

TERMS OF REFERENCE (ToR)

**Short-Term Consultant: Development of Inclusive
Action Plan for Air Quality Improvement in
Bangladesh's Small & Medium Rice Mill Sector**

Air Pollution Mitigation Intervention Under Action Area Air

ToR

Title:	Development of Inclusive Action Plan for Air Quality Improvement in Bangladesh's Small & Medium Rice Mill Sector
Country:	Bangladesh
Strategic Group I:	Environmental and Climate Risks
Action Area:	Action Area Air

About ICIMOD

The Hindu Kush Himalaya (HKH) region, extending across 3,500 kilometres and encompassing eight nations, serves as a critical ecological buffer and a source of livelihood for approximately two billion people. Despite its ecological significance, the region faces a triple planetary crisis defined by climate change, biodiversity loss, and acute pollution. Within this landscape, air pollution has emerged as a transboundary threat that transcends national borders, affecting the health and economic productivity of millions. To address these challenges, ICIMOD has established Strategic Group 1: Environmental and Climate Risks, which houses Action Area B: Stimulating Action for Clean Air. This Action Area is tasked with fostering regional coordination and supporting the adoption of cleaner technologies across the Indo-Gangetic Plain and Himalayan Foothills (IGP-HF).

The International Centre for Integrated Mountain Development (ICIMOD), based in Kathmandu, Nepal, is an international organization established in 1983, that is working to make this critical region greener, more inclusive and climate resilient. For more information, read our [Strategy 2030](#) and explore our [website](#).

Consultancy overview

Small and medium-scale rice mills play a critical role in Bangladesh's industrial development, employment generation, and overall economic growth. Rice milling is one of the most dominant agro-processing industries in the country and a key component of the national food supply chain, closely linked to rural livelihoods and economic stability.

Despite their substantial socio-economic contributions, small and medium-scale rice mills are significant contributors to air pollution in Bangladesh. Rice mill operations are major sources of organic dust and combustion-related emissions. Key pollutants include rice husk dust, black smoke, ash, and emissions from furnaces and chimneys. The milling area is often the most dust-intensive area, with recorded PM_{2.5} concentrations reaching as high as 492.1 µg/m³. Therefore, the workers' condition in the milling area poses serious occupational and health safety (OHS) risks.

In response to the growing air pollution and workers' occupational and health challenges, the Government of Bangladesh has strengthened its regulatory and policy framework. Under the National Air Quality Management Plan (2024-2030), the government aims to reduce



national ambient PM_{2.5} concentrations by 15 µg/m³ by 2030 through enhanced industrial monitoring and control measures. Similarly, the Air Pollution Control Rules (2022) mandate the installation of pollution control technologies across industrial facilities. However, there are challenges and issues to implement these compliances by the mills and difficulties in measurement by the Department of Environment. Therefore, many of these industries continue to operate without required environmental clearances or emission control systems and occupational and health safety (OHS) provisions for the workers.

Therefore, the overall goal of this consultancy is to support the Government of Bangladesh to prepare a comprehensive, evidence-based, and sector-specific action plan for air pollution control and occupational health and safety (OHS) for the workers in small and medium-scale rice mills. The assignment will focus on addressing regulatory gaps, implementation challenges, and technical constraints while promoting feasible and inclusive cleaner technology solutions for male and female workers' health and safety to improve the working condition.

Objectives

The primary objectives are as follows:

- Establish a baseline of small and medium-scale rice mills through a comprehensive, sector-wide policy and regulatory gap analysis, complemented by targeted field-based evidence where required. The assessment will systematically examine key parameters, including but not limited to: i) fuel/energy use, ii) production processes chain, iii) emission levels, and iv) existing air pollution measurement and control systems. The assessment will also explore current occupational health and safety (OHS) and risks for the male and female workers with number of male and female workers.
- Identify cleaner technologies for the production process chain for the rice mill sector for feasible technology upgradation and technical guidelines for industrial emission mitigation, integrating high-efficiency machinery, with process-level upgrades packages along with air pollution control systems (APCS) with clear implementing phase such as short-term, mid-term and long-term. This should include access to finance, incentives, and market barriers.
- Design a unified emission monitoring system and protocols for stacks, utilizing digital platforms and a simplified Monitoring, Reporting, and Verification (MRV) system framework to track real-time pollution and energy savings.
- Prepare a strategic approach for strengthening institutional coordination and stakeholder engagement to facilitate structured engagement and effective implementation.
- Organize stakeholder consultation and validation of findings, action plan and emission monitoring through consultations and workshops.

