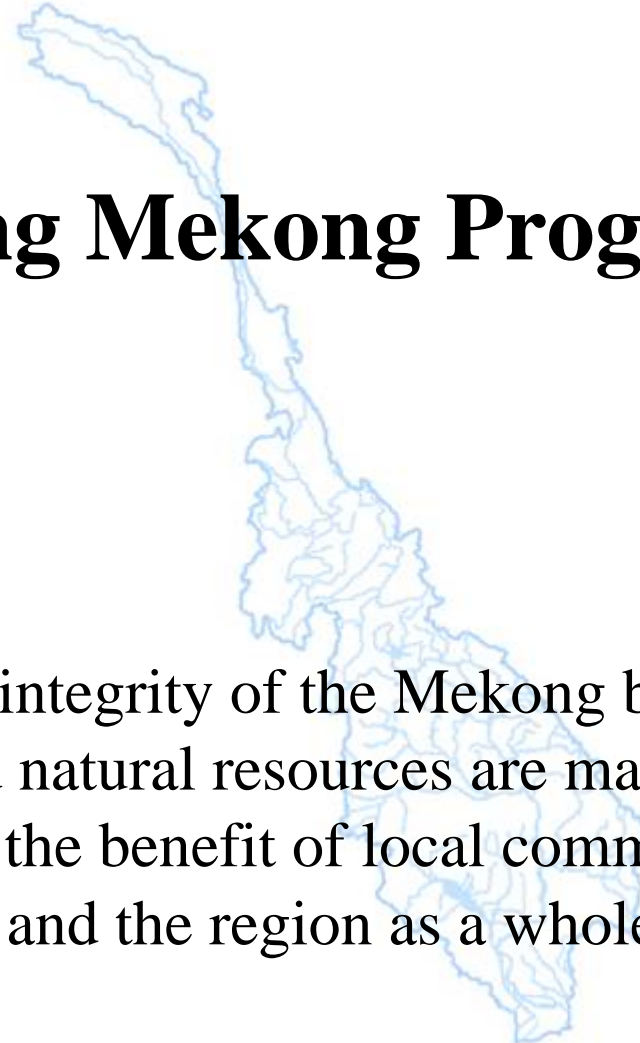




# The Living Mekong Programme

## Goal :

The biological integrity of the Mekong basin is maintained and natural resources are managed sustainably for the benefit of local communities, national states, and the region as a whole.



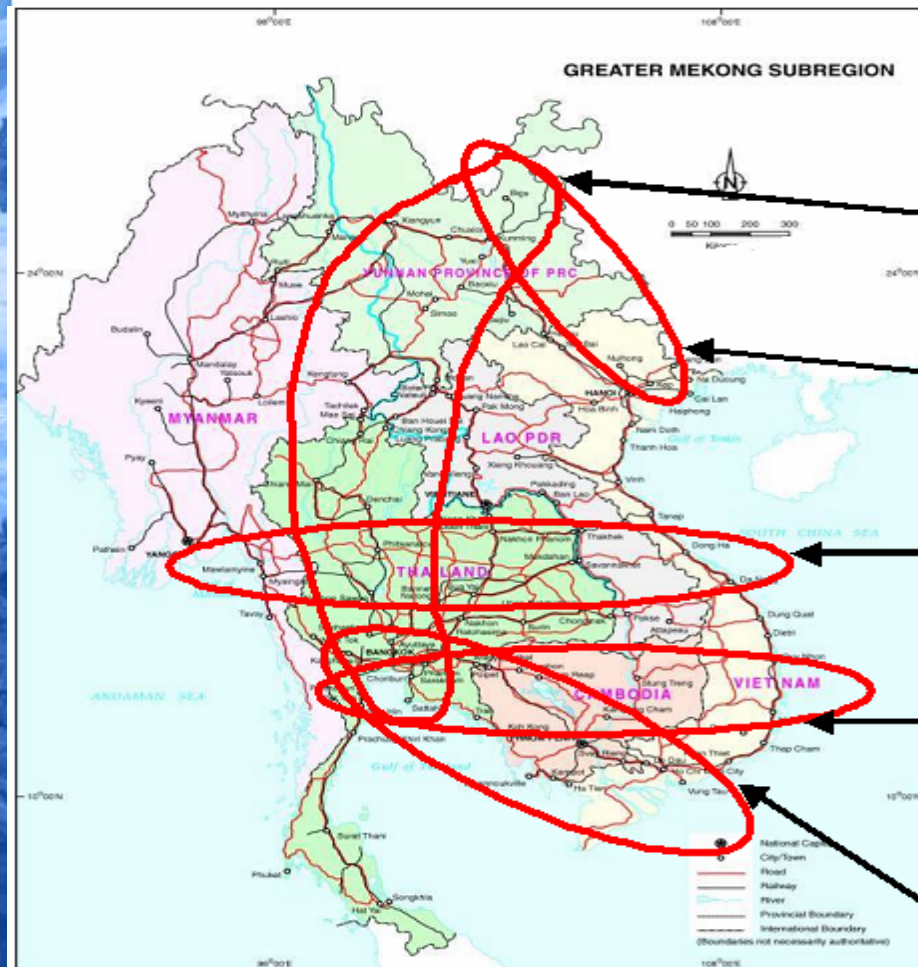


## **Objective 1: River basin Management**

Policies and mechanisms that significantly reduce major and large scale threats, particularly infrastructure, to sustainable livelihoods, biodiversity and social equity of the entire Mekong basin are formulated and used effectively in decision-making processes.



