



Mekong Fisheries and Basin Development Planning

Xaypladeth Choulamany
Fisheries Programme Coordinator
Mekong River Commission Secretariat



Outline of the presentation

1. Characteristics of Fisheries in the LMB
2. Issues of Fisheries and Dams
3. Recent Research and Development
4. Future Development

River Fisheries

Some big fish...



BDP 2nd Stakeholder Forum, 15-16 October 2009
Chiang Rai, Thailand

River Fisheries

Some small fish...



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Rice Field Fisheries



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Reservoir Fisheries



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Mekong in dry season



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Mekong in wet season



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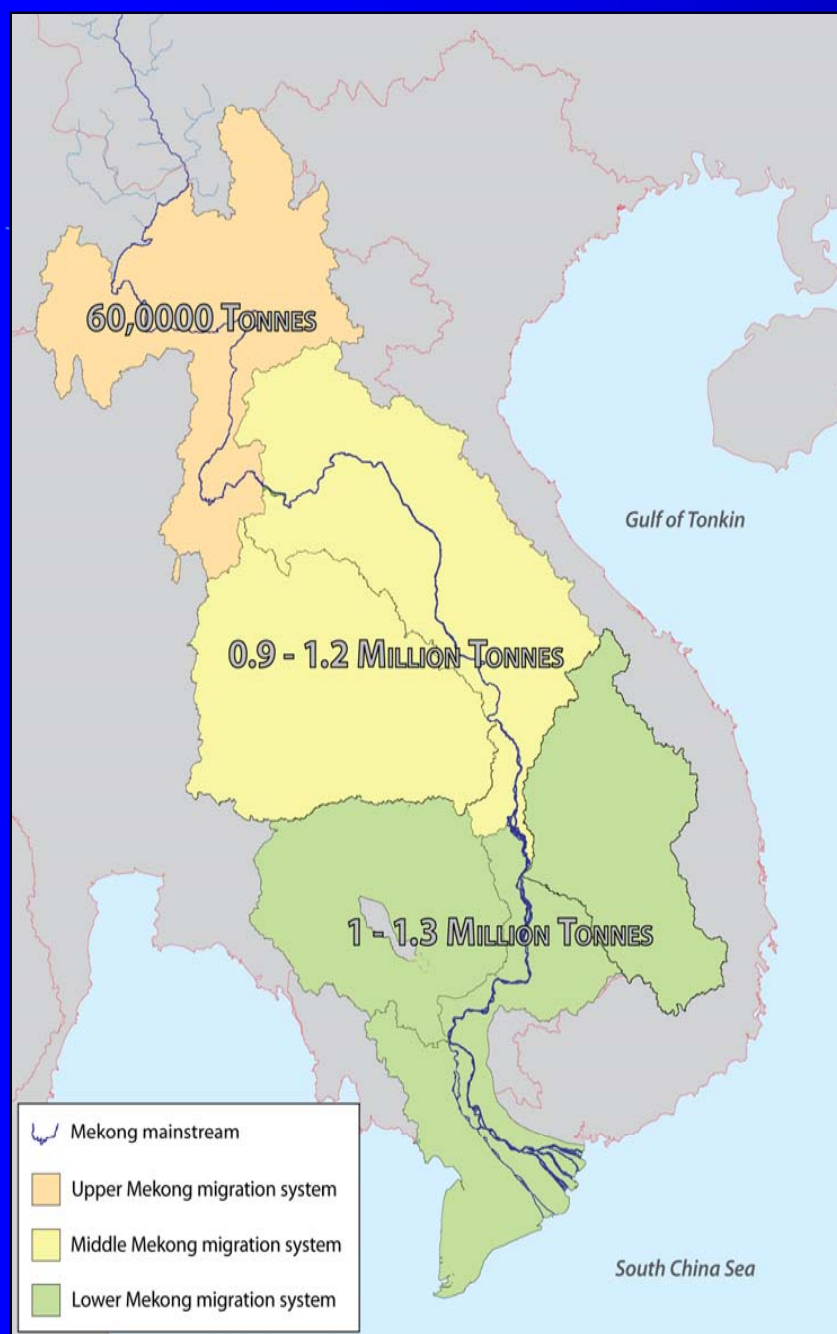
Fishing Pressure





