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Vientiane, Laos

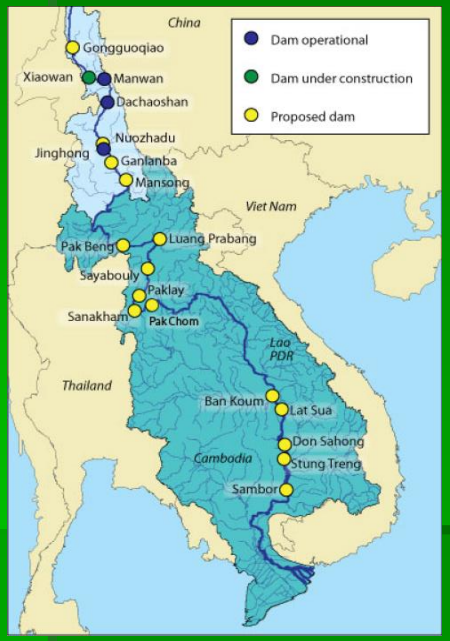
Sustainable Hydropower Development : The Middle-lower Lancang River Case

ZHU Qiang

National Energy Administration

1. Updates of Hydropower Development in the middle-and-lower Lancang River

- The hydropower development planning for the middle- and lower- Lancang River was approved by China government in 1987. Eight cascades hydropower stations were planned. The development tasks are: giving priority to power generation, while combining benefits such as navigation, flood control and water supply.



Source: MRC SEA for Hydropower on the Mekong Mainstream Inception Report (Vol 2), ICEM, Oct., 2009

Under Construction:

- Nuozhadu
- Ganlanba

Canceled:

- Mengsong

Built and put into operation:

- Gongguoqiao (2012.6)
- Xiaowan (2010.8)
- Manwan (2007)
- Dazhaoshan (2003)
- Jinghong (2009)

1. Updates of Hydropower Development on the Middel-and-lower Lancang River

- The latest progress of the hydropower development of its middle and lower reaches is as follows:

1) Gongguoqiao Hydropower Station

Construction work started in May 2005, and initial impounding started in September 2009.

First generation unit put into operation: October 2011. All generation units: June 2012.

Annual generation: 4.191 billion kWh

2) Xiaowan Hydropower Station

Construction work started in January 2002, and initial impounding started in November 2008.

First generation unit put into operation: May 2009. All generation units: August 2010.

Active reservoir capacity: 9.895 billion m^3. Annual generation: 18.89 billion kWh

3) Manwan Hydropower Station

1st phase Construction work: 1985~1995; 2nd phase Construction work: 2004~2007

Annual generation: 7.8 billion kWh

4) Dachaoshan Hydropower Station

Construction work started in 1997, and completed in 2003.

Annual generation: 7.02 billion kWh

1. Updates of Hydropower Development on the Middel-and-lower Lancang River

5) Nuozhadu Hydropower Station

Construction work started in April 2004, and initial impounding started in November 2011.

First generation unit put into operation: August 2012. All generation units: 2014.

Active reservoir capacity: 11.335 billion m^3. Annual generation: 23.912 billion kWh

6) Jinghong Hydropower Station

Construction work started in July 2003, and initial impounding started in April 2008.

First generation unit put into operation: June 2008. All generation units: May 2009.

Annual generation: 7.62 billion kWh

7) Ganlanba Hydropower Station

Development task: Counter-regulation for downstream navigation, Generation, City landscape

Annual generation: 0.87 billion kWh

Current Status: feasibility study

8) ***Mengsong*** Hydropower Station

the last hydropower station on the middle-and-lower Lancang River, canceled.

