Terms of Reference

Land & Tropical Forest Expert (Lao PDR)

**Project:** Preparation of a Transboundary Diagnostic Analysis (TDA)

**Duration:** 20 May – 31 Dec 2025

**Location:** Lao PDR (Vientiane City, Houaphanh and Xiangkhouang Provinces)

1. Background

About SNV

SNV is a global development partner, deeply rooted in the countries where we operate. We are driven by a vision of a better world: A world where across every society all people live with dignity and have equitable opportunities to thrive sustainably.

To make this vision a reality, we need transformations in vital agri-food, energy, and water systems. SNV contributes by strengthening capacities and catalysing partnerships in these sectors. We help strengthen institutions and effective governance, reduce gender inequalities and barriers to social inclusion, and enable adaptation and mitigation to the climate and biodiversity crises.

Building on 60 years of experience we support our partners with our technical and process expertise and methodological rigor. We do this in more than 20 countries in Africa and Asia with a team of approximately 1,600 colleagues. By being adaptable and tailoring our approaches to these different contexts, we can contribute to impact at scale, resulting in more equitable lives for all. SNV has been working in Lao PDR since 1994.

About Project

The Ma and Neun/Ca catchments support a large range of biodiverse landscapes and a high number of ecologically distinct and significant sites. This rich network provides all the ecosystem services demanded by over 8.5 million people (2018). However, that whole system is at risk from human pressures and the changing climate. Without urgent intervention, the equilibrium between the catchments’ renewable resources and the human pressures will continue to deteriorate.

The "Preparation of a Transboundary Diagnostic Analysis (TDA) and associated studies in Lao PDR and Viet Nam" (IUCN-23-12-P03794-1), under the project "Fostering Water and Environmental Security in the Ma and Neun/Ca Transboundary River Basins and Related Coastal Areas", implemented by SNV in collaboration with the Environment & Ecology Institute (EEI). It focuses on enhancing transboundary cooperation, establishing river basin management frameworks, strengthening water and environmental security and promoting gender equality.

As part of the Transboundary Diagnostic Analysis (TDA), SNV is seeking a national expert consultant to provide technical inputs, analysis and contribute to the development of five interconnected assessments for the Lao sections of both river catchments:

1. Ecosystem governance

2. Land-use

3. Deforestation and the driving factors

4. Current hazards and risks

5. Current ecological status

This consultancy will support the generation of Thematic Reports that inform a harmonised, evidence-based understanding of key environmental and socio-economic issues across the two catchments, particularly on assessing the forest and land (deforestation) impacts for Lao PDR, while supporting on the facilitation of the TDA process.

2. Scope of work

The Land & Tropical Forest Expert is expected to undertake the work to deliver the Laos proportion for 5 of the interconnected assessments and will support the data needs assessment and gap analysis, identify data requirements and plan a data collection methodology, obtain data from government organizations and other providers collate and support the evaluation all available data for the two catchments for the following assessments:

1. Ecosystem Governance: Review national and local land and forest management policies, mandates, and protected area categories. Evaluate existing policy instruments related to forest conservation and land-use planning. Assess the design and effectiveness of incentives aimed at increasing forest cover and promoting sustainable and stable agricultural practices.
2. Land-use: Clarify the current land-use situation across both catchments, with a focus on tracking and documenting changes in land use, particularly in relation to ongoing and planned irrigation projects. This information is vital for supporting assessments of sedimentation and deforestation trends.
3. Deforestation and Drivers: Quantify spatial and temporal trends in deforestation and afforestation using Earth Observation (EO) data. Identify socio-economic and policy drivers through field engagements.
4. Hazards and Risks: This component will assess the current hazards and risks posed by extreme events such as floods, droughts, and fires. It will utilise historical data on high and low flow records, combined with topographic GIS tools, to map the spatial extent, duration, and intensity of these events. The aim is to evaluate and understand the resilience and vulnerability of communities and the environment to these risks.
5. Ecological Status: This component will focus on identifying and assessing the ecological status of key ecosystems and habitats within the catchments. The assessment will examine the fragmentation and connectivity of these habitats, including freshwater lakes, reservoirs, wetlands (both natural and hybrid, connected and isolated), riparian zones, in-stream habitats, coastal lagoons, in-shore fisheries, and shallow marine areas. The assessment will use the land-use data collected during the project and will involve experts, as well as input from S and I on local ecology and conservation efforts.

3. Methodology

All assessments must follow the GEF/FAO TDA methodology, including the Source-to-Sea framework. The consultant will combine desk-based research, spatial analysis (GIS and EO data), stakeholder consultations, and field validation. Engagement with provincial authorities, community members, and relevant government departments will be essential. Analytical tools must include Excel-based water auditing templates and clearly documented spatial datasets.

### 3.1. Ecosystem Governance (sex-disaggregated)

• Conduct a detailed desktop review of relevant forest governance policies, institutional mandates, and legislative frameworks at national, provincial, and district levels.
• Identify and support the assessment of the effectiveness of protected area categories and land tenure systems.
• Support the evaluation of incentive mechanisms such as Payment for Ecosystem Services (PES), REDD+, and agricultural subsidies.
• Conduct stakeholder consultations with forestry authorities, land planners, and community leaders to validate governance arrangements and identify gaps.
• Support the application of the Benefit-Transfer Method to estimate the value of ecosystem services, with reference to the GEF ecosystem valuation guidance.

### 3.2. Land-use

• Support the mapping of land-use categories and detect trends over the past 10–15 years.
• Classify land-use according to FAO land-use typologies and relate these to agricultural zoning, infrastructure development, and urbanisation trends.
• Cross-check land-use maps with national land-use plans and reports from provincial authorities.
• Conduct interviews with farmers, local officials, and irrigation scheme managers to understand patterns in land conversion and drivers of change.
• Support the identification of hotspots of land-use change and assess implications for watershed management.