Fisheries and Livelihood

- Estimated catch for the LMB in 2000 was about 2.6 million tonnes, representing 2% of world capture fishery
- Value ? – well in excess of US\$ 2,000 million
- Very important for food security
- Very important for livelihood of rural people



Fisheries in the LMB is characterized by:

3 main groups of fish

- White fish
- Black fish
- Grey fish

3 different migratory systems

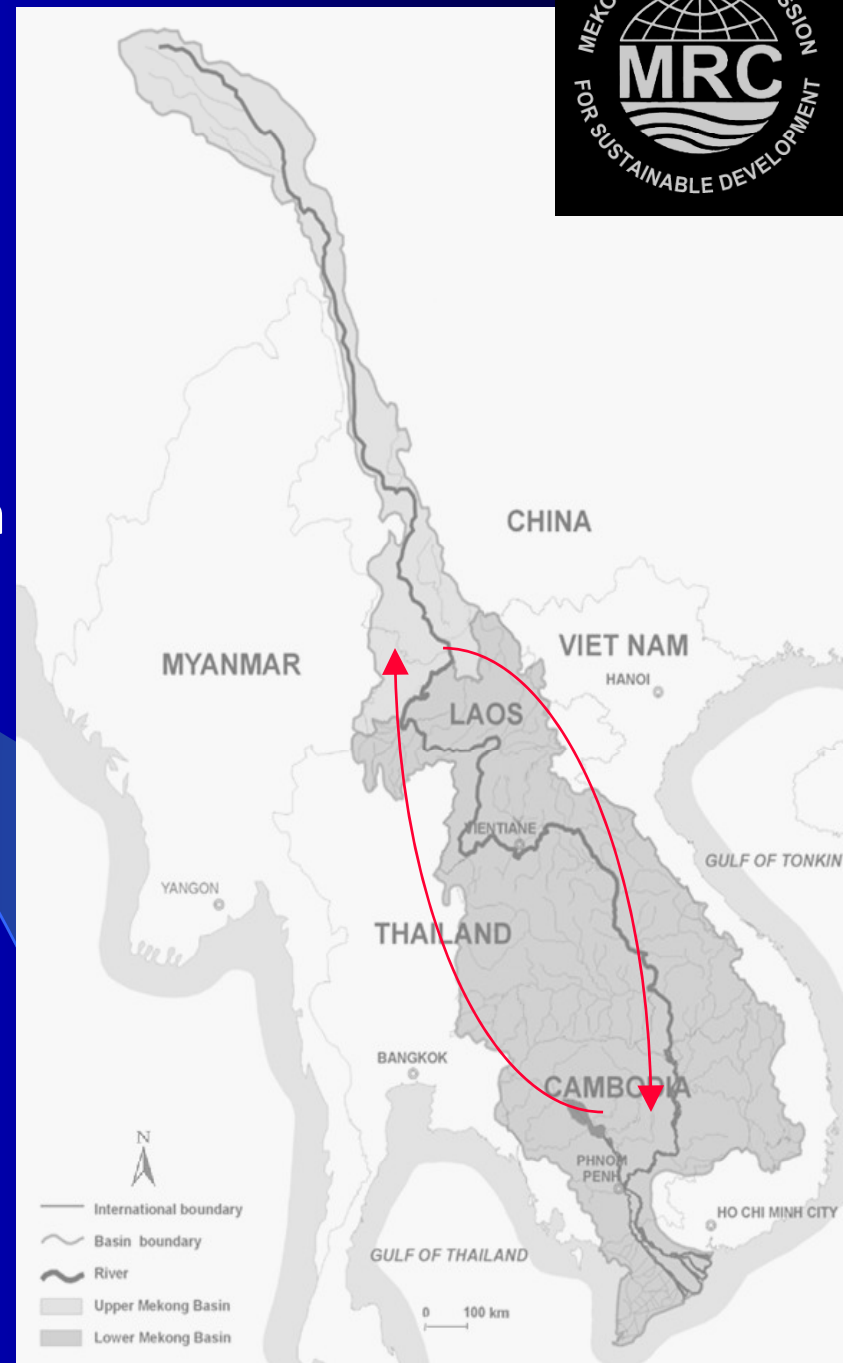
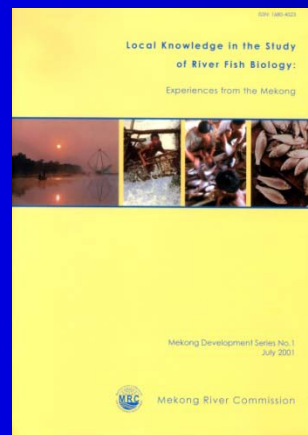
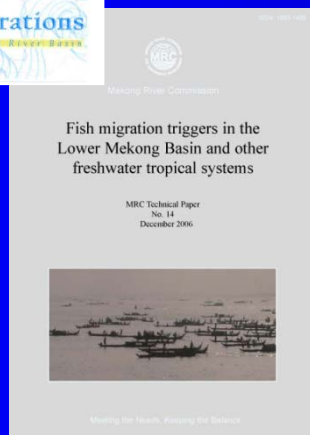
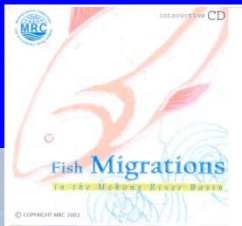
- Lower Mekong
- Middle Mekong
- Upper Mekong

