"Capacity Building and Strengthening Institutional Arrangement"

Analysis and sampling of air and air pollution

Presentation of the Workshop

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Index

1. APAT-EEA Project 'Capacity building and Strengthening Institutional Arrangement'

2."Analysis and sampling of air and air pollution" program

3. Air indicators

4. References

1. APAT-EEA Project 'Capacity building and Strengthening Institutional Arrangement'

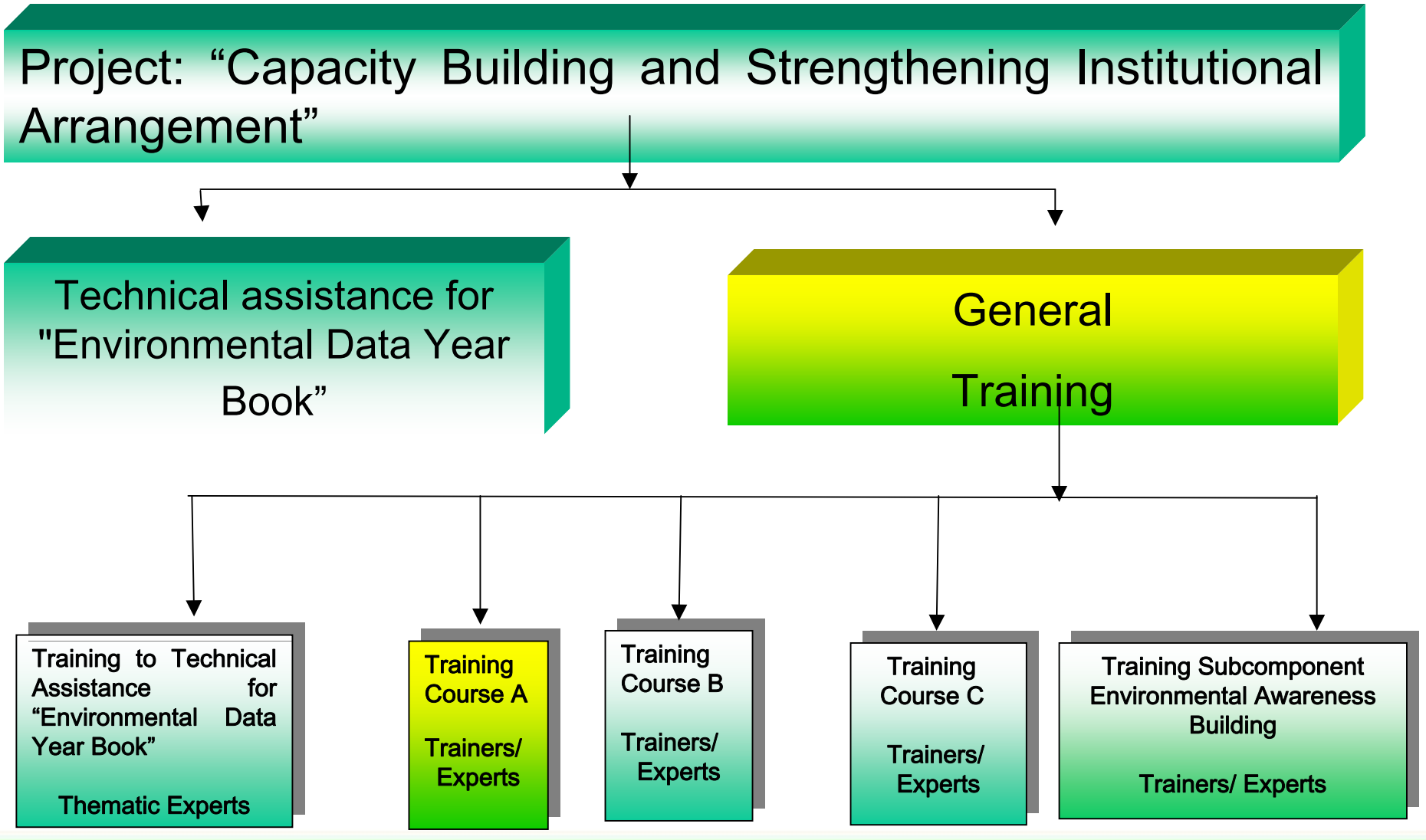
The program "Capacity Building and Strengthening Institutional Arrangement" aims at strengthening the technical and institutional capacity building of Egyptian Environmental Affairs Ministry and other environmental affairs Institutions through sharing technical, scientific and management knowledge and experience in order to develop the required and specific skills.

In this context APAT will help the Egyptian Ministry for Environmental Affairs:

1. To strengthen the capacity of Egyptian Environmental Affairs Agency (EEAA) to develop the Egyptian Environmental Data Yearbook

2. To develop general training programs in various environmental fields, according to EEAA requirements and indications, and to implement awareness programmes for most feasible areas or sectors of intervention.

