

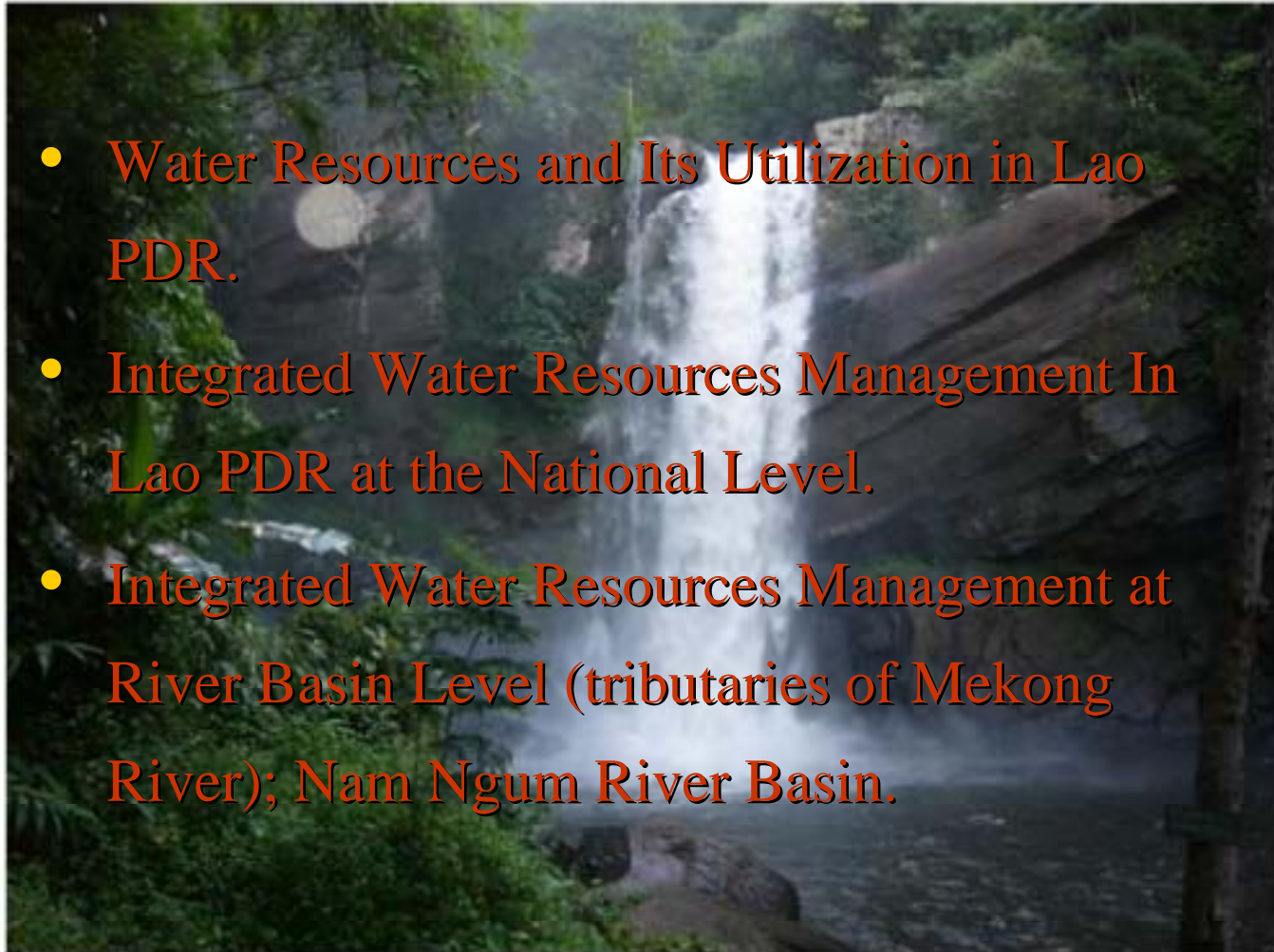
“Integrated Water Resources Management in Lao PDR”

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Presentation Contents

- Water Resources and Its Utilization in Lao PDR.
- Integrated Water Resources Management In Lao PDR at the National Level.
- Integrated Water Resources Management at River Basin Level (tributaries of Mekong River); Nam Ngum River Basin.



Lao PDR and its Economy

- Land-locked country: 236,800 sq km and its Population: 5.6 million people
- Over 85% of population live in rural areas
- Over 90% of rural population lives on subsistence farming
- Agriculture contributes half of GDP and 40% to foreign exchange earnings
- Hydropower contributes 30% to foreign exchange earnings (\$22 million in 2001)
- Economy has done well by posting 6.0% growth rate over the last five years

Water resources

- About 80% of the country's area lies within Mekong River Basin.
- Total annual flow of the Mekong's tributaries within territories of Laos is 35% of the average annual flow of the whole Mekong Basin: 80%-during the rainy season & 20%-during the dry season.

