

**Brief on Technical Cooperation
between Japan International Cooperation Agency and Authorities Concerned of the
Government of Pakistan for
Establishment of Environmental Monitoring System**

Japan International Cooperation Agency (JICA) exchanged views and had a series of discussions with the authorities concerned of the Government of Pakistan with respect to desirable measures to be taken by JICA and the Government of Pakistan for successful implementation of the project 'Establishment of Environmental Monitoring System in Pakistan'.

As a result of the discussions, and in accordance with the provisions of the Agreement on Technical Cooperation between the Government of Japan and Government of Pakistan, signed in Islamabad on 30th April, 2005, JICA and concerned Pakistani authorities agreed to recommend to their respective governments the matters related to the Technical Cooperation on EMS project.

Overall Goal:

Environmental monitoring systems are in place and functional at the Federal and Provincial EPAs.

Project Purpose:

The Federal and Provincial EPAs' capacity of environmental monitoring on air and water is enhanced.

Outputs:

1. Pak-EPA and Provincial EPAs are capable of formulating environmental monitoring plans.
2. Pak-EPA and Provincial EPAs are capable of measuring all the parameters of National Environmental Quality Standards (NEQS) based on uniform methodologies of sampling, measurements and analysis.
3. Laboratory management system is improved and Quality Assurance / Quality Control (QA/QC) system is established in Pak-EPA and Provincial EPAs.
4. Pak-EPA and Provincial EPAs are capable of interpreting and evaluating monitoring data based on the internationally recognized environmental standards / NEQS.
5. Based on the Pakistan nationwide environment data management system, Pak-EPA and Provincial EPAs are capable of compiling monitoring data and disseminating to the public.

Activities:

- 1-1. Capacity assessment of EPAs
- 1-2. Organization setup of environmental monitoring
- 1-3. Training of a developing process of an environmental monitoring plan (EMP)
- 1-4. Development of a technical guideline for developing EMPs
- 1-5. Selection of pilot areas
- 1-6. Collection of relevant information required for development of monitoring plan such as meteorological data and those on pollution sources in the pilot areas
- 1-7. Development of EMPs in pilot areas
- 1-8. Implementation of EMPs in pilot areas
- 1-9. Revision of EMPs and technical guideline based on the actually obtained monitoring data

- 2-1. Capacity assessment of EPAs
- 2-2. Selection of appropriate methodologies for sampling, measurements and physical, chemical and bacteriological analysis of each parameter
- 2-3. training on sampling, measurements and analysis of effluents and flue gas in point and non-point emission sources
- 2-4. training on sampling, measurements and analysis of natural water and ambient air
- 2-5. development / Modification of the standard operation procedures (SOP) for each parameter
- 2-6. Introduction of quality control methods for sampling, measurements and analysis
- 2-7. Preparation and utilization of maintenance plans and manuals of the equipment and setting up of a laboratory management system
- 2-8. Revision of maintenance plans and manuals of the equipment, and laboratory management system

- 3-1. Capacity assessment of EPAs
- 3-2. Training on laboratory management based on the ISO17025
- 3-3. Preparation of a laboratory management manual, establishment of QA/QC activity plan in each EPA
- 3-4. The QA/QC system is run based on the activity 3-3

- 4-1. Capacity assessment of EPAs
- 4-2. Training on data processing and interpreting methods
- 4-3. Training on interpretation and evaluation of monitoring data obtained in pilot areas by internationally recognized standards / NEQS
- 4-4. Preparation of (an) EMP(s) for pilot area (s)

- 5-1. Capacity assessment of EPAs
- 5-2. Training on data processing with accumulated monitoring data
- 5-3. Establishment of a nationwide environment data management system
- 5-4. Data input by each EPA based on activity 5-3
- 5-5. Upload of the ambient air and water quality monitoring data on EPAs' websites

5-6. Publishing of national and provincial environmental monitoring reports as a part of preparing state of environment report

Measures to be taken by the Government of Pakistan:

- i. The Government of Pakistan will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese technical cooperation, through full and active involvement in the project by all related authorities, beneficiary groups and institutions.
- ii. The Government of Pakistan will ensure that the technologies and knowledge acquired by the Pakistani nationals as a result of Japanese technical cooperation will contribute to the economic and social development of Pakistan.
- iii. The Government of Pakistan will take necessary measures to ensure that the knowledge and experience acquired by Pakistani personnel from training in Japan will be utilized effectively in the implementation of the project.
- iv. In accordance with the laws and regulations in force in Pakistan, the Government of Pakistan will take necessary measures to meet the running expenses necessary for the implementation of the project.

Measures to be taken by JICA:

The following measures according to the normal procedures of its technical cooperation scheme.

i. Dispatch of Japanese Experts:

JICA will provide the services of the Japanese experts in the area of water quality analysis and monitoring, air quality measurement and monitoring and data management.

ii. Counterpart training in Japan:

Counterpart trainings in Japan will be considered for the area of environmental policy, environmental management and laboratory management. The number of the personnel to be trained will be discussed in the course of the project.

iii. Provision of Machinery and Equipment:

The Government of Japan will provide machinery and equipment under the grant aid project. The project will use to the maximum extent possible such machinery, equipment and other materials for efficient and effective technology transfer as envisaged in the Project Design Matrix (PDM) of the Project.