# GMS economic corridors



North- South Economic Corridor 1

North-South Economic Corridor 2

East-West Economic Corridor

South Economic Corridor 2

South Economic Corridor 1



# ECONOMIC CORRIDORS

**Combined 305 projects - \$31 billion.**

- **Roads and bridges** - **\$7.6 billion**
- Railways - \$13.2 billion
- Ports and navigation - \$2.6 billion
- Airports - \$84 million
- Electricity grid - \$338 million
- Gas pipelines - \$1.3 billion
- **Power stations** - **\$4.8 billion**
- Telecommunications - \$29 million
- Tourism - \$446 million
- Livelihood projects - \$44 million
- Industrial estates - \$1.0 billion



## Roads in the Mekong Basin

- New roads make logging of formerly inaccessible areas economically viable and access to markets increases spread of commercial cash-crop agriculture, increasing pressure for forest conversion and irrigation development
- Badly designed roads contribute to erosion and landslides in highland areas and loss of economic and ecological value of floods in floodplain areas



















## **WWF Recommendations for GMS roads in Mekong IRBM Context**

- Cumulative Impact Assessments (CIA) must be conducted for the planned transport sector investments in the GMS economic corridors, and appropriate alternatives or mitigating measures must be implemented



## Mekong Headwaters

- Promote same rehabilitation of slopes model as Yangtze to ensure longer life of existing reservoirs downstream
  - Standards for roads building
  - More sustainable Irrigation
  - Regulation of mining



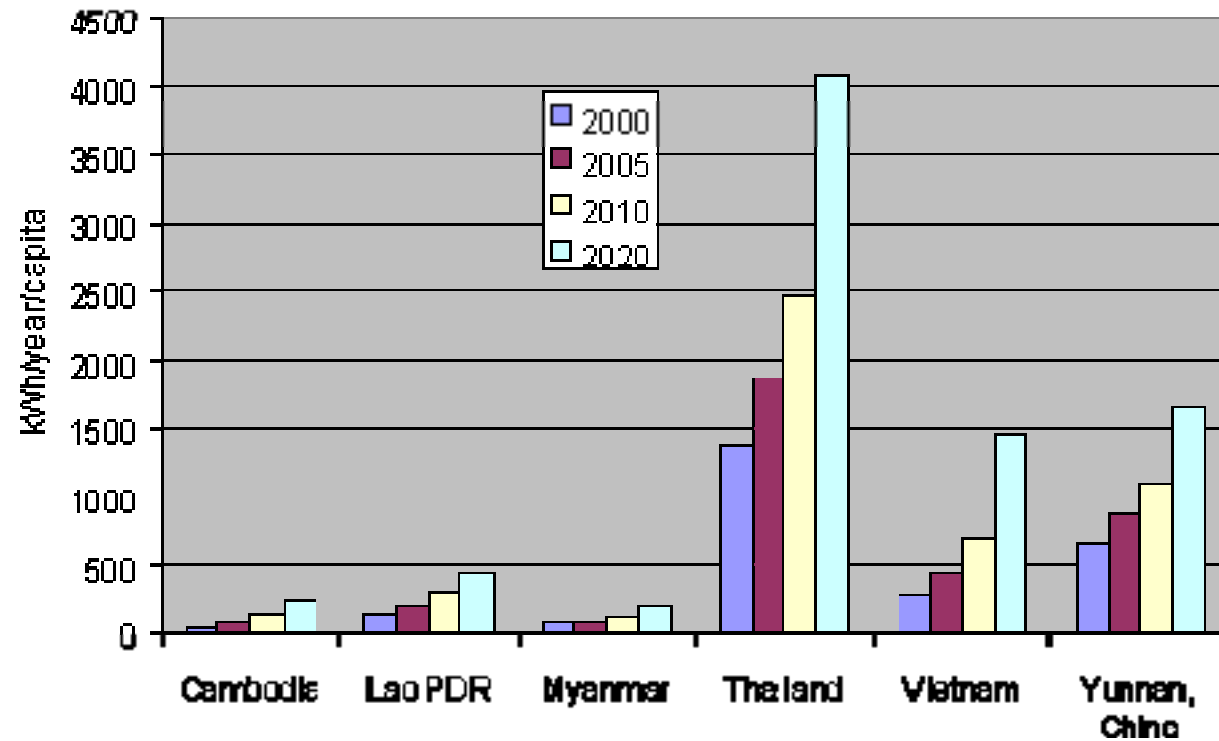
## Mekong Floodplains

- Improved standards for road design in floodplain areas should be developed and promoted, including improving the drainage systems, providing additional culverts, and providing greater through-flow capacity and headroom at bridges and culverts.



