



Mekong River Commission

For Sustainable Development

TERMS OF REFERENCE

1. CONSULTANCY SUMMARY

Title	Database Expert for Fisheries Monitoring
Consultancy/Staff Type	Special Service Agreement (SSA), type (a) One-time assignment
Division	Environmental Management Division
Duration	32 working days from September to December 2020
Duty Station	Home-based with possible travel to MRC Secretariat and MRC Member Countries (MCs)
Reporting to	Director of Environmental Management Division.
Expected Deliverables	<ul style="list-style-type: none"> • Mekong Fish Database 2003 uploaded on the MRC website; • FADM, DFM and FLDM databases designed as an online application attached to the MRC website

2. INTRODUCTION AND BACKGROUND

The Mekong River Commission (MRC) was established by the 1995 Agreement on Co-operation for the Sustainable Development of the Mekong River Basin, between the governments of Cambodia, Lao PDR, Thailand and Viet Nam. The role of the MRC is to coordinate and promote cooperation in all fields of sustainable development, utilization, management and conservation of the water and related resources of the Mekong River Basin.

The MRC Secretariat (MRCS) is the operational arm of the MRC. It provides technical and administrative services to the Joint Committee and the Council to achieve the MRC's mission.

The Environmental Management Division (ED) is responsible for environment monitoring, assessment, planning and management to support basin planning management and development for sustainable development of the Mekong River.

Under MRC River Basin Management Core Functions, there are a number of routine monitoring activities, of which Fisheries monitoring is coordinated by MRCS ED. MRC Secretariat has been supporting the fisheries monitoring activities since mid-1990s. Moreover, there are three types of the monitoring under fisheries monitoring namely (i) Fish Abundance and Diversity Monitoring (FADM), (ii) Fish Larvae and Juvenile Drift Monitoring (FLDM), and (iii) Dai Fisheries Monitoring (DFM). Among these three monitoring, the methodology of FADM has been requested to improve by adding the multi-panel mesh size gillnets. Since the methodology has been improved, its database needs to be reviewed and updated so as to correspond the changes. In addition to the database of FADM, those of FLDM and DFM need updating since some lookup tables are outdated; for example, list of species and moon phase tables. In early 2000s, Fisheries Programme produced a Mekong Fish Database (MFD), but store in the Compact Disc (CD) which could not be widely distributed to stakeholders and importantly most of the computer recently

does not have the CD ROM drive for the reading the CD. That is why, it is essential to extract all information from MFD and upload it on MRC website.

To address those problems and requirements, the MRCS ED is looking for a competent database consultant who have extensive knowledge and experiences in database designs and management, particularly using Microsoft Access, computer programme languages (e.g. mySQL) to support the MRCS ED team to succeed the below objectives.

3. OBJECTIVES OF THE CONSULTANCY

The main objective of this assignment is to enhance fisheries databases and migrate all data to online-based databases of the three fisheries monitoring programmes by the end of 2020.

4. EXPECTED RESULTS

- Mekong Fish Database 2003 stored in a CD extracted and uploaded on the MRC website;
- FADM, DFM and FLDM databases designed as an online application attached to the MRC website for friendly data entry, processing, analysis and management; and
- The species lists of the three databases of the three fisheries monitoring programmes updated.

5. DELIVERABLES AND CONCRETE TIMELINES

Deliverables and Expected Quality	Number of Days	Deadline
Mekong Fish Database extracted and uploaded on the MRC website	7	October 2020
FADM, DFM, and FLDM databases designed in the website	20	December 2020
The species lists updated	5	December 2020
Total Number of Days	32	October to December 2020

6. REQUIRED TASKS AND RESPONSIBILITIES

- Review the MFD and migrate data from MFD in MS ACCESS to online database
- Review the structure of existing FADM and FLJDM database and migrate all these databases to online database
- Develop web base applications of FADM and FLJDM and provide permission to member countries to enter and edit data; importantly allow users to generate report based on input condition
- Update the current databases (FADM, FLJDM and Dai monitoring) by replacing the current species list with the new species list

7. PAYMENT MODALITY

Since there will be several milestones to be completed and to avoid many administrative works, payment by instalment will be selected for this assignment and it is shown below.

- The 1st payment upon signing of the Contract (30% of the total budget);
- The final payment upon submission and acceptance by MRCS ED for all tasks (70% of the total budget).

8. INTELLECTUAL PROPERTY RIGHTS

Intellectual property rights - IPR: Information, data, database, knowledge resources in the forms of briefings, reports, proceedings, articles, essays, etc. issued by and for the MRCS will be the MRCS property.

Any utility, announcement and disclosure that are without MRCS highest levels of authority' permission is considered illegal and will be charged by relevant local and international legal procedures.

9. WORKING ARRANGEMENT

Reporting Line: Director of Environmental Management Division

Communication Line: The consultant will be working under the direct supervision of the Chief Environment Management Officer as well as in close consultation with a Fisheries and Aquatic Ecology Officer.

10. QUALIFICATIONS AND REQUIREMENTS

- BSc or M.Sc. in Information Technology/Management System or related fields plus at least five-year experience in database designs with an international or regional organization especially with MRC Secretariat;
- Strong knowledge of PHP web frameworks such as Laravel, Yii and Angular;
- Understanding the fully synchronous behavior of PHP;
- Understanding of MVC design patterns;
- A solid understanding of how web applications work including security, session management, and best development practices;
- Strong proficiency in MySQL database management;
- Proficient in writing and optimizing SQL statements;
- Basic understanding of front-end technologies, such as JavaScript, HTML5, and CSS3; and
- Good knowledge of object oriented PHP programming;
- Integration of multiple data sources and databases into one system;
- Creating database schemas that represent and support business processes;
- Familiarity with SQL/NoSQL databases and their declarative query languages;
- Be able to migrate existing desktop databases (MS ACCESS) into MySQL database;
- Strong knowledge of Mekong fisheries and MRC fisheries databases is a plus;
- Availability to undertake the assignment in the time period specified; and
- Fluency in written and spoken English.

11. SIGNATURE BLOCK

MRCS:

Name and Title: _____ Incumbent’s Signature: _____

Date: _____ Date: _____