

TERMS OF REFERENCE

Hiring Individual Consultant (National) for Preparation of Dam Inspection and Monitoring Guidelines and Assets Management in Sri Lanka

Contract No.: LK-MOMDE-448444-CS-INDV

1.0 Introduction

The Government of Sri Lanka (GoSL), with financing from the World Bank (WB), has proposed the Integrated Watershed & Water Resources Management Project (IWWRMP). The Project Development Objective is to improve watershed and water resources planning, enhance dam safety, and expand irrigation water distribution networks by rehabilitating water resources infrastructure. The project comprises four components, namely, Watershed and Water resources Planning (Component 1), Infrastructure Improvement (Component 2), Contingent Emergency Response (Component 3) and Project Management (Component 4). Among them, Component 2 is dedicated to infrastructure improvements. This component will finance the rehabilitation of headworks and downstream water resources infrastructure to enhance safety and related irrigation canal systems, improving their operational efficiency and durability. These dams and canal systems are overseen, operated, and maintained by Implementing Agencies (IAs), including the Irrigation Department (ID), Mahaweli Authority of Sri Lanka (MASL), and Provincial Irrigation Departments (PIDs).

2.0 Background

Sri Lanka has numerous dams and reservoirs critical for irrigation, water supply, hydro-power, and an additional benefit of flood control. Proper inspection, monitoring, and management of these assets are essential to ensure their safety, functionality, and longevity. The IWWRMP project under the Ministry of Agriculture, Livestock, Lands and Irrigation seeks qualified International and National (Local) consultant to develop comprehensive guidelines for dam inspection and monitoring and provide expertise in assets management.

In Sri Lanka, the operation and management of dams involve several institutional arrangements and entities responsible for various aspects of dam operation, maintenance, and safety. The following agencies play a significant role in water resource management for agriculture, drinking water, hydropower generation, inland fisheries, environmental needs, and water resources development:

- **Irrigation Department (ID):** The Irrigation Department is a key government Agency responsible for the planning, construction, operation, and maintenance of irrigation infrastructure, including major and medium dams and reservoirs throughout the country.

- **Mahaweli Authority of Sri Lanka (MASL):** The Mahaweli Authority is responsible for the planning, implementation, and management of the Mahaweli Development Program, which includes several major and medium dams and multipurpose reservoirs.

- **Provincial Irrigation Department (PID):** The Provincial Irrigation Department is a provincial agency responsible for the planning, construction, operation, and maintenance of irrigation infrastructure, including major, medium, and minor dams and reservoirs across provincial rivers.

- **Department of Agrarian Development (DAD):** The Department of Agrarian Development is responsible for cascade management, including the planning, construction, operation, and maintenance of minor dams and reservoirs, and irrigation infrastructure throughout the country.

- **Ceylon Electricity Board (CEB):** The Ceylon Electricity Board is a government agency responsible for the planning, construction, operation, and maintenance of infrastructure, including major, medium, and minor dams and reservoirs for hydropower generation.

- **National Water Supply and Drainage Board (NWSDB):** The National Water Supply and Drainage Board is a government agency responsible for water supplying for domestic and industrial use, as well as the operation and maintenance of dams and related infrastructures for their own reservoirs.

3.0 Objectives

The primary objectives of this consultancy are to:

1. Support the international consultant in developing detailed guidelines for the inspection and monitoring of dams in Sri Lanka.
2. Facilitate coordination with local institutions and stakeholders to ensure alignment and practicality.
3. Contribute local knowledge and expertise to the establishment of an asset management framework for dams & reservoirs.
4. Build the capacity of local staff through training and hands-on support during the initial implementation phase.

4.0 Scope of Work

The National Consultant will be responsible to support the international consultant on the following tasks:

Task 1: Support to Review and Assessment

- **Provide local context** by collecting and consolidating data on existing dam safety practices, guidelines, and assets management systems.
- **Assist in stakeholder engagement** by coordinating with local agencies, dam owners, and relevant institutions for interviews and data collection.
- Identify and document key gaps in current practices from a **local perspective** and provide insights on institutional challenges and coordination issues.
- Compile and summarize relevant Sri Lankan legislation and regulations applicable to dam safety and management.
- Contribute to documenting lessons learned and remedial actions from local dam safety projects or incidents.

Task 2: Facilitate the Development of Guidelines

- Work closely with the international consultant to adapt global best practices to Sri Lanka's **local context and regulatory framework**.
- Assist in reviewing and aligning proposed guidelines with **existing agency-specific practices** in Sri Lanka.
- Identify potential areas where guidelines may face **local implementation challenges** and propose practical solutions.

Task 3: Contribute to the Assets Management Framework

- Provide **local data and insights** for the development of the assets management framework, including inventory management and condition assessment practices.
- Coordinate with local stakeholders to ensure **buy-in and relevance** of the proposed framework.
- Assist in identifying **technical and institutional gaps** for implementing a digital assets management system and suggest locally viable solutions.

Task 4: Support to Capacity Building

- Support the international consultant in organizing training sessions and workshops for local staff including coordination with local stakeholders. Three number of national level workshops are to be conducted for relevant staff at three selected regions of Sri Lanka.
- Develop and deliver localized training materials that address **cultural and operational nuances** in Sri Lanka.
- Provide on-the-ground support to participants during the initial implementation phase of the guidelines and framework.

