

TERMS OF REFERENCE (ToR)

Comprehensive study on solutions for forest fire management and air quality improvement in the HKH region

ToR

About ICIMOD

The Hindu Kush Himalaya (HKH) region stretches 3,500km across Asia, spanning eight countries – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. Encompassing high-altitude mountain ranges, mid-hills, and plains, the zone is vital for the food, water, and energy security of up to two billion people and is a habitat for countless irreplaceable species. It is also acutely fragile and vulnerable to the impacts of the triple planetary crisis of climate change, pollution, and biodiversity loss.

The International Centre for Integrated Mountain Development (ICIMOD), based in Kathmandu, Nepal, is an international knowledge organisation focused on the HKH region, working since 1983 to deliver greener, more inclusive, and climate-resilient development. Our work is guided by our [Strategy 2030](#), [Medium-Term Action Plan V \(2023–2026\)](#) and the associated **Results Framework**, and our various [policies](#). Learn more on our [website](#).

Consultancy overview

Forest fires are a growing environmental, economic, and public health concern in the HKH region, impacting biodiversity, livelihoods, and the regional climate. The HKH countries face seasonal fire incidents driven by climate change, land-use patterns, and inadequate management systems.

Initiated by ICIMOD's Air Pollution Mitigation Intervention, under the Action Area Air of the Strategic Group Climate and Environmental Risks, this consultancy aims to develop a comprehensive report outlining innovative, cost-effective, and implementable solutions for forest fire prevention, monitoring, and suppression, along with policy gap analysis and business models, while integrating air quality improvement strategies and regional cooperation mechanisms. The consultant firm will perform:

1. Review and assessment

- Conduct a literature review on existing forest fire management practices, including forecast, alerts, forest fire, and forest biomass management in the Hindu Kush Himalayan region covering Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.
- Assessment of current forest fire patterns, causes, and their implications on energy, environment, and economics.
- Map current challenges, institutional mechanisms, and technological capacities.

2. Solution and Evaluation

- Identify proven and emerging technological, ecological, and community-based solutions for forest fire and forest biomass management within the HKH, as well as available globally and analyse the key factors for their success.
- Develop a solutions matrix with parameters such as cost, scalability, maintenance needs, impact on air quality, carbon savings, community involvement, and feasibility for the HKH region.

3. Cost-benefit analysis (CBA)

- Quantify environmental, social, and economic benefits of shortlisted solutions.
- Compare implementation costs against potential gains in public health, ecosystem services, and climate mitigation.

4. Entrepreneurship and business model development

- Identify solutions for forest fire and forest biomass management with potential for small-scale and large-scale entrepreneurship.
- Propose sustainable business models (e.g. service-based firefighting units, fire-resistant product manufacturing, remote sensing and early warning services, forest biomass utilisation, etc.) that can attract investment and generate livelihoods.
- Mapping of successful business models and key factors for their success

5. Policy gap analysis

- Review existing policies, regulations, and institutional frameworks in target countries at different levels (local, national, and regional).
- Identify gaps in prevention, monitoring, suppression, and post-fire recovery, benchmarking against best practices.
- Recommend regional cooperation frameworks and policy reforms.

6. Final recommendations and roadmap

- Prioritise interventions for short, medium, and long-term implementation.
- Provide a roadmap for integrating proposed solutions into national and regional air quality management strategies.

Objectives

This consultancy assignment aims to fulfil the following objectives:

1. Identify and assess practical forest fire management solutions for the HKH region, addressing root causes, benefiting air quality and co-benefiting climate change.
2. Stakeholder mapping and developing a collaboration framework for the effective and inclusive forest fire management and mitigation options.
3. Propose business models to support entrepreneurship and community-based initiatives for forest fire management and resources utilisation, including the supply chain.
4. Conduct a country-specific policy gap analysis to strengthen forest fire management and productive utilisation of forest floor fuel loads in the region.
5. CBA of forest biomass utilisation and management, duly incorporating the concerns related to forest sustainability
6. Identify the global best technology for forest fire detection and early warning systems, integrating ground and satellite monitoring technologies based on local needs and adaptability.

Deliverables

The consultant is expected to deliver the following outputs:

- A comprehensive study report including forest fire management solutions assessment, including the stakeholder mapping with the collaborative framework, country-specific policy gap analysis in utilising forest biomass residues.
- Economic assessment exploring the potential business models supporting the entrepreneurship and local community-based forest fire management initiatives, with a comprehensive CBA of the biomass utilisation strengthening supply chain.
- Technology evaluation for fire detection and early warning systems as an integral component of the monitoring system to mitigate the risk, thereby recommending effective and sustainable forest fire management strategies in the HKH region.

Duration and notice period

In total consultancy firm has to accomplish the assigned study and reporting in 90 working days. The exact start and end dates of the consultancy will be mentioned in the consultancy contract.

Reporting	Weeks (1 week=5 days; Total 90 days)																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Inception report including methodology, work plan, and outline of the report.																		
Literature review and stakeholder mapping report (covering all five countries).																		
Draft solutions matrix with preliminary CBA.																		
Draft business models and entrepreneurship opportunities report.																		
Policy gap analysis and recommendations.																		
Draft final report (solutions, CBA, business models, policy analysis)																		
Final report (with executive summary) submission and presentation.																		

