

2nd Lower Mekong Fish Passage Conference
6 February 2025, Siem Reap Cambodia



Transboundary collaborations on fish passage

- The MRC fish passage program -

(Session 7)

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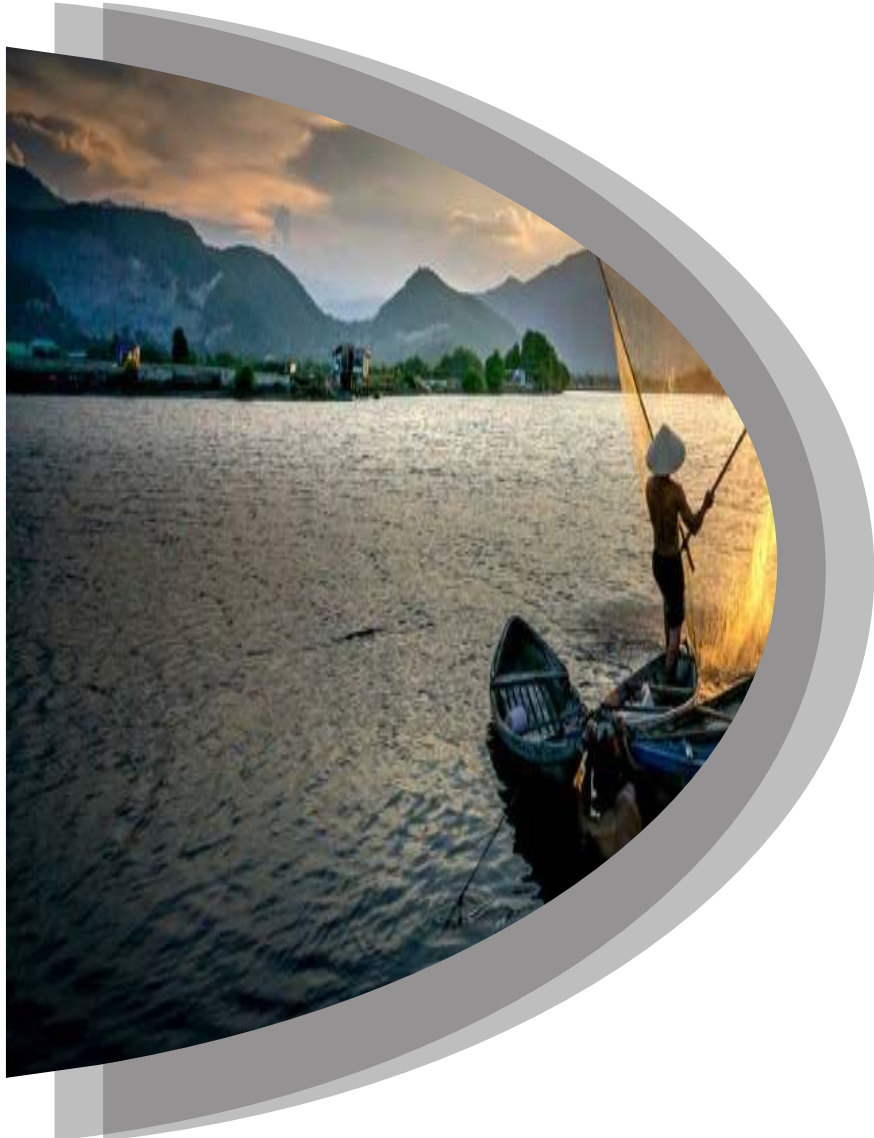


