



## TERMS OF REFERENCE

### 1. CONSULTANCY SUMMARY

<b>Title:</b>	Consultancy Service for Webpage Development for Digital Resource Hub for the Preliminary Design Guidance for Proposed Mainstream Dams in the Lower Mekong River Basin (PDG 2022)
<b>Consultancy Type:</b>	Special Service Agreement (SSA)
<b>Division:</b>	Planning Division
<b>Duration:</b>	28 working days from May 2026 to December 2026
<b>Duty Station:</b>	Home-based with travel to MRC Member Countries
<b>Reporting to:</b>	MRC Director of Planning Division
<b>Expected Deliverables:</b>	Please refer to Section 5 below

### 2. INTRODUCTION AND BACKGROUND

The Preliminary Design Guidance for Proposed Mainstream Dams in the Lower Mekong River Basin (PDG) is one of the MRC's most consequential technical instruments. Originally developed in 2009 and comprehensively updated through a five-year process involving all four Member Countries—culminating in endorsement by the MRC Joint Committee and Council in September 2022—the PDG provides performance targets and design principles for mitigating the environmental, social, and safety risks of mainstream hydropower development. It underpins the Procedures for Notification, Prior Consultation and Agreement (PNPCA) and has directly informed assessments of mainstream dam proposals.

Since publication in February 2023, the MRCS has pursued a phased dissemination programme encompassing national dissemination meetings (2023), thematic training on riparian communities and livelihoods with a site visit to Pak Ou village (2024), and a Regional Training Workshop on Dam Safety with a site visit to Nam Ngum 1 Dam (2025). These activities have generated significant interest and demand, but have also revealed critical limitations in the current approach:

- **Pace and coverage:** The current model of one topic per year through in-person workshops and site visits is too slow to cover the full breadth of PDG 2022 (*The PDG 2022 covers eight technical sections spanning hydrology and hydraulics, sediment transport and geomorphology, water quality, aquatic ecology, fish and fisheries, dam safety, navigation, and riparian communities and river-based livelihoods.*) within a reasonable timeframe.
- **Limited reach:** Training has been restricted to approximately 28 participants per session, primarily from national Mekong committees, while the PDG's intended audience—including developers, operators, consultants, regulators, and policymakers—remains largely unreached.
- **Cost-effectiveness:** In-person delivery alone is resource-intensive and does not support sustained, on-demand access to learning materials.
- **Demand for practical resources:** Participants across all training events have consistently called for practical guidance materials, case-based examples, checklists, FAQs, and video content that can be accessed at their own pace and revisited as needed.
- **Need for regional knowledge exchange:** Member Countries have identified peer learning and information sharing as critical for harmonizing PDG interpretation and strengthening implementation capacity—yet no permanent platform exists to facilitate this.

To respond to these needs, the MRCS proposes to establish a PDG Resource Hub and PDG Community on the existing MRC Hydropower Website. This digital platform will:

1. Ensure longer-term sustainability of the PDG dissemination programme through cost-effective, scalable, web-based training and awareness;
2. Expand reach and accessibility to policymakers, regulators, developers, operators, consultants, academics, and civil society across all four Member Countries and beyond;
3. Provide a centralized repository for PDG documents, topic-specific guidance, expert training videos, webinars, case studies, FAQs, and reference materials; and
4. Lay the foundation for a PDG Community that supports ongoing interaction, knowledge exchange, and peer learning among practitioners.

At the December 2025 Regional Training Workshop and PD coordination meeting in March 2026, Member Countries formally recommended the launch of a PDG Resource Hub on the MRC website in 2026, along with possible case studies and references materials.

This consultancy will procure the technical expertise needed to design, develop, and deploy this platform.

