

Working Across border: existing international, regional and local framework for trans-border accountability and promotion of co-management of common natural resources

## Case studies from the SEA for the Mekong and Salween basins



Pai Deetes  
Thailand and Burma/Myanmar Campaign Director



# What is Strategic Environmental Assessment?

- A process to ensure environmental (and social) issues are fully addressed in a proposed plan or program
- Takes place early prior to decisions about adoption of the plan or program
- Examines environmental issues at a strategic level rather than for an individual project or basin



# What is Strategic Environmental Assessment?

- Tool to inform decision-making at policy level
- Process for dialogue and input from range of stakeholders
- Platform to develop shared understanding of environmental concerns
- Gather quality information and data to ensure informed decision-making





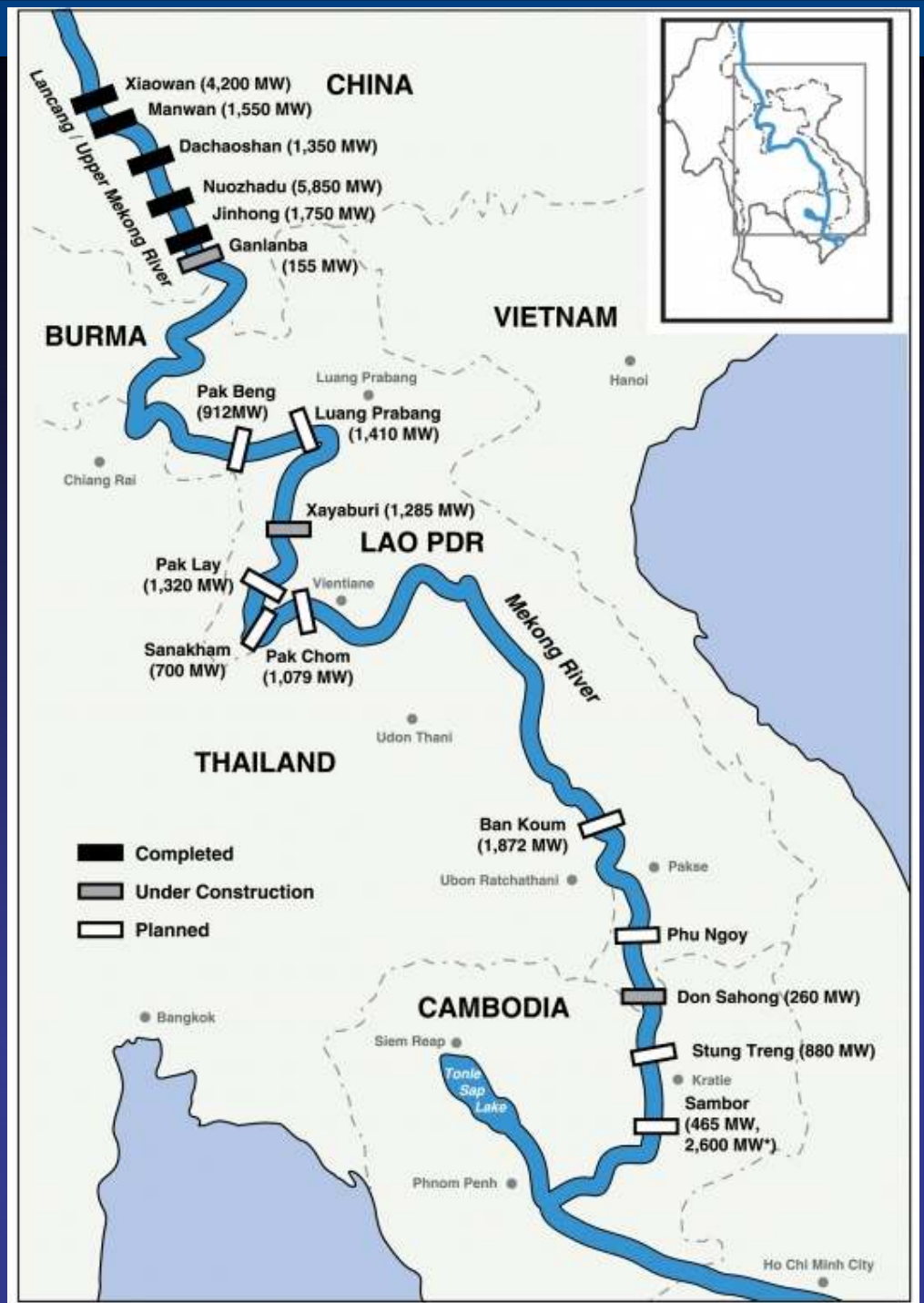
## Best Practice Principles of SEA

- Broad consultation and participation
- Openness and transparency
- High quality and comprehensive information
- Non-biased - not designed to support a certain decision
- Meaningfully examines alternatives