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1. BACKGROUND

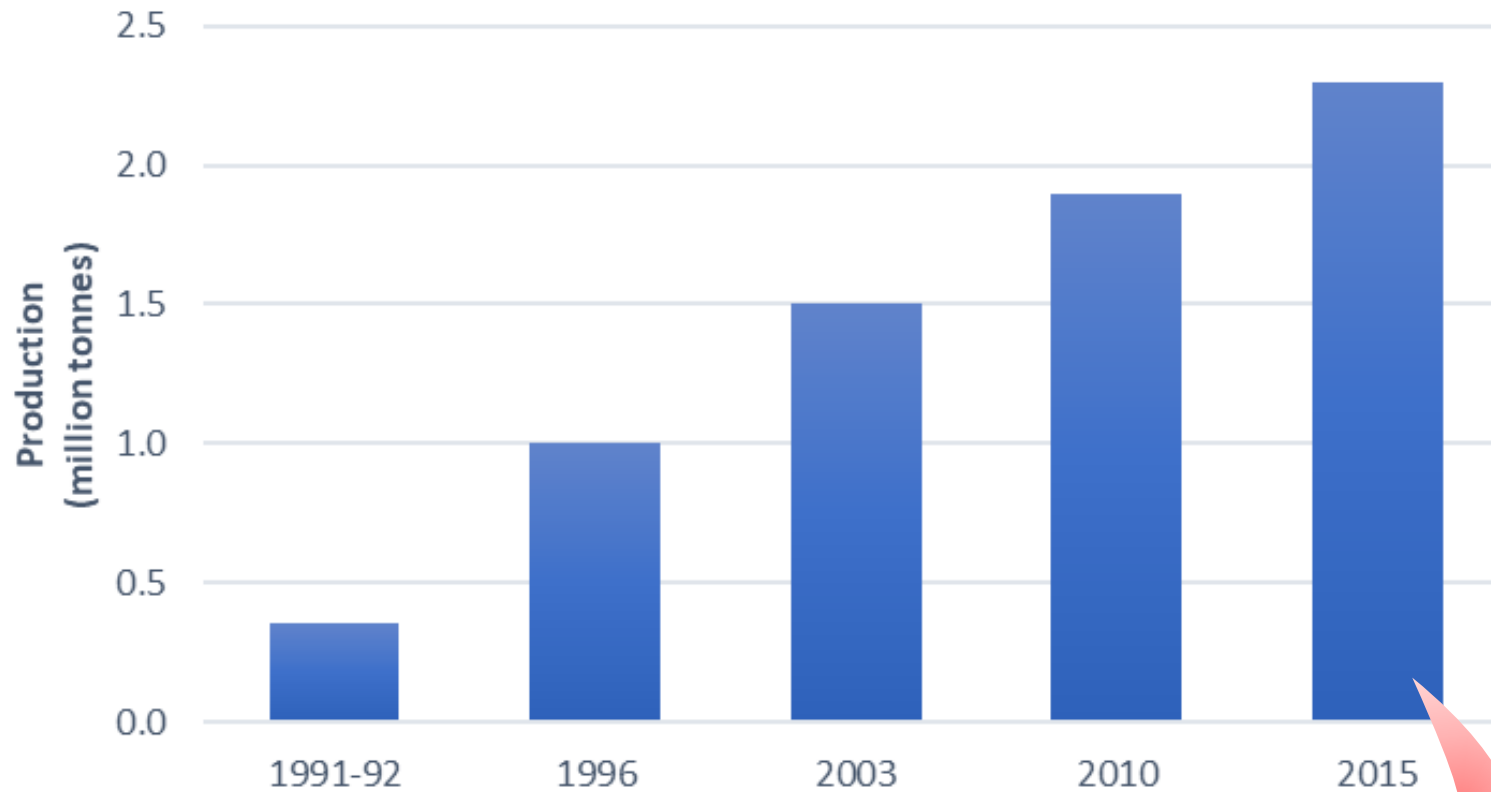
Captured Fisheries in the LMB



- The Lower Mekong Basin (LMB) is the most important aquatic ecosystem in South-East Asia hosting about 1,150 species.
- The livelihoods in the LMB (around 60 million people) have long history of utilizing Mekong resources.
- The economic value of captured fisheries in the LMB estimated for \$ 11.15 billion.

Rice-Fish & Water Productivity

Total capture fisheries production in the LMB



(Source: MRC, 2018)



(Source: IRRI, n.d.)

