

Strengthening Community Fish Refuge & Ricefield Fisheries, Cambodia Case study





Session objectives

After this session you will be able to:

- Recognize how Cambodia has adopted EAFm principles and moved towards EAFm (case study)
- Determine where your country is at in moving towards EAFm
- Identify challenges your country faces in moving towards EAFm



1. Good governance



2. Appropriate scale



3. Increased participation



4. Multiple objectives



5. Cooperation & coordination



6. Adaptive management

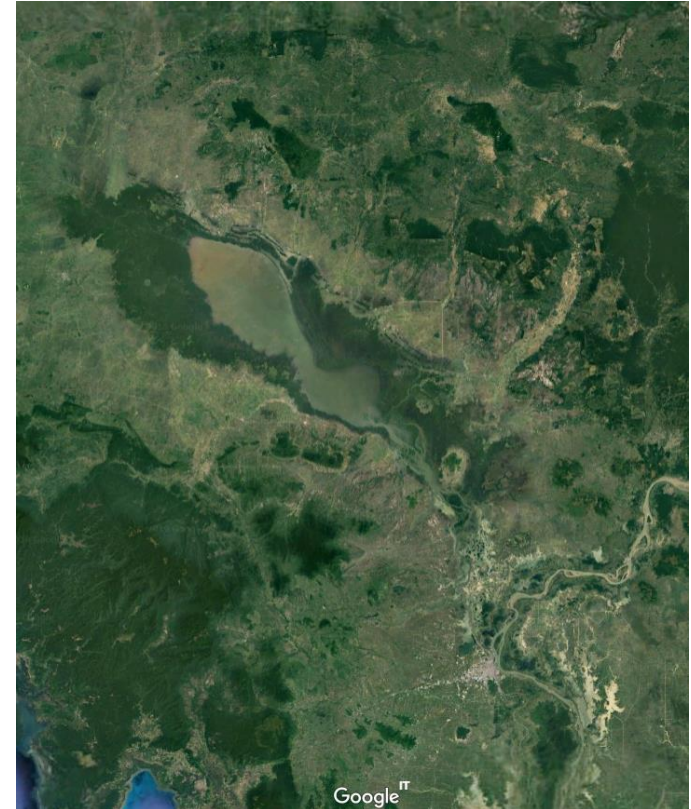


7. Precautionary approach

Cambodia: Strengthening Community Fish Refuge & Ricefield Fisheries Co-management

The session will discuss

- The emergence of community fisheries refuge (CFR) and ricefield fisheries co-management in Cambodia as an example of EAFm.
- How Government policies have changed to incorporate RFF
- The important roles that INGOs have played.
- Opportunities for strengthening RFF and CFR co-management using EAF principles.





