

Terms of Reference

Title:	Air Quality Specialist
Theme:	Water and Air
Regional Programme:	Cryosphere and Atmosphere

Background

The International Centre for Integrated Mountain Development (ICIMOD) is a regional intergovernmental learning and knowledge sharing centre serving the eight regional member countries of the Hindu Kush Himalayan (HKH) region – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. Our aim is to influence policy and practices to meet environmental and livelihood challenges emerging in the HKH region. To do this we bring together researchers, practitioners, and policy makers from the region and around the globe to generate and share knowledge, support evidence-based decision making, and encourage regional collaboration. ICIMOD delivers impact through its six Regional Programmes of Adaptation to Change, Transboundary Landscapes, River Basins, Cryosphere and Atmosphere, Mountain Environment Regional Information System, and Himalayan University Consortium (emerging). These regional programmes are supported by the four Thematic Areas of Livelihoods, Ecosystem Services, Water and Air, and Geospatial Solutions and underpinned by Knowledge Management and Communication. ICIMOD seeks to improve the lives and livelihoods of mountain women and men, now and for the future.

Within the Regional Programme on Cryosphere and Atmosphere, the Atmosphere Initiative focuses on improving scientific knowledge about emissions, atmospheric processes, and change and impacts of air pollutants and climate forcers, as well as on analysing mitigation and policy options, building capacity, and disseminating knowledge. The Atmosphere Initiative is looking to build capacity in several interrelated areas including engineering approaches to emission controls, aerosol measurements, analysis of satellite observations of atmospheric composition, building emissions inventories, and running computer models to analyse emission reduction scenarios, as well as building university curricula in atmospheric science. The recruitment of two senior professionals, an Air Quality Specialist and an Aerosol Scientist, are being conducted simultaneously in the hopes that these two together will contribute to capacity in multiple areas.

Role of the Air Quality Specialist

Under the direct supervision of the Programme Coordinator, Atmosphere Initiative, and under the general guidance of the Water and Air Theme Leader, the Air Quality Specialist will use engineering and atmospheric modelling tools to analyse the impacts of emissions reduction scenarios and work directly with various stakeholders on implementing ways to reduce emissions.

Main responsibilities

The Air Quality Specialist will have the following responsibilities:

- To gather, evaluate and improve emissions inventories and adapt them to ICIMOD needs.
- To analyse existing knowledge about emissions and emission reduction potential from major sources in the region, including cook stoves, brick kilns, diesel engines, and to assess where additional knowledge is needed.
- To liaise with agencies carrying out emissions measurements and testing, as well as to liaise with industries, other polluting sectors, and their associations about implementing engineering solutions to emissions reduction.

- To help set up, maintain, and upgrade the hardware and software of the atmospheric modelling centre; and to conduct simulations of the pollutant emissions, atmospheric processing and impacts using models such as mesoscale meteorological models, pollutant dispersion models, chemistry-transport models, aerosol radiative transfer models, and regional climate models.
- To set up plausible scenarios of changing emissions, run simulations, and analyse the impacts of the emissions reductions.
- To be a member of the global modelling community, and to participate in research aimed at improving atmospheric simulations over complex terrain; and to develop partnerships and collaborations with other research centres, both within and beyond the ICIMOD member countries.
- To publish high quality peer-reviewed publications together with colleagues at ICIMOD and elsewhere; and to participate in the writing of assessment reports, project reporting, proposal writing and other documents.
- To be a member of the team at ICIMOD preparing a new degree programme in atmospheric science; to mentor junior staff, affiliated students and interns; and to participate in capacity building and outreach activities in ICIMOD member countries.
- To be an active member of the Atmosphere Initiative and the Regional Programme on Cryosphere and Atmosphere, and to participate in other activities including atmospheric observations, analysis of mitigation options, and policy development.
- To work as a team player within ICIMOD to support other activities and promote institutional goals; and to perform other duties as requested.

Minimum Qualifications

- Doctoral degree in a relevant field of study (environmental engineering, chemical engineering, or atmospheric science with a Master's in engineering or applied sciences).
- Track record of high quality peer reviewed publications.
- At least five years' experience applying science and engineering tools to air pollution issues.
- Demonstrated understanding of combustion processes as they relate to pollutant emissions.
- Demonstrated understanding of atmospheric chemistry (gas and aerosol), atmospheric dynamics, atmospheric microphysics, and climate science.
- Experience using at least one meso-scale meteorological model (e.g., WRF, MM5, RAMS), and at least one chemistry-transport models (e.g., WRF-Chem, CAMx, CMAQ), preferably in regions of complex terrain.
- Experience installing, compiling, testing, and customizing atmospheric models on new computer systems, and managing large datasets.
- Experience working in Unix/Linux environments and using IDL, Matlab, or other software to visualize model output; the ability to write or modify model code written in Fortran, C, and other languages.
- Demonstrated experience working with emissions inventories in data sparse regions.
- Experience with atmospheric science field measurements, and with analysis of data from in situ measurements and remote sensing.
- Significant experience teaching and developing curricula in a university setting.
- Significant experience working with governments, industry, and other stakeholders.

General Competencies

- **Communication and outreach:** Excellent English written and oral communication skills and the ability to effectively present, explain and discuss complex ideas, to convince others, to listen to others and be able to integrate ideas from different people and sources.
- **Networking/stakeholder management:** Ability to identify relevant stakeholders, maintain existing linkages and effectively communicate with stakeholders on different levels.

- **Research skills:** Knowledge and experience about relevant research methodology and analysis to create credible scientific evidence.
- **Impact and results orientation:** Ability to work independently, while drawing on long-distance support from the global community, with a strong sense of initiative, discipline and self-motivation.
- **Flexibility/innovation:** Continuous learning attitude, ability to proactively adapt to and stay abreast with changing contexts, technologies and approaches; ability to come up with innovations and make improvements in own work area.
- **Social/team competency:** Ability to work effectively and smoothly across teams taking into account intercultural sensitivities; ability to manage minor conflicts and to contribute to establishing commitment among work group members.
- **Report and proposal writing:** Ability to independently write good quality project reports for different target groups and to contribute to successful proposal development / writing.

The duty station is Kathmandu, Nepal; occasional travelling in the region and to international conferences will be required.

Duration

Three years, preferably starting as soon as possible, with the first six months on probation, and with a possibility of extension beyond three years subject to ICIMOD's future funding levels.

Remuneration

Salaries and benefits of ICIMOD are competitive with other regional organisations; remuneration is commensurate with experience and qualifications.

Gender and Equity Policy

Qualified and eligible women candidates and those from disadvantaged backgrounds are highly encouraged to apply. ICIMOD implements a gender equity policy and is supportive of working women. It operates a day-care centre at the campus and is committed to the integration of gender issues at organisational and programmatic levels.

Method of application

Applicants are requested to apply online before **1 Dec 2013** through ICIMOD's online application system at <http://www.icimod.org/vacancies>

Please upload a cover letter and CV in the same file.

For more information or questions about the position please contact apanday@icimod.org.

Only shortlisted candidates will be notified.