Rice-fish System

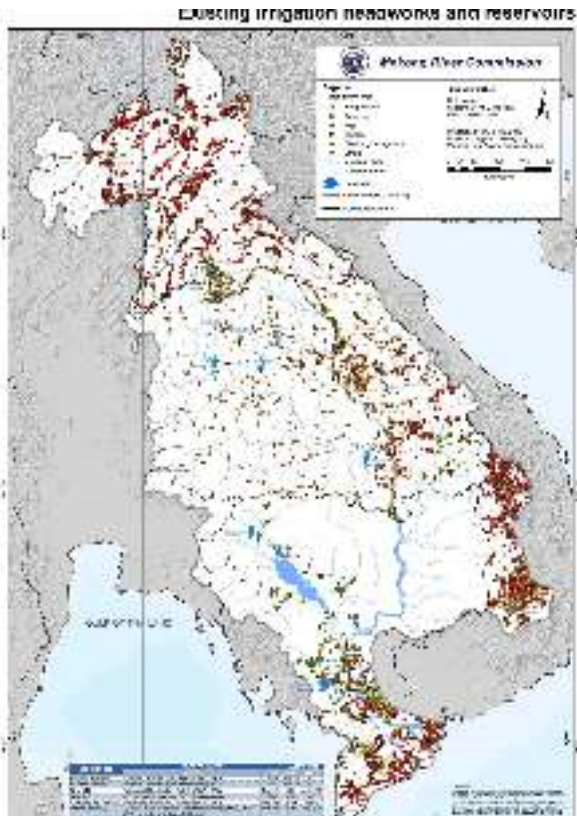
Nutrition & Income

Water productivity

Multifunctionality of
paddy fields

45% from rice fields

Fish Migration Barriers in LMB



- There are tens of thousands of smaller structures, such as dams, weirs, regulators, floodgates and road crossings in the LMB.
- Most of them block fish migration due to a lack of fishway.
- However, there were no indicator and criteria to install fishway.
- In 2023, the MRC published the Fishway Guidelines for fish-friendly irrigation in the LMB.

An aerial photograph of a floating village, likely in Southeast Asia. Numerous small, rectangular houses with dark, gabled roofs are built on stilts and float on a body of water. The houses are clustered together, forming a village. In the foreground, a small boat with several people is visible. The water is calm, and there are some small, dark patches of vegetation or land visible in the distance.

