

# Joint Environmental Monitoring (JEM) Programme Pilots Project - The Process

**Piloting the Joint Environmental Monitoring (JEM) Programme on Two Mekong Mainstream Dams: The Don Sahong Hydropower Project and the Xayaburi Hydropower Project**

## Project context – hydropower in the Lower Mekong Basin

Hydropower development in the Lower Mekong Basin (LMB) provides a great opportunity for regional and national economic growth and continued reduction of poverty rates across the region. The Mekong River Commission (MRC) estimates that until now approximately 30% of hydroelectric potential in the LMB has been utilised. However, if not well managed, the exploitation of hydropower resources can pose a serious threat to biodiversity and ecosystem services provided by the river, as well as to the livelihoods of riparian communities.

For example, hydropower development changes water flows, which can affect water quality, river habitats, fish and other biodiversity. In turn, this may have a significant impact on the livelihoods that depend on that biodiversity, such as fisheries.

## Goals of the JEM Programme – establishing an information base to guide adaptive management

To guide sustainable basin management and governance, we need a strong information base about how present and future hydropower development will affect the environment and people. This will support the appropriate design of

hydropower projects, selection of suitable locations, and implementation of environmental management measures to mitigate negative impacts and enhance positive effects.

The JEM Programme will do this by providing:

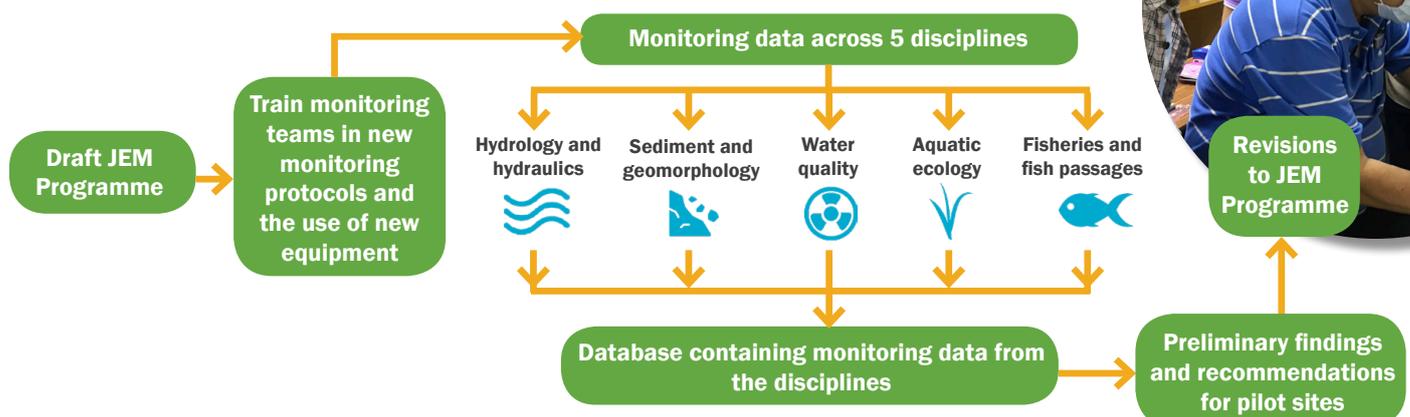
- ✓ **Standard Operating Procedures** for environmental monitoring. These procedures aim to standardise: (i) The way that monitoring teams collect and report on data (their methods), and (ii) What data is collected and reported on. This will ensure consistency of results allowing comparison and integration of data sets.

Data will be collected under five disciplines: hydrology and hydraulics, sediment and geomorphology, water quality, aquatic ecology and fisheries and fish passage.

- ✓ A **basin-wide view** of links between hydropower development and environmental conditions by quantifying the main environmental drivers. It encourages information sharing, comparison and analysis across the Mekong and provides a platform for helping Member Countries to find common ground and resolve issues of contention.



