action for compliance with the Labour Law, particularly its chapter II on training and skills development.
- Training Curriculum is based on syllabus, which was not developed in accordance with standards of particular jobs, but with the experience of those who teach the courses.
- The training still relies more on the capability of each center than on the needs for the work/job it is related to

## Existing Policies and Strategies

- Labour Law No 02/NA/94

## Lead Organization

- Ministry of Labour and Social Welfare

## Collaborating Organizations

- Ministry of Education
- Ministry of Planning and Investment
- Trade Unions and Chamber of Commerce

## Overall Objective

- Ensure adequate job creation and opportunities for all
- Generate new and sustainable sources of employment and income to produce

better economic and social and environmental outcomes

## Operational objectives and targets

- Skills Development
  - Long-term: Lao workers' skills meet the domestic and foreign market demand, and can compete at the international level.
  - Medium-term: Mechanism, location and materials for skill development and vocational training are in place.
  - Short-term: Basic scheme of skill development and vocational training including detailed action plans in key economic sectors.

- Employment Promotion and recruitment
  - Long-term: Lao workers are employed, and have enough income to meet basic living needs.
  - Medium-term: More job opportunities are created in rural areas and Lao workers in the foreign countries are protected.
- Short Term: Programs to create jobs for people in rural areas are developed and regulations and systems to protect Lao workers in foreign countries are developed.

## Proposed strategic actions

- Formulate education improvement programmes for Lao labour, specifically for rural women who have high possibility to migrate into urban areas.
- Collaborate with Trade Union to educate Lao labour in various units on attitude toward working.
- Create reasonable working conditions in terms of wage, occupational safety and health, working environment and facility.
- Ensure that job training schemes meet market demand, by collaborating with business sector and training institutions and by reviewing and improving the training courses after thorough analysis of market demand.
- Develop national skill standards and accreditation schemes in key economic sectors.
- Cooperate with employers, encourage them to have training facilities for skill development, especially in key economic sectors, and monitor to ensure that enterprises set up will fund for skill development as stipulated in Labour Law.

- Establish framework for implementation of vocational training
- Propose Ministry of Finance to allocate a part of tax revenue paid by enterprises for skill upgrading.
- Establish training centres to meet the demand, in cooperation with business sector.
- Organize mobile training for people in remote areas.
- Increase jobs in formal sectors by promoting employment friendly industry
- Seek overseas job opportunities by making labour agreements with more governments and establishing labour promotion sections in Lao embassies.
- Set up a fund for running small and medium sized family enterprises.
- Create more jobs for rural people by collaborating with other agencies and by promoting formal and informal sectors in rural areas
- Propose tax authority to give tax incentive to enterprises which hire rural people, especially in agricultural product processing.
- Promote local products

- Support new market entrants to find jobs by providing information, basic ability, working habit and career guidance
- Organize job fairs in major cities.
- Develop labour market information system and carry out a survey on market demand on a regular basis, in cooperation with the Ministry of Commerce
- Formulate curriculum on the job skills in schools.
- Develop a job matching system and establish regional resource centres in provinces
- Undertake “Green Jobs Initiative” to generate productive and gainful employment and decent work through sustainable development policies in environmental and clean-tech sectors

### SD Progress indicators

- Unemployment rate
- Rate of women’s participation in economic activities
- Rate of ethnic minorities’ participation in economic activities
- Number of lao workers emigrating abroad
- Increased Number of Lao Skilled workers.
- Skills Development Fund established and allocated adequately
- One stop service network for employment service shall be set up by Ministry of Labour and Social Welfare.
- Number of “Green Jobs” created

### 3.2.5. Community Development

#### Situation analysis

Lao PDR is the most predominantly rural country in Southeast Asia, with over three quarters of the total population currently living in rural areas. Approximately 38 percent of these rural dwellers live below the poverty line, and population growth continues to be concentrated in the rural areas. While population density is relatively low at 23 people per sq.km, the distribution is uneven and the mountainous terrain of much of the country limits the possibility of planting crops and making a sustainable living from agriculture. Nonetheless, a large majority of people depend on agriculture and natural resources to subsist. Two-thirds of households have no access to electricity, half have no safe water supply and half of all villages are unreachable by all-weather road during the rainy season.

Rural development and poverty reduction are the key priority areas of community development. The five-year socio-economic development plan will be transformed and applied to the provincial, district, villages and implementing household plans. After that, the government will be able to define the total number of poor households, and create a plan

to eliminate the poverty in villages, districts, provinces and the whole country.

In the present time, rural development is undertaken by emphasizing the poorer areas such as upland zones and villages. In addition, the task of rural development has made significant progress in conjunction with poverty reduction, abolishing slash and burn cultivation and opium production. Therefore, each rural region is implementing major measures: designating specific districts to be the budgetary-financial unit, particular villages to be actual implementing unit and clearly defining integrated development zone based on their own region’s potential. Since an integrated rural development plan has been completely set up, the specific programs are effectively improved and developed. So, that the capital and officers have been consistently allocated in each rural region by allowing province, district and villages to fully take a responsibility for capital and human management.

To reach a target of poverty reduction, first of all, it is necessary to define the poverty measures. Then, the information on household

and village poverty will be collected, for which local authorities are responsible for the actual information collection and survey. The poverty reduction strategy needs to be transformed into the actual priority programs on national projects. Poverty reduction is under the direct supervision of the government and the specific annual budget allocation. Importantly, each local region also needs to organize its own local poverty reduction programs by determining the integrated areas for reducing poverty and

focusing on the areas where a high rate of poverty still exists such as: Huaphan, Oudomxay, Phongsaly, Luang Namtha, Luangphrabang, Sekong, Attapuer and Xiengkhuang. The government needs to encourage and mobilize the contribution and efforts from the national and international community to jointly finance the priority poverty reduction programs and operate them effectively.

## Existing policies and strategies

- National Socio Economic Development Plan 2006 2010
- National Growth and Poverty Eradication Strategy

## Lead Organization

- Provincial offices

## Collaborating Organizations

- National Committee on Rural Development and Poverty Eradication under the Prime Minister's Office
- Ministry of Planning and Investment

## Overall objectives

- Agriculture and rural development remain central to both growth and poverty reduction in the country;
- Enhance the contribution of sustainable natural resources and environmental management to poverty reduction in rural areas

## Operational objectives and targets

- Linking farmers to markets;
- Capturing value added opportunities. This is to move beyond being a producer of raw commodities.
- Sustainably managing the natural resource base.
- Greater attention on land, forest and water by legal, institutional and policy measures.

## Proposed Strategic Actions

- Transform small subsistence farming systems towards more market-oriented production through i) rural road development, ii) risk management for upland households through adequate access to forests as buffer, iii) improved market information for farmers, iv) encouragement of competition in domestic trade in farm products, and facilitation of contract farming.
- Improve farmer productivity both in the lowlands, and in uplands
- Sustainable land and water resources management policies focusing on land rights administration, forest management and water resource planning including the Mekong waters in partnership with neighbouring countries;

- Agricultural productivity improvement through attention to core infrastructure needs in irrigation, farm access roads, and linkage with market, mainly in lowland areas;
- Rural livelihoods improvement (e.g. Nam Theun Two Project Areas)
- Capacity building particularly in the context of decentralized responsibilities of sub-national governments.

### SD Progress Indicators

- Level of awareness by the government of the need to promote rural and agricultural development;
- Policy reform and public investments for sustainable agricultural sector development
- Level of household well-being (food security, income, health and education) improved through community-based natural resource management
- Level of agricultural labour productivity
- Incidence of rural poverty





### 3.3. Strategic Goal 2: Sustainable Environment and Natural Resource Management

#### 3.3.1. Clean and safe environment

##### Situation analysis

**Air:** Currently, urban air pollution in Lao PDR is not an immediate problem as it measures at a safe level. However, air quality is expected to worsen if adequate mitigation measures are not taken immediately, especially in Vientiane Capital City, where the number of vehicles has been growing annually at almost 10 percent during the past decade. Despite a lack of data, the threat from industrial air pollution is considered to be much less of an issue than that from vehicular pollution in urban areas, as Lao PDR has yet to experience a shift to manufacturing in a large scale. Even though most fuel used for transport in Vientiane is unleaded and low in sulfur, vehicles are still the major source of other pollutants. Topping the list of polluting compounds are total suspended particulates (TSP), particulate matter smaller than 10 microns (PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), and nitrogen dioxide (NO<sub>2</sub>). Particulate matter, especially PM<sub>10</sub>, has the most serious potential

impact on human health, as it is directly associated with decreased lung function, increased cancer risks, and possibly death from respiratory illness. Indoor air pollution, caused by use of wood-stoves, is prevalent, but no data is currently available on this issue.

**Water:** Surface water provides the majority of Lao's water sources for urban supply since most towns are located along the country's rivers, while groundwater is the main source for the rural population. While still within acceptable limits, both surface and groundwater quality are declining. With rising populations in urban and upland areas, water pollution issues will become increasingly important in the near future. The Government is currently preparing national ambient water quality standards. However, the methods adopted for treatment and disposal of wastewater are generally not satisfactory. Most households rely on soak pits for wastewater disposal, and only sixty-four

percent of Laotians have access to safe drinking water. Throughout the country there is a high incidence of gastrointestinal diseases, such as diarrhoea and dysentery caused by inadequate water supply, poor sanitation and sewerage, and poor hygiene. Seventy percent of the urban households have access to satisfactory sanitation facilities, but this sharply contrasts with the 36 percent coverage in rural areas where 80 percent of the population lives. The majority have no latrines, resulting in the use of fields and watercourses for disposal of human wastes. Specific re-use of wastewater for other water usage is not yet being applied in Lao PDR.

***Harmful substances and hazardous wastes:***

There is limited information on the current levels of hazardous chemical substances in the aquatic and terrestrial environment of Lao PDR. However, as the country continues to develop its industrial capacity, it is expected that hazardous chemicals will become an increasingly important issue in the future. The particular concern is focused on lead

production and rudimentary metal smelting facilities in the country, as along with releases of mercury, cyanide, copper, cadmium and other heavy metals stemming from mining activities. POPs herbicides and pesticides are used only in moderate levels in Lao PDR. However, there is evidence of banned pesticides and herbicides still being imported into Laos from neighbouring countries, and indiscriminate dumping of empty barrels in landfills has been recorded in Vientiane Capital City and other major cities. PCB oils are now being adequately stored in the country, but there are still concerns related to existing historical spills and pre-regulation dumping sites. Dioxin and furan contamination in Lao PDR occurs mainly from combustion of solid and industrial waste, burning of wood and oil for fuel, and forest fires. However, significant quantities of dioxin were also released during the Indochina War from the use of Agent Orange and other toxic herbicides.

### Lead organization

- Water Resource Environment Administration

### Collaborating organizations

- Ministry of Agriculture and Forestry
- Ministry of Public Works and Transport
- Ministry of Public Health

### Existing policies and strategies

- Environment Protection Law
- Land Law
- Water Law
- Decree on Ozone Depleting Substances
- National Environmental Strategy chronologically up to the year 2020, and the Environment Action Plan, 2006-2010 (2004)
- National Framework-Rural Water Supply & Environmental Health Sector (1997)
- Water Sector Strategy and Action Plan 1999-2004 (1998)
- Industrial Law (1999)
- Draft National Environmental Quality Monitoring Program (NEQMP) 2003-2010
- National Hazardous Chemicals Strategy and Action Plan

### Overall objective

- To ensure Lao people breathe clean air, have adequate access to clean water and live in an environment free from harmful substances and hazardous chemicals

## Operational objectives and targets

- To minimize the negative impact of the pollution occurring in the progress of national development on the human health and natural environment by implementing national policies and
- Multilateral Environmental Agreements (MEAs)
- To reach the goal of MDGs in sanitation and hygiene, wastewater treatment, safe water supply sewerage and storm water drainage system sectors

## Proposed strategic actions

- Air quality: Set standards for monitoring the air quality in urban and rural areas in Lao PDR
- Water quality
  - Improve the surface water and groundwater quality by providing for safe water supply and adequate sanitation and sewerage system as well as storm water drainage which minimizing the risk of floods.
  - Develop treatment facilities for solid waste and waste water
- Hazardous Chemicals
  - Determine baseline levels of pesticides, herbicides, heavy metals, PCBs and dioxins/furans in the aquatic and terrestrial environment; monitor long-term trends according to the National Hazardous Chemicals Strategy and Action Plan
  - Strengthen management on the import and use of hazardous chemicals, including minimizing the use of chemicals.
- Implement policy, laws and regulations and develop sectoral master plans to implement environment assessment regulations, environment quality standards and emission standards; and undertake environment assessment and inspection on air, water quality and hazardous chemicals.
- Implement policy and law on urban planning and carry out master plan of the Urban Development and Administration Authority in order to allocate land to industrial zones, green zones and areas selected for historical and cultural conservation.
- To develop and promote the use of clean technology and clean products, organic products or chemical free products, goods and services that conform to high environmental quality standards.
- To establish and improve capacity of provincial and district disaster control committees; define focal points and establish rescue units and early warning systems, especially in major urban settings.