Ecology: Cambodian ricefield fishery system

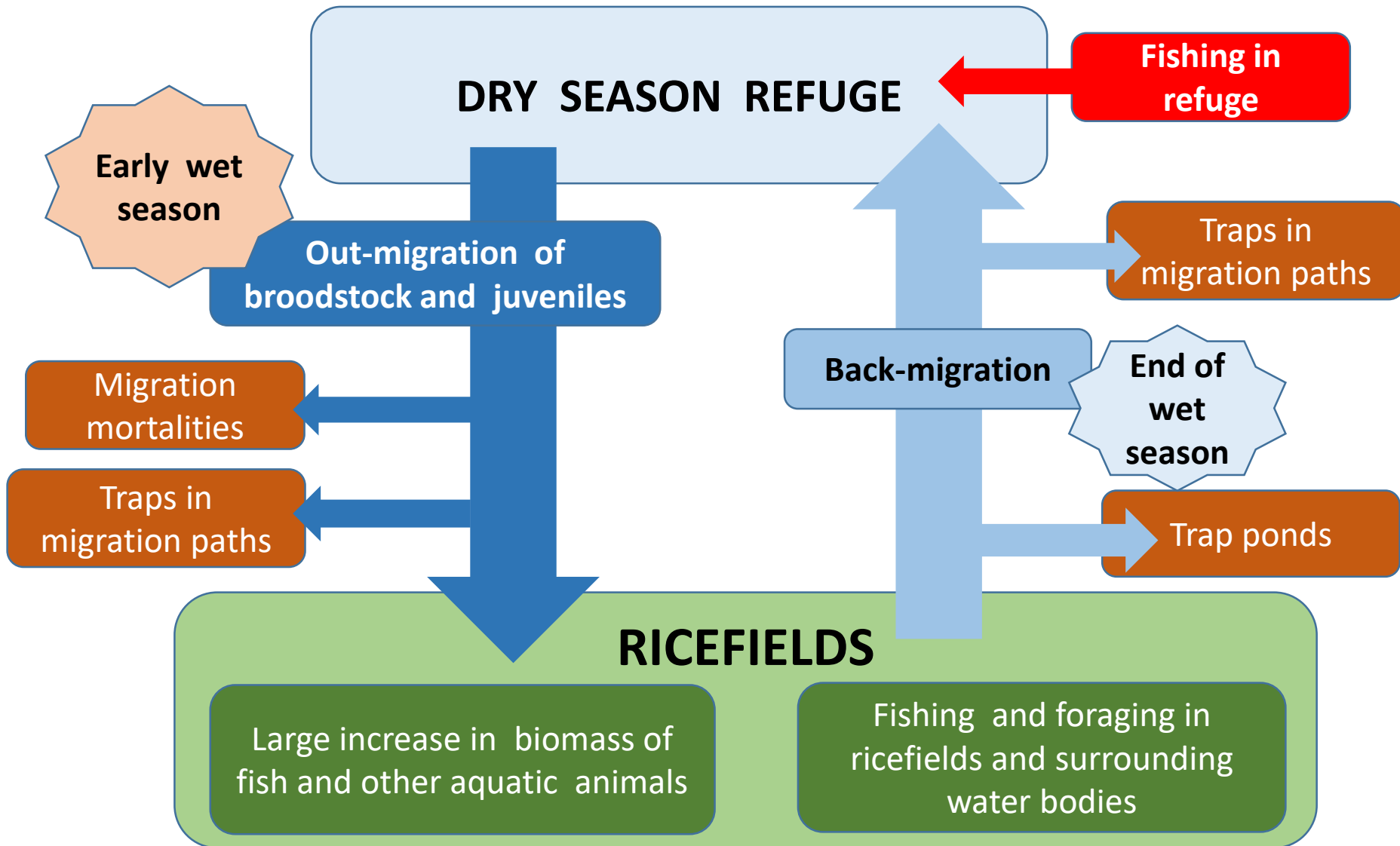
- During the monsoon season, rain-fed and deep-water rice-ecosystems cover about 1.8 million hectares in Cambodia
- In Cambodia, many rural farming families are engaged in small-scale fishing in and around rice fields.
- A practice that is probably as old as rice farming itself.
- For many decades the science of ricefield fisheries ‘fell between two stools’- capture fisheries & aquaculture,



Ecology: Cambodian ricefield fishery system (*cont.*)

- The movement of wild fish between flooded areas is thought to play an important part in the overall productivity of the ricefield fisheries.
- Productive CFR/RFF systems should contain
 - Dry season refuge areas,
 - Channels for out-migration and back-migrations of fish
 - Rice fields and adjacent water areas.