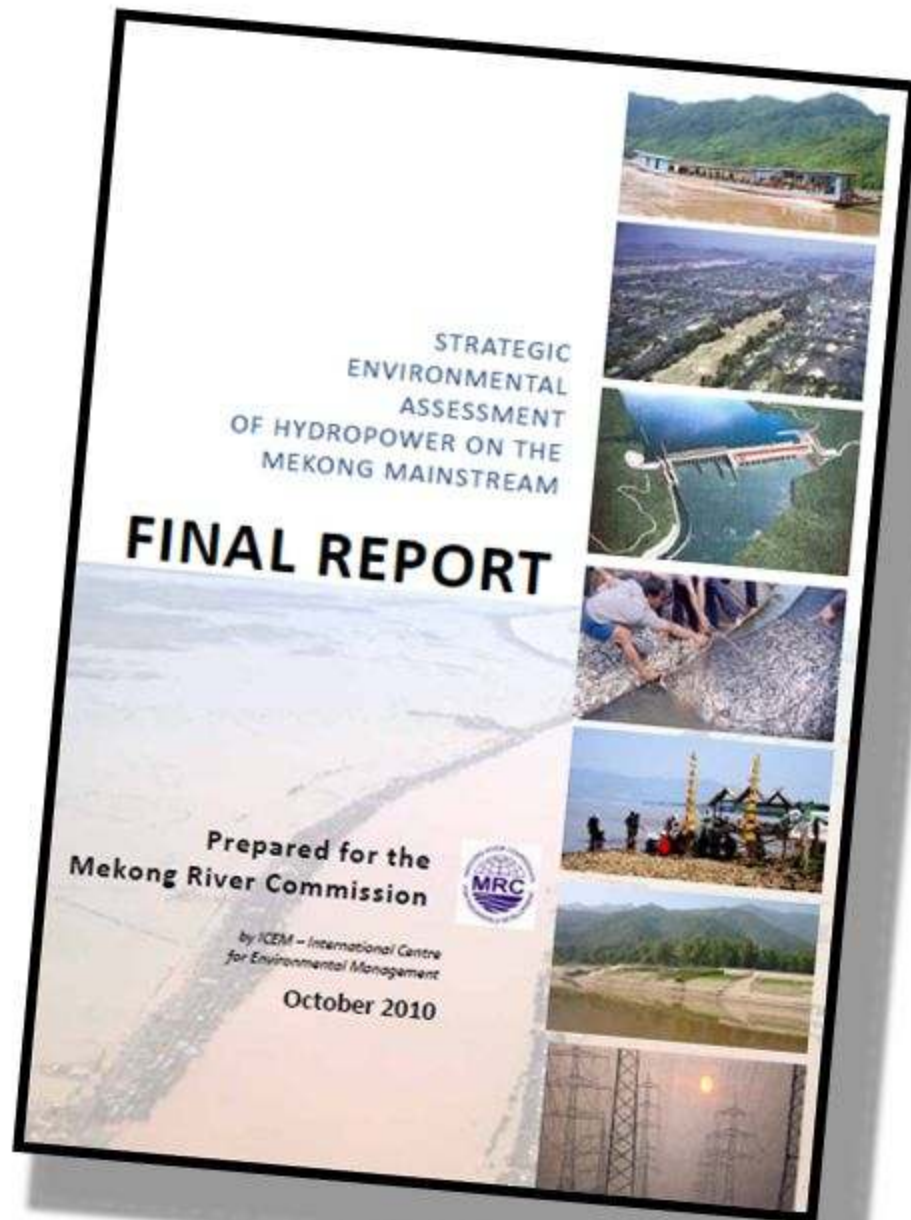


# [1] SEA of Hydropower on the Mekong Mainstream

- Since 2006, 11 hydropower dams proposed on the Lower Mekong Rivers' mainstream
- Wide knowledge gap on impacts
- MRC (Laos, Thailand, Cambodia, Vietnam), commissioned ICEM to carry out SEA (took 16 months)