## SD Progress indicators

- Relevant legislation enacted or amended
- Compliance to the international standards on air quality, water quality, and hazardous chemicals
- Frequency of regular monitoring; the number of the monitoring places on our-door and in-door air pollution
- Number of water supply facilities, satisfactory sanitation facilities, on-site wastewater disposal and treatment facilities in major urban centers
- Percentage of population with access to improved drinking water sources
- Percentage of population with access to improved sanitation

### 3.3.2. Sustainable forest management

#### Situation analysis

Lao PDR is rich in forest cover relative to many other Asian countries. In 1940, forests were estimated to cover 17 million ha, approximately 70 percent of the land area. Recent surveys suggest that this figure is being reduced by an average of 53,000 ha per annum, with a 2004 cover of 41.5 percent. With little economic diversification, Lao PDR continues to rely heavily on its natural resources to support national development and secure livelihoods for its people. Wood derived products account for more than 35 percent of Lao PDR's total export revenues, and forestry contributes more than 15 percent of GDP. In the 1960s, small plantations were established in the Mekong Valley to secure watersheds and protect against flooding. Species planted were mainly teak, rosewood and black wood trees. Not long after this, eucalyptus and other fast-growing trees were then introduced. About 1,900 ha of plantation were established prior to 1976. To meet its new ambitious forest sector targets, the government intended to establish 400,000 ha of plantations, beginning in 1993. Today, only 57,281ha of plantations have been planted, and they suffer from lack of appropriate investment, modern silviculture management techniques, regulations and procedures. Many of these plantations were replanted several times because of management failure and forest fire, and most performed poorly in strict economic terms.

The Lao PDR forest industry is largely comprised of small capacity sawmills, exploiting keruing (*Dipterocarpus alatus*) and mersawa (*Anisoptera costata*) as the principal commercial species. There are 125-150 sawmills in Lao PDR, with a total capacity of approximately 1.2 million cubic meters. In 2003/4, Lao's mills consumed more than 400,000 cubic meters of timber. Non-timber Forest products (NTFPs) are crucial for meeting subsistence needs and for achieving food security for the majority of rural Lao households. An average rural family consumes the equivalent of US\$280 per year in NTFPs. This is of particular note since the average per capita income is about US\$402. The role of NTFPs is especially important given the

occurrences of droughts, pests and rodents which often reduce the available rice yields. In addition, collection and sale of NTFPs provide on average 55 percent of family cash income. The most traded NTFPs in Lao PDR include benzoin, turpentine and rosin, dammar oil, honey and wax, cardamom, rattan, bamboo and sugar palm. Medicinal plants are also an important portion of this trade and are harvested regularly. Conversely, the most important NTFPs for food security and local protein consumption are bamboo shoots, greens, fish, wild tubers, and invertebrates (such as snails and insect larvae). Most, if not all, taxa of wild vertebrates are used by at least some ethnic groups, either for food, medicine or trade.

Deforestation and forest degradation remain a significant environmental problem in Lao PDR. Deforestation rates in certain districts have been more than 20 percent over the period 1993-1997. Other blocks of forest are becoming increasingly fragmented and disturbed, resulting in a rapid contraction of mature forest, and decreasing degrees of tree cover and crown density, nationwide. In a number of upland forest areas, deforestation is mainly a result of logging and unregulated commercial exploitation. In addition, local pressures include unsustainable exploitation practices, shifting agriculture and poverty, all of which are putting pressure on the remaining forests. Approximately 80 percent of domestic energy consumption for cooking is based on fuel wood. The estimated amount of annual fuel wood used by local communities is about 4-5 million m<sup>3</sup>/year (about 1m<sup>3</sup>/person/yr), often leading to excessive fuel wood gathering, tree felling, and further pressure on the remaining forests. However, this alone is not a significant cause of forest degradation, but unsustainable exploitation of Lao's forest through excessive collection of non-timber forest products, logging, and uncontrolling slash and burn cultivation all contribute to decline in overall forest cover.

Sustainable Forest Management (SFM) - minimizing degradation of forest area in the progress of development - is essential for

sustainable development of the country. SFM also focuses on the preservation of forest ecosystem, forest protection, productivity enhancement and public needs. Lao PDR needs

to establish sustainable forest management frameworks and policies in order to prevent and stop the forest degradation and sustainable manage forest resources.

## Lead and collaborating organizations

- MAF
- WREA
- Ministry of Industry and Commerce

## Existing policies and strategies

- Establishment of the NBCA (now NPA) system (currently 20 NPAs) (1993): Government discusses to levy environmental protection fees for hydropower concessions.
- First National Environmental Action Plan (1994)
- Forestry Law (1996)
- Sector Strategy & Guideline National Framework-Rural Water Supply & Environmental Health Sector (1997)
- Industrial Law (1999)
- Forest Vision for 2020 (2000)
- 5th National Socio-Economic Development Plan (2001)
- Implementing Decree of the EPL (2001)
- Agriculture and forestry Sector Development Plan (2001)
- Implementing Decree of the EPL (2001): Outlines requirements for the preparation of detailed sector regulations, and provides assistance in achieving the goals of the National Socio-Economic Development Plan (NSED)
- Draft National Environmental Quality Monitoring Program (NEQMP) 2003-2010. Final Consultation Workshop, Vientiane, March 24, 2003 (2003)
- National Environmental Strategy years up to the year 2020, and the Environment Action Plan, 2006-2010 (2004)

At the policy level, harmonization appears to be well established as a concept. The VIII Party resolution, NES, and NBSAP, as well as the NSED itself, all support the Forest Strategy in requiring protection, conservation and sustainable management of forest resources. At the level of actions specified in each of these documents, there appears to be a significant degree of overlap, with no indication of how responsibility for each of the recommended actions is to be allocated.

## Overall objective

- Ensure valuable environmental resources are conserved in order to permit socio-economic development, a sustainable environment and sustainable development; and the improvement of the livelihood of the people of Lao PDR.
- Promote sustainable forest management in order to protect the rich and valuable forest resources and ensure sustainability of annual provisions of agricultural and forestry development contributing to continuous national economic improvement.

## Operational objectives and targets

- Increase forest cover to 70% by 2015
- Develop and improve instruments and the foundation for forest protection by creating policy, strategy, legal framework and other measures for national forest management.
- Establish EMMUs (Environment Management and Monitoring Unit) and

provision of sufficient staff to enable the units to operate effectively.

- Integrate forest study into formal and non formal education, including vocational training.

- Raise public awareness on forest matters; and promote public participation in forest management.

### Proposed strategic actions

- Reform the principles, regulations and standards for the use of forest lands and resources according to environmental and social assessment.
- Translate laws and regulations and ensure that they are strictly enforced.
- Revise the forest production system.
- Provide sustainable management of NTFPs to ensure an improvement in rural livelihoods.
- Promote the conservation and rehabilitation of forest resources, controlling slash and burn cultivation, unsustainable logging, and the proliferation of rubber and eucalyptus plantations
- Define roles and authorities of forest management and inspection organizations; reform institutions to ensure their appropriation for effective forest management and monitoring by the establishment of EMMUs at ministerial, provincial and district levels.
- Implement policy, laws and regulations, and national forestry strategy and action plan; developing and improving capacity for central and local level government staff.
- Prioritize the use of forest land at national, provincial, district and village levels into: protected, conservation, production, rehabilitated and degraded forests.
- Develop and promote the use of sound traditional practices on forest management by local communities.
- Establish the forest faculty in the National University of Lao and forest centers at central and local levels to support technical information to the government and school level.
- Enhance the local, public and private sectors' participation in the protection and utilization of forest resources.
- Properly control and manage NTFP and medical plant collection.
- Improve the quality and quantity of staff being responsible for the management of forest resources.
- Implement the international environment agreement related to forest management and strengthen international cooperation, especially with neighbouring countries, ASEAN members and international organizations.
- Consider the extension of the NPFA system to half of the commercially valuable forest outside the National Protected Areas, which would directly benefit about 1.5 million people through benefit-sharing arrangements and participation, and empowering communities to use forest revenues for local development efforts

### SD Progress indicators

- Proportion of land area covered by forest (percent)
- Rate of deforestation (hectares per year)
- MDG target for deforestation
- Dissemination of forestry technology and policy

### 3.3.3 Watershed development and management

#### Situation analysis

The Mekong River flows for about 1,860km through Lao PDR. The Mekong River basin covers nearly 90 percent of the total area of the country. In addition to the Mekong, several smaller river basins drain from Lao PDR towards Vietnam. The rivers' discharge follows the pattern of rainfall, amounting to about 80 percent during the rainy season (May-October) and 20 percent in the dry season, from November to April. For some rivers in the central and southern parts of the country (particularly Nam Xebangphay, Nam Xebanghieng and Nam Xedone) the flow in the dry season is reduced to around 10 to 15 percent of the annual flow. The water level in the Mekong River may fluctuate by up to 20 metres from wet to dry seasons.

A significant portion of Lao PDR's water resources is generated within its own watersheds. Average annual rainfall ranges from 1,300 mm per year in the northern valleys to 3,700 mm per year at higher elevations in the south. Lao PDR has estimated (internal) renewable water resources (IRWR) of 190 billion m<sup>3</sup> per year or 35,000 m<sup>3</sup> per capita per year. This makes it the largest per capita volume of IRWR in the region. However, over the past decade, Lao PDR has suffered from both severe droughts and floods. In the year 2000, 1,104 km<sup>2</sup> in seven provinces were flooded, affecting 450,000 people.

Currently there is relatively little competition between the various users of water because of the relative abundance of water and the small population. Total water usage is relatively limited, estimated at 1 billion m<sup>3</sup> per year in 2000. An estimated 90 percent is used for agricultural purposes, while domestic and industrial supplies use stands at 4 and 6 percent, respectively. The two sectors that have the most impact on water resources management are irrigation and hydropower.

The government has given high priority to investment in the irrigation sub-sector in order to increase the amount of land available for cultivation. It has supported projects that focus on the development of community-managed irrigation schemes, pump irrigation systems,

extension training for farmers and irrigation-ecosystem management systems. Surface water is the only source of irrigation in Lao PDR. Dry season irrigation is mainly concentrated near the major cities.

Lao PDR has a theoretical hydroelectric potential of about 23,000 MW, excluding the Mekong River itself. Of this, about 18,000 MW may be technically exploitable. Currently Lao PDR has nine hydropower projects around the country with a total capacity of 624 MW. The hydropower sector has developed rapidly, with annual production having risen to 3,674 million Kwh in 2002. The Nam Theun 2 dam, currently under construction, will add another 1,070 MW capacity by the end of 2009. On average, 65 to 80 percent of the annually produced energy is exported. The government continues to give priority to power sector development so as to expand electrification throughout the country and export electricity to neighbouring countries. The latter would generate revenues which could be used for priority poverty reduction programmes. Currently, domestic energy consumption is growing at 8 to 10 percent annually.