### The JEM Programme methodology

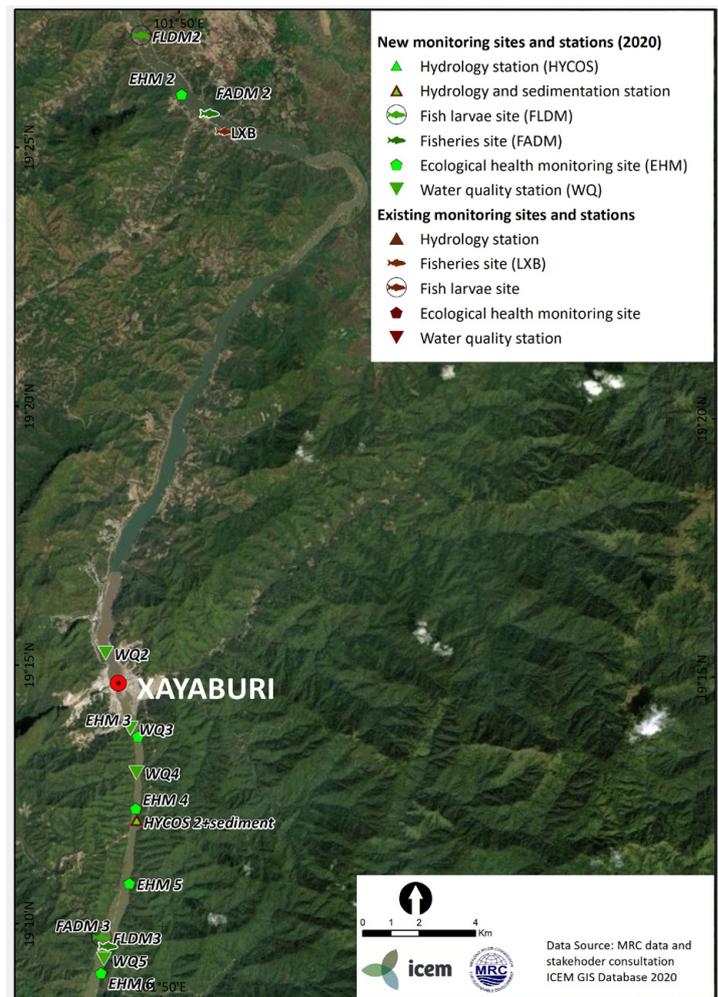


## JEM Programme Pilots Project

An important first step in implementing the JEM Programme is piloting the methodology. In close cooperation with hydropower developers and other key stakeholders, the JEM Programme is being tested on two hydropower projects in Lao PDR - the Xayaburi dam and the Don Sahong dam. These are the first two operational dams on the LMB mainstream, so it is critical that MRC monitors their impacts. The Don Sahong dam is located in Champasak Province, 2-km upstream of the border with Cambodia. The Xayaburi dam is the third dam in a hydropower cascade of six proposed mainstream projects in northern Lao PDR, about 100-km downriver from Luang Prabang. Both sites are highly important for fish migration, and a key aspect of the JEM Programme is to define affordable and effective fish passage monitoring methods for future use.

The JEM Pilots Project began in November 2019 with support from the German Development Cooperation and the MRC and will be completed in December 2021. All new methodologies for monitoring are being tested to assess their technical and financial feasibility for long-term implementation and to ensure they provide useful information. Training on new equipment and monitoring protocols are also being delivered to national and local monitoring teams. The piloting process helps identify challenges and develop solutions before the Programme is applied throughout the LMB.

## Monitoring sites and stations around Xayaburi dam



### Benefits of the JEM Programme

-  Gives a basin-wide view of links between hydropower development and environmental conditions;
-  Facilitates adaptive management to preserve biodiversity, ecosystem services and riparian livelihoods;
-  Promotes transparency, information sharing, comparison and transboundary evaluation;
-  Supports MRC Member Countries to find common ground and resolve issues of contention.

### Challenges addressed under the JEM Pilots Project

-  Ensuring that the MRC Routine Monitoring Programme is financially sustainable;
-  Providing training to update and standardise monitoring methods and capacities among Member Countries;
-  Developing data management and storage protocols that are simple, robust and easy-to-understand;
-  Building trust between developers and other stakeholders for data and information sharing purposes;
-  Creating a common vision that overcomes political sensitivities and differing national interests;
-  Ensuring Member Countries, developers and other stakeholders have ownership of the long-term monitoring programme.

More information is available in the JEM Pilots Project Inception Report available on the MRC website: <http://www.mrcmekong.org/assets/Publications/JEM-InceptionRep.pdf>, and in the JEM promotional video available on YouTube: <https://www.youtube.com/watch?v=r4xfvn8jIEA>