MRCS Annual Procurement Plan No. I26-0019: PD - PDG Knowledge Hub Community Web Service (PDG Dissemination Process)

### 3. OBJECTIVES OF THE CONSULTANCY

The objective of this consultancy is to provide web development expertise to design, build, and deploy the PDG Resource Hub and PDG Community webpages on the MRC Hydropower Website, and to ensure the MRCS can independently maintain and expand the platform going forward. The specific objectives of this assignment are:

1. The website shall be built on the **Bitnami WordPress platform** hosted on **AWS LightSail**, managed by the MRCS IT Unit. All hosting costs are borne by MRCS.
2. DNS management will remain with MRCS.
3. The website structure shall follow the preliminary site map in **Annex 1**, subject to refinement during the design phase.
4. The website must be **fully responsive** and optimised for seamless navigation across Windows, macOS, Android, iOS devices, and tablets.
5. Content will include dynamic and multimedia elements: images, formatted text, PDF documents (several hundred), embedded short video clips, and animated/interactive features where appropriate.
  - a) The consultant will upload all initial content provided by MRCS during the implementation phase.
  - b) The consultant will provide hands-on capacity building to enable MRCS stakeholders to independently upload and manage content thereafter.
6. The platform must implement **role-based access control** so that the Sustainable Hydropower Specialist and designated team members can update content (text, images, videos, documents) without requiring IT support.
7. **Standard web security features** must be implemented, including SSL/TLS certificates, protection against common vulnerabilities (XSS, SQL injection), and regular update protocols.
8. All IT administrative procedures—including plugin management, security updates, certificate renewal, access control configuration, and backup/restore processes—must be **fully documented** and handed over to the MRCS IT Unit.
9. The project cost shall include implementation **plus a 12-month maintenance** following deployment.

#### 4. EXPECTED RESULTS

Digital Resource Hub for PDG 2022	Fully functional webpages developed on the Bitnami WordPress platform as per Annex 1, with the look and feel aligned with Annex 2. MRC staff must be able to independently add and update text, documents, videos, and files. The final design must be reviewed and accepted by the Sustainable Hydropower Specialist and MRCS IT Unit before deployment.
Concept and Design	A written advisory document and prototype design for the Community Hub component, recommending how best to create an interactive, user-driven platform (e.g., forums, Q&A, moderated discussion) that can be incrementally built upon in future phases. The design must be scalable and compatible with the WordPress architecture.
Technical Handover Document	A comprehensive IT administration manual covering: website architecture overview, plugin inventory and update procedures, access control management, backup and recovery procedures, SSL certificate management, troubleshooting guide, and any other maintenance tasks required for ongoing IT administration.
Capacity Building	A structured training session for the Sustainable Hydropower Specialist and designated MRCS staff on content management, including adding/editing pages, uploading documents and media, managing user roles, and basic troubleshooting. Training materials (user guide/manual) to be provided.

#### 5. DELIVERABLES AND CONCRETE TIMELINES

The consultant will produce the following outputs in close collaboration with concerned staffs of MRCS and their experts:

No.	Deliverables and Expected Quality	Estimated Number of Days	Expected Date
1	Final design of PDG Resource Hub and PDG Community	2	June 2026
2	Development of draft webpages	10	June 2026
3	Finalisation of webpages	5	September 2026
4	Capacity building for stakeholders	2	November 2026
5	Technical handover documents	3	November 2026
6	Post-deployment maintenance and support (12 Months)	6	December 2026 (to be carried over)
	<b>Total working days</b>	<b>28 Days</b>	

*Note: Milestone dates to be confirmed upon contract signature.*

#### 6. REQUIRED TASKS AND RESPONSIBILITIES

The Webpage Development Consultant will carry out the following tasks.

- Inception and Design Review: Review the proposed website structure (Annex 1) and visual concepts (Annex 2); conduct a technical assessment of the existing Bitnami WordPress/AWS LightSail environment; provide written feedback to the Sustainable Hydropower Specialist on technical feasibility, user experience recommendations, and opportunities for the PDG Resource Hub and Community concept.

- Design Approval: Prepare wireframes and design mockups; present to and gain final approval from the Sustainable Hydropower Specialist and MRCS IT team before proceeding to development.
- Development and Content Upload: Build the webpages in iterative consultation with the Sustainable Hydropower Specialist and MRCS IT team; upload all initial content provided by MRCS; conduct cross-device and cross-browser testing.
- User Acceptance Testing: Support a structured review period in which MRCS stakeholders test functionality and provide feedback; implement revisions as agreed.
- Capacity Building: Deliver hands-on training for MRCS content managers; produce a written user guide/manual.
- Technical Handover: Prepare and deliver the technical administration manual to the MRCS IT Unit; conduct a handover briefing.
- Post-Deployment Support: Provide responsive technical support for 12 months following deployment to resolve bugs, compatibility issues, and other technical problems arising from normal operation.