The emphasis of the Government on rural development through increased land cultivation and increased investment in hydropower development is putting increased pressure on water and aquatic resource, including wetlands and fisheries. Of great concern are the potential cumulative impacts of the numerous hydroelectric developments and their impacts on fisheries and other aquatic resources in the Mekong Basin. The exploitation of this hydropower potential needs to be carefully balanced with environmental and social pressures and impacts to ensure that the country's vast water resources are developed in a sustainable manner.

The Lao Environment and Social Project will support integrated river-basin management systems, which would then take into account cumulative impact assessments under the hydropower sustainability policy. Besides hydropower use, there is also need to improve the efficiency of water utilization in agriculture

and the water supply sector. For these purpose the Water Resources Coordination Committee (WRCC) has consisted of WARE, MoEM, and the MoPI. However, Provincial and local level governments haven't taken part in WRCC. Therefore the government needs to further expand the participation of provincial and local governments in order to achieve an integrated approach to water resources management in the country.

Fish and Fisheries play an important economic role in Lao PDR, contributing 13 percent to the national GDP annually. Most fishing is for subsistence, although there is significant commercial fishing in the Nam Ngum reservoir and along various other parts of the Mekong River and its main tributaries. The average annual per capita consumption of fish in 2003

has been estimated at 25kg per year. Over the last decade, fish consumption has increased by 24 percent and accounted in 2003 for 37 percent of total animal products consumed. Particularly in the rural areas, fish are the primary source of animal protein in the Lao diet. Total fish production has increased three-fold from 28,000 tonnes in 1990 to 80,000 tonnes in 2001. In 1999, over 8 percent of rural households were engaged in aquaculture. The remaining catch is harvested from the Mekong River and its tributaries, reservoirs, swamps and rice fields. If hydropower and land are developed excessively without considering watershed deterioration, it will affect the sustainability of fish and fisheries production in the near future.

### Lead and collaborating organizations

- Ministry of Agriculture Forestry
- WREA
- Ministry of Energy and Mining
- Ministry of Planning and Investment
- Ministry of Industry and Handicrafts
- Department of Land and Housing Management
- Land management Committees

### Existing policies and strategies

- Water and Water Resource Law (1996)
- Electricity Law (1997)
- Water Sector Strategy and Action Plan 1994-2004 (1998)
- The Government Strategic Vision for the Agricultural Sector (1999)
- Draft Policy on Water & Water Resources Law (2000)
- Hydropower Development Strategy (2000)
- 5th National Socio-Economic Development Plan (2001)
- Power Sector Environment Policy (2001)
- Social Impact Statement for Electricity Projects (2001)
- Implementing Decree of the EPL (2001)
- Draft National Environmental Quality Monitoring Program (NEQMP) 2003-2010
- National Guidelines on the Third Party Monitoring in the Hydropower and Transport Sectors (2003)
- National Environmental Strategy years up to the year 2020, and the Environment Action Plan, 2006-2010 (2004)
- National Policy on Environmental and Social Sustainability of the Hydropower Sector in Lao PDR (2005)

### Overall objective

- Sustainable development and conservation of natural and human resources in all Lao PDR Watersheds
- Manage all watersheds in an integrated manner for sustainable upland development and poverty alleviation
- Manage water and water resources to ensure multipurpose and sustainable use and equal access for the general population.
- Provide resources for the development of other sectors through the use of hydropower energy

## Operational objectives and targets

- Develop and improve instruments and the foundation for water resources protection by creating policy, strategy, legal framework and other measures for national water management.
- Establish EMMUs and provisions of sufficient staff to enable the units to operate effectively.
- Reform institutions to ensure their appropriation for effective water resource management and monitoring.
- Develop and improve water resource and social assessments and to ensure that all development projects and operations have undertaken an environment impact assessment (EIA).
- Promote public participation in water resource management by establishing water resource centers at central and local levels.
- Strengthen international cooperation, especially with neighbouring countries, ASEAN members and international organization
- Manage and utilize water resources in a reasonable and sustainable manner to ensure high benefit from hydroelectricity, while minimizing the adverse impact in the area that is developed.
- Strengthen the capacity building of institutional frameworks and people in charge of water resource management.

## Proposed strategic actions

- Complete inventory and survey (5 million ha by 2010), integrated water resources management
- Develop a master plan on management and utilization of water and water resources by defining water course, watershed, water catchments, river, stream, lake, wetland and underground water areas.
- Develop and implement policy, laws and regulations, strategy and action plan on the use and protection of water and water resources.
- Develop legislation to deal with conflicts or disputes over ownership and use of water and water resources.
- Develop and promote a study mechanism on the use of water and water resources
- Promote the use of technology that has minimal impacts on water and water resources.
- Develop environment quality monitoring and guidelines for the management of water and water resources.
- Develop and implement environment and social assessment regulations for hydropower dam and irrigation system.
- Develop and implement hydropower plan based on environmental scientific and technological research.
- Carry out research on protection, exploitation, and utilization of water resources to ensure sustainable development and effective economic development.
- Assess the downstream impact of catchment deforestation.
- Assess the impact of infrastructure development.

## SD Progress indicators

- Water use (% of total resource)
- Land equipped for irrigation during the dry season (ha)
- Land effectively irrigated during the dry season (ha)
- Hydropower production per year (million KWh)
- Fisheries production (tonnes per year)
- Level of public participation in watershed policy planning and management

### 3.3.4 Sustainable land use and management

#### Situation analysis

Lao PDR is a landlocked country with a total area of 236,800km<sup>2</sup> or 23,680,000ha. Urban areas take up less than one percent of the total land area. The country is divided into sixteen provinces, one special zone, and the Vientiane Capital City. With a population of about 5.6 million people in 2005, the Lao PDR is the second least populated country in the ASEAN. The urban population in Lao PDR makes up an estimated 20 percent of the total population.

#### Limited availability of and access to arable land, land degradation and poverty

Lao PDR's mountainous terrain precludes expansive permanent agriculture, with 70 percent of the land area having a slope of more than 20 degrees. The area suitable for intensive agriculture, which consists of permanent pasture, arable lands and permanent crops, is estimated at nearly 1.9 million ha, or only 8 percent of the total land area of the country.. The arable land consists mainly of narrow valleys and the productive silt rich flood plain of the Mekong River and its tributaries. The arable land under cultivation is estimated to be approximately 800,000 ha. This comprises 43 percent of the intensive agricultural land, or only 3.4 percent of the total land area. Rice is grown on 78 percent of this land.

While agriculture still accounts for about half of GDP, and employs over four-fifths of the population, the actual share of agriculture to GDP continues to decrease while manufacturing and service sectors are growing. The annual growth in agricultural output is also declining, estimated at less than 3 percent in 2003. The Government has put emphasis on developing cultivable lands through irrigation during the wet and dry season. The main irrigated crop is rice. However, the area actually irrigated is far below the area equipped for irrigation. It is estimated that only 60 percent or 130,000 ha of land equipped for irrigation, is effectively irrigated during the dry season, comprising 16 percent of the lands under cultivation. Pumping costs and inaccessible markets, particularly in the north, do not make paddy cultivation attractive in the dry season, except in area near urban markets.

Since 1999, the country has taken several major steps to develop policies and implement programs in land administration, distribution and management. The government has shown a commitment to the recognition of the private rights of citizens over land and has amended the Land Law to permit the issue of formal documents to citizens recognizing private, long-term, secure land use rights. It has established a project to systematically adjudicate villages and to issue secure land use rights. It has also developed a sound legislative framework for the land market and permits official registration of land transactions to ensure purchasers obtain secure rights. The government's long-term goal in this area is to establish a nationwide land administration system and provide secure tenure to all eligible land holdings in order to obtain sustainable benefits resulting from sustainable land management. To achieve this goal, the government needs to accelerate land-titling activities. Specific attention should be given to four areas: 1) women's rights in land titling; 2) increasing dialogue and consultations in the land policy development process among central and local governments, the private sector, and local communities; 3) community involvement in land titling including exploring options for communal land titling in areas where this is the preferred option; and 4) promoting and developing traditional or local knowledge in land use management.

The government is also putting emphasis on increasing the availability of secure land title to increase communities' incentives to invest in improving productivity. Shifting agriculture is used in forested lands to cultivate the upland areas. Some forms of shifting agriculture, including long rotational swidden practices, are not harmful to the land and are suitable for Lao PDR. However, pioneer 'slash and burn' that encroaches on virgin forestlands is still widely practiced in Lao PDR.

Deforestation and forest degradation remain a significant environmental problem in Lao PDR. Deforestation rates in 10 districts have been more than 20 percent over the period 1993-1997. Recent surveys suggest that forest cover

area is being reduced by an average of 53,000 ha per annum, with a 2004 assessment showing national forest cover of 41.5 percent. In a number of upland forest areas, deforestation is mainly a result of logging and unregulated commercial exploitation. In addition, local pressures include unsustainable exploitation practices, shifting agriculture and poverty, all of which are putting pressure on the remaining forests. All of these combined factors have accelerated soil erosion during the raining season and have led to a subsequent loss of wildlife habitat.

### **Unsustainable land use, soil erosion, UXO**

Despite having a low population density, with annual population growth of 2.8 percent and decreasing productivity of much of the arable land, the pressure on land resources for cultivation is rapidly increasing. Decreasing productivity arises from many factors, chief among them being soil erosion. Unsustainable forms of land-use, combined with predominantly mountainous terrain, largely poor soils and relatively high rainfall, makes much of the land in Lao PDR susceptible to soil erosion. Soil erosion is compounded by shortened fallow periods and increased

pesticide use, resulting in lower productivity and ever increasing demand on the land. The pressure on suitable land for agriculture is further aggravated by the fact that Lao PDR was subjected to heavy bombing during the Indochina war, resulting in large areas of land riddled with dangerous unexploded ordnance (UXO) throughout many parts of the country. UXO is a critical impediment to agricultural development and land utilization. As the population increases, resulting in higher demand for land for infrastructure development, construction, agriculture and water wells, UXO is a serious impediment. Of the 18 provinces in Lao PDR, 15 are significantly affected by UXO. It is estimated that UXOs are still present in nearly 50 percent of the total arable land area of Lao PDR. A UXO Lao Steering committee was set up consisting of representatives of relevant ministries and affected provinces. The mission of UXO Lao is to 'reduce deaths and injuries from UXO and to open up land for agriculture and other development. In 2002, 840 ha were cleared by UXO Lao and a total of 100,000 large and small bombs, mines, and other UXOs were removed and/or destroyed.

## **Lead and collaborating organizations**

- MAF
- National Land Authority
- Ministry of Industry and Commerce
- Ministry of Communications, Transport, Post and Construction

## **Existing policies and strategies**

- First National Environmental Action plan (1994)
- Land Law (1997): All individuals and organizations have obligation to protect the land to ensure that there is no soil erosion, land slip, soil degradation and negative impact on the natural or social environment.
- Mining Law (1997): Licensees are required to preserve and restore the land utilized during mining and to rehabilitate the land after mine closure and to guarantee that the project shall have no serious negative impacts. Any person or entity licensed to develop mineral resource shall utilize procedures to limit adverse environmental impacts.
- The Government Strategic Vision for the Agricultural Sector (1999)
- 5th National Socio-development Development Plan (2001)
- Master Plan Study Integrated Agricultural Development Lao PDR (2001)
- Agriculture and Forestry Sector Development Plan (2001):
- Draft National Environmental Quality Monitoring Program (NEQMP) 2003-2010. Final Consultation Workshop, Vientiane, March 24, 2003 (2003)
- National Environmental Strategy years up to the year 2020, and the Environment Action Plan, 2006-2010 (2004)

As part of the ongoing land policy development process for the sustainable land management, the government needs to address state land management as a priority, and review the modalities of the land allocation program, considering productivity and acceptability. The latter has documented adverse environmental and social impacts on communities practicing traditional long-rotational agriculture. Until 1997, the government policy regarding shifting agriculture largely focused on stabilization and encouragement of settled agriculture in an effort to limit land degradation. However, this policy has subsequently evolved to a more pragmatic approach, in which long-term rotational swidden practice is permitted within the concept of productivity and protection. To maximize the results of this new policy, the government needs to increase the involvement of local

communities in land use zoning, define the extent of these agricultural zones, and develop land use agreements in order to mitigate against future encroachment into undisturbed forest areas.

