

TERMS OF REFERENCE (ToR)

Consultant – Black Carbon Monitoring and Indoor Air Pollution Assessment

Action Area: Air

ToR

About ICIMOD

The Hindu Kush Himalaya (HKH) region stretches 3,500 km 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](#).

Position overview

ICIMOD is implementing a project to assess the effectiveness of cleaner residential and institutional heating interventions in reducing black carbon (BC) emissions and indoor air pollution in high-altitude regions of Nepal. The project aims to generate scientific evidence through baseline and endline measurements across 30 residential households and institutional pilot sites.

The project will establish standardised monitoring methodologies, standard operating procedures (SOPs), strengthen local capacity, quantify reductions in BC emissions and indoor air pollution, and estimate the broader mitigation potential of cleaner heating technologies for communities with similar demographic, geographic and climatic conditions.

In this regard, ICIMOD seeks an experienced consultant in the role of Black Carbon Monitoring and Indoor Air Pollution Assessment Analyst to provide technical oversight of field monitoring, quality assurance and quality control (QA/QC), data analysis, reporting, and capacity building. The consultant will also contribute to broader air quality monitoring, research, and technical activities under ICIMOD's Air Programme.

This consultancy will contribute to addressing these gaps by supporting high-quality air quality monitoring, strengthening data analysis and interpretation, integrating multiple monitoring datasets, and generating evidence to inform policy development, intervention design, and air quality management at the national level. The work will mainly contribute

to strengthening institutional capabilities for policymaking, air pollution monitoring, and targeting the most polluting activity sectors to improve AQ.

Objectives

This consultancy assignment aims to assist the Intervention Manager (IM), Air Quality Monitoring, and the Air Lead on the following objectives:

1. Develop standardised methodologies and SOPs for BC and indoor air pollution monitoring. Provide technical oversight for baseline and endline monitoring campaigns. Ensure high-quality field implementation and QA/QC.
2. Analyse monitoring datasets and quantify reductions in BC and indoor air pollution. Estimate BC emission reduction potential from cleaner heating interventions.
3. Build the capacity of ICIMOD staff and partners and support instrument shipment to its manufacturer for repair/calibration, spare parts procurement, inventory updates, and documentation of equipment deployment.
4. Clean, process, analyse, and visualise collected data using programming or computational tools.
5. Provide technical support during training, workshops, regular official meetings, and report preparations of project activities.
6. Prepare fieldwork reports, contribute to technical documentation, and maintain close communication with regional partners for troubleshooting.
7. Support the operation of the next-generation air quality monitoring station at ICIMOD and work related to continuous emission monitoring systems (CEMS) in Regional Member Countries.
8. Undertake other duties as required in line with ICIMOD's Strategy 2030 and Medium-Term Action Plan.
9. Any other activities as may be assigned by the IM or the Air Lead.

Deliverables

The consultant will accomplish the following deliverables:

Deliverables	Timeline	Payment
Standardized methodology and SOPs finalised for BC and indoor air pollution monitoring prepared, including QA/QC protocols, field monitoring procedures, data management, and reporting formats.	September - October 2026	10%
Technical training on BC emission monitoring delivered, including preparation of training materials, hands-on instrument operation, calibration, quality assurance/quality control (QA/QC), data processing, and reporting.	October 2026	10%
Baseline BC and indoor air pollution monitoring successfully completed at selected sites, with validated datasets, field documentation, and quality-controlled monitoring records submitted.	November - December 2026	10%
Endline BC and indoor air pollution monitoring completed using standardized protocols, with validated datasets and AQ/QC monitoring records submitted.	January - February 2027	10%
Baseline monitoring data analyzed and a comprehensive baseline assessment report submitted, including statistical analysis, data visualization, interpretation of findings, and comparison with endline monitoring implementation status	March 2027	10%
Comprehensive endline analysis report submitted, including comparison with baseline conditions, assessment of intervention impacts, trend analysis, data interpretation, and recommendations.	April - June 2027	20%
Case studies, BC emission reduction estimation report, and final technical report prepared and submitted, documenting project outcomes, lessons learned, recommendations, and overall technical achievements.	July - August 2027	5%
Continuous technical support provided to the Air Programme on BC and other short-lived climate pollutants (SLCPs), including monitoring, data	Throughout the consultancy period (May - August 2027)	12.5%

analysis, troubleshooting, technical documentation, and scientific inputs.		
Technical support provided for operation and maintenance of the next-generation air quality monitoring station at ICIMOD, Air Quality Dashboard, CEMS activities in RMCs, and other technical assignments as directed by the IM/Air Lead	Throughout the consultancy period (May - August 2027)	12.5%

Qualifications and experience

ESSENTIAL

- A postgraduate degree in Environmental Science, Atmospheric Science, Environmental Engineering, Climate Science, Physics, Geoinformatics, or a related discipline.
- At least three years of relevant professional experience. Demonstrated ability to prepare technical reports and communicate scientific findings. Demonstrated experience in air quality and indoor air pollution monitoring, including planning and implementation of field measurement campaigns.
- Experience in Microsoft Excel and Python/RStudio/C or any other such programming languages.

PREFERRED

- Hands-on experience in operating, troubleshooting, calibration, maintenance, and quality assurance/quality control (QA/QC) of air quality monitoring instruments, preferably including BC monitors and related meteorological instruments.
- Demonstrated experience in data visualisation and analysis and understanding of AQ and meteorological instruments' basic operation with the ability to work independently and collaboratively in multidisciplinary teams.
- Experience in developing or implementing monitoring methodologies, SOPs, and technical documentation with excellent time management, organisation, and communication skills.
- Experience in preparing technical reports, scientific analyses, and communicating findings to technical and non-technical stakeholders.
- Demonstrated ability to deliver training and provide technical capacity building to project staff and partner institutions.

- Experience supporting procurement, inventory management, instrument shipment, calibration, and maintenance documentation.
- Experience in high-altitude field visits with instrumentation experience.
- Peer-reviewed publications or technical reports in air quality, BC, relevant field.

Reporting and supervising

The Consultant will report to the IM, Air Quality Monitoring, and will work in close collaboration with the Air Lead.

Duration and Notice Period

- 160 days from Sep 2026 - Aug 2027.
- Project-funded effort (CAF Project): 160 working days
- Remaining 58 Days engagement: Support to ICIMOD Air Programme under CORE funding, as assigned by the AAL Air.

The consultancy assignment may be terminated by either party upon providing 30 days prior written notice. In such cases, payment shall be made on a pro-rata basis for the work satisfactorily completed up to the effective date of termination, subject to approval by ICIMOD. However, in the case of misconduct by the consultant, such notice period is not applicable.

Location

The consultant will be based at ICIMOD's head office in Kathmandu, with regular travel to high-altitude field sites in Nepal.

Budget, if applicable

Method of application

Applicants are requested to apply before 21 August 2026. (11:59 pm Nepal Standard Time, UTC+05:45) by sending the following documents to consultancyhr@icimod.org. Two separate files of technical and financial proposals should be submitted.

1. A technical proposal demonstrating sound knowledge, technical skills, and capability as required by the nature of the work and understanding of the requisite tasks set forth in the terms of reference.
2. Up-to-date CV
3. A financial proposal (in USD or NPR) with a detailed breakdown inclusive of applicable taxes
4. At least two positive references/recommendations from past employers/clients
5. A copy of the citizenship certificate/passport for identity verification.

Only shortlisted candidates will be notified.

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 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.