2. MRC STRUCTURE AND RELATION WITH MEMBER COUNTRIES

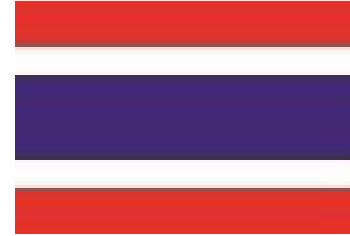
Mekong River Commission



CAMBODIA



LAO PDR



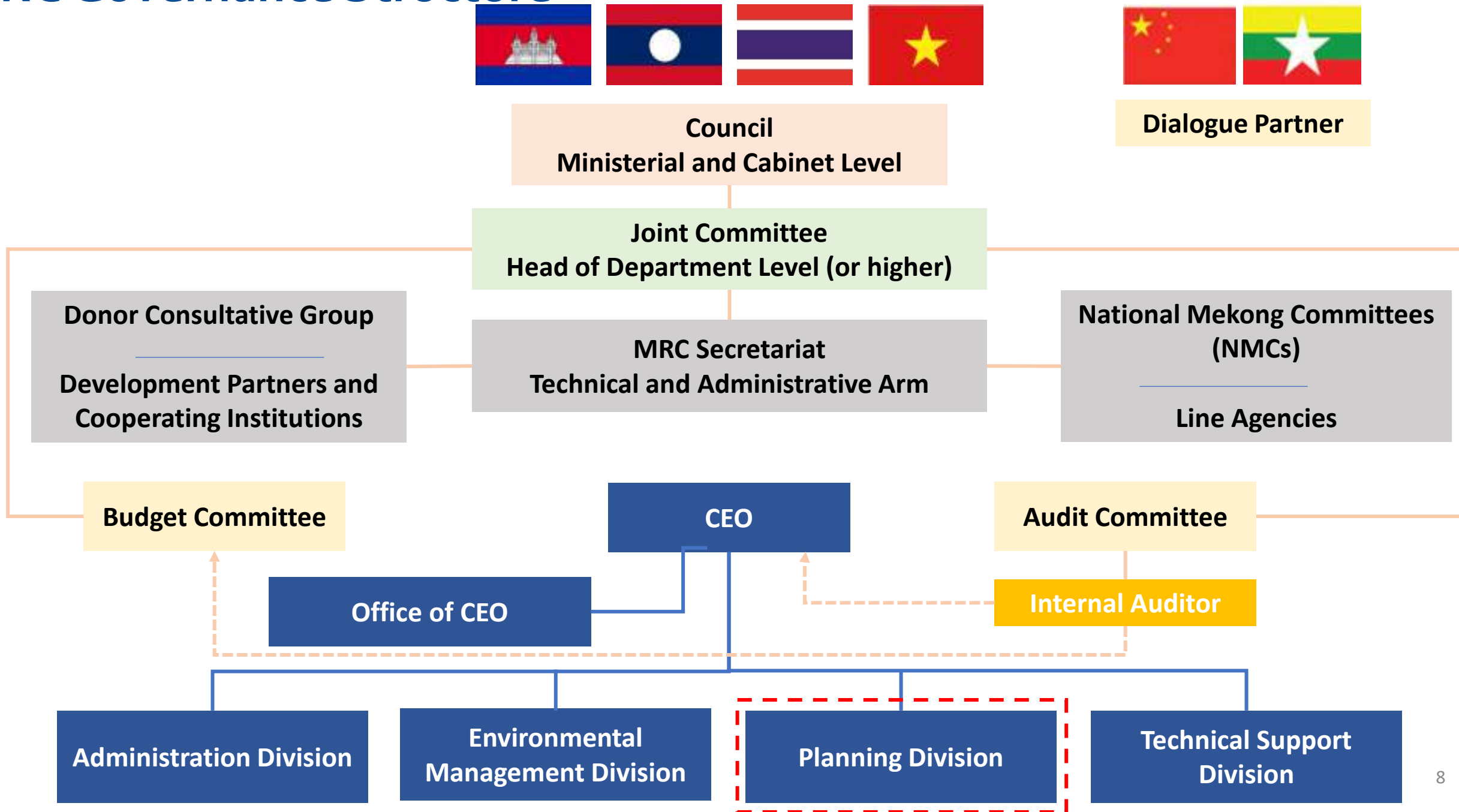
THAILAND



VIETNAM



MRC Governance Structure



Collaboration to Develop the MRC Fishway Guidelines



MAFF
Ministry of Agriculture, Forestry and Fisheries



Australian Government
**Australian Centre for
International Agricultural Research**