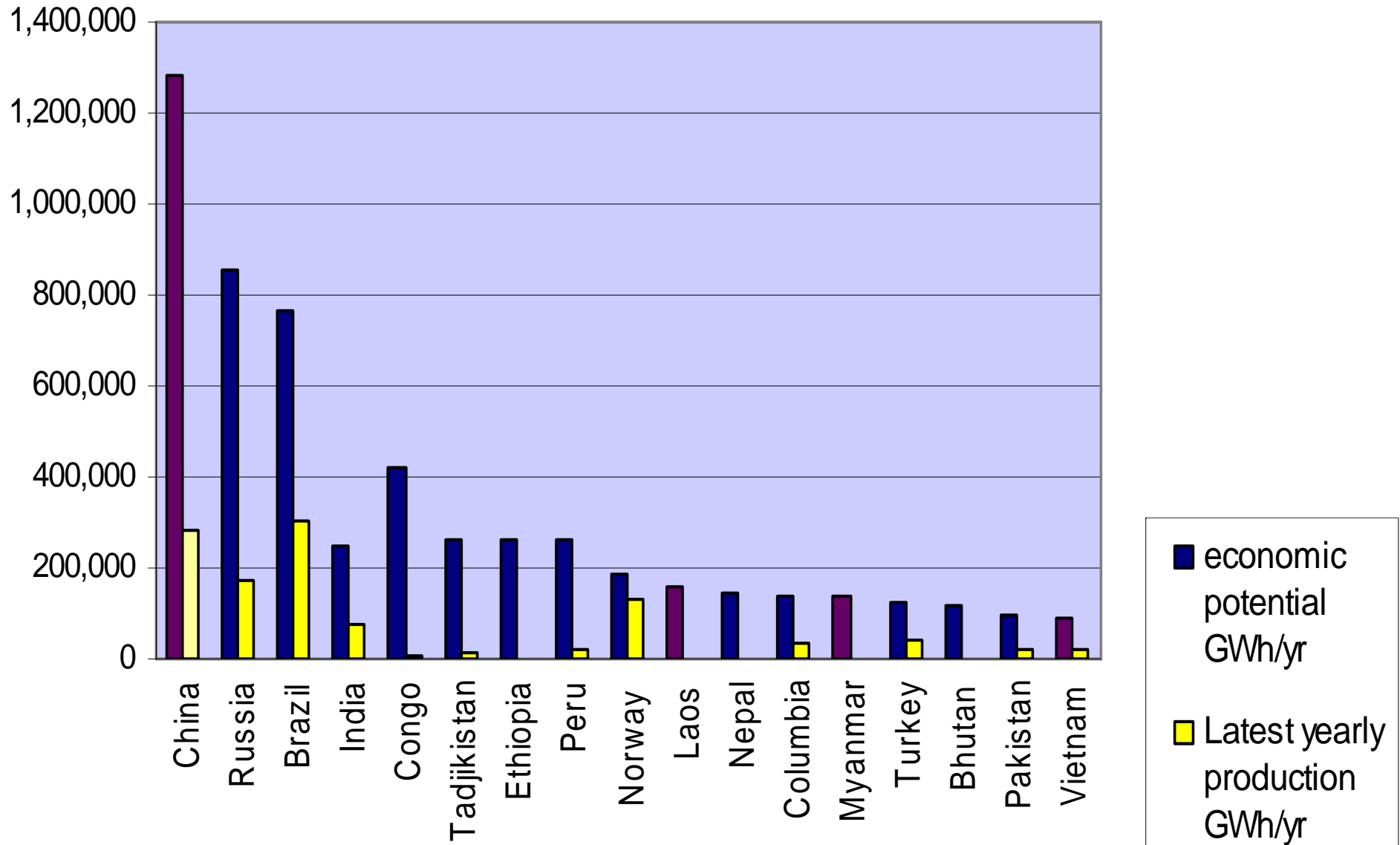


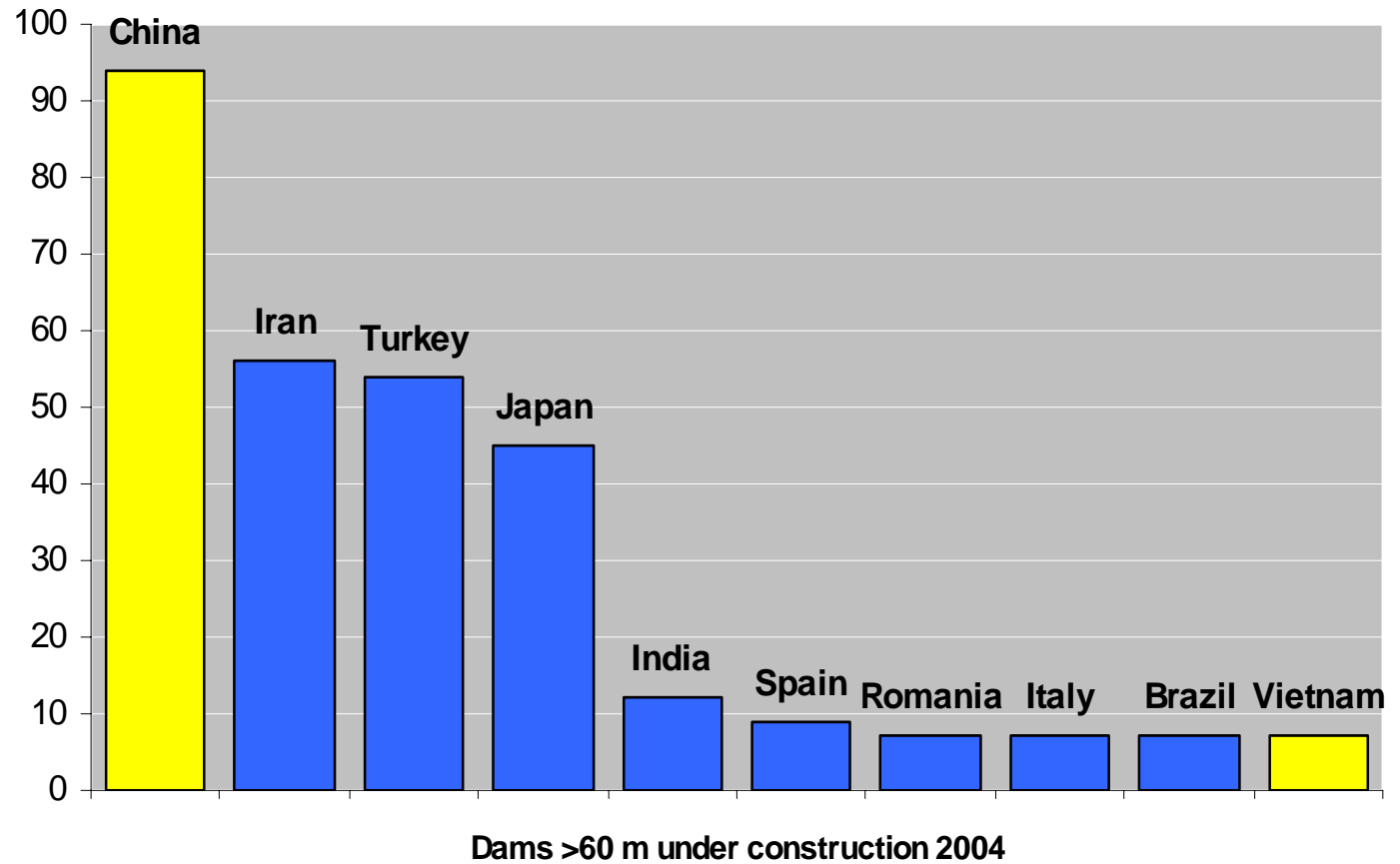
### Projected electricity consumption in the GMS





# Top 16 Hydropower potentials





# Top 10 dam building countries



# TIBET

- No big dams because morphology - upper Tibet plateau with wide flat valley, not much water and far from demand
- Lower Tibet some slope and narrow valleys
- Hydropower for local use, difficult to grid for national demand



## Mekong Main Stem in Yunnan (Lancang)

- Very high energy potential for main stem large dams - high flow, high slope, narrow valleys high dams (up to 312m)
- Demand = eastern China + Thailand
- 3 large hydro dam existing or under construction
- Plan for a cascade of 8-13 dams