Before the land is used in the development progress, the assessment for impact on the sustainable development of community has to be established by the land management committee made up of the relevant ministries, private sectors, NGOs and local governments in order to establish a nationwide land administration system, increasing dialogue, consultations and community involvement, as well as promoting and developing local or traditional practice in land management and in the land policy development. However, currently there is no committee for the land management in Lao PDR.

## Overall objective

- Ensure valuable land use in order to permit socio-economic and sustainable development as well as improving of the livelihoods of the people of Lao PDR by establishing a sustainable land management system.
- Develop and promote environmental and social impact assessment in agricultural, industrial, mining, infrastructure, tourism and urban development projects.
- Take measures to prevent the adverse effects on land use by the establishment of a rescue unit and a system for early warning detection and prevention.

## Operational objectives and targets

- Develop and improve the foundation for sustainable land management by creating policy, strategy, legal framework and assessment & monitoring mechanism.
- Establish sufficient staff to enable the officials working at the central and local level to operate land management effectively
- Reform institutions to ensure effective land management and monitoring.
- Develop and improve capacity for land use assessment based on the environmental assessment
- Establish land management centers at central and local levels.
- Strengthen the cooperation of the private sector within a reasonable and sustainable manner to ensure proportionally high benefit in the process of land use.
- Strengthen the responsibility for land management and monitoring over the people using land.

## Proposed strategic actions

- Enforcement of regulations on land allocation plan, landscape planning
- To develop a master plan on the management and utilization of land in NBCA, agricultural, industrial, urban and cultural, historical and natural sites.
- To develop policy, strategy, laws and regulation on promoting agricultural production in uplands, emphasizing the implementation of land allocation program, attempting to stop shifting cultivation, reforming village settlement in accordance with local conditions and traditional practice of upland population, and ensuring local participation in the development of land use and land allocation programs.
- To develop legislation to deal with conflicts or disputes arising from land use.
- To develop and promote the study of agricultural systems that are appropriate to livelihood practices of upland and lowland population.
- To promote the use of technology that has minor impacts to human health and quality of the soil in agriculture. undertake environment assessment on the impacts of development projects and operations on agricultural land
- To conserve local genetic resources and traditional species: for example, rice varieties that are appropriate to land conditions that have potential to support economic development.
- To promote and support industry to reduce and minimize pollution, toxic and hazardous waste by developing laws or regulations for managing and controlling the utilization of chemical compounds in the used land sectors.
- To undertake surveys, assessments and evaluations of the impacts from UXOs, and Agent Orange residues from the Indochina war, on human health and soil quality.
- To develop and promote the use of traditional knowledge on the management and utilization of land in accordance with specific local conditions in order to develop regional and national appropriate technology.
- Establish an environmental fund through the income or benefits of related projects.
- Train personnel in the land management resources.

## SD Progress indicators

- Cultivated land area (percent of total land area)
- Land under protection (% of total land)
- Crop yields (trends)
- Net farm income
- Soil loss reduction
- Change in biodiversity
- Number of households participating in sustainable land management (SLM) activities
- Number of functional institutions on sustainable land management
- Quality of service delivery
- Number of policies on SLM enacted and regulations formulated
- Dissemination of available SLM technologies/Databases

### 3.3.5 Waste management

#### Situation analysis (Analysis from the World Bank's Environmental Monitoring)

Despite the low degree of urbanization in the country, the population in urban areas is already experiencing environmental health risks from inadequate collection and disposal of solid

waste, inadequate sanitation coverage and little, if any, treatment of wastewater. Proper solid waste management is only functionally systematic in certain urban areas. Wastewater treatment is still new to the country, and to cope with the increasing need for

environmental services, local governments and UDAs (Urban Development and Administration Authorities, with support from the National government) are under pressure to further implement and operationalise these services in Vientiane and the other larger urban centers. This would encompass: improving solid waste collection, recycling and disposal, expanding access to safe sanitation, protecting water sources from pollution, involving the private sector to partner with local government to deliver these services, effectively applying the UDA's 2002 cost recovery regulation to partially recover operation and maintenance costs from service users, and intensifying capacity building efforts of local governments.

*Municipal waste management:* The generation of solid waste in urban areas in Lao PDR is on the rise, and already degrading the quality of surface and groundwater. Expanding urban populations, poor collection, and largely inadequate disposal facilities are increasing the level of pollution.

Going back a little over a decade (1997), only 5 percent of urban households living within the Vientiane City municipal area were served by a solid waste collection system and only 10 percent of the solid waste generated was estimated to be collected. Today, with improvements in the solid waste management system, 48 percent of the urban households in the Vientiane municipality are now served by solid waste collection services. About half of the solid waste generated is now collected and disposed of at the sanitary landfill facility located 18 kilometres from the city centre. It accepts domestic, construction, industrial and hospital waste, and provides for separation of hospital waste within a fenced compound. The waste is collected by Vientiane Municipal Services. However, at present, there are limited environmental and social safeguards concerning the handling of waste. Currently, there is no system to cover the landfill waste with soil, no leachate control, and the site is adjacent to agricultural land. The landfill is accessible to both scavengers and animals. Rudimentary recycling is undertaken for plastics, paper, and scrap metals, but this is not managed properly for sanitation, thus the area emits foul odors and possibly unhealthy gases.

Nationally, the annual waste generation in 2004 was 270,000 tons. Domestic waste accounts for the bulk of waste materials generated. The average urban waste production in Lao PDR is 0.75 kg per capita per day. Vientiane and the four largest secondary towns account for 0.8-1.4 kg per capita per day. Solid waste in Lao PDR consists mainly of organic material, plastic, paper, glass, cans and other metals. Hazardous and toxic wastes such as batteries, old paint cans, aerosols and other refuse are also mixed with these wastes. The comparatively low content of organic material in municipal solid waste is mainly due to the fact that a large proportion of food waste is recycled as animal feed, even in the urban areas.

According to a recent survey conducted in 57 urban areas, only Vientiane City and the four secondary towns of Luangprabang, Thakhek, Savannakhet and Pakse use landfills for solid waste disposal. However, the disposal areas are small, and have no leachate collection and monitoring wells. Elsewhere, open dumping and burning are common practice for waste disposal in Lao PDR. Hazardous and infectious wastes are often disposed of with municipal waste. This improper waste disposal results in environmental impacts such as ground water contamination, leachate, foul odour, and production of methane which can lead to fire and explosive hazards. All of these increase the risk of disease.

Despite the existence of landfills in Vientiane and the four secondary towns, collection services are limited to accessible areas and profitable target groups, such as markets and high-income households. The average collection ratio for urban households in the five larger urban areas is 45 percent. Only in Luangprabang does the collection ratio reach more than 50 percent. In smaller towns, solid waste collection is often limited to commercial establishments in the town centre and the market place.

Approximately 70 percent of municipal solid waste consists of plastic, paper, glass, cans and metals, which have the potential to be recycled commercially, and reused in various manufacturing and industrial activities. However, the current scale of recycling in Lao PDR is still very modest. Furthermore, in local villages there is no system for waste

management, such as proper collection, landfill and recycling facilities. Moreover, public awareness of waste as an issue that affects them is quite low still. Generally, people deal with the waste generated in their lives through individual incineration and/or unregulated disposal around their homes and community without separation for recycling.

Vientiane Capital city is presently establishing a sewage system, the country's first. On-site wastewater disposal and treatment facilities, mainly septic tanks, are often poorly designed, constructed and maintained and therefore perform badly. In addition, discharges from some major industrial mining establishments are also polluting water sources.

## Lead and collaborating organizations

- WREA
- Ministry of Communications, Transport, Posts and Construction
- UDAA (Urban Development and Administration Authorities)
- Ministry of Industry and Commerce
- Ministry of Public Health

## Existing policies and strategies

- Environmental protection law (1998)
- Decree on the Management of Solid Waste and the Cleaning of Public and Residential Areas;
- Regulation on the Monitoring and Control of Waste Discharge (No.1122/STENO) 1998
- Guidelines for Hospital Waste Management (1997);
- Industrial Waste Discharge Regulation (No.180/MIH) 1994.
- Industrial Law (1999): All businesses shall ensure the protection of the environment in accordance with EPL. Wastes shall be treated in accordance with the relevant waste discharge regulations.
- National Environmental Strategy years up to the year 2020, and the Environment Action Plan, 2006-2010

## Overall objective

- Firmly establish a sustainable and resource circulating socio-economic foundation (i.e. a closed-loop waste management society)
- Foundation for Resource Recycling Society
- Minimum Waste Generation & Reuse
- Strengthen Energy Recovery from Waste Policy

## Operational objectives and targets

- Consistently promote waste reduction policy, the greater utilization of waste as potential usable resources, and the safe treatment and strengthened management of waste materials.
- Reduce municipal waste generation by 50%, which is expected to reach 370 tons/day in 2015; to increase recycling by 50% by 2015 through expanding

recycling facilities, developing recycling technology, and fostering the recycling industry. In addition, industrial waste generation will be reduced by 20%, while industrial waste recycling will be raised to 60% (overarching targets under the plan for a circulatory waste resources management system)

## Proposed strategic actions

- Formulate and implement a national policy on Integrated Waste Management
- Policy priority: 3Rs (reduce, reuse, recycle), and eco-treatment
- Product recyclability assessment:

- Industrial waste dischargers: Devise and carry out plans for preventing waste generation
- Implement regulatory framework for waste management, including directives on disposables & packaging for waste reduction
- Improving Waste Treatment Charging/Billing System
- Introduce Volume-Based Waste Fee System
- Refine Extended Producer Responsibility (EPR)
- Investigate and promote multiple ways to turn food waste into usable resources
- Production and distribution of high value-added recycled aggregate
- Create demand for recycled products and expanding recycling infrastructure
- Provide supports for introducing and piloting renewable energy production using waste resource
- Diversifying organic sludge treatment methods
- Upgrade the waste hazardousness management system
- MBT system for eco-treatment
- Expansion of waste treatment facilities
- Support resource recycling of end-of-life waste treatment facilities
- Prepare legislation for resource recycling society
- Strengthen exchanges and cooperation on waste management policies between nations; including opportunities for learning from international success stories and assessing domestic waste policy
- Enhanced waste management through information system and community participation

### SD Progress indicators

- Waste generation rate (%)
- Recycling rate of municipal waste (%)
- Rate of landfill (%)
- Waste collection efficiency (%)
- Number of sanitary landfills
- Scientific waste statistics management system

### 3.3.6 Biodiversity conservation

#### Situation analysis

The Lao PDR has a rich inventory of biodiversity. Scientific assessments of Indochina's biodiversity have concluded that the country is a globally important region or 'hot spot' for biodiversity. There are an estimated 8-11,000 species of flowering plants. Lao fauna inventory comprises 166 reported species of reptiles and amphibians, 700 species of birds, 90 known species of bats and over 100 species of large mammals. In the Indochinese Peninsula, despite limited surveys, 87 families of fish have been identified in comparison to 74 families in the whole of Africa and only 60 in South America. About 500 indigenous fish species are reported to live in the Mekong River and its tributaries within the borders of the Lao PDR.

For a long time the remoteness of protected areas has contributed to the protection of

biodiversity that lives within their boundaries. However, human use of these once remote areas is rising as a result of increased international biodiversity market demand, population growth in rural communities, migration, and settlement. As a result, expanding agriculture frontiers, illegal hunting, illegal logging, and uncontrolled burning have led to an observed decline in biodiversity resources. Biodiversity Surveys (mostly partial) have been completed in only some areas. Many areas have not been assessed, and existing surveys need to be repeated to detect occurring trends. Despite the lack of detailed information, over-harvesting and the proliferation of the wildlife trade are clearly the principal reasons for the decline in biodiversity

in Lao PDR, threatening much of it with local extirpation.

