

# **INDOOR POLLUTION MONITORING IN** **PAKISTAN**

Pakistan is confronted with a number of severe environmental problems which are also linked with poverty, such as degradation of natural resources, industrial and vehicular pollution, degradation of human health, and relatively little attention was paid to the kinds and levels of gaseous and particulate pollutants that might be encountered in typical indoor air quality in Pakistan. There is currently a need to begin a watch on our Indoor Air Quality. The heating by wood/ dung burning stoves, kerosene heaters, dust, paints, chemical use in polishing, and so on increase in popularity, along with a trend toward “energy efficient” buildings with increased use of urea formaldehyde foam insulation, acrylic carpets and decreased ventilation rates cause the indoor pollution. Health effects associated with Indoor Biomass Combustion especially in rural areas are Acute Respiratory Infections (ARI) in Children (pneumonia), Chronic Lung Disease, Lung Cancer, Tuberculosis, and Blindness etc. Therefore, indoor air quality monitoring, awareness, assessment, control and training are key requirements for rural as well as urban areas.

During the next five years Pak-EPA is planning to generate sample data and papers/reports covering indoor and outdoor air pollution monitoring and its impacts on environment. The proposed Project, being an environmental project, is designed to monitor the indoor air pollution and Rs. 30.00 Million amount proposed for it. Time required for completion of project is 36 months (Three years) from date of approval of the project. The project would contribute in the provision of technical support to national environmental programmes. The project would also furnish timely, comprehensive and accurate data for implementation of national uplift programmes in the fields such as local emission assessment especially the baseline indoor data development. The project would be implemented by Pak-EPA with the support of SUPARCO. SUPARCO is already operating a fixed and a mobile air pollution monitoring labs. The labs are equipped with a range of US EPA designated ambient air samplers and analyzers for all the pollutants. An analytical chemistry lab has also been established to support the field survey (air, water and

soil). Analysis of indoor ambient air aerosols samples for trace elements cations and anions will be carried out.

### **OBJECTIVE OF THE PROJECT**

- a) To assess the extent and magnitude of indoor air pollution in urban and rural areas including households, hospitals, hotels, schools, offices and other public places.
- b) Identification of the indoor pollution sources & understanding the relative role of pollutant transport, transformation.
- c) To assess the health of the most health risk groups, linkage between exposure and health and incidences of respiratory diseases.
- d) Database development of indoor ambient air aerosols in Pakistan

### **BENEFITS**

- Identification of causes and source apportionment of indoor air pollution.
- Assessment of influence of wood/biomass energy use.
- Assessment of impacts e.g. on health, and national economy.
- Based on finding of the study, policies could be devised to address the socio-economic and health issues at national / regional levels.