1. APAT-EEA Project 'Capacity building and Strengthening Institutional Arrangement' (II)



1. APAT-EEA Project 'Capacity building and Strengthening Institutional Arrangement' (II)

Previous workshops carried out, after the Kick off meeting":
Environmental Awareness Building, 3rd – 6th December 2005;

1. APAT-EEA Project 'Capacity building and Strengthening Institutional Arrangement' (III)

• Capacity Building for EEAA Training Departments, 19th – 23rd February 2006;

•Capacity Building for EEAA Training Departments (Advanced), April 2nd – 6th 2006;

1. APAT-EEA Project 'Capacity building and Strengthening Institutional Arrangement' (III)

Other photos related the workshop carried out

2. 'Analysis and sampling of air and air pollution' program

The workshop 'Analysis and sampling of air and air pollution' is organized in 5 modules including specific working groups, with facilities provided by EEAA and the main goal to share APAT and EEAA previous experiences and technical know-how about sampling and analysis of air and air pollution, following EEAA indications.

'Analysis and sampling of air and air pollution'

1st Module: AIR POLLUTION AND ENVIRONMENTAL IMPACTS

2nd Module: AIR POLLUTANTS AND CONTROL

3rd Module: EMISSION MONITORING AND EQUIPMENT

4th Module: NON IONIZING RADIATION

5th Module: QUALITY CONTROL AND ACCREDITATION

2. 'Analysis and sampling of air and air pollution' (I)

First Module : "Air pollution and environmental impacts"

APAT-EEAA: "Brainstorming" (based on experiences)

- Environmental impacts of hydrocarbons (oil and gas)
- Identification of the sources of pollutant substances emissions;
- Training of experts for the adoption and use of the new instruments and tools

APAT-EEAA: "Brainstorming" (based on experiences)

- Integrated system of information concerning the emissions of pollutant substances into the air;
- Studies about environmental, social and economic impacts of transport;
- Studies about obsolete vehicles impacts (> 20 years)

APAT-EEAA: Working group n° 1

"Design and check an example of an integrate national system for air pollution "

2. 'Analysis and sampling of air and air pollution' (II)

Second module: "Air pollutants and control"

APAT-EEAA: "Brainstorming" (based on experiences)
General principles on air quality monitoring equipment;
- PM10, PM2,5 monitoring equipment

APAT-EEAA: "Brainstorming" (based on experiences)
- Quality control for air monitoring equipment;
- SO_2, NO_x, CO etc. monitoring equipment;
- Mobile system for air monitoring;
- Evaluation of pollutants;

APAT-EEAA: Working group n° 2 "Define applicable criteria for an air monitoring network"

2. 'Analysis and sampling of air and air pollution' (III)

Third Module: "Emission monitoring and equipment"

APAT-EEAA: "Brainstorming" (based on experiences)
• Modernization and updating of the equipment (software e hardware) needed for the monitoring of air emissions;
•Possible Technical Details;

APAT- EEAA: "Brainstorming" (based on experiences)
• General principles on emission monitoring equipment;
• Equipment for continuous emission monitoring;

APAT-EEAA: Working group n° 3 "Design a draft of Guidelines for environmental monitoring including equipment "

2. 'Analysis and sampling of air and air pollution' (IV)

Fourth Module: "Non ionizing radiation"

APAT-EEAA: "Brainstorming" (based on experiences)
- Environmental impacts of electromagnetic waves and equipment;
- General principles on non-ionizing radiation measurements;
- Non-ionizing radiation measurement equipment;

APAT- EEAA: "Brainstorming" (based on experiences)
- Calibration and quality control for non-ionizing monitoring equipment;

APAT-EEAA: Working Group n°4
"Define a draft procedure for non ionizing radiation measurement"

2. 'Analysis and sampling of air and air pollution' (V)

Fifth Module: Quality control and accreditation (I)

APAT-EEAA: "Brainstorming" (based on experiences)
- Emission sampling and analysis;
- Quality control for emission monitoring equipment;

APAT-EEAA: "Brainstorming" (based on experiences)
- Accreditation of laboratories (ISO-17025);
- Traceability of analytical results and uncertainties evaluation;
- Quality control in the environmental laboratories (use of reference materials and certified reference materials, calibration, control chart, participation in proficiency testing exercises;

2. 'Analysis and sampling of air and air pollution' (V)