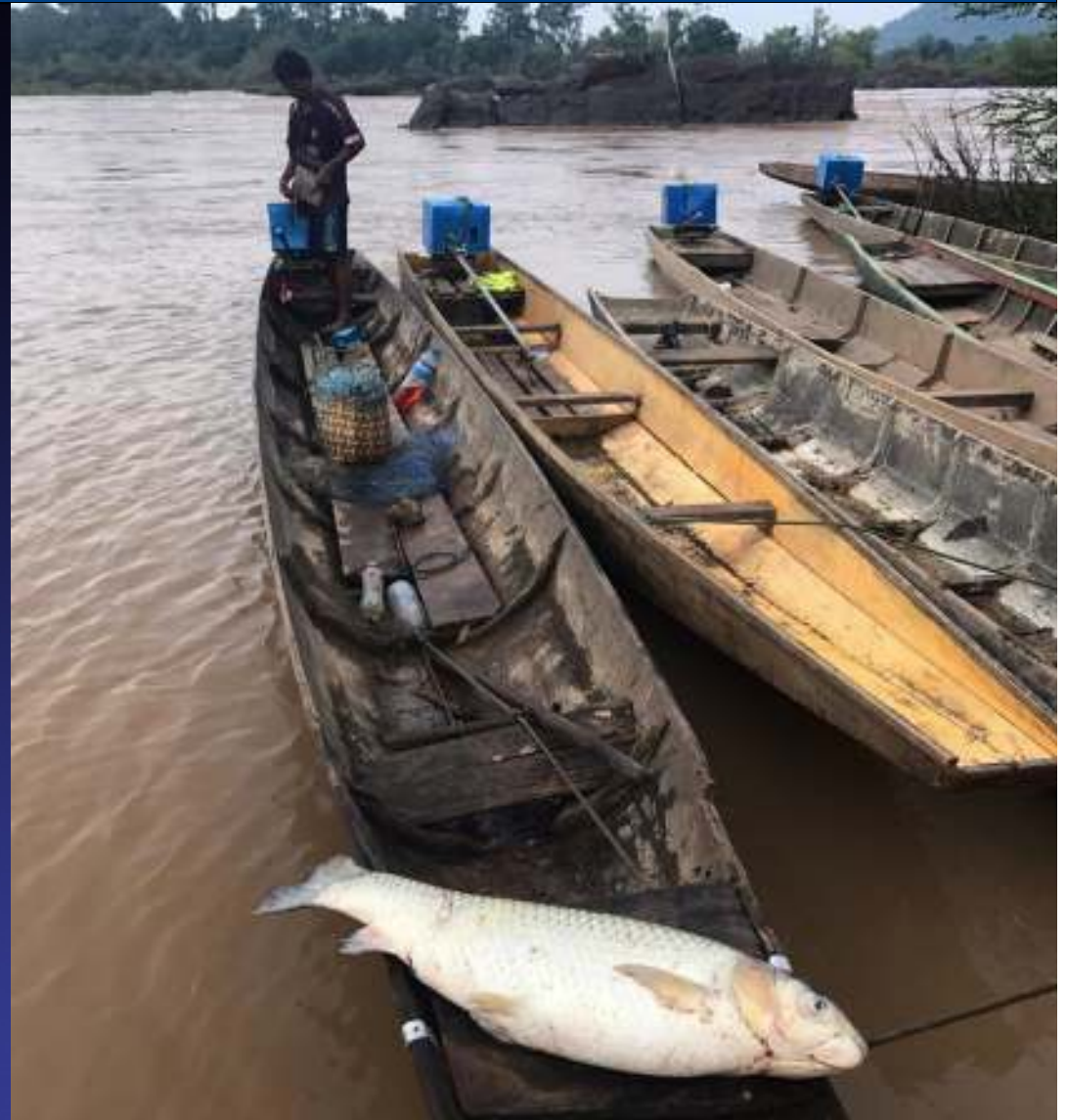




- Final SEA report released in October 2010
- Covered a range of strategic themes/impacts of Mekong mainstream dams

# The Current State of Knowledge on the Mekong:

- Mekong- the world's largest inland fisheries
- 60 millions people in Lower Mekong
- “The state of knowledge about the Mekong is not adequate for making informed and responsible decisions at this time”



## Key impacts identified in the SEA

- Altering the flow and nature of the Mekong River.
- The dams would transform 55% of the length of the Lower Mekong into a series of stagnant reservoirs



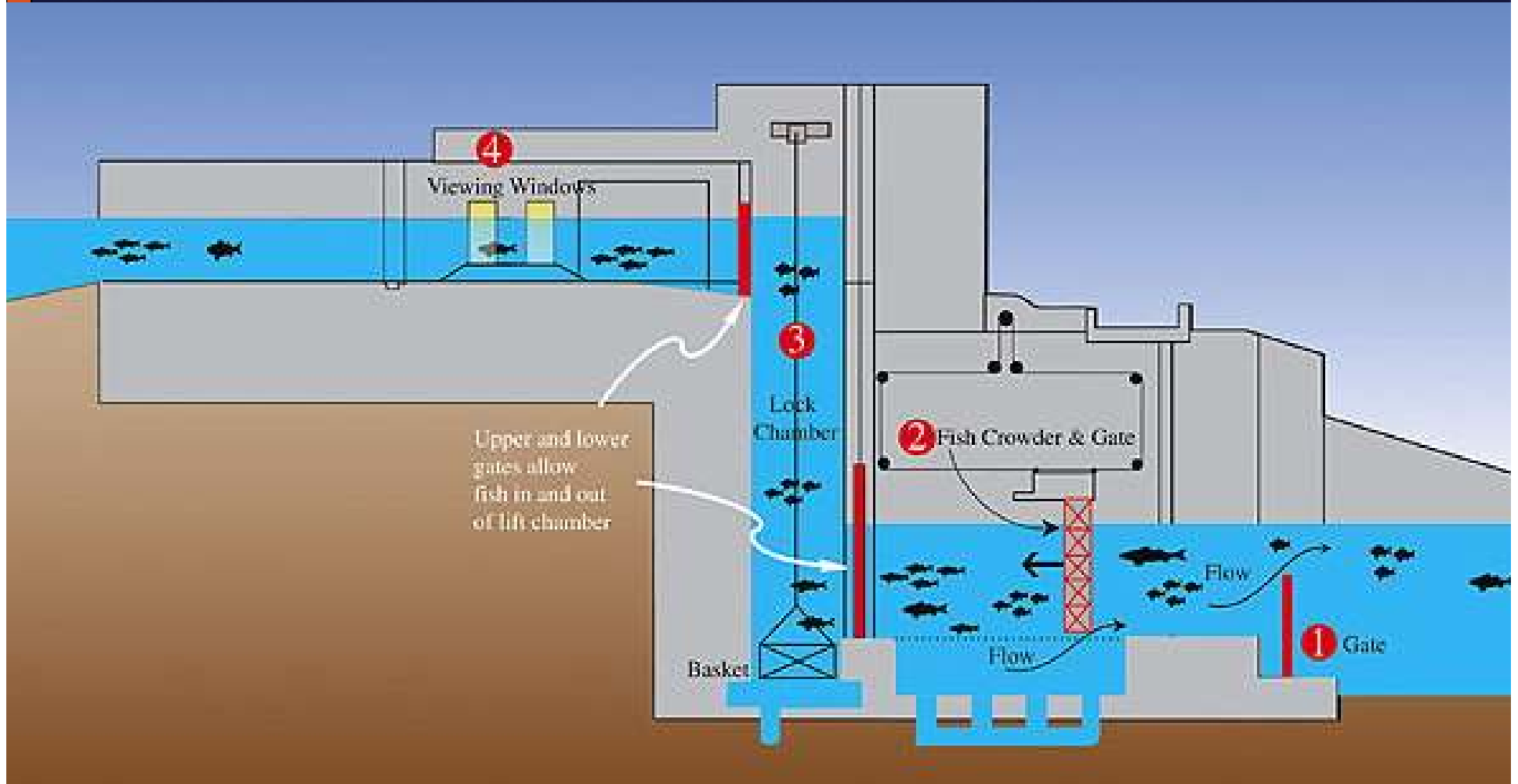


**Dams would block fish migration routes, reduce wetland area and change habitats for the Mekong fisheries. Total estimated fishery loss of 26-42 %.**