2.Constraints and Challenge in HP projects

- Environmental protection constraints

  - Bio-diversity Protection technology

  - Ecological red line, The top limit line of resources using, Bottom line of environmental quality and Environmental negative list

    (“Three lines and one list”)





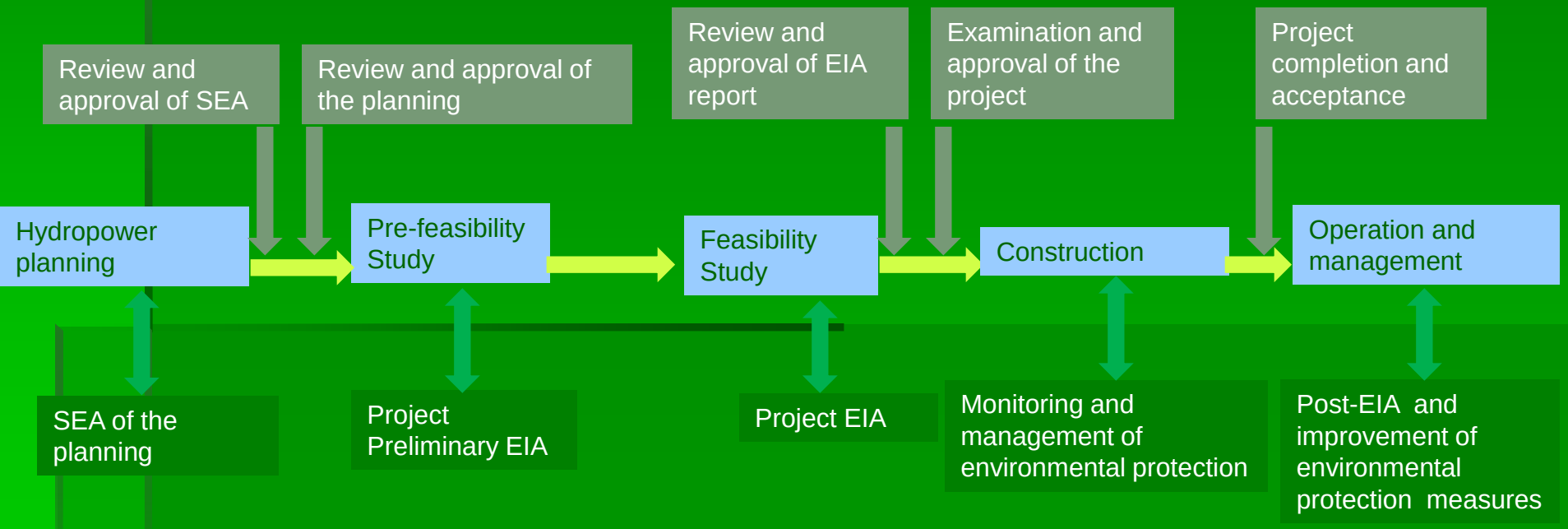

2. Constraints and Challenges in HP projects

- HP construction immigrant challenges
  - Culture difference
  - High cost problem



3. Best practices of Environment Protection Measures in the Middle-Lower Lancang River

The following management procedures have been strictly applied for hydropower development in the middle-lower Lancang River.



3. Best Practices of Environmental Protection Measures

As an upstream country in the Lancang—Mekong Basin, China has been adhering to the sustainable development strategy, paying equal attention to development and conservation, and taking account of the interests of both China and downstream countries in exploiting the hydropower resources of the Lancang River.

environmental protection measures have implemented as planned.