Ecology: How ricefield fishery refuges work



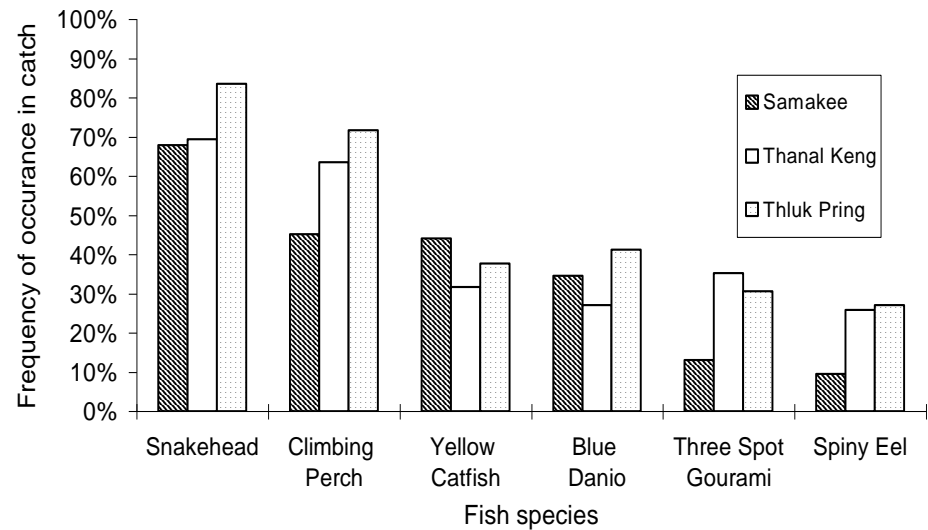
Fisheries: in ricefield systems



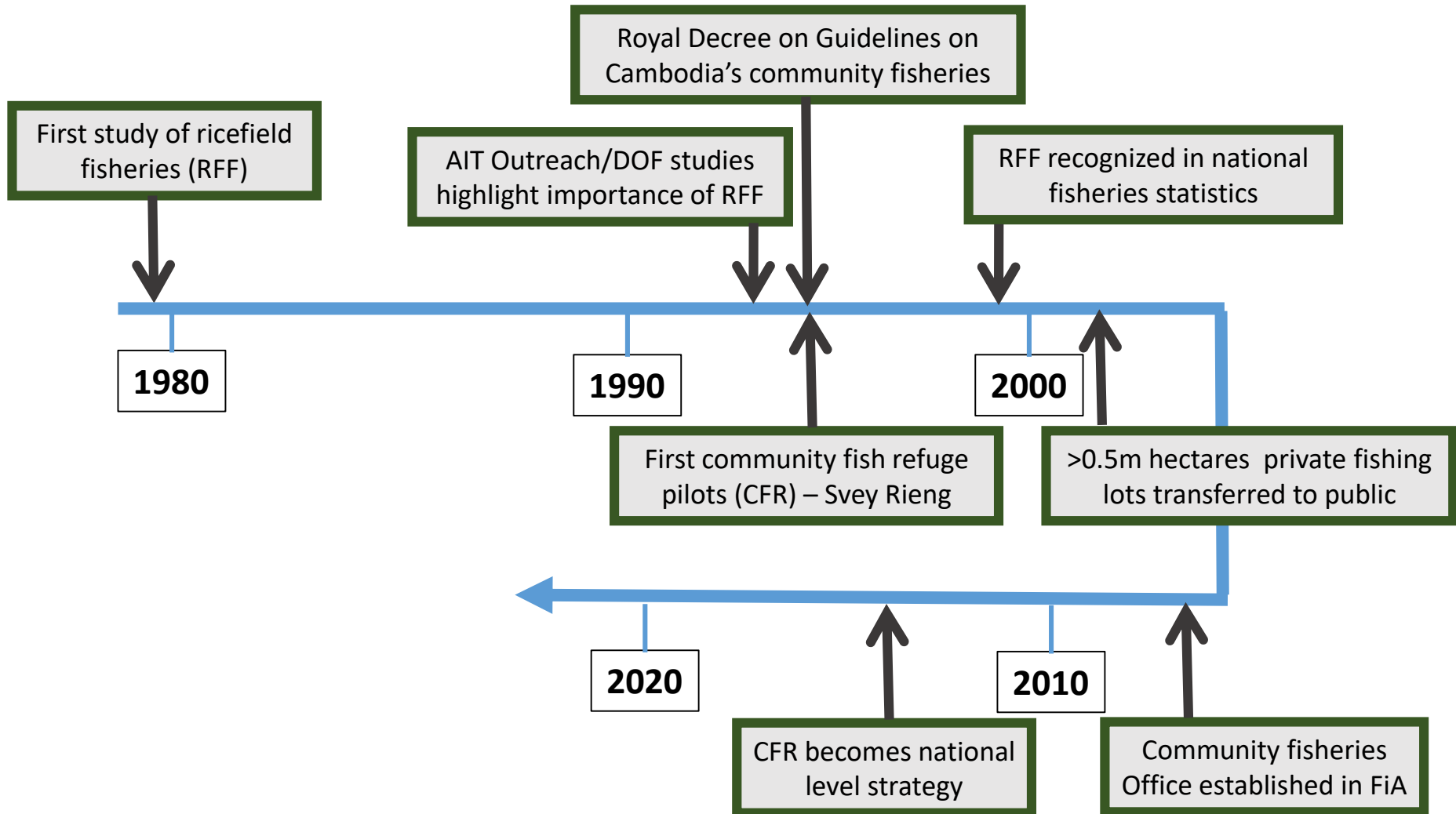


Fisheries

- Predominantly air breathing (black) fish such as snakehead and clarias catfish
- Some smaller fish e.g. *Rasbora* sp., *Trichogaster* sp.
- Other aquatic animals form important parts of the 'fishery'
- e.g. crabs, shrimps, frogs, molluscs and aquatic insects,



Fisheries timeline





Ecology: Threats

- A number of sources;
 - increases in fishing pressure;
 - agriculture intensification;
 - modified ecosystems,
 - loss of flooded forest and bush habitats;
 - irrigation/road infrastructure development, creating obstructions to fish movement.



