Terms of Reference (ToR) for assessing the air quality in UN premises to recommend measures for its improvement

1. Background and objectives:

Air quality is one of the major environmental health issues in Nepal. It has serious health consequences. The non-communicable diseases (NCDs) are on the rise in the country with contribution from many risk factors including air pollution. The air quality is not only linked with respiratory diseases and but also causing cancer, stroke and other cardio-vascular diseases. The household air pollution (HAP) is the third leading risk factor for ill health in Nepal. The recently published WHO Global Burden Disease (2018) show that every year 21,908 Nepalese people die from ambient air pollution (AAP) and 23,397 from household air pollution (HAP).

The annual average of ambient air quality in Kathmandu is five times higher than WHO recommended value. The indoor air pollution is not significantly different than ambient in Kathmandu. The UN premises is not an exception and poor quality of air has been affecting the UN staffs as well, which requires measures to reduce it.

Considering this, an assessment of the quality of air in UN premises has been planned. The overall objective is to recommend measures to reduce exposure to the air pollution leading to improve occupational health of the UN staffs.

2. Scope of works:

The scope of the works covers following but limited to:

- Identify the major sources of air pollution within UN House premises
- Assess the situation with air quality monitoring data. It includes collection and review of secondary data of existing monitors within premises and primary data
- List out the existing measures to control air pollution (indoor and ambient) within UN premises including existing air purifiers
- Prepare the comprehensive plan with recommended measures for improvement. The plan should cover:
  - Consideration of following areas but not limited to air purifiers, air filters, air quality monitor (with public display and App based dissemination), O & M of currently operating air conditioners, printers, diesel generators, etc.), masks, sealing of windows, indoor plants, vehicles, construction activities, burning of wastes
  - Recommendation of equipments e.g. air purifiers with justification (technical, cost and O & M)
  - UN Agency specific measures with consideration of already existing measures within UN premises
- Prepare tentative cost estimate and time frame for implementation of the plan
- Suggest O & M mechanism/measures
3. **Methodology:**
A consulting firm will be engaged for this assignment. The following activities could serve as guide in accomplishing this assignment:

a. **Collection of data/information:**
   It includes collection and review of existing improvement measures including available air quality data applicable to UN premises.

b. **Monitoring of air quality:**
   Installation of monitoring stations at least for two weeks in two different buildings to collect primary data including PM$_{2.5}$ and others as applicable.

c. **Consultative meetings:**
   Consultative meetings UN Green Committee, UN agencies and other stakeholders working on similar areas are recommended.

d. **Sharing of report:**
   The draft report should be shared with OMT working group members. The participation of UN Green Committee members should be considered.

e. **Finalisation of report:**
   The final report should be based on the suggestion on the draft report.

4. **Team:**
A team of experts will be involved for this assignment.

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<th>S.N.</th>
<th>Position</th>
<th>Input (Man-days)</th>
<th>Detail tasks</th>
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<tbody>
<tr>
<td>1</td>
<td>Team Leader/Air Quality Expert</td>
<td>30</td>
<td>• Overall responsibility with delivery of assignment reports&lt;br&gt;• Consult with with OMT and Green Committee members&lt;br&gt;• Led team including coordination within the team&lt;br&gt;• Assess the overall situation based on analysis of data and recommended measures in a planned way&lt;br&gt;• Final check of plan and submission on time</td>
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<td>2</td>
<td>Air quality monitor</td>
<td>15</td>
<td>• Collect existing air quality data of the UN premises from different sources&lt;br&gt;• Monitor the data by installing monitoring equipments</td>
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<td>Environmental/Mechanical Engineer</td>
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<td>- Provide monitoring data for analysis</td>
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<td>- Support Team Leader (TL) to assess the situation</td>
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<td>- Identify and analyse measures for improvement of air quality</td>
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<td>- Assist TL to develop the plan</td>
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Adequate resources must be mobilized for monitoring of data, support staff, travel, communication and other logistics to accomplish the assignment.

5. **Deliverables:**
   The terms of the assignment shall be effective from the date of signature by both the Parties. The proposed deadlines to carry out the assignment are:
   - An Inception report (Methodology), including outline of the improvement plan by first week after contract agreement;
   - Draft document by end of six weeks of contract agreement;
   - Final document by end of eight weeks of contract agreement.
   All deliverables should be submitted in hard and workable e-copies. The final assessment report will be a single document, whereas some supplementary information could be annexed separately, as applicable.