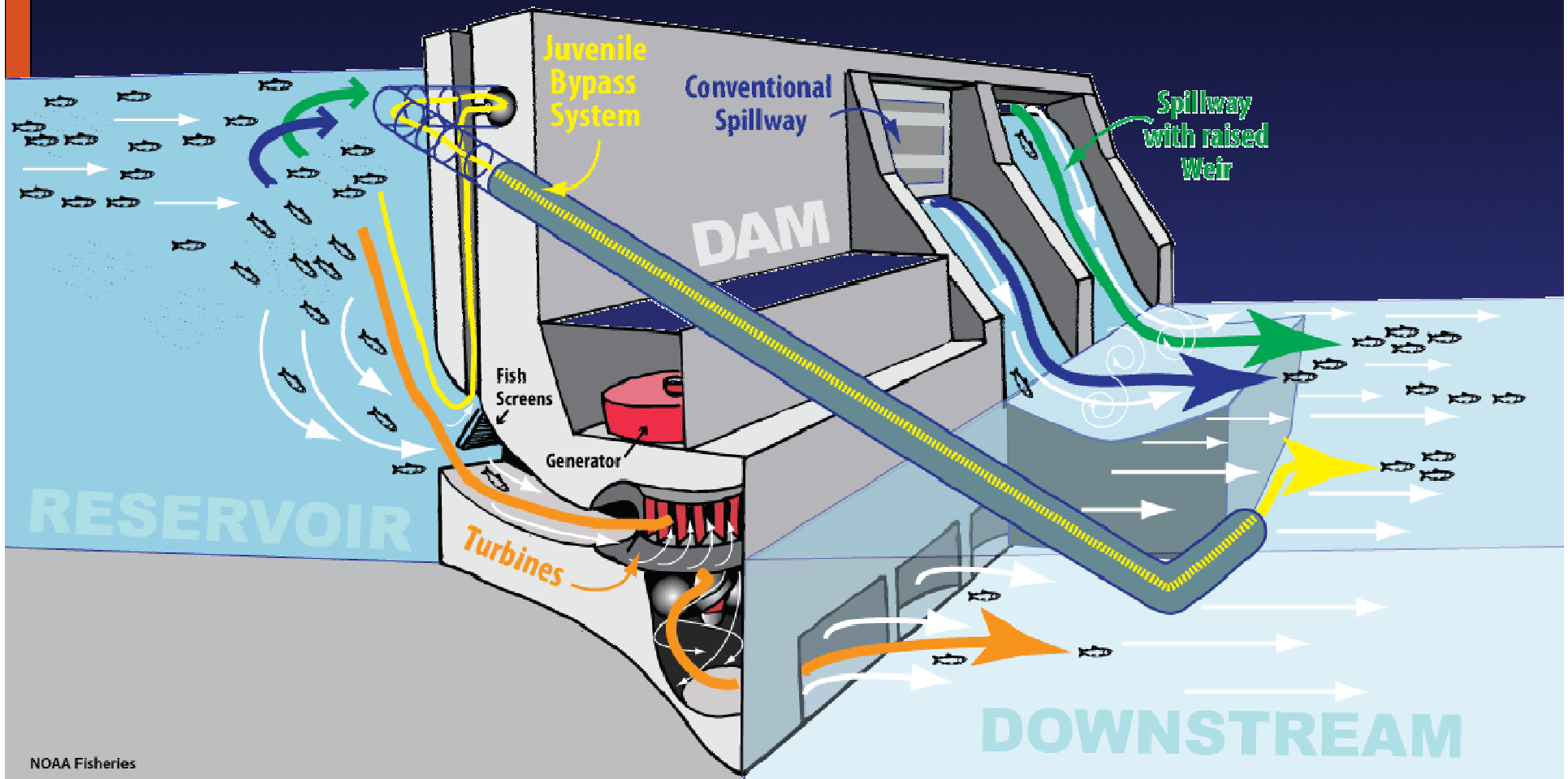
**No mitigation technology could effectively mitigate impacts**



# Fish pass and lift were proposed to mitigate impacts for Xayaburi dam



# “Fish friendly turbines”









- Agricultural production lost due to land inundation by the dams' reservoirs for more than USD 5 millions per year. Lost agricultural production from riverbank gardens would amount to more than USD 21 million per year.



- SEA's main recommendation is "Decisions on mainstream dams should be deferred for a period of 10 years".
- SEA encourages decision-makers to explore alternative ways to meet energy needs.