**Institute for Land,
Water and Society**
Charles Sturt University



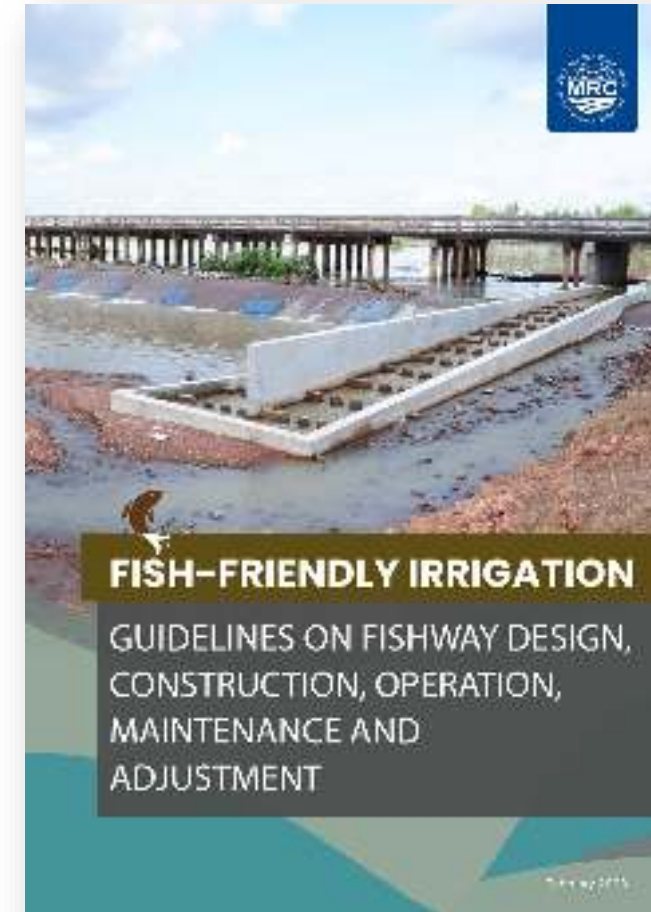
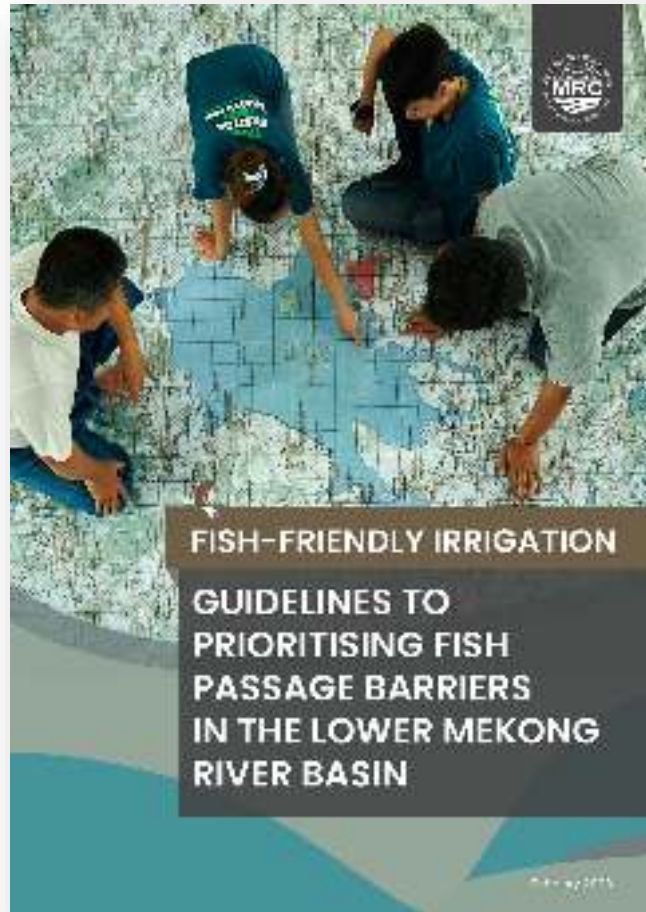
USAID
FROM THE AMERICAN PEOPLE





3. MRC FISHWAY GUIDELINES AND MANUALS FOR FISH-FRIENDLY IRRIGATION

Fish-friendly Irrigation: Fishway Guidelines



Translated into Khmer, Lao, Thai and Vietnamese

Two Fishway Guidelines

Guidelines to Prioritizing Existing Fish Passage Barriers

- Step 1 Identifying potential barriers to migration
- Step 2 Remote assessment of barrier prioritization
- Step 3 Field appraisal of highest priority potential barriers
- Step 4 Refined Biological assessment
- Step 5 Socio-economic assessment of high priority barriers
- Step 6 Select sites for rehabilitation

Guidelines on Fishway Design, Construction, Operation and Maintenance

- Step 1 Fishway design
- Step 2 Fishway construction
- Step 3 Fishway operation
- Step 4 Fishway maintenance and inspection
- Step 5 Fishway monitoring
- Step 6 Fishway adjustment