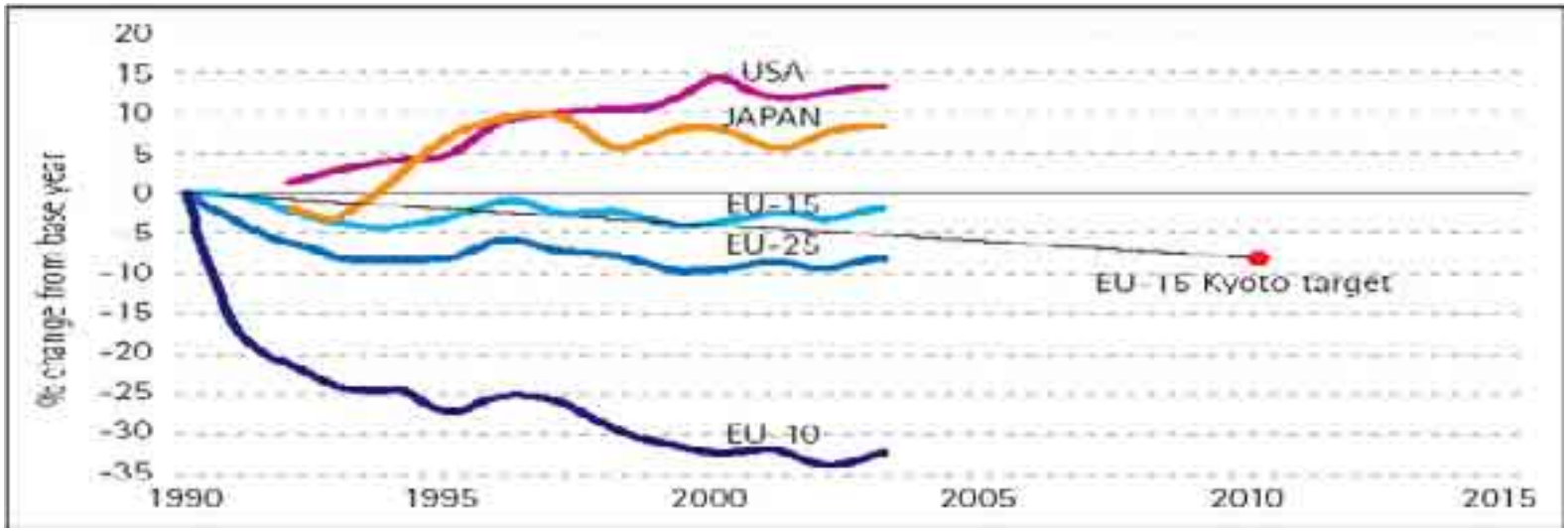
Fifth Module: Quality control and accreditation (II)

APAT-EEAA: "Brainstorming" (based on experiences)
- Basic Concept of Sound;
- Measuring Sound Parameters;
- Principles of Acoustic Measurements;
- Different Noise Sources and Introduction to Environmental Noise;
- Health Impact for High Noise Levels Exposures;
- International Standard for Sound Levels Meters Equipments;
- International Standard for Environmental measuring ISO1996;

APAT-EEAA: Working Group n°5
"Define a quality system for laboratory accreditation"

3. Air indicators (I)

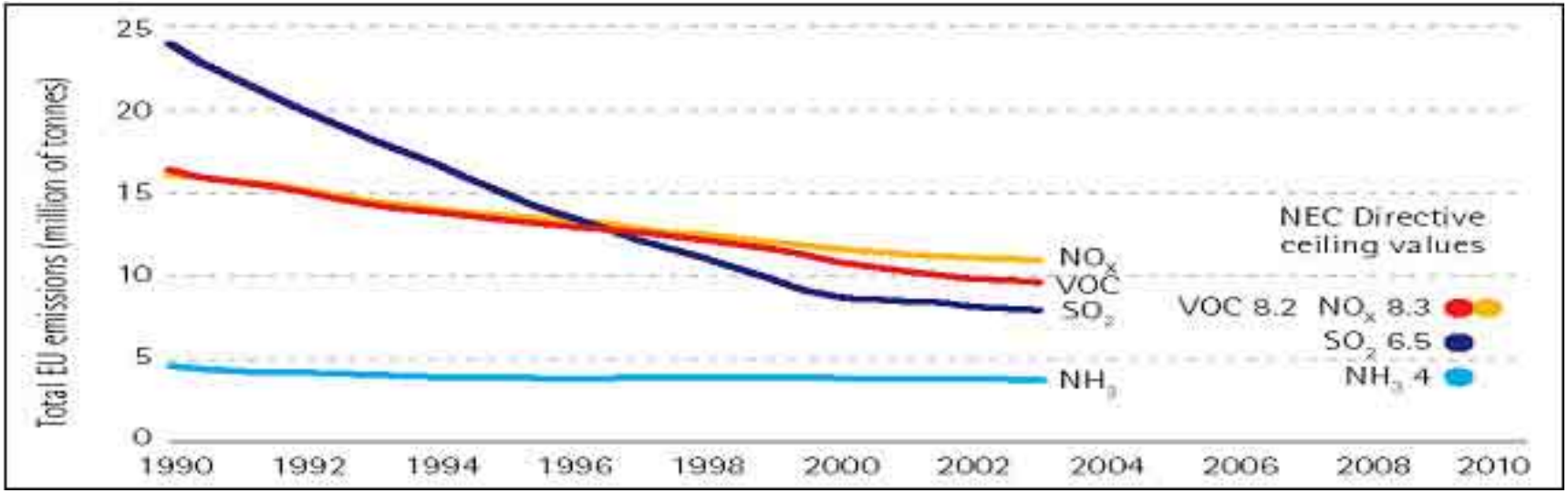
Climate change – Greenhouse gas emissions