## Mekong SEA- lessons learnt :

- Governments did not accept the SEA
- No efforts to publicize the SEA in the region (only translation of summary into 4 national languages)
- 2 dams are being built (Xayaburi & Don Sahong), 1 more about to start (Pak beng)



[2] Strategic  
Environmental  
Assessment for

Hydropower  
Sector in  
Myanmar:

Outcomes  
and  
Recommendations



Strategic Environmental Assessment of the  
Hydropower Sector in Myanmar  
– Final Report

IN PARTNERSHIP WITH:





## According to the SEA... what is the purpose?

- Provide a 'Sustainable Development Framework' (SDF) for hydropower in Myanmar
- Balance 'river basin health' and hydropower
- Not a hydropower plan but a tool for policy and decision-making
- 'First edition' – needs to be updated

*\*\* Earlier language about being a process to engage all stakeholders removed*





# According to the SEA... what are the limitations?

- Baseline data in all areas is limited and incomplete
- Energy market in Myanmar is changing
  - Export and regional demand
  - Cost and feasibility of alternatives (eg. wind, solar)
- Complex trade-offs needed between protection of environment and hydropower
  - This requires a political process



# According to the SEA...

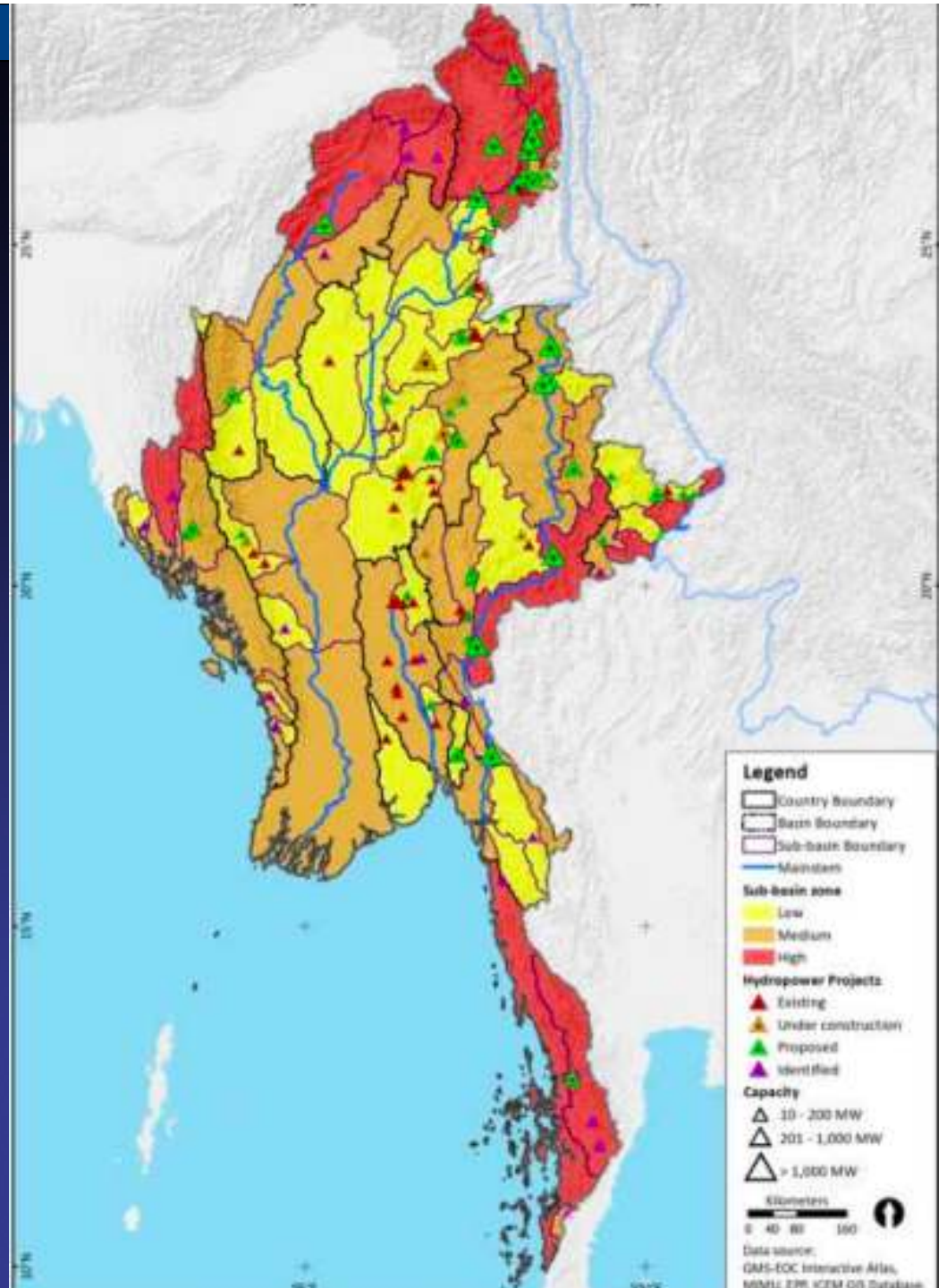
## 'Sustainable hydropower' principles

- Whole of basin planning not project-by-project
- 'Balanced' natural resource utilization
- 'Capacity-based' development