### 3.3. Deforestation and the Driving Factors (sex-disaggregated)

• Support the quantification of historical deforestation and afforestation using Earth Observation datasets (e.g., Global Forest Watch, MODIS).
• Support the mapping of spatial extent of forest cover loss, degradation, and regrowth using GIS and classify by forest type.
• Support the analysis of socio-economic, policy, and commercial drivers using structured interviews with Forestry Divisions, logging concession holders, and land management authorities.
• Document local perceptions of deforestation and forest governance through community-level discussions.
• Identify areas of concern where forest loss correlates with land conflicts, agricultural expansion, or infrastructural development.

### 3.4. Current Hazards and Risks (sex-disaggregated)

• Compile historical data on fire events from national disaster databases, meteorological records, and local news reports.
• Assess fire occurrence using MODIS fire hotspots and reports from forest authorities.
• Interview village leaders, local officials, and women’s groups to understand risk perception and local coping mechanisms.
• Review existing disaster risk reduction plans and identify strengths, gaps, and opportunities for community-based preparedness.

### 3.5. Current Ecological Status

• Identify key ecosystems and habitat types, including freshwater, terrestrial, and transitional habitats such as wetlands and riparian zones.
• Support the mapping of ecological networks and corridors to determine habitat connectivity and fragmentation.
• Assess biodiversity and ecological function based on criteria such as species richness, habitat integrity, and water quality.
•Support the development of ecological classification criteria and apply to generate an ecological status index (Good/Poor) per site.
• Validate ecological conditions with local experts, university partners, and conservation organizations.
• Support the development of recommendations for ecosystem restoration and protection based on ecological risk and importance.

### 3.6. Key Activity Guidance

### 3.6.1. Secondary Data Acquisition

* Identify and obtain required data and information from additional potential sources, including:
	+ Local, regional, and international scientific communities
	+ Relevant regional projects and initiatives (especially those linked to the Neun/Ca and Ma catchments)
	+ Academic literature and open-access datasets
	+ Earth observation and remote sensing data sources (as outlined on page 14 of the 10-page project methodology)

### 3.6.2. Planning and Delivery of Field Visits

* Plan and conduct targeted field visits to collect data not available from secondary sources.
* Field visits must:
	+ Have clearly defined data and information objectives
	+ Outline data collection methods in advance
	+ Secure all necessary permissions, approvals, and scheduled meetings
	+ Include community visits where appropriate
* Ensure visits cover **all relevant sectors**, including:
	+ Governance institutions
	+ Hydropower managers and operators
	+ Agricultural water users
	+ Land-use stakeholders
	+ Rural and urban domestic water users
	+ Locations should be representative and informed by the gap analysis
	+ These stakeholders should be encouraged and enabled to contribute to the conceptualisation by describing key issues considered by them to be significant.

### 3.6.3. Qualitative Data and Use Patterns

* Collate as much quantitative and/or qualitative information as possible related to:
	+ Water use volumes and seasonal patterns
	+ Demand drivers and user behaviours
* Collect structured or semi-structured data that will allow estimation or interpretation of demand across different sectors.

4. Deliverables and Timeline

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| # | Deliverable | Description | Days | Timeframe |
| 1 | Inception report including Work Plan & Methodology | Initial plan outlining tasks, timelines, and data sources | 2 days | Week 1 |
| 2 | Gap Analysis from review for the 5 assessments | * Comprehensive overview of data gaps that remain after Task 1.1.2. Highlights areas where critical data is unavailable or uncertain and records all attempted but unsuccessful acquisition efforts, with brief notes on reason (e.g. unavailable, inaccessible, cost-prohibitive, politically sensitive).
* Assessment of implications of each unresolved gap on:
	+ Thematic analyses
	+ Trend and projection outputs
* Practical, documented recommendations for how to reconcile or manage these gaps, such as:
	+ Use of proxies or estimation methods
	+ Scenario-based modelling
	+ Data confidence notes to be included in reporting.
 | 10 days |  Week 4 |
| 3 | Fieldwork and fieldwork report | Undertake field work and produce summary of field visits, interviews, and observations | 18 days  | Week 8 |
| 4 | Documentation to support Thematic Reports | Provide Lao specific results in documents for integration into the thematic reports, separate for each catchment, each focusing on specific areas of analysis, and detailing key findings and recommendations. The reports are as follows:* 1. Eco-system Governance
	2. Land Use
	3. Deforestation and Driving Factors
	4. Current Hazards and Risks
	5. Current Ecological Status

Clean, Quality assured-approved narrative and annexes | 15 days | Week 24 |
| - | Total | - | 45 days | 24 weeks |

5. Reporting and Supervision

The consultant will report to the SNV Deputy Team Leader in Lao PDR and coordinate with the EEI and SNV team leads in Vietnam to ensure cross-border alignment. Quality assurance will be supported by SNV’s international hydrologist. Deliverables must be submitted in both Word and PDF formats and adhere to the project's formatting, referencing, and GIS metadata standards.

6. Annexes

1. Statement of Works (SoW) for Consultants
2. Project Methodology
3. [FAO Water Accounting and Auditing: A Source Book](https://openknowledge.fao.org/server/api/core/bitstreams/9a20e806-d8f3-4723-8914-1d999e822435/content)

Interested candidates are encouraged to submit their Cover letter & CV to the SmartRecruiter: <https://smrtr.io/rMyFk> and before 20 June 2025.