Prioritizing Existing Fish Passage Barriers

Barrier Assessment Procedure

Prioritisation Stages

Identify all Potential Barriers

Conduct a Remote Assessment of Potential Barriers

Conduct Field Appraisal of the Potential Barrier

Conduct Biological Assessment of the Barrier

Conduct Socio-economic Assessment of the Barrier

Barrier Attributes

Does Potential barrier score above threshold for Field Appraisal

Yes

Is the Potential Barrier an Actual Barrier

Yes

Does barrier score above threshold for Socio-economic Appraisal

Yes

Does barrier score above threshold for high priority site

Yes

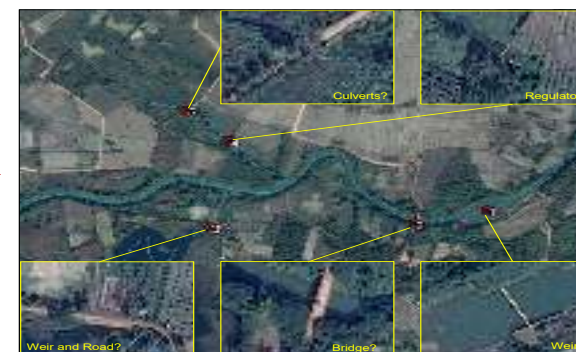
Site of high priority and should have plans for rehabilitation implemented

Site of low priority and not considered further. Information retained for future reference

Barrier Outcome



Barrier (weir)



Identify and plot barriers on a GIS map

Total Number of Barriers Downstream Score

Total Number of Barriers Downstream	Score
a. No potential barriers downstream	7
b. One potential barrier downstream	5
c. Two to four potential barriers downstream	3
d. Five to nine potential barriers downstream	2
e. Ten or more potential barriers downstream	1

Remote assessment criteria: Total number of barriers downstream



Barrier "A" has no barriers in downstream but Barrier "B" has.



Field appraisal

Barrier	A1	A2	A3	A14	Total	Rank
a	5	7	5		5	60	1
b	3	3	3		3	40	2
c	2	2	2		2	30	3
4	1	1	1		1	20	4

Scoring sheet to identify the top priority for rehabilitation

Fishway Design, Construction, Operation and Maintenance



- Both biologists and engineers are needed to implement a successful fishway project.
- **Who is this guideline intended for?**
 - This guideline is intended for specialist engineers and biologists embarking on a fishway design at a low level (< 7m) weir in the lower Mekong Basin. Many of the concepts, however, are universal to fish passage design and can be applied to a wide range of regions.

4. CURRENT ACTIVITIES (UPTAKE GUIDELINES)



Uptake MRC Fishway Guidelines

- Deepening understanding of the Fishway Guidelines
- Utilizing the guidelines for practical use
- Promoting fishway installation/removing migration barriers
- Enhancing the Member Countries' self-help effort
- Refining the guidelines

Barrier Prioritization & Fishway Monitoring

- Barrier prioritization activities are being implemented divided into two stages.

Stage 1 Activity ← completed

- Translation of fishway guidelines & manuals
- Identify potential barriers, remote assessment
- Fishway monitoring
- Potential Barriers & Monitoring Report

Stage 2 Activity ← on-going (2024 & 2025)

- Field appraisal, biological assessment, socio-economic assessment
- Fishway monitoring
- Country Paper
- Revise Fishway Guidelines

5. OTHERS



GGP Project : Fishway Construction : Nam Kouang 1 Fishway



GGP Project : Fishway Construction : Nam Kouang 1 Fishway

The District Agriculture and Forestry Office (DAFO) in Vang Vieng of Lao PDR applied to receive assistance from the Government of Japan for the construction of a fishway.

The plan was approved by Japan and a signing ceremony was held on Nov 2024 attended by the Ambassador of Japan, the Governor of Vientiane Province, the Director of DAFO, and the CEO of MRC.

To support DAFO in its construction efforts, MRC will provide with construction supervision and training for stakeholders on operation and maintenance (O&M) of the fishway.



Thank you