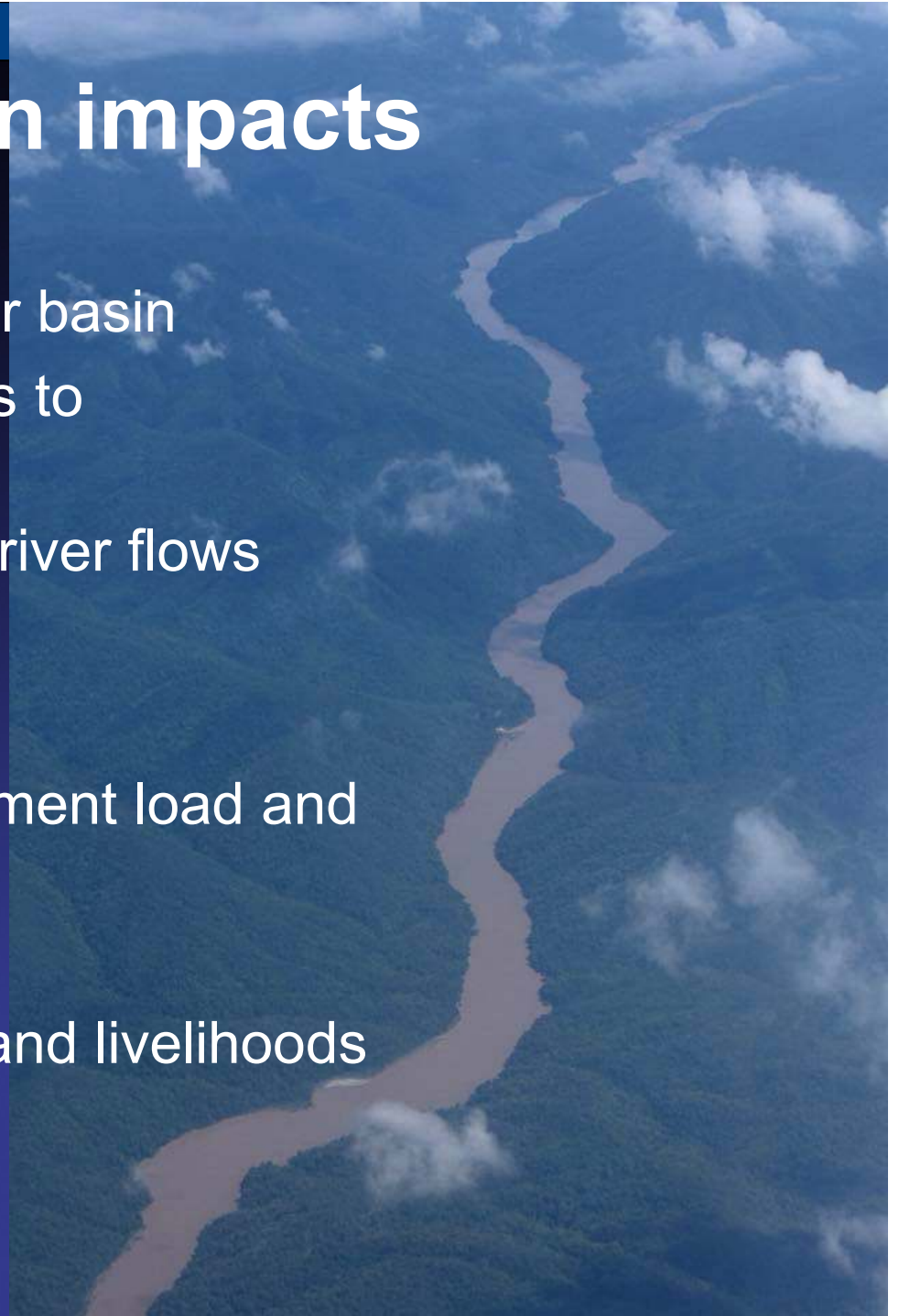
Assessing impacts of  
'Business as Usual' (BAU):  
69 planned projects  
across all river  
basins  
(52,134 MW)