➤ More fish in the Middle and Lower Mekong



Fish migration in the Mekong

Approximately 50% of total fish catch in the lower Mekong basin is dependent on long distance migration



Fisheries and Dams

China: 3 operational

2 under construction

3 planned

LMB: 11 planned

6 upstream of Vientiane

5 Savannakhet to Kratie

⇒ Dams are a barrier to fish migration





Fisheries and Dams

- We could have hydropower in the Mekong and healthy fisheries with “Proper Planning”
- Fisheries should be central in Water Resource Development discussions
- But in reality: fisheries considered, but not a determining factor



Fisheries and Dams

Why was it/is it so?...

- 1. Data problem**
Need for more information on fish ecology, on value of fisheries
- 2. Lack of integrated planning**
Isolated developments, cumulative impacts not considered, livelihoods-non-financial value of fisheries
- 3. Communication issue**
Do the general public/developers/planners/decision makers understand the importance of fisheries ?
- 4. Price of oil**
Increased significantly, therefore as an alternative source, hydropower is more cost effective

Fisheries and Dams

Hydropower and
irrigation \$\$



Fisheries \$\$

Food production
Electricity generation
Secondary industry
Government revenue

Food security
Livelihoods
Biodiversity
Ecological functioning

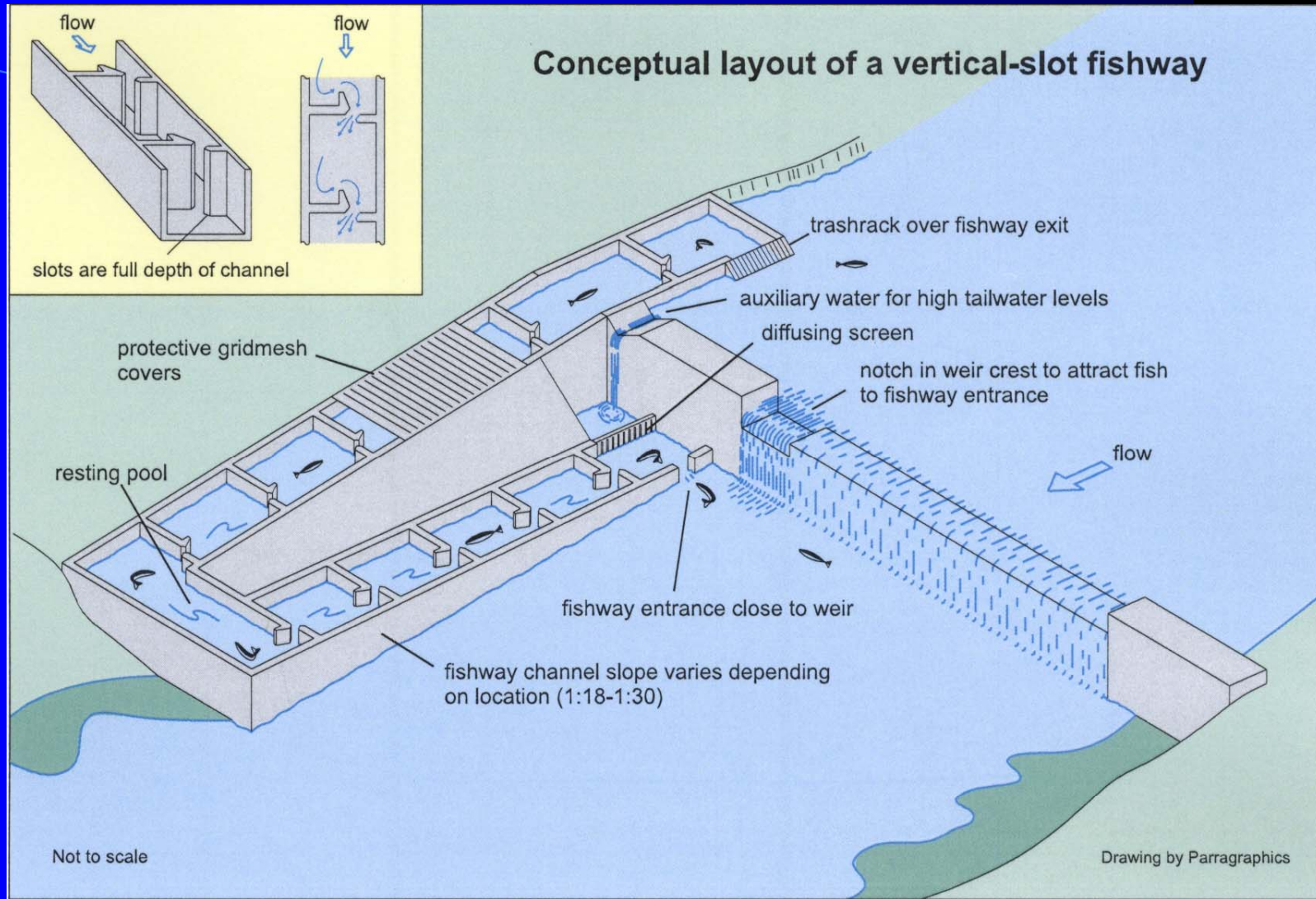
Formal economy
Easy to measure
Focused income