Task 5: Reporting and Documentation Support

- Assist the international consultant by consolidating **local inputs** into reports, including data analysis, stakeholder feedback, and findings.
- Provide inputs for the final comprehensive report by ensuring it reflects **local conditions and needs**.

5.0 Deliverables

The National Consultant is expected to deliver the following deliverables together with the international consultant hired for the purpose:

Deliverable No	Deliverables	Required Tasks to be covered	Time Frame from commencement of Contract (Months)
1	Inception report with a detailed work plan and timeline.	Detailed work plan and timeline.	0.75
2	Review and assessment report.	Task 1	2.0
3	Draft guidelines for dam inspection and instrumentation monitoring.	Task 2	3.0
4	Draft assets management framework including the guidelines and other required documents.	Task 3	4.0
5	Training program design and materials including training manuals.	Task 4	5.0
6	Final comprehensive report.	Task 5	6.0

The National Consultant will contribute to the above deliverables, complementing the international consultant as follows;

1. Inception Report

- Inputs on local coordination, data availability, and logistics.

2. Review and Assessment Report

- Compilation of local data, stakeholder insights, and legislative summaries.
- Identification of local gaps and challenges in dam safety and asset management.
- Include international guidelines such as those from the International Commission on Large Dams (ICOLD), World Bank, and other global dam safety standards.
- Analyze local documents including previous dam inspection reports, national policies, and manuals issued by agencies such as the Irrigation Department.

- Identify gaps in existing literature related to Sri Lanka's dam inspection and monitoring practices.
- Evaluate the adaptability of international frameworks to Sri Lanka's unique conditions, including hydrological, geological, and institutional factors.
- Use a structured review framework such as PRISMA (Preferred Reporting Items for Systematic Reviews) to ensure all relevant documents are captured.
- Highlight key themes such as risk management, O&M, lifecycle management, and institutional coordination.
- Provide a matrix of findings, summarizing best practices, gaps, and lessons learned that can inform the guidelines and framework development.

3. Draft Guidelines (Local Inputs)

- Local adaptations and alignment of proposed guidelines with Sri Lankan practices and regulations.

4. Draft Assets Management Framework (Local Inputs)

- Contribution to the framework based on local data, insights, and stakeholder feedback.

5. Training Materials and Workshop Reports

- Development of localized training materials.
- Documentation of workshop outcomes, including feedback from local participants.

6. Final Comprehensive Report (Local Inputs)

- Localized inputs to the final report, ensuring practicality and relevance to Sri Lanka.

The major outputs of the proposed contract as well as all interim submissions (deliverables) will be reviewed by the Technical Review Committee (TRC) appointed by the Project Director, and the acceptance of the deliverables will be made within **two weeks' time period**.

The Client review time period is included in the above time frame.

The National Consultant shall deliver the presentation base on each deliverable to the TRC.

The submission of reports at each deliverable stage should include with 03 nos. of hard copies with a USB drive.

Payments for each deliverable will be made after the acceptance of the TRC.

6.0 Duration

The consultancy is expected to be completed within 6 months from the date of commencement. The national consultant shall join with the international consultant for the dam inspection visits. Field visits should cover the dam inspection of major scale, medium scale and small-scale dams of Sri Lanka.

7.0 Work Plan

	1 st Month				2 nd Month				3 rd Month				4 th Month				5 th Month				6 th Month			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inception Report																								
Client Review 1																								
Assessment Report																								
Client Review 2																								
Draft Guideline																								
Client Review 3																								
Draft Asset Management																								
Client Review 4																								
Training Materials																								
Client Review 5																								
Final Comprehensive Report																								
Client Review 6																								

The client review period for each item will be only up to a maximum of two weeks period after each item submission or completion.

8.0 Selection Procedure

The National consultant will be selected on an open competitive method (National) in accordance with the procedures set out in the World Bank procurement guidelines: “Procurement Regulations for IPF Borrowers (dated July 1, 2016, revised in November 2017 and August 2018)

9.0 Qualifications and Experience

The consultant should possess the following qualifications and experience:

- Advanced degree in Civil Engineering, and/or (suitably place) Water Resources Engineering, or a related field.
- At least 25 years of experience in dam safety, inspection, monitoring, and assets management.
- Proven track record of developing guidelines and frameworks in similar nature assignments.
- Familiarity with international best practices and standards in dam safety and assets management such as the International Commission on Large Dams (ICOLD) and

guidelines introduced by the World Bank for safety of dams and downstream communities and so on

- Experience in conducting training and capacity-building programs.
- Excellent analytical, communication, and report-writing skills.
- Ability to work collaboratively with international consultants.

10.0 Facilities to be provided by the client

- Authorized letters will be provided for coordinating with other IAs, based on the request from consultant without any additional payments.
- Coordination with other stakeholders for meetings, workshops or any other project related activities.
- Any field visit requirement shall be done under the cost of National Consultant.

11.0 Payment Schedule

Payments for each deliverable will be done after the acceptance of the Technical Review Committee.

Deliverable No	Deliverables	Percentage of Payment
1	Inception report with a detailed work plan and timeline.	10 %
2	Review and assessment report.	20 %
3	Draft guidelines for dam inspection and instrumentation monitoring.	10 %
4	Draft assets management framework including the guidelines and other required documents.	10 %
5	Training program design and materials including training manuals.	25 %
6	Final comprehensive report.	25%
	Total	100 %