There is a long tradition of subsistence hunting in Lao PDR, and rural communities are dependent on hunting and harvesting of wild products to supplement seasonal rice harvest. However, new hunting methods using automatic weapons, explosives and steel cable snares have had a considerable impact on wildlife populations and have led to over-harvesting of certain species.

Similarly, commercialization of the trade in wildlife products has also increased with improved access to previously remote areas. Wildlife has been traded in and through Lao PDR for centuries, and anecdotal evidence suggests that trading levels have shown no sign of decreasing in recent decades. As wildlife populations decline, the value of wild products increases. Much of this trade takes place from areas in or near NPAs. Although much wild meat is consumed within the country, there is also a massive illegal trade of live animals and animal parts from and into neighbouring countries. The Lao wildlife traded internationally is predominantly used in traditional medicine. Having signed the Convention on International Trade in Endangered Species (CITES) in May 2004, and due largely to the efforts of the Ministry of Agriculture and Forestry and the Wildlife Conservation Society (WCS), as well as a national gun amnesty, the wildlife trade has become less visible nationwide. However, without more efforts to curb demand both locally and internationally, wildlife will continue to disappear throughout the Lao PDR.

As previously mentioned, the Mekong is one of the most species-rich river systems in the world, and the native fish fauna in Lao PDR is known to include 47 out of a total of 91 families recorded in the Mekong Basin. Of the total number of indigenous fish species, about 25 species are used in aquaculture. There are 30 commonly occurring fish species within the Lao section of the Mekong which migrate between

at least two different countries. Man-made alterations of water flow and discharge rates, resulting from water resource developments, is modifying aquatic habitats and consequently having a systemic effect on fish and other aquatic organisms' migratory behaviour and spawning, and the availability of food resources for fish, not to mention, general water quality. Other major threats to aquatic ecosystems include water pollution (domestic, industrial, aquaculture and agriculture sectors), over-harvesting and introduction of exotic species for aquaculture. In Lao PDR, 71 percent of all farming households fish part-time on a seasonal basis. Besides fish, other small aquatic species including snails, frogs, clams, crustaceans, etc, are an important source of nutrition for rural poor households, providing animal protein, vitamins, and minerals. Given the importance of aquatic resources to food security, and as a supplement to household income, there is an urgent need for baseline and monitoring studies of fish, fisheries and aquaculture in order to reliably predict the impacts of water resource development, pollution, and use of aquatic resources on the resource base and on the socio-economic system. Awareness of the value of fisheries and aquatic resources to the subsistence economy of Lao PDR also needs to be enhanced.

In the Lao PDR, maintaining and enhancing biodiversity directly relates to the livelihood of the majority of the population, as it forms the basis for sustained economic development and therefore the sustainable use of the nation's biological resources. The sustainable management of the Lao PDR's terrestrial and aquatic environments is essential to ensure the sustainable use and conservation of biodiversity. Therefore, the country needs to bridge the gap between current efforts and the effective identification, conservation and sustainable management of the country's rich biodiversity by cooperation and coordination from all levels of government and from within Lao society itself.

## Current principal issues in biodiversity conservation and management in Lao PDR

- Loss of natural habitat for wildlife
- Controlling slash and burn cultivation
- Unsustainable logging and excessive collection of non-timber forest products
- The proliferation of rubber and eucalyptus plantations
- Excessive hunting of wild animals for subsistence consumption and for domestic and foreign markets
- The low public awareness and education about the importance of biodiversity in the provincial and local level.
- The reformation of the relevant law and the restructuring of the committee for the efficient and effective management attended by all relevant public and private sectors.

## Lead and collaborating organizations

- MAF
- WREA
- NSTA
- MoIC
- MoE

## Existing policies and strategies

- Forestry Law
- Environmental Protection Law
- First National Environmental Action Plan (1994)
- Convention on Biological Diversity (CBD)
- Forest Vision for 2020 (2000)
- 5th National Socio-Economic Development Plan (2001)
- Master Plan Study Integrated agricultural Development Lao PDR (2001)
- Agriculture and Forestry Sector Development Plan (2001)
- Convention on International Trade in Endangered Species of Flora and Fauna (CITES)
- National Biodiversity Strategy and Action Plan, years 2010 and 2020. (2004)
- National Environmental Strategy years up to the year 2020, and the Environment Action Plan, 2006-2010 (2004)

## Overall objective

- Maintain the country's diverse biodiversity as one key to poverty alleviation, and protect the current asset base of the poor as a support to the implementation of the government's priority programmes (based on the National Biodiversity Strategy 2020).

## Operational objectives and targets (based on the National Biodiversity Strategy 2020)

- Improve biodiversity data and fill data gaps through basic and applied research
- Improve biodiversity management and monitoring
- Plan and implement a biodiversity specific human resource development programme
- Increase public awareness of and encourage participation in the sustainable management of biodiversity
- Adjust national legislation and regulations related to biodiversity and harmonize them with Multilateral Environmental Agreements (MEAs)
- Secure the NBSAP's implementation
- Promote country needs driven international cooperation.

## Proposed strategic actions

- Scientific data and biodiversity knowledge development.
- Develop and implement policy, laws and regulations, strategy and action plans on biodiversity and bio-safe technology
- Design and implement a communication campaign and environmental education programme related to biodiversity
- Reform existing laws and regulations or legislate the new law related to biodiversity and harmonize international conventions with existing laws and regulations.
- Ensure effective implementation of the National Biodiversity Strategy and Action Plan through adequate funding and efficient financial management
- Promote bi-lateral and multi-lateral cooperation in terms of scientific research, projects, technology transfer, conventions and negotiations

## SD Progress indicators

- Ratio of area protected to maintain biological diversity to total surface area (% including national, provincial and district)
- Change in status of threatened species
- Change in species abundance and distribution
- Trends in genetic diversity of domesticated plants & animals
- Connectivity and fragmentation of ecosystems
- Health and well-being of people in biodiversity-dependent communities
- Production of an annual report on policies, activities and plans for the implementers
- Local and private sector's participation (%)
- Number of staff working at national and provincial level for biodiversity.
- Number of staff at implementing sector agencies for biodiversity.
- Number of students studying biodiversity at university

## 3.3.7 Climate change

### Situation analysis

Throughout the world, industrial and other developments over the last century have led to a significant increase in emissions of carbon dioxide, methane and other carbon based gases. This harmful trend has largely been traced to the use of fossil fuels, decomposing organic matter and the continued destruction of forests. The rise in emissions of these GHG has resulted in a gradual increase in global temperatures, leading to changes in the environment, including increased desertification and extreme weather event, as well as rising sea levels across the globe.

In 1992, the Rio Earth Summit began to address the issue of global climate change. The UNFCCC was drafted, and many countries pledged to act against the possible future threat by decreasing GHG emissions. This pledge was reiterated at

the Kyoto conference. The principal means to meet the spirit of its obligations under UNFCCC for the Government of Lao PDR are its policies and measures aimed at reducing the extent of slash and burn farming, the single most important generating source of GHG emissions in Lao PDR.

In recent year, Lao PDR has witnessed more frequent and severe floods and droughts which are alternately occurring each year. Overall average temperature is also observed to be increasing and precipitation does not come regularly, which results in a number of adverse impacts to the economy, environment and the livelihoods of all people. Furthermore, according to the most recent assessment of the IPCC (2007), it is found that in the future, the extremes and frequencies of the floods and

drought caused by the climate change will most likely increase.

It is not currently possible to accurately predict the adverse impacts of climate change at the regional and national levels. Thus, the IPCC has argued for the strengthening of adaptive capacity to climate variability and extremes. Especially in the least developed countries which have less resources and lower capacity to adapt to such conditions, and are therefore the most vulnerable. In this connection, Lao PDR lacks of data, adaptation strategy, funds, adequately trained human resources, experience, appropriate approach and the mechanisms to find out the immediate and long term solutions to this issue. Consequently, Lao PDR is currently highly susceptible to the impacts of climate change, especially from floods and droughts, which, in general, cause significant adverse impacts for people's livelihoods, and in particular, for the livelihoods of the vulnerable groups with low adaptive capacity.

The Lao PDR is a signatory of the UNFCCC and a party to the discussion about the sources of GHG emissions and impacts of global warming. A greenhouse gas (GHG) survey conducted by STEA in 1998, established the baseline of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), carbon monoxide (CO), nitrous oxide (N<sub>2</sub>O) and nitrogen oxides (NO<sub>x</sub>) emissions and GHG sinks under the following categories: Fossil fuel combustion, traditional biomass burned for energy, rice cultivation, enteric fermentation and manure management, changes in the stock of forest and other woody biomass, forest and grassland conversion, landfills and waste water. The results of the survey indicate that Lao PDR was a net CO<sub>2</sub> sequester. Biomass burning dominated the CO<sub>2</sub> emissions. The net annual CO<sub>2</sub> removal is in the order of 121641Gg, which is much larger than the total fuel based CO<sub>2</sub> emissions of 414.9Gg. The total CH<sub>4</sub> emissions directly related to economic activity is 312Gg, of which agriculture accounts for 81% of the country's methane emissions (1990s data), with rice cultivation accounting for 50 percent of the total and forestry and waste sectors accounting for the rest. The CO emissions are primarily from onsite burning of wood in forests. The N<sub>2</sub>O and NO<sub>x</sub> emissions in the economy are negligible.

No previous or subsequent survey of GHG emissions has been conducted and no trend in the emissions can therefore be established for the time being. The GHG indicators identified have a limited value presently, but has the merit of bringing together, in a single fact sheet, all that we know about GHG emissions in Lao PDR today. The emissions inventory of GHG was developed for four of the six sectors mentioned in the IPCC guidelines, namely, energy, land use change and forestry, agriculture and waste. The emissions are estimated for CO<sub>2</sub> (carbon dioxide), CH<sub>4</sub> (methane), CO (carbon monoxide), N<sub>2</sub>O (nitrous oxide), and NO<sub>x</sub> (oxides of nitrogen) for the year 1990. In 1990, CO<sub>2</sub> emissions associated with burning of wood and biomass dominated the picture of overall emissions. These were only in small part offset by carbon sequestration by the growing forest biomass. As elsewhere in the rice-growing region of South-East Asia, the irrigated paddy sub-sector generates methane emissions. Lao PDR is making significant strides to reduce slash and burnt activities by paying close attention to the management of sustainable use of forestry, supporting the renewable use of energy, biogas, promoting climate change awareness, while at the same time working to manage and control pollution issues and minimise waste from social and economic development activities. Moreover, Lao PDR has prepared an NAPA, one of its obligations toward the UNFCCC and the Kyoto Protocol. The main goal for the Lao PDR is to formulate urgently needed action plans for adaptation to climate change in four sectors; agriculture, forestry, water resources and public health. In order to manage adaptation policy and practices within these four sectors, the Government has worked to improve the strategies on counteracting the disasters caused by climate change while concurrently strengthening the capacities of the National Disaster Management Committee (NDMC) to deal with the adverse impacts that are likely occurred in the future. The Government will also establish the specific office responsible for climate change issues, install disaster warning systems, conduct in-dept studies on the impacts of climate change, especially concerning droughts and flood in Lao PDR, as well as formulating strategy on climate change, including the mobilization of more reforestation and other activities which are necessary.

## Major constraints towards the effective response to climate change in Lao PDR include the following:

- One of the major constraints is coordination and cooperation among the sectors concerned. The government has limited accurate information/data, little, if any, in-depth research related to climate change effects in Lao PDR specifically, no specified responsible climate change office currently, no in-place warning and surveillance system, weak ownership and awareness, and unsystematic monitoring implementation
- A weak institutional set-up due to limited number of personnel both in relation to quantity and quality, lack of appropriate tools and equipment on how to adapt or cope with the impacts of climate change to help communities make decisions.
- Public awareness is low on climate issues, especially on its background, causes, impacts, mitigation and adaptation to climate change, because decision and policy makers and technical staff as well as academic institutes and communities at the risk prone areas and the general public do not fully understood the above mentioned issues.
- Lack of budget to be allocated for the implementation of mitigation on climate change.

