



Mekong River Commission For Sustainable Development

TERMS OF REFERENCE

1. CONSULTANCY SUMMARY

Title	Associate Flood and Drought Forecaster
Consultancy/Staff Type	Special Agreement (SA)
Division	Technical Support Division
Duration	12 months (Jan-Dec 2024)
Duty Station	Regional Flood and Drought Management Centre (RFDMC)
Reporting to	Technical Support Division Director and Head of RFDMC through the assigned co-supervisors
Expected Deliverables	(1) Weekly and monthly drought monitoring and forecasting products. (2) Daily, weekly update technical bulletin and report on flood and drought assessment; and (3) Support daily routine work on flood and drought activities.

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. In accordance with this Agreement, the Mission of MRC is: "To promote and coordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well-being by implementing strategic programmes and activities and providing scientific information and policy advice."

The Technical Support Division (TD) is in charge of managing the implementation of the various projects and provide technical supports to the MRC(S) on, Hydrological and River Modelling, Database Management and Information System, Modelling and assessment, GIS and Remote Sensing application, and Flood and Drought Monitoring and Forecasting including implementation of MRC procedures. The teams/specialists focus on specific sectors and address regional issues that are significant to the management of the entire Mekong River Basin. While the teams have a regional focus, they also complement and support initiatives at the national and trans-boundary levels.

The Regional Flood and Drought Management Centre (RFDMC) is the core part of TD which performs daily, weekly, and monthly flood and drought monitoring, forecasting, and provide information for early warning services including state emergencies to four Member Countries for flood and drought management and preparedness.

The Official Development Assistance (ODA) of the Government of Japan has been committed to support the MRC-RFDMC upgrading of the Operations Room and enhancement of dissemination of Flood and Drought monitoring and forecasting, warning and alerts in line with modern and international best practices, thereby facilitating integration of flood and drought management at MRC's Flood & Drought Management Centre in Phnom Penh, Cambodia.

Also, in the Multi-year Work Plan (MWP) for 2023-24 RFDMC will continue enhancing drought forecasting and early warning tools with more drought indicator indices to be analyzed and used for the basin, building capacity and enhancing capability for National Line Agencies to be able to monitor, analyze, and forecast drought conditions for their own national and sub-national levels. The objectives and outcomes are developed based on the approved Drought Management Strategy for 2020-2025 and Project Implementation Plan which addresses the needs of MRC Member States to manage and mitigating flood and drought vulnerability at national levels, building up adaptive capacity to adapt to flood and drought impacts, and enhancing on data sharing platform between Countries and the RFDMC in the future.

To enhance national capability on flood and drought forecasting work, the project has designed a task called “on-the-job training” for Associate Flood and Drought Forecaster (AFDF) to build capacity for junior riparian professionals. The AFDFs are to be recruited from MRC Member Countries starting from 2021 through 2025 align with MWP.

3. OBJECTIVES OF THE TASK

The Associate Flood and Drought Forecaster(s) is recruited to take part in the on-the-job training with flood and drought for a period of 12 months starting from January to December 2024. He/she will be assisted and supported with daily operation of both floods and drought monitoring, forecasting, and information services works. To gain further experiences on how to apply Flood and drought assessment with modelling and analysis tools activities, at both regional and national projects/activities.

4. EXPECTED RESULTS

- Update technical bulletin both of floods, Flash Flood and drought.
- Daily/Weekly short-term river flood forecasting and monitoring for 2024 based on FEWS (URBS-ISIS-Regression);
- Operation the MRC-FFGS and practice on daily on Flash Flood Guidance (FFG) for 2024 (analysis MRC-FFGS' products to make and to submit the FFG bulletin, make FFG Map by ArGIS); and
- Weekly and monthly drought assessment and forecast for 2024 using the Standardized Precipitation Index (SPI), the Standardized Runoff Index (SRI), the Soil moisture Anomaly (SMA)/the Soil Moisture Deficit Index (SMDI), and the Combined Drought Index (CDI).
- Support Implementation of National pilot project.
- Learn about the medium and long term of flood and drought forecasting bases on new developed tool.