Scope of the work and Task

The consultant/firm will be responsible for:

Task 1: Policy & Regulatory Gap Analysis and Recommendation (Environment and Labour/workers)

The consultant will conduct a desk review of the existing policy and regulatory frameworks governing high-emitting industries, particularly small and medium rice mills. The review will include the ECA 1995, NAQMP 2024-2030, APCR 2022, and relevant literature. The task involves identifying policy, regulatory and enforcement gaps and suggesting enabling policies that modernize the "polluter pays principle" along with regulatory regime and effective governance. A parallel desk review of labour laws and regulations related to occupational health and safety will be conducted, supported by secondary data and information analysis.

Task 2: Field Evidence Based Study (Survey study): Assessment from Policy into Practice

The consultant will primarily use secondary data for their analysis and targeted sample field surveys, only where necessary, in rice mills mainly on but not limited to: i) fuel/energy use, ii) production processes chain and technologies use for the operation in each step of the production processes, iii) emission levels, and iv) existing air pollution measurement and control systems, v) male and female worker's data. This includes analysing technical, environmental, and economic driving emissions of air pollutants. In addition, a dedicated needs assessment will be undertaken to evaluate occupational health and safety conditions for both female and male workers. The potential study sites for one sample survey where necessary may be selected from:

- For small and medium rice mills study could be from Dinajpur, Kushtia and Mymensingh districts.

Task 3: Sector-Specific Action Plan for Rice Mills for Air Pollution Mitigation and Worker's Health and Safety

The consultant will develop a sector-specific action plan for small and medium rice mills, focusing on cleaner combustion technologies, emission reduction measures, improved regulatory compliance and improved worker safety standards to reduce the risks. The action plan will address the gaps and opportunities for air pollution mitigation and occupational health and safety for workers. This action plan will also provide the operational, technical, and financial capacities with short-term, midterm and long-term implementation phase. This sector-specific action plan will be prepared based on Task 1 & 2.

Task 4: Design Inclusive Financing Mechanisms

The consultant will develop targeted financing mechanisms to enable rice mills to adopt cleaner combustion technologies and air pollution control systems, using instruments such as repay-from-savings, equipment leasing, cluster-based credit, and common facilities. These will be aligned with Bangladesh Bank's Cluster Financing Policy (SMESPD Circular No. 5, 2022) and SME Foundation cluster mapping to support investment in cleaner kilns, boilers, fuel switching, and stack controls while reducing collateral and risk barriers.

Task 5: Design of Unified Monitoring & Digital MRV Guideline

The consultant will design a unified, stack-based digital MRV system for rice mills, including low-cost tamper-proof sensors, pollutant and fuel-use measurement protocols, and a digital platform to enable the Department of Environment to track real-time emissions, energy use, and compliance, supporting regulatory enforcement and performance-based financing under the NAQMP (2024–2030).

Task 6: Institutional Coordination and Stakeholder Engagement

Provide a strategic approach for strengthening institutional coordination and stakeholder engagement to facilitate structured engagement with government agencies, financial institutions, industry associations (e.g., rice mill owners' associations), technology providers, and civil society, and to propose coordination mechanisms that support effective implementation, monitoring (audit-linked compliance verification), and long-term sustainability of air pollution control measures for the rice mill sector.

Task 7: Consultation and Validation Workshop

Organize stakeholder consultations from time to time for validation of the findings and conduct a workshop for overall dissemination of the action plan and findings.

Deliverables and Timeline

The consultant will accomplish the following deliverables:

S. No.	Deliverables	Timeline
1.	Report on the policy and regulatory gap analysis for small and medium rice mills, with actionable enforcement and compliance recommendations.	May 2026
2.	Field study report (includes quantitative and qualitative data and information on small and medium rice mills on: i) fuel/energy use, ii) production processes chain, iii) emission levels, and iv) existing air pollution measurement and control systems.	June 2026
3.	Baseline report for small and medium rice mills	June 2026



4.	Sector-specific action plan (short-, medium- and long-term plan) for rice mills, outlining cleaner technology options, compliance pathways, and implementation roadmap to address air pollution mitigation and worker's health and safety.	July 2026
5.	Report on the accessibility of financing options and mechanisms for the cleaner technology uptake	August 2026
6.	Guideline report on the Monitoring, Reporting, and Verification (MRV) for air pollution monitoring	August 2026
7.	Final comprehensive report after incorporating the findings of the validation workshop	September 2026

Expected Outcomes

Outcome 1: Baseline established for rice mills in terms of i) fuel/energy use, ii) production processes chain, iii) emission levels, and iv) existing air pollution measurement and control systems.