Budget, if applicable

Interested consultancy firms are requested to submit their financial proposal with a detailed breakdown in the prescribed format.

The payment to the consultant shall be made on an instalment basis and as follows.

- 20% upon approval of the inception report.
- 30% upon submission of draft solutions matrix and CBA.
- 30% upon submission of the draft final report.
- 20% upon acceptance of the final report and presentation.

Expertise required

The consultancy firm will be conducting the forest fire management study across multiple countries in the HKH region. For this, the firm should have,

- Good understanding of the HKH region's geography, ecology, socio-economic conditions, and governance systems related to natural resource management, along with experience in cross-border environmental projects.
- Proven ability to conduct a comprehensive study on forest fire management, including experience in both pre-fire (prevention, preparedness, early warning, and detection) and post-fire management (recovery and restoration).
- Demonstrate multi-disciplinary expertise integrating ecology, economics, energy, air pollution, and social dimensions in fire management strategies.
- Experience in CBA for environmental and economic impacts of forest fires and mitigation measures, along with forest-based enterprises/business development.
- Demonstrate competency in policy gap analysis and formulation of actionable policy recommendations on the forest fire mitigation option.
- Strong communication skills for stakeholder consultations (government agencies, private sector, development organisation, and local community), while multilingual capability is a plus due to the multi-country scope.
- Capability to perform data collection and analysis of environment studies, spatial analysis (GIS mapping) of fire incidents and risk zones.

Reporting and coordination

The selected consultant firm will report to the Action Area Air Lead, along with the Intervention Manager-Air Pollution Mitigation, on the progress and challenges. The Consultant will also work in close collaboration with the Action Area Air team, where relevant. All deliverables must be submitted as a draft for review and approval by the ICIMOD team before final submission.

ICIMOD's core values

Our core values are integrity, neutrality, relevance, inclusiveness, openness, and ambition. These values are an expression of our culture and are central to the guiding beliefs and principles of our work and behaviour. Our core values will lie at the heart of ICIMOD operations and delivery. They will underpin everything we do and frame how we work with our partners. They reflect our founding intentions and the balances we seek to hold, while equipping ourselves for the future.

Diversity, equity, inclusion, and safeguarding

ICIMOD's consultant firm selection process is based on the qualifications and competence of the applicants. As an employer, ICIMOD is committed to promoting diversity, equity, and inclusion, and offers equal opportunities to applicants from all backgrounds and walks of life, including but not limited to gender, age, national origin, religion, race, caste, ethnicity, sexual orientation, disability, or social status. ICIMOD strongly encourages applications from all eligible applicants, especially women, from all parts of the HKH region.

ICIMOD is dedicated to establishing and upholding a safe and nurturing work environment, where all its employees can participate fully and meaningfully without fear of violence, harassment, exploitation, or intimidation. Any type of abuse or harassment, including sexual misconduct (including child abuse), by our staff, representatives, or stakeholders is not condoned or tolerated.

Confidentiality

All data, reports, and information prepared or obtained during the assignment are confidential and shall not be disclosed to any third party without ICIMOD's explicit consent.

Ethical consideration

The consultant firm will be required to take all the necessary actions to handle the collected data responsibly (see ICIMOD Responsible Data Policy) to ensure data privacy, anonymity, and confidentiality. The consultant also needs to adhere to the in-country regulations while executing the project.

Evaluation criteria

Proposals will be evaluated based on:

Criteria	Weight
Technical proposal	70%
1. Relevant experience, including human resources (market expert)	30%
2. Methodology and detailed work plan aligned to the ToR	30%
3. Timeliness	10%
Financial proposal	30%

- **Relevant experience:** Proven track record in similar assignments.
- **Methodology:** Soundness and feasibility of the proposed approach.
- **Timeliness:** Ability to meet the proposed timeline.
- **Cost-effectiveness:** Reasonableness of the proposed fees in relation to the scope of work.

The consultant firm will be selected based on the highest-ranked technical proposal (70% weightage) and the lowest-cost financial proposal (30% weightage).

The consultant firm will be selected based on the highest cumulative scores obtained in the technical and financial proposals using the following formula:

- Technical score = Score obtained based on technical proposal (total 100)
- Financial score = Score obtained based on financial proposal (total 100)
- Total score = 70% of technical proposal + 30% of financial proposal

The service provider scoring the maximum score based on the criteria will be awarded. However, the service provider should score at least 60 % in the total score from the technical proposal.

Method of application

Interested firm are invited to submit a detailed proposal outlining their approach, timeline, team composition, and a financial proposal on **15th October 2025, by 11:59PM to Consultancy.int@icimod.org**.

Proposals must be submitted along with the supporting documents as follows:

- Company registration certificate
- Tax registration certificate (i.e. VAT/PAN/TPIN registration)
- Tax clearance of the last fiscal year
- Audit Report of the last 3 years

For further inquiries or to submit proposals, please contact:

consultancy.int@icimod.org

+977-1-5275222 | ICIMOD | Kathmandu, Nepal