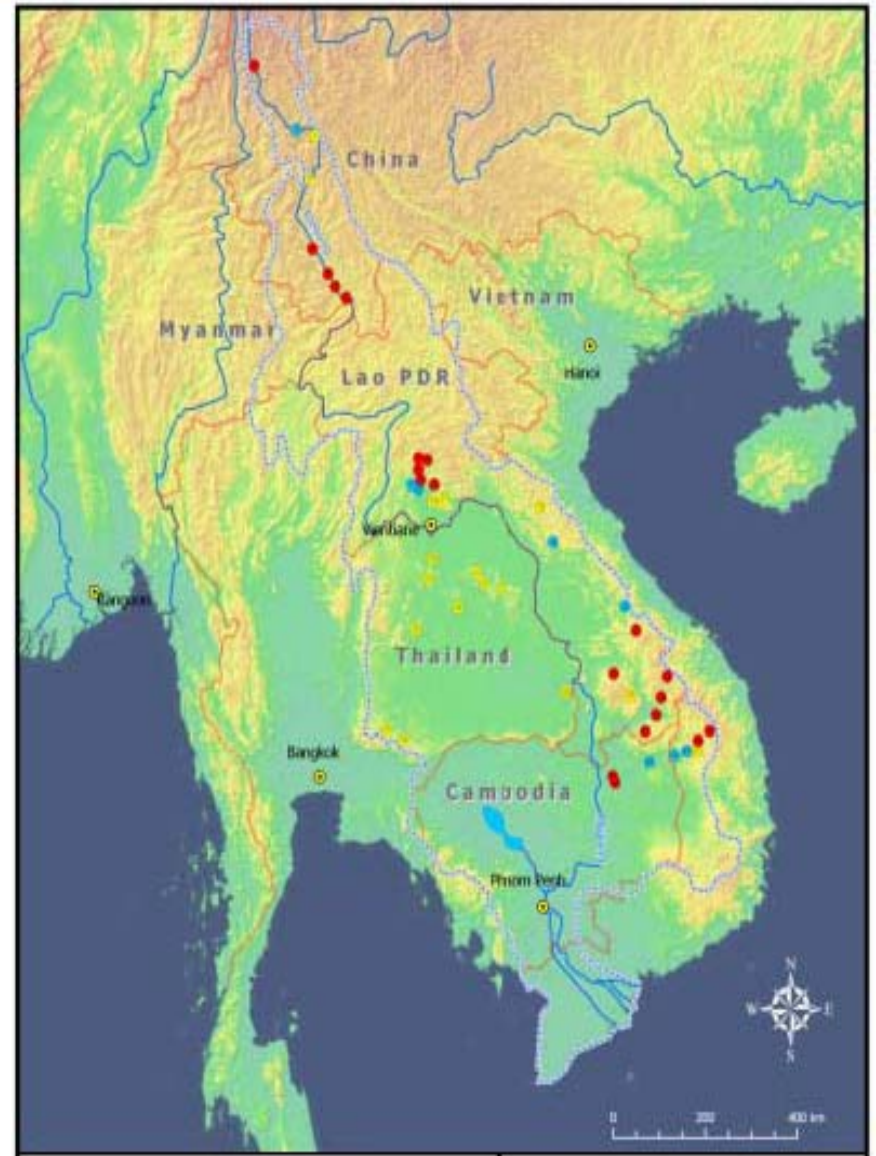
## Lao PDR

- The other country with most potential - mostly on tributaries of Mekong
- Many planned projects on most tributaries (opportunist/donor driven)
- Most of the energy is for export
- Highly dependent on external funding
- Major difference = value of fisheries





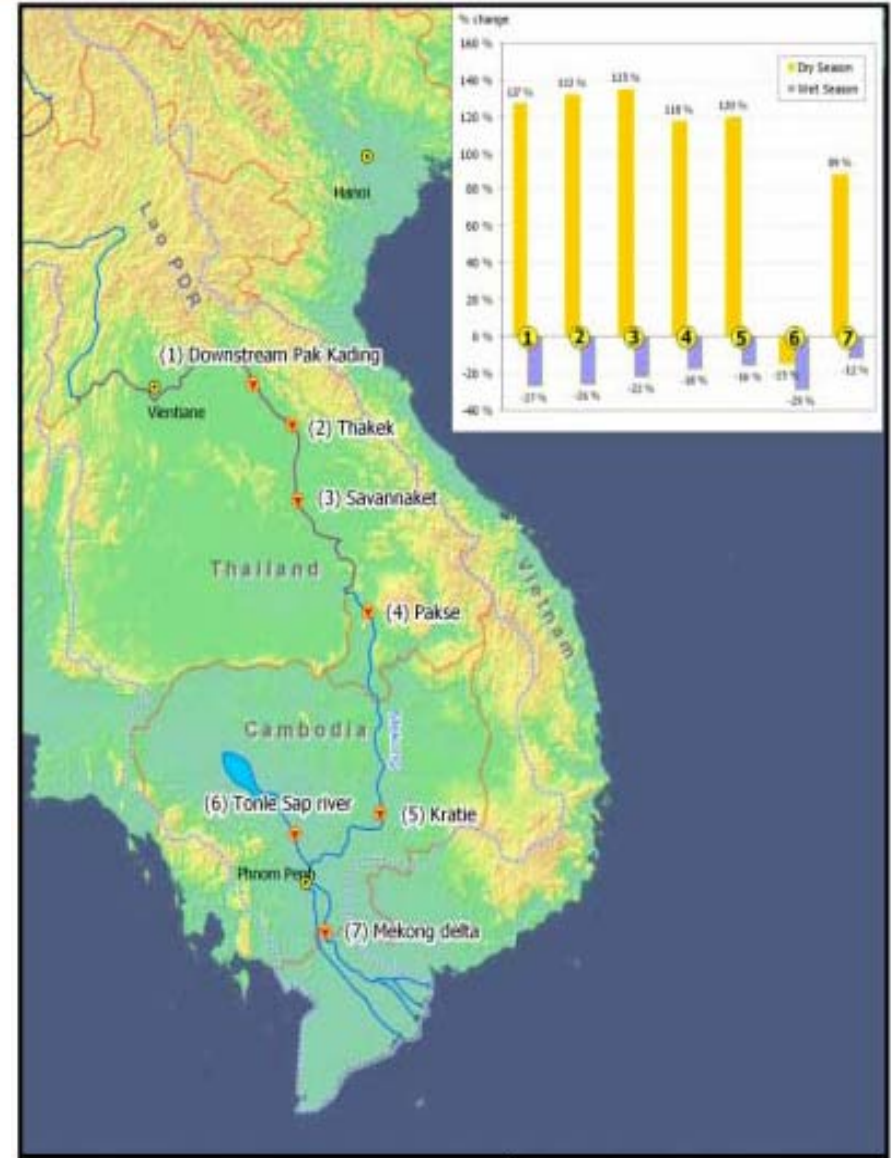
**Location of  
Hydropower  
developments in  
the Mekong  
Basin by 2025  
(Source: ADB)**