## Lead and collaborating organizations

- WREA
- National Committee on Climate Change
- MAF
- MIC
- MCPTC
- Nation Statistical Center

## Existing policies and strategies

- First National Communication (2000)
- National Adaptation Programme of Action (draft being finalized in 2008)
- Forest Vision for 2020 (2000)
- Agriculture and Forestry Sector Development Plan (2001)
- National Environmental Strategy years up to the year 2020, and the Environment Action Plan, 2006-2010 (2004)
- National Adaptation Programme of Action to Climate Change (NAPA) (2008)

## Overall objective

- Achieve a low carbon society and build resilience of ecosystems, communities and vulnerable sectors to adverse impacts of climate change, contributing to the attainment of the priority national poverty reduction goals as set out in the National Socio Economic Development Plan 2006-2010

## Operational objectives and targets

- Increase public awareness activities on climate change.
- Implement a GHG mitigation plan.
- Regularly monitor and control climate change activities, for example data collection on temperature, rainfall, water flow, etc.
- Cooperate with international agencies on climate change activities and related issues.
- Enhance the safety of Lao society by being able to mitigate negative impacts on the lives, economies and properties of the people and the Government.
- Ensure that all disaster-affected people get adequate help and support on time,

and that their livelihoods are recovered as soon as possible.

- Ensure that Lao PDR has sufficient regulations and laws to mitigate the impacts from disasters towards an individual, communities, society and economies of the country.

- Ensure that the knowledge about disaster management and environmental protection are in line with, and integrated into, all development issues and gains a high level of general public awareness.

## Proposed strategic actions

- Timely development of National Communications and National Adaptation Programme of Action
- Enhance coordination with domestic and international partners for priority setting and implementing the identified priority mitigation and adaptation actions
- Strengthen the capacity of officials to have meaningful participation in the global climate change negotiations
- Promote awareness and encourage adequate behaviour change among the general public and communities through education and mass media
- Formulate and implement a National climate change strategy covering the following actions

## 1) Mitigation

### Energy

- Energy Conservation: Under mandatory efficiency standards and energy audits by companies, mandatory ISO certification
- Clean technologies: Under technology standards
- Grid –based: With mandatory legislation for expanding renewable electricity at a pre-determined rate, policy for private companies investing in hydropower to mandatory develop certain percentage of renewable capacity, and make it mandatory for power generators to invest in establishing renewable energy systems

### Transport

- Public transport: Tax private vehicles to develop better public transport systems limiting growth of private vehicles through quotas and encourage private participation in developing public transportation through mechanism like Boot, or profit sharing-mechanism.
- Improving efficiency and better technology: Under emission standards for vehicles, and

mandatory fuel quality standards, periodic inspection and maintenance certification.

### Agriculture

- Legal measures to levy water use charge.
- Biogas plants: undertake sustainability impact assessments of plant construction and under appropriate assessment results, promote bio-energy through land tax rebates, etc.

### Forestry

- Reduce shifting cultivation: Under legal restriction on extending shifting cultivation area, and in the short term, extending to complete restriction on shifting cultivation in notified areas
- Reforestation of degraded forest land and agro forestry conservation: Under clear laws for inspection and periodical regulation on plantations and penalty structure for violation

### Waste

- 3R policy (Reduce, reuse, recycle) related to other sectors mentioned above.

## 2) Adaptation

### Agriculture

- Strengthen capacity of the National Disaster Management Committees.
- Promote secondary professions in order to improve the livelihood of farmers affected by natural disasters induced by climate change.
- Conduct surveys and establish plan for the use of agricultural land affected by climate change.
- Promote the practices of rotated rice cultivation and the cultivation of short-cycle crops to farmers affected by climate change
- Build technical capacities on agriculture for relevant government staff in the areas affected by natural disasters caused by climate change
- Promote the use of locally available organic fertilizers and wastes from agricultural production for soil quality improvement
- Build capacities for technical staff conducting researches on organic fertilizer

### Forestry

- Continue the implementation of slash and burn eradication program and permanent job provision program.
- Build capacity for village forestry volunteers on the use of planting, caring, and management techniques, as well as the use of village forests.
- Promote and establish plant nurseries to provide saplings to areas at high potential risk of flooding or drought
- Awareness raising on the protection of wildlife and aquatic animals, and stop/prevent forest fires
- Set up and further strengthen the technical capacity for the forest fire management teams to have proper capacity at provincial, district and village levels
- Build water reservoirs in upland areas in order to provide water to

wildlife/aquatic animals and plants during the dry season

- Build research capacity on pest disease and animal disease outbreak

### Water resources

- Awareness raising on water and water resources management
- Mapping of flood-prone areas.
- Establish warning systems in flood-prone areas; improve and expand the meteorologic and hydrologic networks and weather monitoring systems.
- Strengthen the institutional and human resource capacities related to water and water resources management.
- Survey underground water sources in drought affected areas.
- Study, design and build reservoirs for multiple use purposes in drought affected areas.
- Survey the underground water sources in the flood-prone areas.
- Study, explore, design and construct the multi-purposes reservoirs in the drought prone areas
- Build and improve flood protection barriers to protect the existing irrigation systems

### Public Health

- Improve and build management systems for sustainable use of drinking water and sanitation with the participation of communities in flood and drought affected areas.
- Improve knowledge and skills of the engineers who explore and design the water sanitation systems.
- Raise the public awareness on sanitation among people in impacted areas
- Diagnose and improve the quality of drinking water and water for consumption
- Prevent and treat epidemic waterborne diseases
- Improve the reports on epidemic diseases so that they are accurate and timely

- Improve the capacity of the system  
epidemic disease surveillance

### SD Progress indicators

- National Climate Change Strategy formulated and implemented
- Date collection mechanism
- GHG inventory improved and updated
- Negotiation capacity of relevant officials improved
- Energy planning and management
- School curriculum design for climate change
- National vulnerability and impact assessment
- Restoration expenditure by natural disasters





## 3.4. Strategic Goal 4: Good Governance

### 3.4.1 Rule of law

#### Situation analysis

The rule of law encompasses well-defined laws, regulations, rights and duties as well as mechanisms for enforcing them and ensuring their fair and consistent application in settling disputes in an impartial manner. The principle of the rule of law is embedded in article 10 of the revised Constitution (2003), which stipulates that “the State manages the society through the provisions of the Constitution and the laws. Party and state organisations, the Lao Front for National Construction, mass organisations, social organisations and all citizens must function within the bounds of the Constitution and laws”. Lao PDR has always recognized that the establishment and improvement of the legal system is an inherent part of continuing development policy and work. The Government intends to firmly establish the principle of the rule of law in accordance with the Constitution. Such efforts will not only create a legal basis for successful reforms in the state apparatus, but will also provide the legal mechanisms to promote social policies, preservation of national cultural identity and protection of the environment,

while facilitating the country’s effective participation in the global economy.

The revised Constitution was approved by the National Assembly in March 2003. Since 2003, the organization of the People’s Court of the Lao PDR has been totally separated from the administrative organizations and has become part of the judicial system from the central to the local level, which is administered and controlled by the Supreme People’s Court. The establishment of three regional Appeals Courts and a central Appeals Courts has increased the quality of court case hearings of the People’s Court, and expanded venues rendering improved justice procedures for the people. The Supreme People’s Court gives emphasis on the improvement of local courts, and increasing the number of Court Committees. At present there are Civil Court Committees, Criminal Court Committees, Trade Court Committees, Family Court Committees, and Children’s Court Committees.

The Ministry of Justice has established three middle level law schools for basic legal study;

on in Savannakhet (2002), one in Louangprabang (2003) and one in Vientiane Capital City (2004). With such a process systematically undertaken, it will be possible in 5 to 10 years to ensure that a solid basic education is given to all professionals practicing law and that professional skills will be recognized on a specialized basis. In addition, Lao PDR is in the process of strengthening legal units in each ministry so that they may implement regulations as they are mandated by law. The Bar Association of Lao PDR remains at an embryonic stage. The capacity of the National Commission for Mothers and Children, and its provincial and district branches have been markedly strengthened in order to monitor progress in the implementation of the Convention on the Rights of the Child (CRC) and the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). Recently, the Law on women development and protection has been passed.

The Lao Government is committed to increasing its efforts to strengthen the rule of law by developing and constantly improving the legal frameworks, improving legal enforcement and improving public awareness on existing laws and regulations, as stated in the Politburo resolution of April 1998. However, the country still faces many obstacles as follows:

- Shortage of qualified judges and insufficient means for training and development
- Inadequate administrative capacity of the courts
- Inadequate legal education and training
- Insufficient public awareness and lack of legal and judicial information
- Weak legal enforcement and cumbersome laws and procedures
- Insufficient institutional mechanisms to clarify and strengthen the role and position of the judiciary and risks of undue influences from the executive and the legislative

### Lead and collaborating agencies

- National Assembly
- Ministry of Justice
- Supreme People's Court

### Existing policies and strategies

- Constitution
- Election Law
- Governmental Law
- Legal System Development Strategy and Master Plan for the legal sector to 2020 (to be confirmed)
- Convention on the Rights of the Child
- Convention on the Elimination of All Forms of Discrimination Against Women

### Overall objectives

- Establish an efficient equitable and transparent judicial system to foster an enabling environment that is conducive to poverty reduction, social justice and environmental protection
- Improve access to the legal system and the public decision-making process so as to enable all the peoples of Lao PDR to fully exercise their constitutional rights and fulfill their constitutional duties, and
- Develop a coherent, credible and predictable legal framework established in a transparent and participatory manner, while at the same time building efficient, effective, equitable and accessible justice and law enforcement institutions and systems.

## Operational objectives and targets

- Ensure the establishment of a complete, clear and coherent legal framework
- Strengthen the informal and formal mechanisms for dispute resolution
- Ensure predictable and transparent mechanisms for legal enforcement
- Strengthen the capacity of all institutions in the legal and justice sectors and all other relevant state agencies

## Proposed strategic actions

- Develop a comprehensive legal/regulatory framework supporting the socio-economic policy of the Government toward the years 2020, including poverty eradication, sustainable natural resource management and socio-cultural preservation and the promotion of justice for all in Lao society
- Draft priority bills and corresponding implementing guidelines to stimulate socio-economic growth and the protection of the environment, whilst amending or abolishing, as needed existing laws to ensure an enforceable, coherent and consistent legislative framework
- Clarify functions, tasks and powers of each of the state agencies from the central to the grass roots level (the National Assembly, the Government, People's Courts, People's Procuracies, People's Councils, and People's Committees at different levels), establish a coordination mechanism among them and build their capacity
- Undertake rigorous evaluation and research of comparative laws through the Legal Research Institute, to draw from lessons of other countries.
- Build the capacity of Lao diplomats in international law and international negotiations
- Create regulations on procedures and technical measures for the creation of laws, and the incorporation of international treaties into the Laws of the Lao PDR
- Establish and train legal advisory units of the line Ministries.
- Review and harmonize international conventions in which Laos is a party, or intends to become a party, with domestic Lao law and regulation
- Establish an on-going, permanent mechanism for experienced Lao legal experts to periodically review and assess adopted, or proposed laws and regulations, and to monitor and secure effective implementation and/or rescission or amendment of the legal/regulatory framework
- Improve capacity of village mediation units through the training of mediators and establishing district justice officers to facilitate and supervise the work of mediators so that they become efficient and cost-effective alternatives to the formal court system
- Continue to participate in international and regional fora to promote conflict management
- Further clarify the division of responsibility relating to complaints and the appeals process
- Continue institutionalisation of freedom and democratic and human rights of citizens, and provide mechanisms for assuring their implementation according to the principle that individual citizens may do everything not expressly prohibited by law
- Review and improve the organisational structure of the Office of the Public Prosecutor and the courts at all levels to clarify roles and responsibilities and to keep pace with the socio-economic changes in the country
- Establish legal units in all line ministries and provide training to staff on drafting, reviewing, implementing and monitoring of laws for ministries and justice official at provincial and district levels