## **7. PAYMENT MODALITY**

Payment will be made as below:

- The payment will be paid based on number of days used with the presentation of the deliverables with timesheets outlined in Section 5. All deliverables must be satisfactorily accepted by the MRCS Planning Division. Together with the required deliverables, the consultant will submit an invoice and timesheet for each payment request.

Note: Consultancy rate is defined by the MRCS consultancy rate policy and the level of consultancy. 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. DECLARATION OF NON-FRAUDULENCE, PROTECTION OF PERSONAL DATA, AND IT NON-DISCLOSURE OF CONFIDENTIAL INFORMATION**

The Subscriber shall adhere to the MRC's relevant rules and regulations on personal data protection, business exclusion, and fraud prevention and anti-corruption principles, and shall be under strict disciplinary measures should any violation occur.

Given the nature of this consultancy, the Subscriber will be granted access to sensitive MRCS IT infrastructure. Prior to commencing any work, the Subscriber is required to read, agree to, and sign the MRCS IT Non-Disclosure Agreement.

## **10. WORKING ARRANGEMENT**

**Reporting Line:** MRCS Director of Planning Division

**Communication Line:** The regional expert will work under the strategic guidance of Director of the MRCS Planning Division and work closely with Chief River Basin Planner as well as Sustainable Hydropower Specialist.

**Work station:** Home based with possible online working sessions and meetings in the home country and region

## 11. QUALIFICATIONS AND REQUIREMENTS

The Webpage Development Consultant shall possess the following qualifications:

- Relevant degree or professional qualification in Information Technology, Web Development, Computer Science, or a related field;
- Minimum 5 years of demonstrated experience in web design and development, with a portfolio of comparable projects;
- Strong understanding of responsive web design, cross-browser compatibility, and modern UX/UI principles;
- Demonstrated ability to implement web security best practices (SSL, access controls, vulnerability mitigation);
- Very good written and oral communication skills in English;
- Proven experience working within multi-disciplinary and multicultural teams;
- Compliance with all MRC Rules and Regulations regarding Consultancy Management and Contract Monitoring and Closure.

## 12. SIGNATURE BLOCK

MRCs:

Full Name: **Mr. Nguyen Huy Phuong**

Incumbent's Full Name: \_\_\_\_\_

**Title: Director of Planning Division**

Signature: \_\_\_\_\_

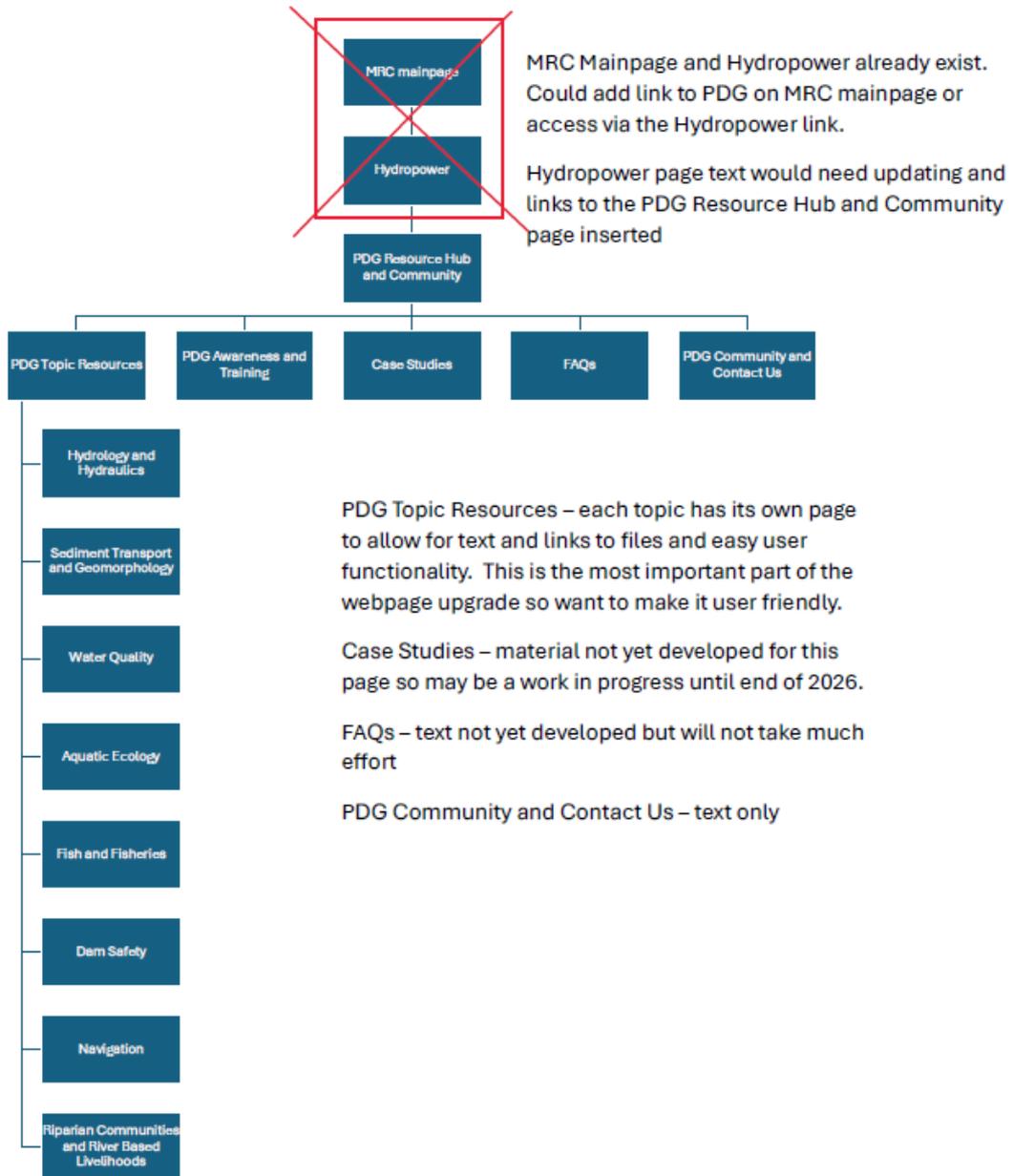
Incumbent's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

ANNEX 1: WEBPAGE SITE MAP

Option 1 – 3 new webpage layers, 14 new webpages



## ANNEX 2 EXAMPLE WEBPAGES

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### Hydropower

**Introduction**

The Mekong River Basin is undergoing rapid hydropower development. While this offers substantial economic benefits and energy security to the region, it raises significant environmental and social concerns, necessitating coordinated management and cooperation for sustainable development.

Hydropower development in the Mekong Basin is driven by both upper and lower basin countries. China leads in the Upper Mekong, known as the Lancang, with 12 operational mainstream dams including Tuoba. Meanwhile, the Lower Mekong Basin (LMB) is witnessing an acceleration in hydropower development across several countries, with Lao PDR at the center of this activity. Lao PDR holds the largest share of hydropower projects in the LMB, with 98 projects accounting for 64% of the region's total installed capacity. The country's hydropower infrastructure is a vital component of its economy, serving both domestic energy needs and export commitments to neighboring countries.

Across the LMB, 88 hydropower projects are operational, with an installed capacity exceeding 13,257 MW. An additional 20 projects are under construction, and 14 are in the planning phase. If all these projects are completed, the region's total

**Topics**

- Agriculture and Irrigation
- Climate Change
- Fisheries
- Flood and Drought
- Gender
- Navigation
- Hydropower**

MRC Hydropower website is reviewed to ensure up to date, has links to key documents, and user friendly. Any reference to the PDG is linked to the PDG Resource Hub.

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### Preliminary Design Guidance for Proposed Mainstream Dams in the Lower Mekong River Basin

**Resource Hub**

The Resource Hub is here to help all stakeholders implement the Preliminary Design Guidance for Proposed Mainstream Dams in the Lower Mekong River Basin (PDG) across the lifecycle of hydropower projects.

The PDG provides performance targets and principles for the **design and operation** of mainstream dams that can help avoid, minimize, and mitigate harmful effects and limit the potential for substantial damage.

Click to download

Example text only.

Need to know more? Click on the PDG topic below.