Surface Water

Quality

- In general, the water quality of River between Lao PDR and Mekong is considered to be good, based on the Global Environment Monitoring Standard
- The sedimentation is not high (40-345 ton/km²/year)

Flood

- During the last 30 years, the country has experienced 22 notable floods (once in 1.4years)
- In 1995 & 1996 floods created serious damage.

Aquifers

- Small proportion of ground water has been used so far.
- In general, the depth of drilled wells in the rural areas is about 30- to 45 meters (the yields vary from 1 liter/second to 5 liter/second).
- The groundwater is the main source of potential rural and small town water supply
- There is no much assessment about the potential of groundwater.

Irrigated Agriculture

- Total irrigated areas is 315000 ha in rainy season; 215000 ha in the dry season.
- About 5000 ha is increased per year.



Hydropower

- The hydroelectricity potential (MW) is 23000MW
- The installed hydroelectricity capacity is 670 MW.
- Under construction is 2021 MW



Inland-water transportation

- There is still a high reliance on river transport in several areas (North).
- Maximum vessel size is about 60 ton for the North area and 200 ton for the south area.

Fisheries

- The average fish production is 42000 ton/year.
- Fisheries are believed for about 30% of GDP from the livestock sector.
- Most fishing is for subsistence.

Rural & Urban Water Supply

- 56% of people living in the city can access to the piped water supply.
- In some urban area, the people still use drilled wells.
- 57% of rural area can access to the rural water supply.
- For urban water supply, plan to install new, and upgrade existing, provincial capital systems, and install new systems outside the provincial capitals, with priority to economic development zones.

Competition between uses

- In general, at the present, there is a little competition between the various users, but water resources development level in the future will increase.
- Lack of information about the competition.
- The competition often happen during the dry season.

Legal framework

- Water & Water resources Law (1996);
- The agreement on Cooperation for the Sustainable Development of the Mekong River Basin (1995).

Institutional Base

- There are 12 agencies in the water sector: Irrigation Department; Hydropower Development; Urban Water Supply; Rural Water Supply; Fisheries Department; Inland Water Transportation.

The Coordination

- In 1997, the Water Resources Coordination Committee was set up to coordinate with water related agencies.
- The documents were prepared such as:
 - Draft Water Sector Policy (2000)
 - the Water Sector Strategy and action plan.
 - The decree to implement the water law;
 - the National Water Sector Profile; the Public Awareness Program.

Policy on Water and Water Resources (2000)

- **The Policy on Water and Water Resources is composed of 7 areas as follows:**
 - Principles on water and water resources management;
 - Water source development and management;
 - Public involvement;
 - Financial resources for water source development and management;
 - Water allocation, quality management and use;
 - Data and information management; and
 - Capacity building and human resources development.

The vision statement for the water sector

“Coordinated Development of Water and Water Resources for Health, Wealth and Happiness”

The mission statement

“Protect, manage and develop the water and water resources to achieve improved quality of life in Lao PDR”

Decree to Implement the Law on Water and Water Resources (2002).

The Decree (2002) was adopted in order to implement the Water and Water Resources Law of 1996, because:

- the law sets out a general legal framework for development in the Water Sector;
- and Many issues in the Law, particularly the roles and responsibilities of various agencies for specific activities such as water allocation and the process for licensing water users, need to be developed.
- There is an urgent need for the development of further legislation or decrees for sub-sectoral activities, as well as the necessary legal documents to accompany the Law and make it effective.

Nam Ngum River Basin

- Area: 16000 km²
- Existing dam: 150 MW
DAM1
- Under construction 615
Ng2
- Under Negotiation of
agreement of PPA: 460
MW Ng3; Nam lik Dam:
100 MW; Ng5: 150 MW.
- 4 provinces



Nam Ngum River Basin (cont').

- The project “Integrated Water Resources Management in Nam Ngum River Basin (one of Mekong tributaries) 2004-2009 supported by ADB-AFD (France).
- The component and output is comprised of three main components:
Component 1: Integrated Water Resources Management, primarily involving support for the WRCC and its Secretariat (WRCC/S),



Nam Ngum River Basin (con't)

Component 2: Reservoir Management and River Basin Modeling, mainly through support for the Hydropower Office (Department of Electricity, Ministry of Industry and Handicrafts), and

Component 3: Watershed Management, involving support to the Integrated Watershed Management Unit (IWMU) (Department of Planning, Ministry of Agriculture and Forestry) and the National Agricultural and Forestry Extension Service (NAFES)(MAF).

Nam Ngum River Basin (con't)

- The first component (IWRM) will strengthen the capacity of WRCC and its Secretariat (WRCC/S), so that it can play a more effective role as a coordination body at both the central level and, through the Nam Ngum River Basin Committee (NNRBC), at the provincial level
- It focuses on
 - Policy and Legal framework;
 - River basin planning;
 - Data and information management;
 - Training; and
 - public awareness.

Thank you very much
for your attention