Outcome 2: Policy, regulatory and multi-stakeholder engagement framework including Monitoring, Reporting, and Verification (MRV) to improve air pollution monitoring strengthened to control air pollution from rice mills in alignment with national air quality standard and industrial development goals.

Outcome 3: Developed inclusive action plan to address air pollution mitigation and worker's safety in workplace incorporating cleaner technologies packages and improved worker safety standards and financing options and mechanisms to support cleaner technologies adoption, improved energy efficiency, and effective air pollution control systems.

Outcome 4: Multistakeholder engagements promoted through meetings, workshops and coordination platform with the Department of Environment, Department of Labour, Department of Industry and private sector, mainly rice mills sector, to support effective implementation and regulatory compliance.

Reporting and Supervising

The consultant will work closely with Action Area Air’s Bangladesh Focal Person, Action Area Air Lead, Intervention Manager-Air Pollution Mitigation. All deliverables will be reviewed and approved by the project team prior to finalisation.

Qualifications and Experience

The consulting institute or firm should possess a multidisciplinary background to effectively address the environmental, technical, financial, and social aspects of air pollution mitigation



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for the rice mill MSME sector in Bangladesh. Proven experience in industrial air quality assessment, environmental policy research, and the development of national-level regulatory frameworks in Bangladesh. Key requirements include:

- Demonstrated capability in analysing industrial fuel use, combustion technologies, and designing air pollution control systems (APCS) specifically for agro-processing (rice) mills.
- Experience in conducting Occupational Health and Safety (OHS) assessments and designing gender-inclusive workplace interventions (GESI).
- Strong record of quantitative analysis, report writing, and facilitating high-level stakeholder consultations with government agencies like the Department of Environment (DoE).

The proposed team should comprise the following key experts with relevant qualifications and experience:

Policy Specialist (Team Leader)

- Advanced degree (master's or PhD) in Environmental Science or Public Policy with 15 years of experience in environmental management and coordinating with high-level government partners.

Economist Specialist

- Advanced degree in Economics or Finance with 10 years of experience, specifically in cost-benefit analysis for industrial interventions and designing inclusive financing mechanisms.

Technocrat Specialist

- Advanced degree in Environmental Engineering or Industrial Management with 7–10 years of experience in industrial standards, SOP development, and audit-linked compliance systems.

Policy Analyst

- Advanced degree in Environmental Law or Policy with 7 years of experience in institutional mapping and regulatory review within the Bangladesh air quality landscape.

Economist Analyst

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- Advanced degree in Economics with 5-7 years of experience in financial modelling and analysing market barriers for cleaner technology uptake.

Technocrat Analyst

- Degree in Engineering with 5-7 years of experience in technical monitoring, reporting, and verification (MRV) protocols for industrial emissions.

GESI Analyst

- Advanced degree in Social Sciences or Gender Studies with 7 years of experience integrating social safeguards and analysing impacts of pollution on male and female workers.

Air Quality Analyst

- Advanced degree in Atmospheric Science or related field with 7 years of experience in air quality monitoring, instrumentation (stack sensors), and data management.

Technical Evaluation Criteria

The technical proposal will be evaluated on a **100-point scale**. A minimum score of **60%** is required to qualify for financial evaluation.

Criteria	Max Score	Details
Quality of Proposal & Approach	30	Clarity in addressing sector-specific mitigation for rice mills; robustness of the methodology for MRV and financing design.
Organizational Experience	25	Proven history in industrial policy, OHS, and successful engagement with the Government of Bangladesh.
Human Resources (8-member Team)	25	Qualifications and depth of experience (7–15 years) of the specialized team members listed above.
Proposed Timeline & Deliverables	10	Feasibility of completing all 7 tasks within the March–December 2026 time.
Management & Operational Plan	10	Internal quality control, data verification, and coordination structure with ICIMOD.

The service provider 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).



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Financial score = Score obtained based on financial proposal (total 100)

Total weightage score = 60% of technical proposal + 40% of financial proposal

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

Duration and Timeline

The consultancy is expected to be completed between March-September 2026.

Budget

The budget for this consultancy will be determined based on the scope of work and deliverables agreed upon.

Method of Application

The completed proposal should be submitted through email to Consultancy.int@icimod.org by 6 PM (Nepal Standard Time), on **31 March 2026**. Two separate files of technical and financial proposals should be submitted along with the valid legal documents as follows:

- Company registration certificate
- Tax registration certificate (i.e. VAT/PAN/TPIN registration)
- Tax clearance or annual tax return of 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.

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.



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