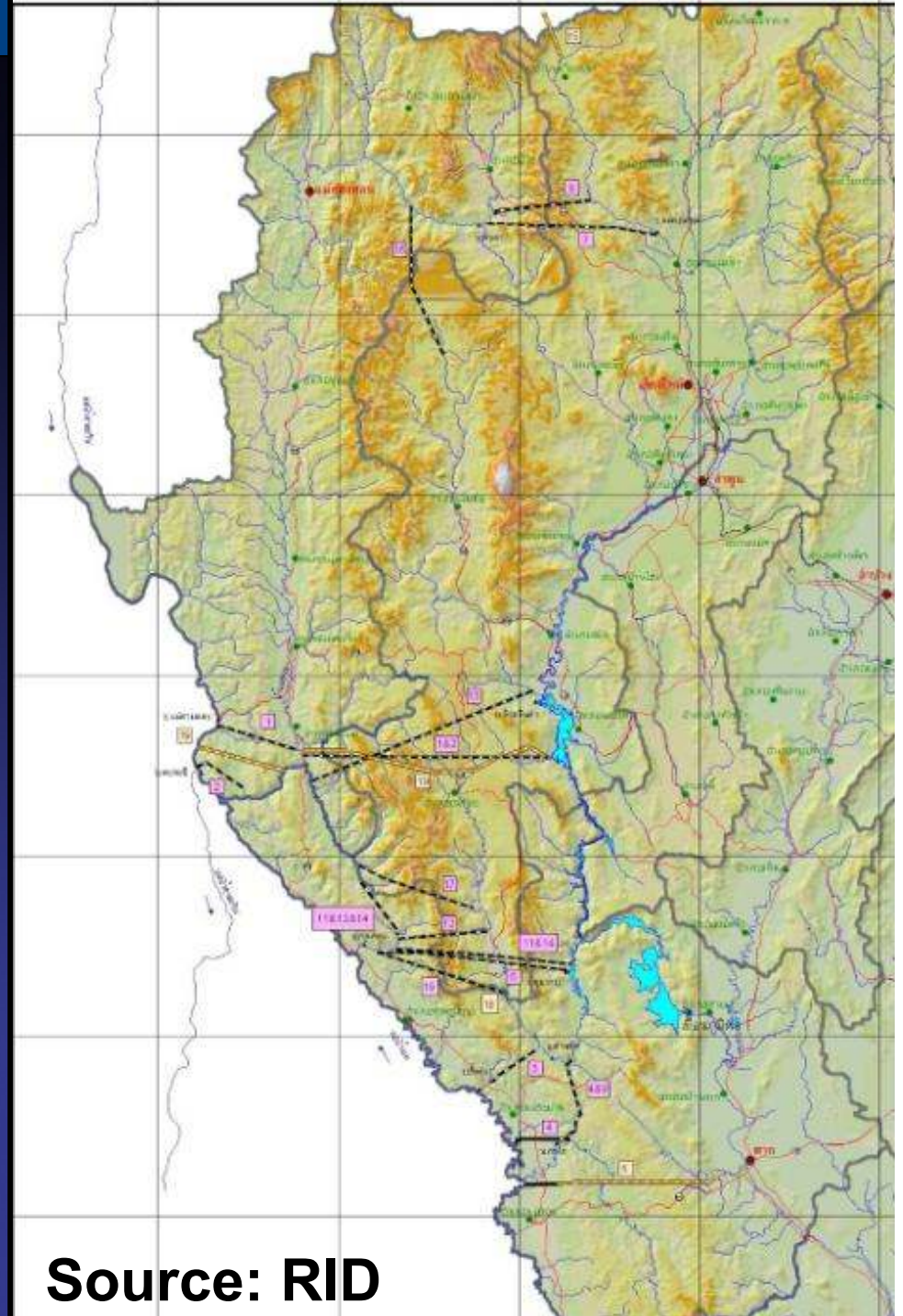
# SEA findings on impacts

- Assesses impacts in each river basin
- Major and irreversible changes to Myanmar's rivers
  - Altered seasonal and daily river flows
  - Fragmented river systems
  - Changes to water quality
  - Reduced downstream sediment load and erosion
  - Reduced biodiversity
  - Loss of riverine resources and livelihoods



In 2016, Thai government, led by Royal Irrigation Department, recently revived the plan to divert water from the Salween River basin.

Studied 19 options, and it will likely choose the Yuam River- a tributary of the Salween.

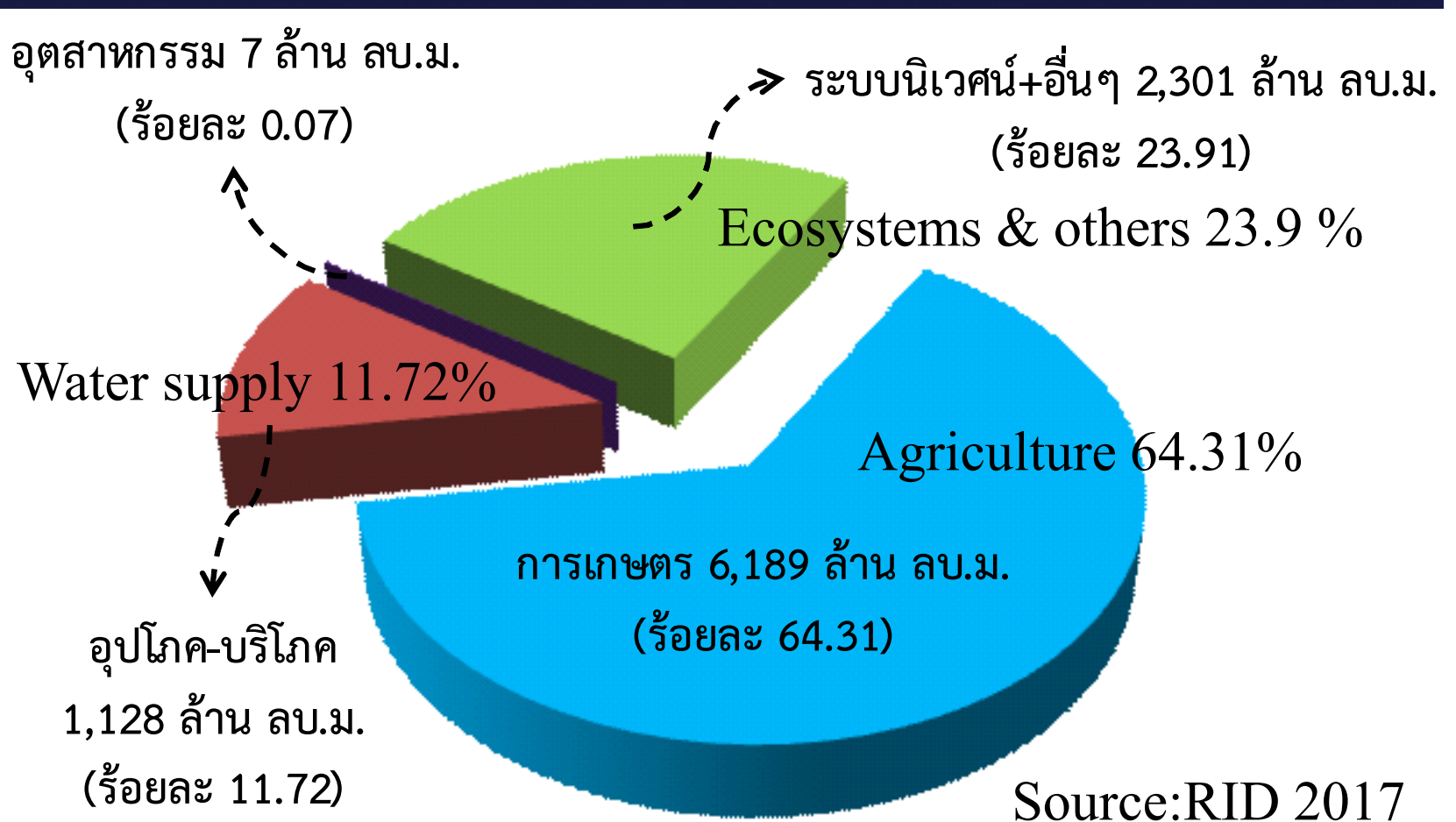


Source: RID

# Thailand's plans to divert water from the Salween

Serious water shortages are expected in Thailand, especially in the central part (Ping-Chaopraya basin)

where water demand is high





Bhumibol dam's reservoir has been filled only around half (since 1964)