- Undertake education campaigns in schools and promote legal awareness through activities conducted at the local level, and through mass organisations and other professional associations
- Increase bilateral cooperation with ASEAN countries, and neighbouring countries, especially Cambodia, China, Myanmar, Thailand and Vietnam, in the area of judicial training
- Establish a computer network system on laws linked to other government organisations, National University of Lao PDR, and internationally. Ensure all provincial offices are equipped with computers and receive training
- Develop systems of dissemination of legal information
- Strengthen the Bar Association to enable it to better provide legal services to disadvantaged groups
- Finalize and implement the regulations whereby the Ministry of Justice and provincial departments of justice can appoint legal assistance from the Bar Association in order to help offenders who are children, deaf or blind, mentally handicapped, not fluent in the Lao language, or under risk of capital punishment (in accordance with penal procedures)

### SD Progress Indicators

- % of population with appropriate access to the justice system and public decision-making process
- Number of people reached by education campaigns and legal dissemination actions
- Comprehensive legal framework developed to support the national development priorities including poverty reduction and sustainable natural resource management
- Level of unpredictability of the judiciary system
- Availability of information on up to date law
- Number of relevant officials trained
- Mechanisms for dispute resolution strengthened to address the needs of multi-ethnic population
- Law on Judgement Enforcement is approved and implemented through a national trainer-training program.
- Level of legal enforcement capacities in Ministries measured and strengthened
- Bar association providing legal services to the disadvantages people

### 3.4.2. Effective public service

#### Situation analysis

The Government has issued a significant number of resolutions, decrees, decisions and instructions for the purpose of translating and implementing the above-mentioned laws. It has also established and simplified the administrative regulations in order to make them more precise in addition to facilitating the delivery of public services to the people. At the central level, efforts have been made to enable Ministries to primarily perform their macro management roles, to apply the principle of decentralization, assignments of work, authority and responsibilities to the local level and technical units.

Job descriptions have been implemented in organizations at central level and local level throughout the country. Actions have been taken to make a separation between administrative personnel and technical personnel in the education and health sectors in order to facilitate the employment of new civil servants and the application of policies in an appropriate manner. The Government has also concentrated on the transfer of civil servants from the central level to local level to increase the number of civil servants at district level by increasing the recruitment quota of new personnel at the district level. The capacity development of civil servants continues to be a

priority for the Government and considerable efforts have been made to upgrade these skills and knowledge through systematic and continual training and development. The level of salary has also been reviewed and since 2002 there have been three (base) salary increases for civil servants by increasing the index value. Further increases will be subject to prudent public financial management and based on the economic capacity and current living conditions.

With regard to the improvement of state management regulations, the regulations for managing the state and the society are being gradually and systematically developed/improved, the administrative processes continue to be streamlined and services made more accessible and timely in their delivery, more people have participated in the process of discussion and decision-making, particularly in the development planning of their local area through the establishment of “Kum Ban Phattthana” (Development Village Group). Civil servants have become the main driving force for successful translation of the Party’s guidelines and implementation of Government policies.

However, key challenges remain in achieving effective public service, which include the following:

- Lack of human resources and their capacity
- Lack of coordination of the public service management at central and local levels
- Inefficient use of available human resources due to inappropriate organisation structure at central and local levels
- Duplication of roles and functions
- Lack of regulations and guidelines for the transfer of the tasks, personnel, budgets and responsibilities to local level
- Weak implementation of available resolutions and regulatory framework
- Prevalence of unproductive behaviours and non-merit based working methods
- Lack of client-oriented and results-oriented performance among civil servants
- Limited development and use of ICT in the management system due to limited infrastructure, insufficient IT human resource base, and lack of standards
- Low level of salary of civil servants due to the current revenue levels

## Lead and collaborating Organizations

- Central Committee for Organization & Personnel
- Public Administration & Civil service Authority

## Existing policies and strategies

- Law on Government
- Law on Local Administration
- Civil Service Statute
- GPAR SBSD (Support for Better Service Delivery (2007-2011)

## Overall Objectives

- Build an effective and ethical public service that delivers enhanced public services for meeting the needs of all the people of the Lao PDR

## Operational objectives and targets

- Improve State Management Regulations and Administrative Framework
- Reform Organizational Machinery and Administrative Framework of State Agencies
- Improve Civil Service Management; and
- Strengthen Central-Local relationships

## Strategic Actions

- Improve or cancel the regulations issued by ministries, equivalent agencies and local authorities which are not in conformity with specified rights, have loopholes or are in contradiction with laws, people's livelihood, environmental preservation and socio-economic development targets
- Review the statutes of the state organizations and civil society in order to ensure the compliance with relevant laws and regulations.
- Improve the organizational machinery of the Government and the governance system by undertaking the reform
- Modernise civil service management by making use of information and communication technology (ICT) to enhance transparency and efficiency
- Upgrade the capacity and skills of the civil service through systematic and continuous training and development, such as the National Civil Service Training and Development, in high priority areas, including ethical conduct, transparency, professionalism, efficient and effective service delivery, ICT, results-based and customer oriented management, corruption prevention and sustainable development
- Enhance the productivity of public service through the monitoring of performance and the creation of incentives and appropriate awards for civil servants to enable them to become highly motivated in carrying out their functions
- Improve the organizational structure at the local level to ensure the compliance with Law on Local Administration and carry on the establishment of "Kum Ban Phatthana"
- Define and improve the relationship between State administrative organizations at central and local levels with respect to the roles, rights and duties relating to decision-making, assignment of functions and distribution of responsibilities or decentralization of power to local level
- Elaborate the Instruction No. 01/PM on "Transforming the province as strategic unit, the district as planning and budget unit, the village as implementation unit"
- Translate the Resolution No, 09 of the Central Party Committee on the establishment of "Kum Ban" (cluster of villages) into a Regulation of the Government; develop an implementation plan to support the organisation of "Kum Ban"

## SD Progress Indicators

- Legislative and regulatory framework improved and disseminated to local levels for effective public service including the implementation decree of the Law on Local Administration
- Organizational structure of central and local administration improved including the establishment of Kum Ban Phattana
- Level of effectiveness in transfer of central agencies' functions, decisions and resources to local levels
- % of staff at all levels who received a National Civil Service Training & Development program
- % of civil servants who have adequate access to and use of the Government intranet

- Number of One-Door Service initiatives at provincial and district levels demonstrates with better service delivery results
- Results of monitoring and performance appraisal of public service and civil servants including the results of public survey on public service

### 3.4.3. Institutionalized public participation for sustainable development

#### Situation analysis

For the Lao PDR, the concept of people's participation is fundamentally enshrined in the Constitution (Chapter III - Fundamental Rights and Duties of the Citizens) and through the structure of the political regime, and the Government at central and local levels, the National Assembly, and other organisations, including mass organisations and other social organisations. Increasing people's participation is also strongly linked to the Government's decision to become a signatory to international conventions on human rights. It is important that the Government, and its institutions, engages with the community to share information on laws and regulations, to identify the needs of the communities and demonstrate preparedness to address these needs.

In recent years the Government has taken steps to further clarify the role of the National Assembly (NA) as well as to strengthen the capacities of the NA committees and individual NA members, with a central focus on empowering women. The practice of conducting pre-session workshops with parliamentary members and concerned stakeholders from ministries and local authorities has contributed to more targeted discussions in the plenary and presented an opportunity to address selected sectoral issues, such as the (policy) implications of the HIV/AIDS threat and the ASEAN Free Trade Area (AFTA). The oversight role of the NA (enacted by the Law on Oversight - 2004) continues to be strengthened with the Prime Minister's Office, Ministries and other government agencies reporting to the NA sessions. In order to enhance people's involvement in debates on new policies and legislation, the National Assembly has established a telephone hotline, which is open for the public to provide comments and suggestions, and to ask questions. The NA has also established a handbook that sets down the principles and practices for the public consultation process.

The reporting on the status of the implementation of the Government's Socio-Economic Development Plan (SEDP) was presented to the National Assembly at both sessions in 2005. These reports were detailed in the local newspapers and there has been a growing level of community feedback incorporated into national newspapers which actively seek comments on a range of topics. Increasingly the media is providing coverage on issues (including corruption) which were previously considered too sensitive for disclosure. The State Inspection Authority (SIA) receives complaints from the public, and in recent years the number of complaints received has risen from 240 in 2001-2 to 408 in 2005-6, indicating a growing acceptance by the public of the SIA as a legitimate and responsive avenue for 'whistle blowing'.

The National Commission for the Advancement of Women (NCAW) has finalised the drafting of the National Strategy for the Advancement of Women (NSAW), which aims to achieve equal access for women to education and health facilities, participate more in decision-making and be knowledgeable and active in achieving the NGPES objectives. Lao Youth is a vulnerable group, and requires special attention. More support is needed in finding ways to ensure the youth's effective participation in national sustainable development issues. The emergence of new social and professional organisations will provide an impetus for the existing mass organisations to improve their efficiency and adapt to the changing environment. There is an on-going initiative to develop the Prime Minister's Decree on non-profit organizations which will also facilitate more active public participation in national development efforts.

However, development of people's participation and self-reliance has not been given due importance. This is reflected in people being unable to fully express their

opinion in order to help in the improvement of the state management system and the delivery of Government services to them. People still face difficulties in accessing Government services through administrative processes that are complex and lacking in transparency, including the payment of fees at many places with different rates.

At present, Lao PDR lacks an institutionalized public participation process for comprehensive sustainable development issues such as a

national council on sustainable development or a national forum on sustainable development. Public participation is a precondition for sustainable use of natural resources, watershed management, economic prosperity and social development. A reinforced participation system is needed in Laos in order to identify and respond effectively to the needs of the population, in particular, the most vulnerable groups, such as rural impoverished men, women and ethnic minorities.

### Lead and collaborating organizations

- National Assembly
- Lao Front for National Construction
- Public Administration and Civil Service Authority, Prime Minister's Office
- Ministry of Planning and Investment: participatory planning manual
- Lao Women Union, National Youth Forum
- State Inspection Authority

### Existing policies and strategies

- Constitution (Chapter III - Fundamental Rights and Duties of the Citizens)
- Law on the National Assembly and the Parliamentary Rules of Procedures
- National Strategy for the Advancement of Women

### Overall objectives

- Enable effective public participation in a systemic manner in all areas of sustainable development, including natural resource management, environmental protection and socio-economic development

### Operational objectives and targets

- Establish an institutionalized mechanism for public participation in comprehensive sustainable development issues
- Strengthen the National Assembly
- Promote a dynamic and participatory society
- Promote an open and transparent society

### Proposed strategic actions

- Identify the focal point agency to be in charge of public participation for sustainable development and undertake public consultation with the aim of improving the existing public participation system and establishing an institutionalised participation mechanism for sustainable development both at central and local levels
- Upgrade the capacity of the members and staff of the National Assembly in the areas of policy debates, legal drafting, budget management and financial auditing
- Support the development and dissemination of the National Assembly's public information materials for sustainable development, targeting high priority areas such as poverty

reduction and natural resource management

- Strengthen the role of the provincial offices of the National Assembly to ensure that all levels of society are able to express their concerns and ideas
- Increase the participation of women, youth and ethnic people in national and local governance and in local development planning
- Issue regulations pertaining to the establishment and management of social organizations, professional groups and associations assisting the Government to develop the country

- Improve the information management in ministries and upgrade the mechanism for interaction between the Government and the media
- Promote the use of mass media to disseminate information campaigns on sustainable development issues
- Promote participatory planning with the aim of ensuring the participation of local people in village planning as well as in monitoring and evaluating development activities
- Strengthen local communities' capacity in influencing decision-making processes and actively participating in environmental management

## SD Progress indicators

- Legal and institutional framework developed for public participation in the country's priority sustainable development issues
- Number of sustainable development policy debates and follow-up actions undertaken at the National Assembly
- Increased fora for participation by women, youth and ethnic groups to discuss economic, social and cultural development
- Number of public communication strategies undertaken using mass media by the government agencies
- Number of communities with adequate access to quality information on community sustainable development activities
- Number of central, provincial, district and village level planning, monitoring and evaluation with transparent and active public participation





## CHAPTER 4 |

# The Way Forward for NSDS

### 4.1 Implementation

#### Institutional arrangement for NSDS management and inter-ministerial coordination

The NSDS implementation requires an agreed upon institutional arrangement within the central government. One of the major constraints in pursuing sustainable development in Lao PDR is a lack of coordination and integrated approach among the different sectoral ministries and agencies. The Government of Lao PDR would need an inter-ministerial coordination structure, such as an NSDS steering committee, with a clear mandate and authority to coordinate government ministries and agencies that are responsible for incorporating policy guiding principles into their policies and activities as well as for implementing the strategic measures identified in relevant policy areas of the NSDS.

