



Water-Energy-Food- Ecosystems Nexus: Challenges & Opportunities in Asia

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Asia is rapidly transforming



- **Structural** transformation: jobs, income, economic development
- Urgent need to **transition to sustainable agriculture**: resource use, ecosystem health and resilience
- A vibrant neo-agriculture should be the priority for future rural poverty reduction
- The **energy sector plays a crucial role** in striking a balance between development and other important national interests

We are increasingly interconnected...

- ❑ Water (and irrigation) are the basis of recent gains in productivity
- ❑ Water is also used in almost every aspect of energy production
- ❑ Food production consumes about 30% of total energy consumed globally
- ❑ Energy is required to produce, transport and distribute food
- ❑ Energy is required to extract, pump, lift, collect, transport and treat water
- ❑ Upstream food production can pollute and divert water needed for healthy ecosystems

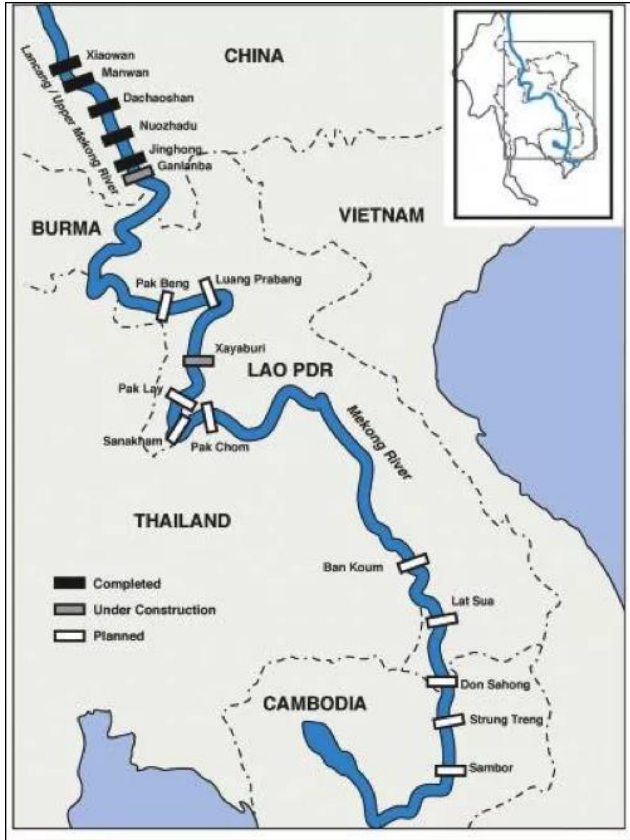


...especially as resources become scarce



- Water, food and energy are enablers of prosperity
- But when resources become scarce, competition intensifies and resources can become a constraint

Nexus trade-offs in Asia



Mekong dams program



Xiaowan dam, Mekong River, China



Inland fisheries, Mekong River

Nexus trade-offs in Asia

Solar powered irrigation

- Benefits: Clean, reliable, cost-effective, productivity gains

But...

- Risks: groundwater sustainability, technical capacity, equitable use.



From nexus concept to practice



THE WORLD BANK



What is needed?

- Political compromises and 'good enough' policy
- Renewed focus on implementation
- Adaptable policy models and temporary solutions
- Multi-sectoral solutions
- Strategic data-sharing

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