Informal economy
Difficult to measure
Generalized wealth

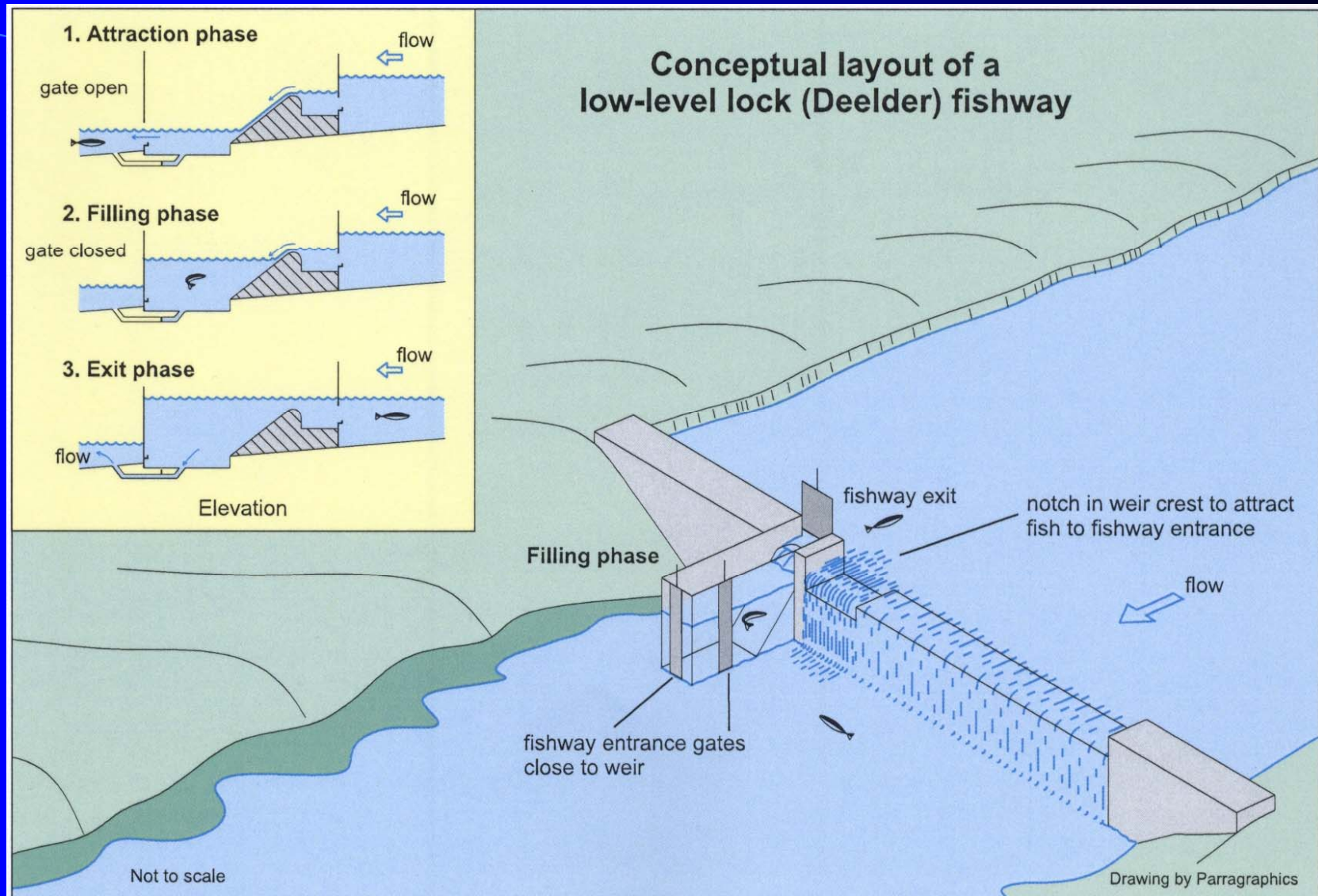
Recent Developments

1. Expert Group meeting, Vientiane, Sept 2008
(17 expert world wide)
 - Existing technology for fish passages cannot cope with high tonnage of fish and species diversity – as found in the lower Mekong. In North America and Europe – there are only 5-8 species (Salmonids)-strong upstream swimmers.
- ⇒ Mekong – not less than 50 species and the biomass is 100x more; different species migrating all year long