Reservoir storage capacity = 13,462 million m<sup>3</sup>

Average dependable storage = 9,662 million m<sup>3</sup>



Photo: EGAT



Less water from watershed in Thailand/ Ping River especially during dry season.

- increasing water demand

- deforestation at headwaters



Photo: M Thai 2016



Volume of water flowing out from Thailand 'uselessly' to  
Salween/Thanlwin (Moei, Yuam, tributaries)  
= 8,937 million m<sup>3</sup>/year







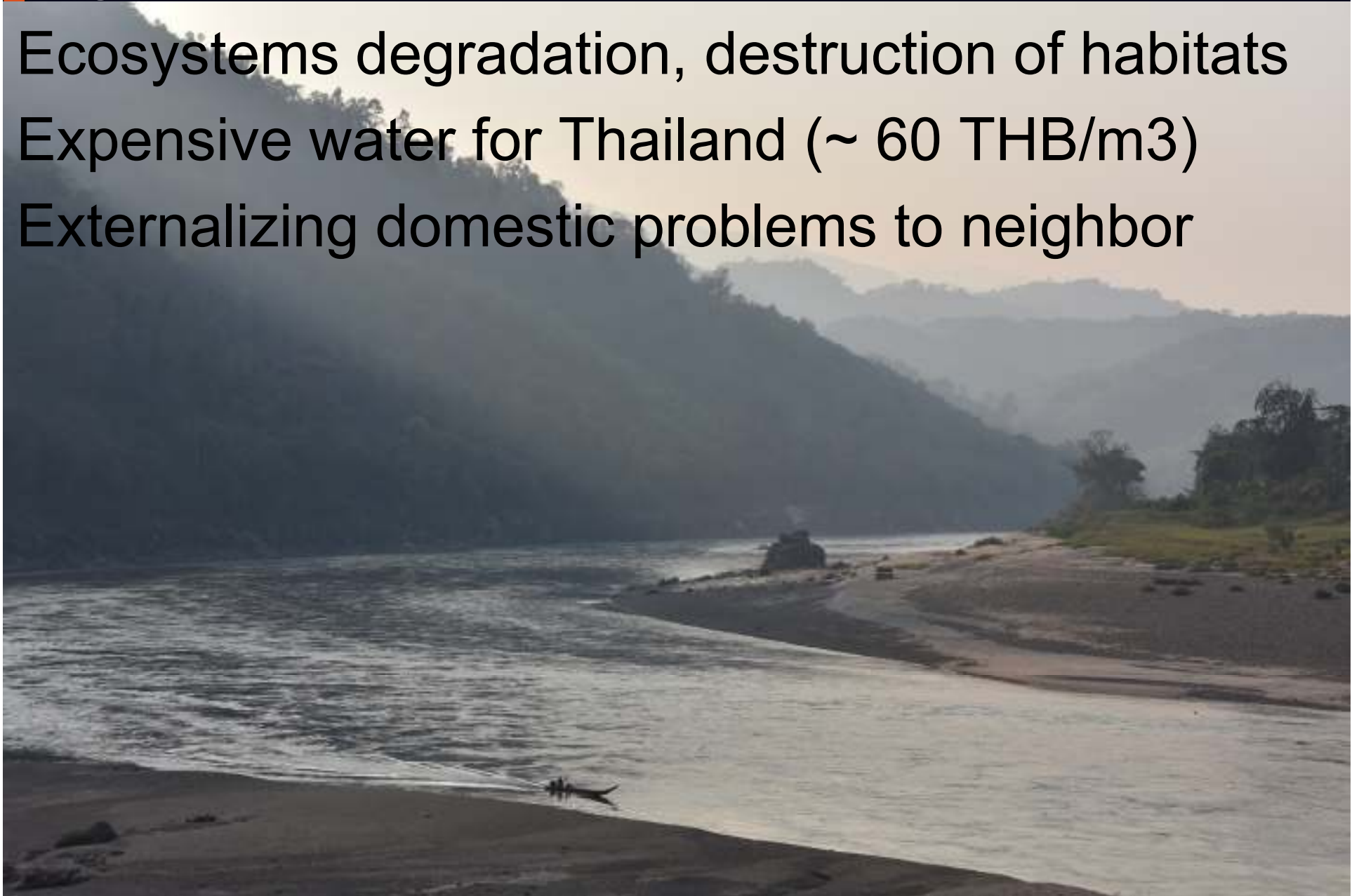
**1,795 million m<sup>3</sup>/year**

## Key concerns:

Ecosystems degradation, destruction of habitats

Expensive water for Thailand (~ 60 THB/m<sup>3</sup>)

Externalizing domestic problems to neighbor







**Thank you ^^**

[www.internationalrivers.org](http://www.internationalrivers.org)

[pai@internationalrivers.org](mailto:pai@internationalrivers.org)