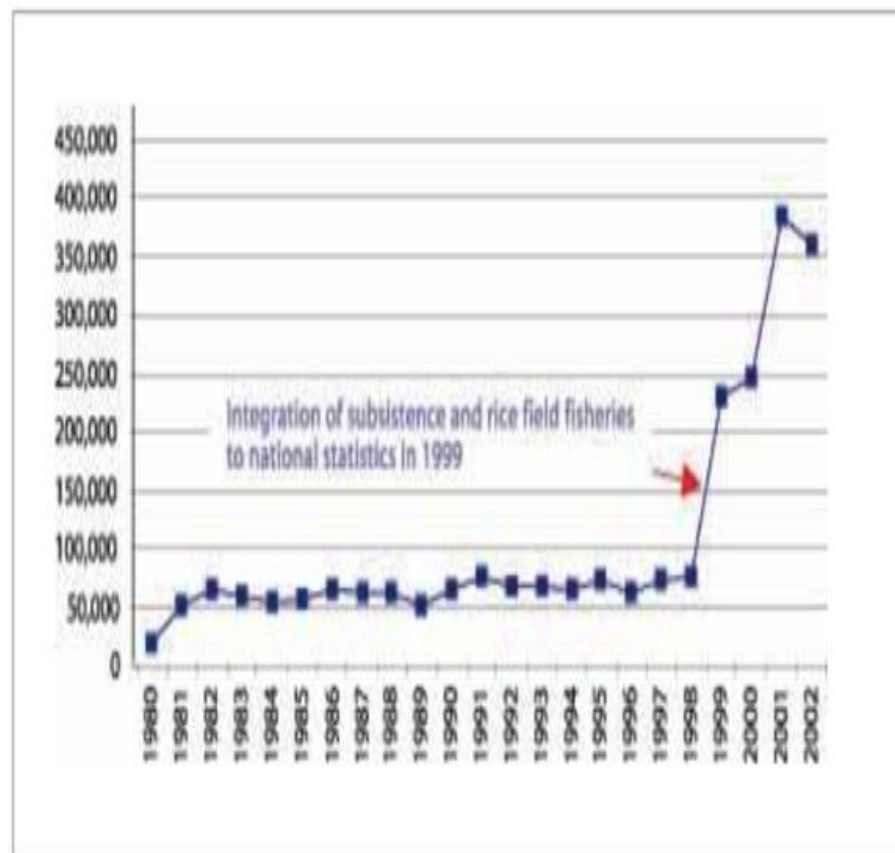
Livelihoods and socio-economics

- Until 1990's importance of ricefield fisheries to rice farming communities largely ignored
 - by governments, researchers and rural development
- Produce by-passes conventional value chains and markets
 - = underestimation of value and importance.
- Studies in Cambodia from 1994 highlighted the importance of aquatic ricefield animals
 - for nutrition
 - incomes, (particularly from trap ponds catches)
- Generally, poorer households involved in ricefield fisheries, including landless households.
- Women and children play major roles in fishing and processing.



Governance: Fisheries

- Recognition of RFF contribution estimated for Cambodia fisheries statistics from 1999
- Trap pond excavation remains banned within Great Lake floodplain, between national highways 5 & 6
- Policy target: 1 200 communes (75% of national total) to have sustainable community fish refuges by the end of 2019



Moving towards EAFm – 7 principles

EAFm principle	How it is being implemented
Good Governance:	<u>Decentralised</u> governance to community level. <u>Benefits</u> from fisheries <u>spread more broadly</u>
Appropriate Scale	Zone of influence used to <u>scale community fisheries refuge plans</u> . Where ZOI overlap, then appropriate scale can increase.
Increased participation	Communities <u>establish committees</u> for CFR management <u>Involvement of communities</u> in developing ricefield fisheries/refuge plans and monitoring impact of management measures.
Multiple objectives	Most <u>CFR are multi-purpose resources</u> <u>CFR plans include other community demands</u> such as irrigation, livestock watering, drinking water supply.

Moving towards EAFm – 7 principles (2)

EAFm principle	How it is being implemented
Cooperation and coordination	Communities CFR ZOI may overlap, creating <u>opportunities for management cooperation</u> .
Adaptive Management	Communities <u>adjust CFR plans</u> based on the prevailing monsoon conditions and on their experience during previous years. <u>Annual meetings</u> held to agree/adjust management plans. <u>Sharing of experiences</u> between communities, encouraged
Precautionary principle	<u>No stocking of exotic fish species</u> . <u>Strict limitations</u> on adult fish taken from the CFR.



Strengthen the capacity to deliver.

- There are significant capacity issues, at all levels to address.
- Scientific understanding of how ricefield fisheries systems operate
 - in different locations
 - in differing flooding inundation years
- Capacity of extension workers to be able to work comfortably with both the ecological and social complexity of RFF
- Capacity to effectively measure impact of RFF co-management interventions
- Capacity of communities to organize themselves effectively;
 - to develop meaningful CFR plans;
 - Ensure co-management compliance within the community;
 - and monitor their effectiveness



Key messages of case study

- EAFM is a step by step process; apply lessons learned along the way
 - increasing stakeholder engagement
 - broadening scale and scope of management
 - built on existing fisheries management
 - strengthen governance
- Many fisheries in the world are doing EAFM in part;
- Each country is a different stage of the journey



Activity 1:

- Each group receives a card that displays one EAFM principle (some groups may have to consider two principles).
- In groups, discuss and score where you think your COUNTRY is along the continuum 0-5 for that principle.
- Using the lines set out on the floor, one representative for each principle paces out their score while holding the card.



Activity 2: In groups

1. Identify the **challenges** your country might face in moving towards EAFM
2. Write each challenge on a card. (**ONE** challenge per card)
3. Now identify **opportunities** your country may have in moving towards EAFM (and in meeting the above challenges).
4. Write each opportunity on a separate card