Hydrology and Hydraulics	Sediment Transport and Geomorphology	Aquatic Ecosystem	Water Quality	Fish and Fisheries	Dam Safety	Navigation	Riparian Communities and River-Based Livelihoods
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### PDG Guiding Resources

The PDG aims to ensure that:

- all mainstream hydropower projects have a design and operational approach that aims to meet common objectives and mitigate commonly understood risks;
- developers can plan for and undertake the assessments and designs for mitigation and management measures as early as possible in the project cycle;
- developers have flexibility to identify and propose the solutions that will meet the objectives, performance standards, and recommendations;
- joint operations within a mainstream hydropower cascade are guided by a common framework informed by this Guidance.

**Guiding Resources**

Overview Video Introducing the PDG (X mins, English)

**Key Documents**

- MRC. (2023). Guidelines for transboundary environmental impact assessment in the Lower Mekong River Basin. Vientiane: MRC Secretariat.
- IFC. (2013). Good practice handbook on cumulative impact assessment and management: Guidance for the private sector in emerging markets. Washington, DC: International Finance Corporation.

Click to download

Hydrology and Hydraulics	Sediment Transport and Geomorphology	Aquatic Ecosystem	Water Quality	Fish and Fisheries	Dam Safety	Navigation	Riparian Communities and River-Based Livelihoods
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## PDG Topic: Water Quality

Resources

Training

Case Studies

FAQ

Join our PDG Community

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**Objectives**

1. Reduce risk that water quality within the impoundment will impact the use of the impoundment for other purposes, such as fisheries, or will impact human health, or will cause interference with, and damage to, hydropower infrastructure such as turbines.
2. Minimise water quality impacts of the dam on downstream fishers, aquatic ecosystems and human health.
3. Ensure alignment with the Procedures on Water Quality under the Mekong Agreement, which seek to maintain the water quality of the Mekong River mainstream.

**Guiding Resources**

Overview Video of the Water Quality Topic (X mins, English)

**Key Documents**

- MRC Procedures on Water Quality
- Davis, B. E. (2005). A guide to the proper selection and use of federally approved sediment and water-quality samplers (Open-File Report 2005-1087). Virginia: US Geological Survey.
- WHO. (2003). Guidelines for safe recreational water environments: Volume 1, Coastal and fresh waters.

Example only. Similar webpages constructed for each of the PDG topics. Video and key documents are linked to the source

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## PDG Training and Awareness

MRCs offers a range of training and awareness activities to support the implementation of the PDG, ranging from introductory online sessions with MRCs staff and experts to videos you can watch at your own time. Our training and awareness activities are for anyone interested in applying the PDG, including policy makers, regulators, developers, operators and consultants.

### Our Sessions

**Introduction to the PDG**

Annual online webinar hosted by MRCs

Next session: TBC

**Introduction to the PDG topics**

Online videos of PDG topics by experts ready to view at your own pace

**Masterclasses**

Multi-day courses with practical application

Next sessions

Fish and Fisheries - TBC

**Site Visits**

Next session

2026 – Safety – Seismic monitoring – site TBC






Contact [PDGHub@mrcs.x.y](mailto:PDGHub@mrcs.x.y) to register interest in any of these sessions

Get to this page when you click on Training. Example text only.

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## Case Studies: Learn from others applying the PDG

MRCs encourages information sharing and collaboration to improve the application of the PDG. Our library of case studies will grow over time as more projects implement the PDG.

Xayaburi HEP and the PDG

Fish Passage

PDG and Gender Equality, Vulnerability and Youth

Have links to PDFs of case studies behind the links. Will need to have 'Coming Soon' if the Hub is launched before there are any case studies.



## Frequently Asked Questions

Resources

Training

Case Studies

FAQ

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Community

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### WHAT IS THE PDG?

The PDG is .....

### WHY WAS THE PDG DEVELOPED?

The PDG was developed .....

### WHO SHOULD USE THE PDG?

The PDG should be used by .....

### TOPIC QUESTIONS

The Fish and Fisheries topic has requirements related to hydropower turbine design to safeguard fish passage (section XX). What does 'leading edge' mean in Section XXX and what does the pressure ratio refer to?

The PDG includes requirements to support safe fish passage through hydropower turbines. This is a complex topic and requirements have been based upon scientific research. Refer to XX for a full explanation of 'leading edge' and the pressure ratio requirements.

Goes to this page when you click on FAQs  
Need to brainstorm FAQs

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