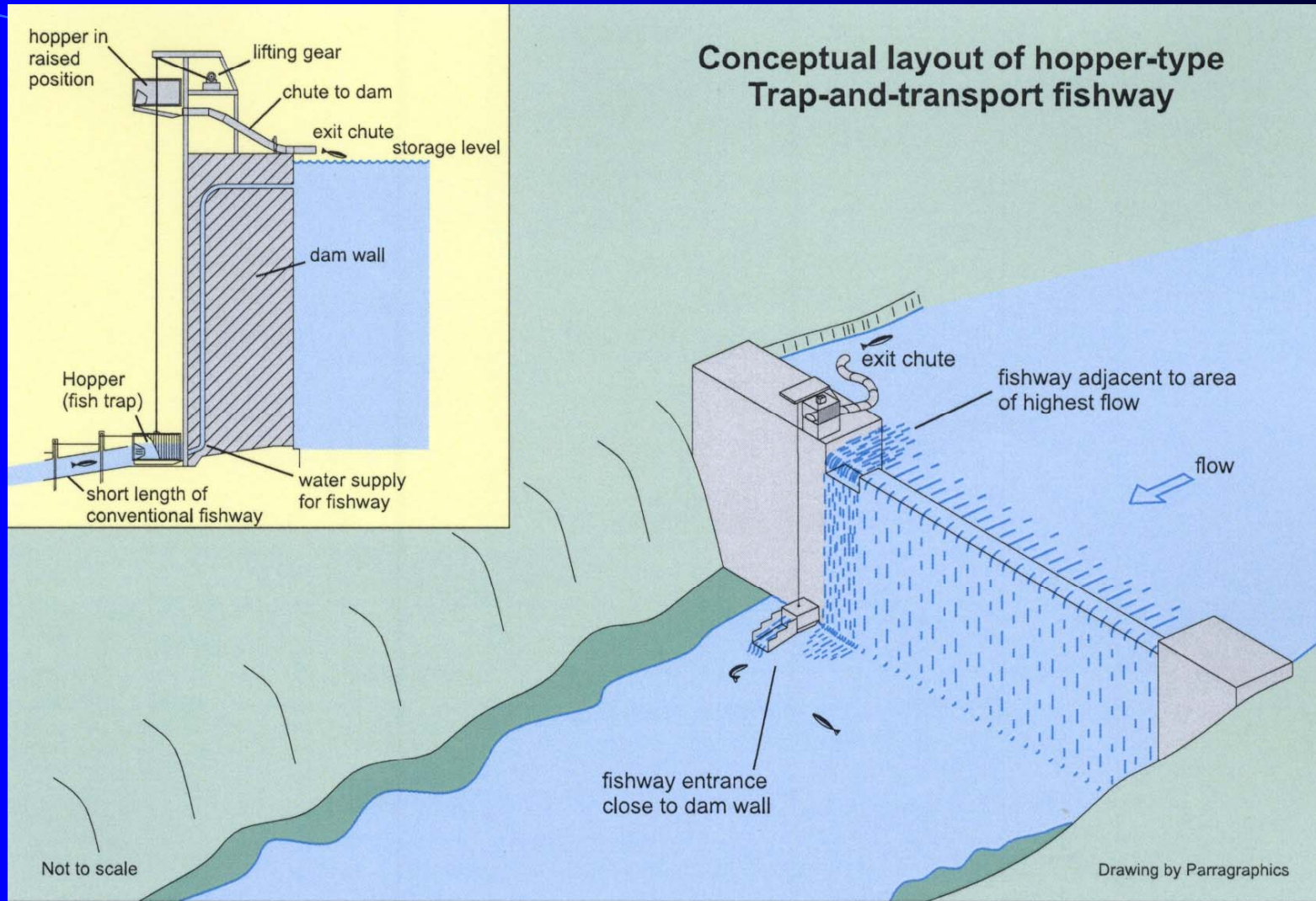
Mitigation – fish ladder – low dams only



Mitigation – fish lock – low-medium dams



Mitigation – fish lift or elevator – potentially high dams





Recent Developments

- Development of mitigation measures takes many years and costs many hundreds of millions of dollars
- Dams on the mainstream in the middle and lower LMB will have more implication for fisheries
- Reservoir fisheries cannot compensate for these losses



Recent Developments

2. Options for mitigation, 2 reports
 - ✓ Technical report from Expert Group Meeting
 - ✓ More general mitigation report published as MRC Development Series

3. Assessing socio-economic impact of reduction of migratory fish yield
 - ✓ FP in conjunction with BDP (ongoing)



Recent Developments

4. Modeling impacts of dams on mainstream; a study prepared by FP and World Fish; report to be published probably next month

Some results:

- Large species will be definitely impacted by dams
- Small species fare better

Recent Developments



5. Design guidance for mainstream dam for Navigation, Fish Passage, Sediment transport, Water Quality

● Fish Passage Guidance

- ✓ Background
- ✓ Fish passage design and operation
- ✓ Planning and design phase
- ✓ Biological/ecological
- ✓ Hydrology/hydraulic environment
- ✓ Operation
- ✓ Monitoring and Evaluation