The EU-15 Kyoto target is an 8% reduction in greenhouse gas emissions compared to base year 1990 levels by 2008-12. Data for 2003 show that the EU-15 had archived a 1.7% reduction over 1990 levels, showing a reversed trend compared to 2002.
In order to meet its Kyoto target, the EU-15 needs to implement additional policies and measures as well as make use of Kyoto 'flexible mechanisms'.
All 10 new EU Member States have ratified the Kyoto Protocol and the eight that have committed to reduce their emissions by either 8% or 6% had, in 2003, already managed to successfully exceeded their Kyoto target (except for Slovenia).

3. Air indicators (II)

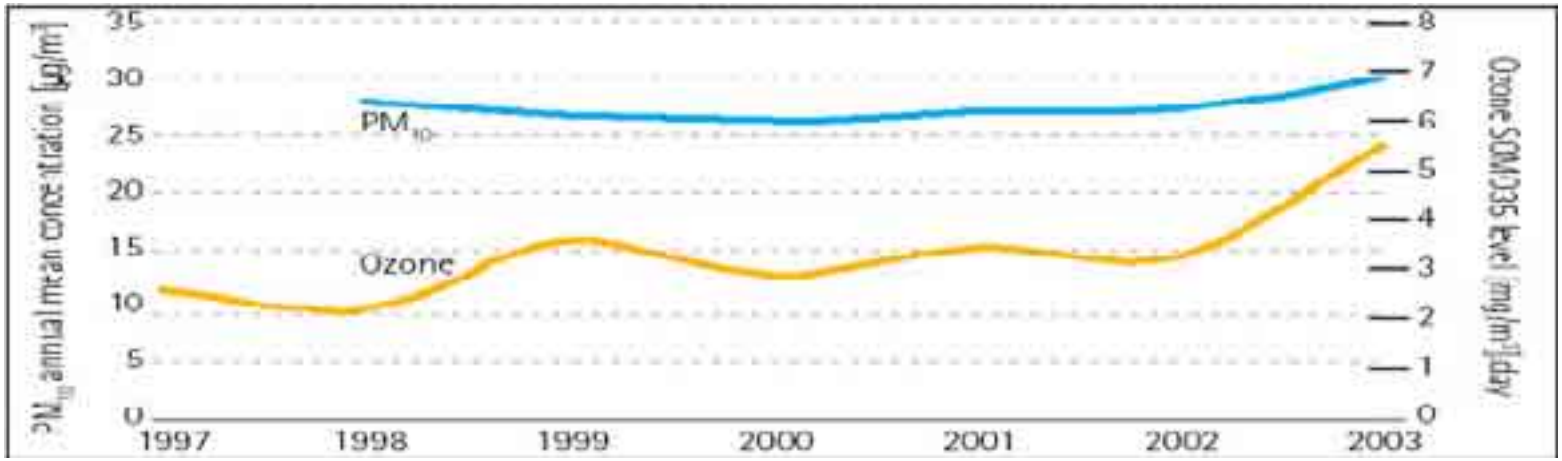
Air emissions



The EU has to reduce air emissions to 2010 targets as set by the National emissions Ceiling Directive. Since 1990 the EU-25 has reduced its sulphure dioxide (SO_2) emissions by 66.9%, its nitrogen oxides (NO_x) emissions by 32.2%, its volatile organic compounds (VOC) emissions by 41.5% and ammonia (NH_3) emissions by 17.4%.
Sulfure dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds (VOC) and ammonia (NH_3) have harmful effects on human health and on the environment. They result in acidification, eutrophication and concentration of ground-level ozone and particulate matter.

3. Air indicators (III)

Urban air quality



Data from some large European cities indicate that concentrations of particulate matter (PM_{10}) are high and increased slightly in recent years. The increase in 2003 is partly due to unfavourable weather conditions. However, in many cities the situation did improve. Particulate matter has serious health implications, reducing life expectancy in the EU by about nine months and causing illness.

For ground-level ozone, concentrations seem not to be improving. Differing annual weather conditions, like the hit wave in 2003, influence air pollution levels and cause variations unrelated to emission changes. Ozone causes respiratory diseases and linked with premature deaths. It is a major health concern for vulnerable groups such as asthmatics, children and the elderly.

4.References

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