

# SPECIAL REPORT

## Evaluating the Application of EAFM in Inland Fisheries Management

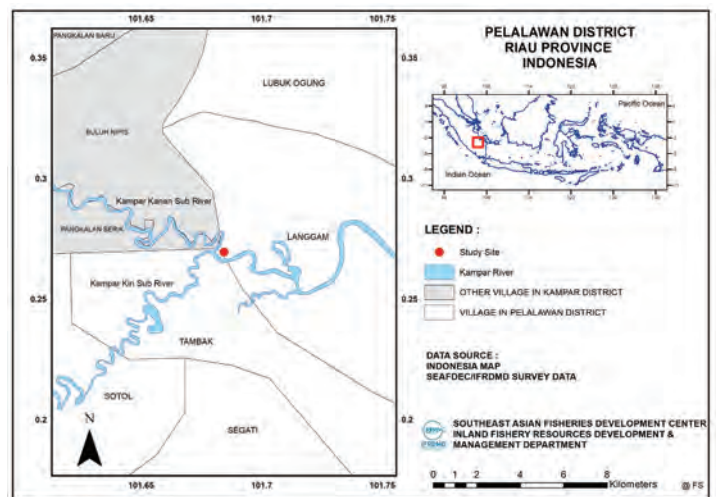
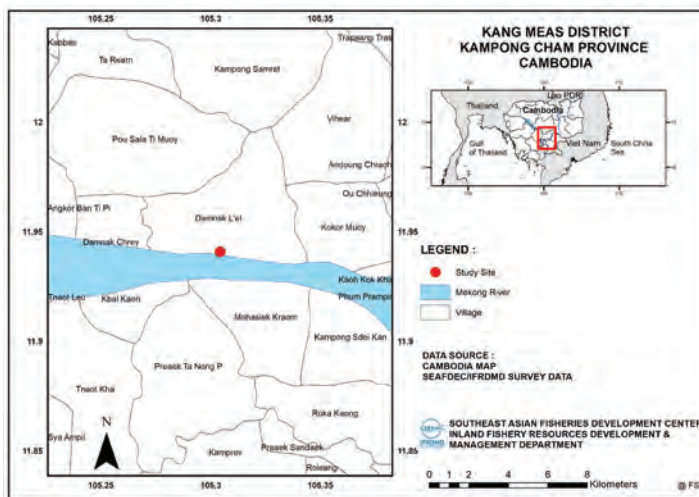
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Inland waters refer to lakes, rivers, brooks, streams, ponds, inland canals, dams, and other land-locked (usually freshwater) waters. Inland fisheries including capture and aquaculture are an important source of food and livelihood for the people living around the inland water areas. However, inland fisheries activities adversely impact the environment, aquatic organisms, and other sectors. To address the negative impacts of inland fisheries activities, the ecosystem approach to fisheries management (EAFM) is a holistic approach to fisheries management towards systems and decision-making processes that balance ecological well-being with human and societal well-being, within improved governance frameworks. Although EAFM has been applied mainly to coastal fisheries management, it is also a suitable tool for developing plans for inland fisheries management because of its ecosystem-based, stakeholder-led approach (FAO, 2019).

Under the project “Management Scheme of Inland Fisheries in the Southeast Asian Region” supported by the Japan Trust Fund VI Phase 2, IFRDMD evaluated the EAFM in inland fisheries of the Mekong River in Kang Meas District of Kampong Cham Province in Cambodia and Kampar River in Pelalawan District of Riau Province in Indonesia using the EAFM domains. The EAFM domains are the technical guidelines for assessing fisheries management indicators in inland waters applying an ecosystem approach which was developed by the Ministry of Marine Affairs and Fisheries of Indonesia (MMAF, 2020). The obtained information would support the development of science-based management measures to sustain and manage inland fisheries.

The study sites were primarily lowland areas with huge floodplains where the people are either full-time or temporary fishers. The data were gathered in 2022 through interviews using a structured questionnaire. The respondents included fishers, local government officers, indigenous



*Kang Meas, Kampong Cham, Cambodia (left) Pelalawan, Riau, Indonesia (right)  
Location of the study sites for evaluation of EAFM implementation in Cambodia and Indonesia in 2022*



*Interview of the inland fisheries stakeholders in Kang Meas District, Kampong Cham Province in Cambodia (left) and Pelalawan District, Riau Province in Indonesia (right) in 2022*

Table 1. EAFM domains and indicators, flag status, and range of composite index to assess the inland fisheries management in Mekong River in Kang Meas District of Kampong Cham Province in Cambodia and Kampar River in Pelalawan District of Riau Province in Indonesia in 2022

EAFM domain and indicators	Flag status and range of composite index		
	Poor Fisheries management in the local ecosystem needs to pay attention to applying the principles of sustainable fisheries.	Moderate Fisheries management in the local ecosystem has applied the principles of sustainable fisheries but needs to improve in specific domains and indicators.	Good Fisheries management in the local ecosystem has applied the principles of sustainable fisheries.
Habitat quality	500-833	834-1,168	1,169-1,500
Fishing technology	367-611	612-857	858-1,100
Social	433-722	723-1,012	1,013-1,300
Economic	367-611	612-857	858-1,100
Managed fishery resources	367-611	612-857	858-1,100
Governance	367-611	612-857	858-1,100
Stakeholders participation	300-500	501-701	702-900

communities, non-government organizations, and other relevant stakeholders. The respondents were asked to share their perceptions of the application of EAFM in their areas based on the indicators of each EAFM domain. The Likert score was used to measure their perceptions of a particular indicator. The flag status (Table 1) of each domain was determined based on the composite value which was obtained by multiplying the score of each indicator with the weight of the corresponding domain and the weight of the indicator (Adrianto *et al.*, 2005).

As shown in Table 2, the communities in the study sites understood the principles of ecological sustainability and are able to manage inland waters well, but Pelalawan District still needs to be improved. Communities in Kang Meas

Table 2. Status of inland fisheries in the Mekong River in Kang Meas District of Kampong Cham Province in Cambodia and Kampar River in Pelalawan District of Riau Province in Indonesia through the evaluation of EAFM domains in 2022

EAFM domain	Kang Meas District, Kampong Cham Province, Cambodia (n = 14)	Pelalawan District, Riau Province, Indonesia (n = 14)
Habitat quality	1,343	1,079
Fishing technology	417	760
Social	1,021	1,214
Economic	612	833
Managed fishery resources	753	640
Governance	900	1,065
Stakeholders participation	467	350

District understood that the types of fishing gear they use are not environment-friendly. However, fishery resources are still sufficient, although they realize that fish populations and diversity are declining. For the social and governance domains, the communities in both study sites inferred that their leaders are capable of minimizing conflicts. For the economic domain, the catch of fishers could support their livelihood; but at the same time, they were aware of protecting the fish stock for its sustainability. Considering that the inland waters are an ecosystem utilized by multisector, the low stakeholder participation needs to be addressed. There should be a synergy of policies among the different sectors and partnerships should be built between government and stakeholders to support the sustainable utilization of inland water resources and management of inland fisheries. IFRDMD would continue to evaluate the EAFM implementation in inland fisheries management in other areas to generate reliable data and provide appropriate recommendations to enhance inland fisheries management in the Southeast Asian region.

## References

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