Inter-sectoral discussions on NSDS management in Lao PDR resulted in a consensus that the existing NSDS coordination process led by WREA was effective and should be considered by GOL as a permanent solution. Presumably, this means that the Minister for WREA would also be the minister responsible for the NSDS process. However, other options could be considered, such as housing the NSDS Secretariat within WREA for administrative

purposes, but making it accountable to some other parts of government.

Two considerations are important in making this decision. **Firstly**, the host organization (such as WREA) must have the capacity to carry out this function; and **secondly**, the host organization must have sufficient authority to ensure that mainstreaming SD principles across sectors is effective, including be able to hold sectoral agencies accountable for SD implementation.

It could be envisaged to set up an inter-ministerial committee on sustainable development or to use other existing governmental bodies with cross-sectoral mandates such as the Prime Minister's Office and the Committee for Planning and Investment. Such inter-ministerial coordinating committee will be in charge of strategic management of the NSDS and coordination with the national planning and budgeting processes, other national and sectoral strategies and local strategy processes. A decision on NSDS coordination is identified in the Implementation Framework as one of the first decisions that will have to be made.

## Participatory implementation

An NSDS is not just a strategy document, but rather a coordinated, participatory and iterative process to achieve economic, social and environmental objectives in an integrated and balanced manner. It comprises the rolling process of participatory formulation, implementation, monitoring and revision. Active participation and consultations should be undertaken targeting key stakeholders including ministries and agencies at the central level, district and provincial offices as well as NGOs, private sector, academia and media. International development partners engaged in the development cooperation activities in the Lao PDR should also be consulted throughout the whole process to ensure their support for the implementation of the NSDS. The NSDS can only be effectively implemented in active cooperation with the concerned stakeholders.

In Lao PDR, public consultations are often undertaken at the policy planning and formulation processes. For instance, the NGPES formulation process was considered participatory as it undertook workshops, sector/thematic area working groups and consultation meetings. The approval of the NGPES implementation by the National Assembly also demonstrates its high level of participatory approach. This participatory process proved successful and essential to strengthen ownership at all levels and to set national priorities and incorporate different views. However, there is a need to more clearly define participation as “more broad-based” and to further institutionalise this participation in the formulation process as well as in the

implementation, monitoring and evaluation processes.

A national participatory “mechanism” needs an appropriate level of institutionalization in order to channel the various voices of different stakeholders, facilitate the formation of national consensus on the shared vision, challenges and measures and enable integrated development planning and activities under the framework of the NSDS. This national multi-stakeholder mechanism can take various forms, including a less institutionalised “National Multi-stakeholder Forum on Sustainable Development” and a more formal “National Council on Sustainable Development”. In the context of Lao PDR, a less formal “National Forum on Sustainable Development” can be envisaged in the near future. This forum should build on the existing participatory approaches and mechanisms in the country, mobilising representatives from the central and local governments, business, academia and NGOs. Such national forum can be organized annually to discuss the status of the NSDS implementation, review each stakeholder group’s performance and progress in the NSDS implementation, discuss emerging sustainable development issues and propose innovative measures to further the strategy implementation. This forum can also play an important role in raising public awareness of sustainable development if well publicized and recognized at the nation-wide level, and strengthen stakeholders’ capacity in effectively voicing their opinions and ensuring the ownership of the national development process.

## Implementation at the local level

Given that around 80% of the population lives in the rural areas of the Lao PDR, local implementation of the NSDS is central to making any progress towards sustainable development.

The Government is committed to ensuring close consultation of Lao people in decision-making and their full participation in the economic, social, cultural and political development of the country. Government instruction No.01/PM (11/3/2000) streamlines the responsibilities of

central and local governments as follows: the provinces as the strategic units, the districts as the planning and fiscal units, and the villages as the implementation units. Following this instruction, each line ministry defines the central, provincial, district and villages levels of responsibility, as part of a fully integrated approach to improving the management and delivery of public services (NGPES).

The authorities at the local levels will have the responsibility to implement the NSDS approved

by the central government. They should put the NSDS into practice by translating the national strategy into detailed action plans and specifying implementation measures and mechanisms at their respective local levels. They could formulate their local plans for implementing the NSDS using the framework of Local Agenda 21 which should build on existing local strategies and resources. The capacity of local officials needs to be reinforced to assume the new responsibilities in the framework of the NSDS. Local authorities should be trained in local-level SD planning and strategies such as the Local Agenda 21 and ensure people's participation, paying particular attention to ethnic minorities and vulnerable groups,

especially in the remote, poor and isolated areas. The NGPES identifies the urgent needs for capacity building at the district and village level, including skills in sustainable natural resource management along with increasing capacity for socio-environmental impact analysis and integrated and community-based planning. Community-driven development and bottom-up approaches are essential for implementing the NSDS at the local level and adapting the national strategy to local needs and priorities defined by the local governments and populations. The central government should assist this local implementation to ensure coherence between the central and local levels.

## 4.2. Monitoring, evaluation, and continuous improvement

Monitoring is critical for effective implementation of the NSDS and should be built into the NSDS. Monitoring promotes accountability of concerned stakeholders in charge of implementation, promotes public interest and participation, and provides an on-going feedback mechanism to correct the strategy as needed. NSDS needs to be monitored mainly in terms of its implementation progress and the overall progress towards national sustainable development.

Each sectoral response in the Strategic Goals proposes the lead and collaborating organisations that should be responsible and accountable for the achievement of the objectives and the implementation of strategic actions set out in the NSDS. Lead organisations can be in charge of self-monitoring the progress

of implementing the strategic actions relevant to their area of responsibility as defined in the NSDS. A senior SD officer can be designated within each lead organisation to lead the periodical monitoring of its sectoral NSDS implementation progress using progress indicators. The lead organisations of each policy area can then submit annual progress reports to the NSDS inter-ministerial committee as proposed in previous sessions. The NSDS committee will compile the reports and make an annual NSDS implementation progress report to be reported to the Council of Ministers or the Prime Minister for their review. This reporting system can help make the concerned government bodies accountable for their scope of responsibility defined in the NSDS.

### Monitoring the overall progress towards SD: Indicators, NSDS improvement

NSDS management also requires the monitoring of the overall progress towards sustainable development. It is necessary to detect the trends of sustainable development and to contribute to the evaluation and revision of the NSDS based on the monitoring results. The essential tools for measuring the SD progress typically include the national sustainable development indicators (SDIs). An evaluation report on the progress towards SD can be made every two years by the NSDS

Secretariat in close cooperation with the National Statistics Office. This then should be submitted to public evaluation workshops involving all major stakeholders for their review of the NSDS progress and the national trends of sustainable development, leading to the revision and improvement of the NSDS in the next strategy management cycle. The revised NSDS should be submitted to the Government for its approval and endorsement. This will

complete the rolling process of monitoring, evaluation and improvement of the NSDS.

Once the need for developing a set of national SDIs is identified and shared by key stakeholders, a participatory process should be undertaken to coordinate the views and interests of different ministries, local authorities, civil society organisations and the private sector. The SD indicators should fulfill the SMART principles (Specific, Measurable, Attainable, Relevant and Time-bound). The internationally-recommended criteria for selection of the SD indicators are as follows:

- national in scope

- limited in number and adaptable to future needs
- understandable, clear and unambiguous
- representative of an international consensus to the extent possible
- within the national government's capabilities to develop
- dependant on the availability and quality of data

Effective entry points for developing Lao PDR's national SDIs include global indicators sets such as the MDG indicators and the indicators from the national and sectoral development plans.

### 4.3. Key Recommendations

#### a. Ensuring the legal basis of the NSDS, key to the sustainability and effective implementation of the NSDS

Mainstreaming SD principles into all sectors would seem intuitive; however, without some form of legal basis or specific GOL directive, sectors remain un-accountable for their actions when these are not in accordance with SD principles. For example, Lao does not have a national water quality law and currently assigns this responsibility to responsible ministries which may or may not apply pollution control measures to enterprises under their jurisdiction. Where the actions of one

ministry creates negative impacts for those downstream, there is no system of accountability other than administrative intervention. An NSDS creates accountability through the use of indicators that report on failures of line ministries to apply SD principles to their actions. A decision on the legal basis is not required at the beginning of the NSDS implementation, but a recommendation on how to proceed on the legal basis for NSDS should be made in the first year to GOL.

#### b. NSDS Secretariat

- National NSDS Secretariat to be established and role confirmed.
- Provincial secretariats to be established and role confirmed.

#### c. NSDS Focal Points

Focal Points in each sector, plus central agencies such as Finance, Planning, etc., are designated and roles defined. This

also needs to be done at the provincial level.

#### d. Resourcing for the NSDS

National Secretariat determines budget requirements and writes proposal for donor support required for NSDS

development process. The Secretariat should not under-estimate the cost of developing the NSDS plan.

**e. Secretariats and Focal Points meet to**

- Reach a mutual understanding on ways and means of developing the Lao NSDS Implementation Framework
- Assign duties and agree on a schedule for reaching decisions on NSDS content.
- Confirm those issues that need to be addressed in the first and second years, and which should be deferred to the Middle Term or Long-term timeframes.

**f. Proposed Content of the NSDS**

Each Focal Point proposes the content of the NSDS for their sector, together with suitable PIs, through extensive multi-stakeholder consultations with relevant line ministries, agencies and non-state actors such as the private sector and civil society organisations. This should be done with reference to the Sector Report that is appended to

this report (Annex 2). The issues to be included should not attempt to capture all possible SD issues, but should (1) focus on key issues, and (2) provide an overview of the collective impact of a variety of related issues. This will reduce the amount of measuring and reporting that will be required.

**g. Data Collection**

Secretariats and Focal Points assess the ability to collect the data required to measure the PIs. Where capacity or

data are lacking, alternative approaches must be developed.

**h. A national meeting is held to discuss**

- The proposed content of the NSDS based on the first year's work.
- Reporting procedures within GOL and to the political level of the government: The Secretariat will have to consider various ways to collate and simplify the content of the NSDS for reporting purposes. The annual NSDS report should be simple and concise and suitable for public distribution.
- Discuss proposals made by National Secretariat for a legal basis for the NSDS.

**i. Up-Dated NSDS**

National Secretariat issues an up-dated NSDS Implementation Framework and a schedule for reporting against the

issues and PIs that have been agreed upon.

**j. NSDS Capacity Development**

The inter-sectoral meeting held during the preparation of this report made the point that capacity development, especially for sectoral focal points was essential. Additionally, although the Lao inter-sectoral process works quite well, there may be need for some mentoring of the NSDS development process. Therefore, it may be useful to

engage a knowledgeable consultant or volunteer to carry out training, mentor this process and ensure that the NSDS is sufficiently complete, but without imposing a huge burden on Focal Points for monitoring and reporting on NSDS implementation.

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