# Cumulative impacts of hydropower projects on the Mekong River by 2025

(Source: ADB)







# Cumulative Impacts of hydropower

- Increased dry season flows = better protection against salt intrusion in Mekong Delta
- Reduced wet season flows = lower productivity of Tonle Sap fisheries



# WWF Recommendations for hydropower sector

- More research is needed on migratory fish species; environmental flows; predicting the cumulative impact of dams on flow regimes; and the different responses of the Tonle Sap and the Mekong Delta ecology to these possible changes - including fisheries and agricultural productivity, and economic costs and benefits
- This should continue to be the major role for the MRC in relation to hydropower development in the Mekong Basin



## Energy Management

- Demand Side Management (DSM) should be more vigorously pursued throughout the GMS
- Policy, market, and institutional reforms should be implemented to remove barriers and provide incentives for increasing development of alternative forms of sustainable energy generation
- Taking into account the above two points, more realistic energy demand forecasting should be established for the GMS





## “Scenarios for hydropower”

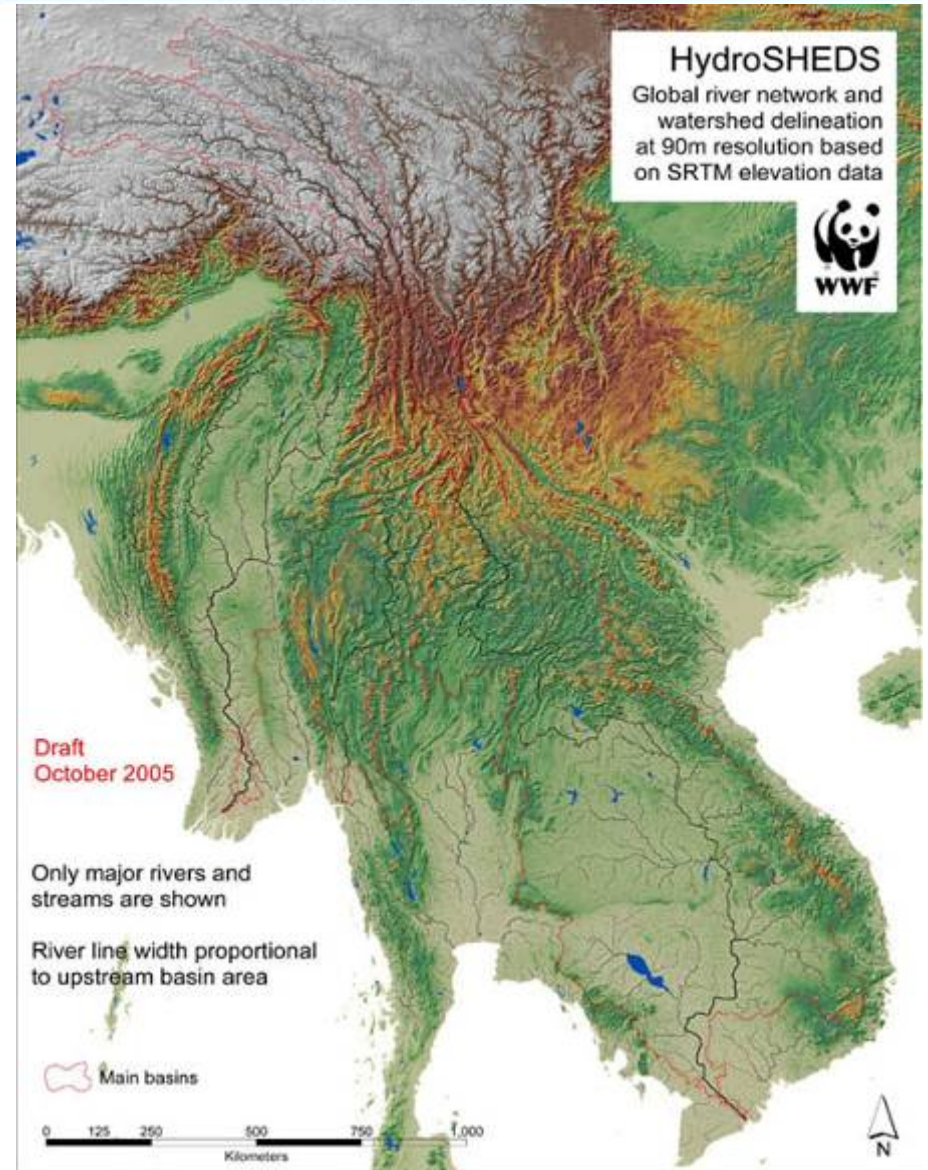
- To the extent that additional hydropower development is still necessary in the GMS, an “Hydropower Scenarios/Options” approach could be used to identify suites of projects that will generate the required energy with the least negative impacts, with the possibility of leaving some representative and relatively unique rivers more or less free-flowing
- This should move debate away from a case-by-case approach towards an integrated approach to dam planning on the scale of the entire Mekong basin