Mekong River Commission

**Preliminary Design Guidance
for Proposed Mainstream Dams
in the Lower Mekong Basin**

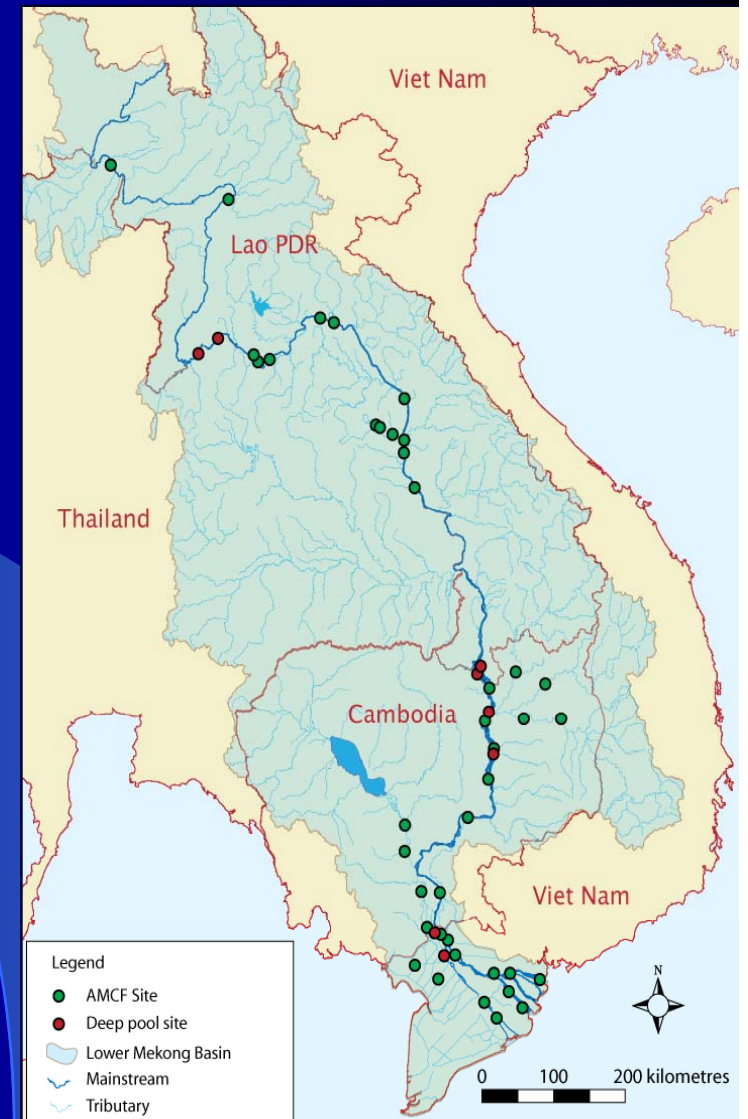
Final Version

31 August, 2009



Recent Developments

6. Fish larvae monitoring along the Mekong Mainstream
(Identifying spawning sites on mainstream)
7. Guidelines for impact assessment and forecasting by the FP and World Fish Centre
(Going through final editing, report to be published by the end of 2009)





Recent Developments

8. Atlas for Deep Pools (Report to be completed before the end of 2009)

9. Expert group available for advice on Mekong issues (Biologists and engineers)



Future Development

1. Sustainable development of capture fisheries

- Refine knowledge of fisheries ecology,

2. Socio-economics

- compare fisheries values to other economic sectors

3. Engagement between fisheries and hydropower dams

- Interact with developers
- Develop mitigation measures



Future Development

4 Regional fisheries management

- Support co-management of fisheries as part of IWRM across the basin

5. Pro-poor capture fisheries and aquaculture development

- Promote fish production from rice fields
- Promote aquaculture of indigenous species

6. Communication of fisheries information

- Disseminate fisheries information widely within the Mekong
- Convene meetings with a focus on linkages across sectors

*BDP 2nd Stakeholder Forum, 15-16 October 2014
Chiang Rai, Thailand*

Thank you