5. DELIVERABLES AND CONCRETE TIMELINES

Deliverables and Expected Quality	Number of Days	Deadline
Daily/Weekly river flood monitoring and forecasting for 2023, using FEWS (URBS-ISIS-Regression)		Routine work: from Jan-Dec 2024
Daily Flash Flood Guidance (FFG) for 2024. Seasonal Flash Flood Situation Report 2023 Analysis of the MRC - Flash Flood Guidance System (MRC-FFGS) Covering period from 1st June – 31st December 2023		Routine work: Daily from August - September 2024 Apr-May

Weekly and monthly drought assessment and forecast for 2024: <ul style="list-style-type: none"> • SPI • SRI • SMA/SMDI • CDI 		Routine work: weekly monthly from Mar-May, Sept-Dec 2024
Technical bulletin and report on flood and drought assessment/Learn about the new developed tool for flood and drought forecasting system.		31 Dec 2024
Support Implementation of National pilot project for flood and drought activities at national level.		31 Dec 2024
Total Number of Days	12 Months	Jan- Dec 2024

6. REQUIRED TASKS AND RESPONSIBILITIES

Under overall supervision of the TD and Regional Flood and Drought Management Center (RFDMC) of the MRCS and direct supervision of the Flood and Drought Experts/Specialists, the Associate Flood and Drought Forecaster will carry out the following tasks:

Main tasks:

- a. Prepare daily and weekly rainfall data from HYMET and satellite data using GMP-BICO for river flood and monitoring processing;
- b. Process weekly and monthly river flood monitoring and forecasting as per advices by co-supervisor;
- c. Prepare forecast data inputs including real-time precipitation and radar for flash flood processing;
- d. Process weekly flash flood forecasting as per advices by co-supervisor;
- e. Assist/prepare drought indicator indices including SPI, SRI, SMA/SMDI, and CDI;
- f. Prepare daily precipitation and soil moisture data as inputs for the models as per advices by co-supervisor;
- g. Perform weekly and monthly drought index calculations for monitoring and forecasting; and
- h. Assist and prepare technical bulletin and report on flood and drought assessment.
- i. Support for implementation of National pilot project for flood and drought activities at national level.
- j. Other tasks as assigned by RFDMC and TD.

7. PAYMENT MODALITY

The payment will be upon the submission of the timesheet and requests for monthly payment with acceptable reporting quality.

Note: Remuneration rate is defined by the MRCS policy and the level of services. MRC is a tax-exempted agency for the work done for the MRC. Consultant, in case mission is required, will be covered with a return ticket to and from the assigned duty stations with a daily related subsistence allowance of 75% of the UN for the mission days.

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:	<ul style="list-style-type: none"> • Technical Support Division Director • Head of the Regional Flood and Drought Management Centre (RFDMC) is direct supervisor for technical and management issues
Communication Line: Workstation:	<ul style="list-style-type: none"> • The AFDFs will communicate with and report directly to his/her co-supervisors/Head RFDMC for verification of the products and compliance with TOR. • Close guidance will be given by the TD Director, Head RFDMC and Co-supervisors.

10. QUALIFICATIONS AND REQUIREMENTS (select as appropriate)

- Bachelor's Degree or higher degree(s) in water resources engineering, hydrology, meteorology, environmental science, or relevant discipline.
- Preferably at least three (3) year of experience of working in river basin and water resources planning and management, hydrology, or related field.
- Extensive experience in water resources management, flood or drought assessment and forecasting is an advantage.
- Knowledge and experience with river monitoring, modelling, GIS and remote sensing is an asset.
- Experience and skill on using dashboard, infographic, excel spreadsheet and statistical analysis.
- Experience on develop web portal, information system and services.
- Previous experience in the Mekong River Basin, preferably working with or for the Mekong River Commission.
- Excellent computer skills are preferable; Good command of spoken and written English and good presentation and reporting skills; and
- Demonstrated ability to work in an international environment, communication skills and teamwork.

11. SIGNATURE BLOCK


MRCS:

Name and Title:

Tran Minh Khai
Director of TD

Incumbent's Signature: _____

Date: _____

17.10.2023

Date: _____