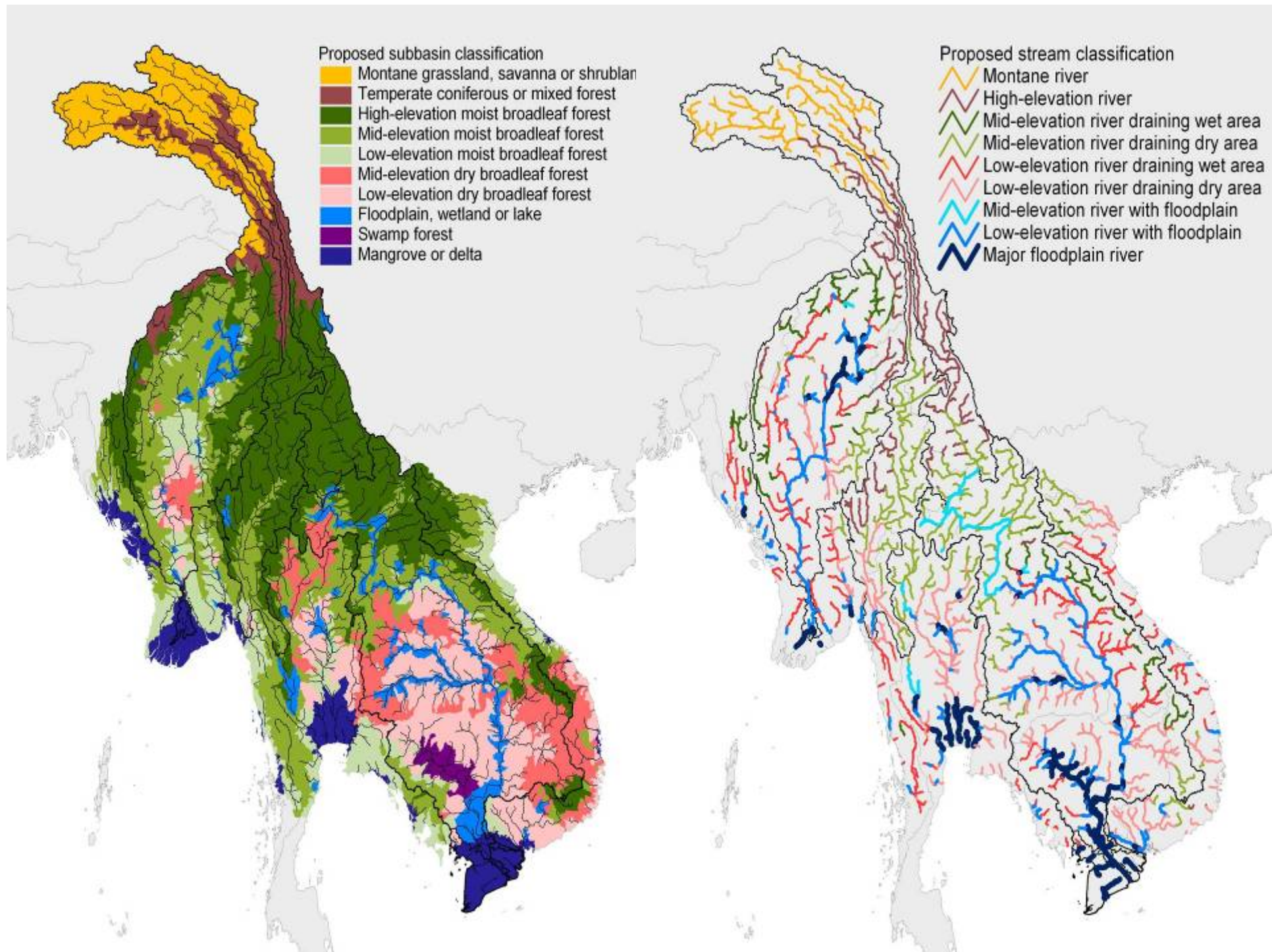


## HydroSHEDS

- Finer Scale
- Precision of stream network + watersheds

*Source: WWF-US;  
based on SRTM  
elevation data at  
90m resolution*





# Existing or Proposed Hydropower Sites in the Sekong, Sesan, Srepok Basins - Project Status

30 0 30 60 Kilometers

## Project Status

- # Operational
- # Under Construction
- # Proposed

## Installed Capacity (MW)

- # 1 - 10
- # 10 - 50
- # 50 - 200
- # 200 - 400
- # 400 - 1,000

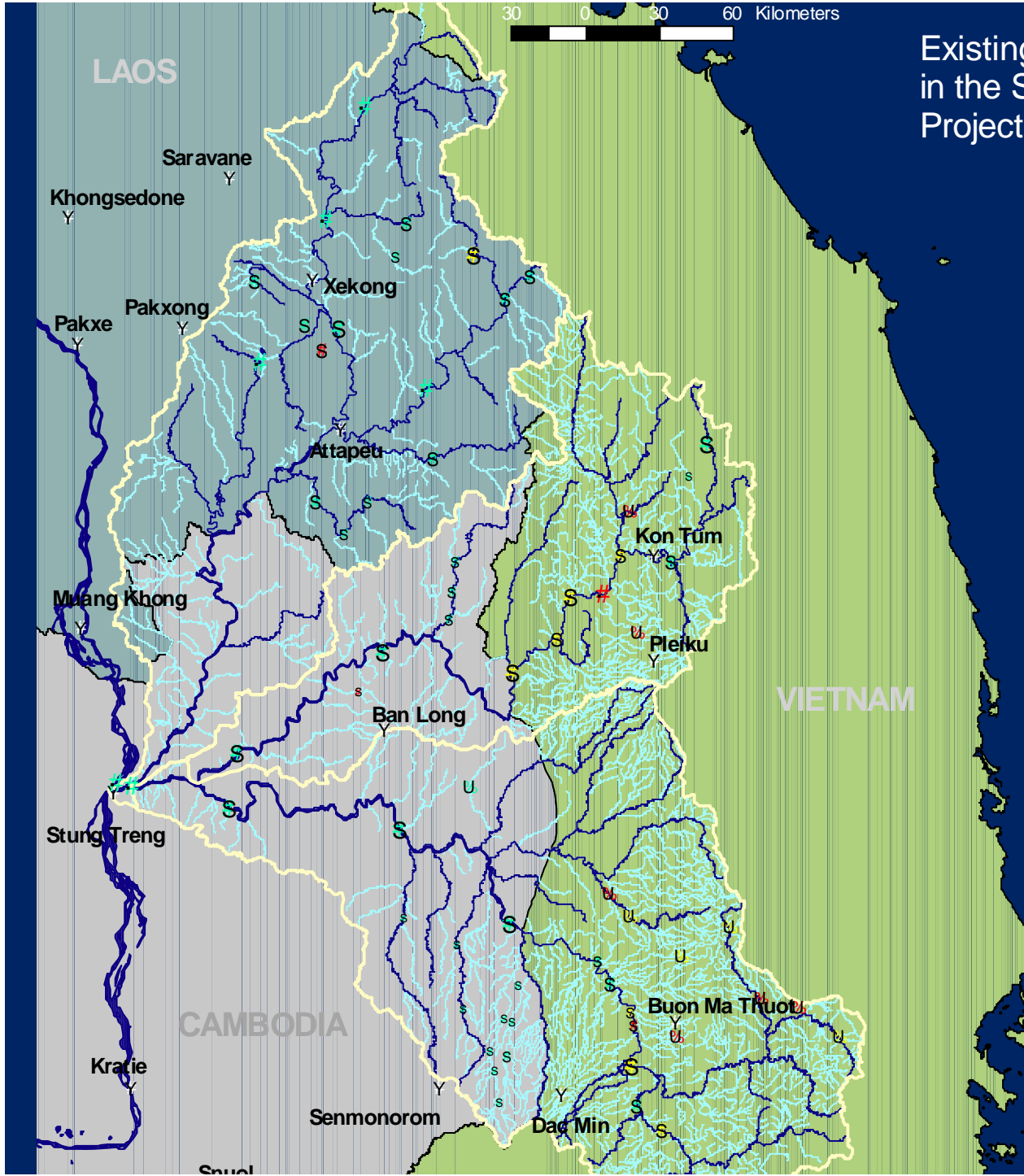
% Irrigation dams

- ~ Streams
- ~ Rivers
- Basin boundaries
- Cambodia
- Laos
- Vietnam

Map Projection: UTM Zone 48N Indian 1975.

Sources including: Australian Mekong Resource Centre; I. Baird; Cambodian Ministry of Industry, Mines and Energy; Electricite du Laos; Electricity of Vietnam; Maunsell and Lahmeyer; Mekong River Commission Secretariat.

Prepared at Oxfam America East Asia  
 Project Office, August 1995









หยุดระเบิดแก่งแม่ น้ำโขง  
เคารพสิทธิชุมชนชาว



**Thank You**