渣场绿化措施
Spoil yard landscaping measures

进场公路绿化措施
Accessing road landscaping measures

边坡绿化措施
Slope landscaping measures

砌石挡墙护坡
Stone retaining wall at gravel yard

Environmental Protection Measures in Nuozhadu Hydropower Station

① Stratified Water Intakes

② Rare Plant Protection Garden

③ Production Wastewater Treatment

④ Resettlement Town Site View

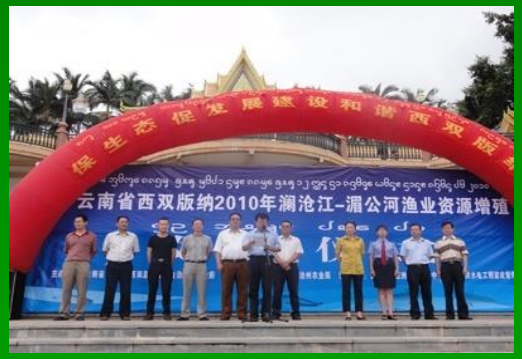
⑤ Fish Protection Station

⑥ Construction

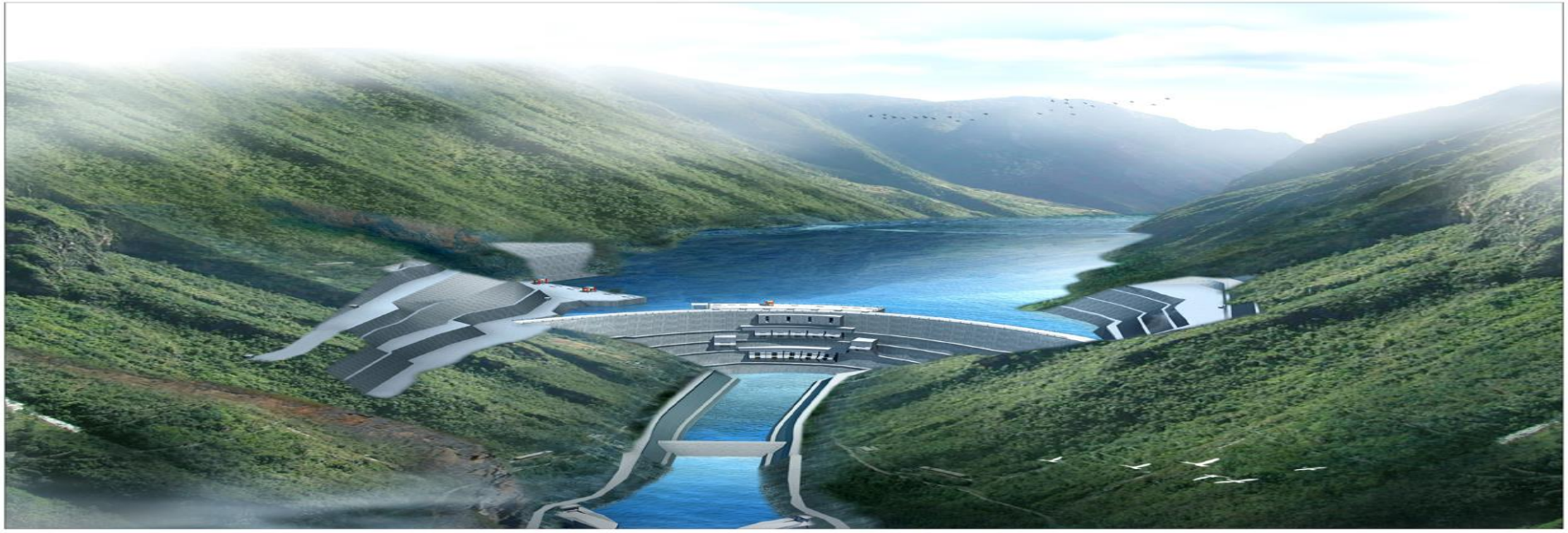
Note: All pictures taken on August 25, 2011

Fish Protection Activities along Lancang River

- on September 26, 2010, the Department of Agriculture of Yunnan Province and the Government of Xishuangbanna Dai Autonomous Prefecture carried out a campaign named “Enhancement and Releasing of Fishery Resources in the Lancang-Mekong River in 2010”. More than 80,000 channel catfish fries were released into Lancang River.



- Nuozhaodu Fish Enhancement and Releasing Station was completed, and put into operation in April 2010. And On July 26, 12,000 channel catfish with a length of 6-10cm were successfully released in the Lancang River.



Thank you!