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FINAL REPORT

“Mediterranean PRTR Final Workshop”

Alexandria, Egypt

30 June - 1 July 2003

organized by

ICS

in collaboration with

UNEP/MAP

and the

Egyptian Environmental Affairs Agency

BACKGROUND

One of the premier goals of Subprogramme 2.1 of ICS-UNIDO, which specifically deals with Decision-Support Systems for Sustainable Industrial Development, is the distribution of knowledge on decision-support systems towards developing countries. In this area the Subprogramme acts as a 'knowledge collection centre' to gain expertise on general issues such as process simulation, remote sensing and geographical information systems, and to acquire skills in using the relevant information tools which implement the general ideas. The Subprogramme also acts as a prime mover to facilitate a direct action in the field of monitoring systems, risk analysis and assessment, as well as the effective transfer of technology in response to environmental problems caused by industrial activities.

In the specific area of sustainable industrial development, ICS is active in a long-term project aiming at diffusing a practical and applicable view point of this concept through the use of simulation tools based on advanced computing facilities. Among the others, GIS, remote sensing, process simulation and environmental simulation software may be used alone or in combination for judging upon the sustainability of a given industrial site.

But simulating process is not enough for establishing an industrial sustainable politic: a complete map of the situation and its evolution in time with respect of a given list of chemicals of interest for the environment is necessary. The activity dealing with the development of a public tracking and reporting system of pollutants, known generically as Pollutant Release and Transfer Register (PRTR) as a chemical management system, is getting increasing importance throughout the Mediterranean countries. In this context, during the Meeting of the National MED POL Focal Points held in Venice, Italy in May 2001, three countries expressed their interest in the PRTR system and showed readiness for its implementation.

A PRTR is an environmental database or inventory of potentially harmful releases or transfer to air, water and soil as well as waste transported off site for treatment or disposal. In addition to collecting data for PRTR from stationary sources, PRTRs are also designed to include estimates of releases from diffuse sources such as agriculture and transport activities.

It was decided to launch the implementation of the Mediterranean PRTR pilot project in the Alexandria Regional Branch Office of the Egyptian Environmental Affairs Agency (EEAA) in view of the experience of the regional branch of EEAA and of the activities already carried out. The project started in December 2001 with a Kick-off meeting, held in Alexandria and continued during 2002 with different activities: training, software development, data acquisition and reporting.

The joint project involves three partners: the Alexandria Regional Branch Office of EEAA, responsible for the implementation of the project and the preparation of the report and the follow-up of activities in Alexandria; the industrial partners, who periodically provide information on releases; UNEP/MAP in close cooperation with ICS-UNIDO, who provides technical support to the implementation process.

JUSTIFICATION

In the Third Millennium "sustainability" is increasingly becoming a key social, political, scientific and engineering issue. Indeed, there are increasing signs that sustainability will become a major new paradigm influencing the society of tomorrow and the engineering it requires. With their knowledge of chemistry and physics, mass and energy flows, and process technology, chemical and

process engineers are in a pre-eminent position to play a major role in implementing sustainable development. This role is wide. Traditionally it concerns the design and operation of chemical process plants. Nowadays, it also concerns ethical and rational public policy involving science and technology.

The PRTR project fits very well within the sustainable industrial development framework: the knowledge of the quality and quantity of the pollutants is a net result of a material and energy balance of the process and is the major indicator of the sustainability of an industrial process.

The development and implementation of a PRTR system adapted to national needs represents a mean for governments to track generation, release and the fate of various pollutants over time. A PRTR can therefore be an important tool in the total environment policy of a government and encouraging reporters to reduce pollution by implementation of cleaner technologies. PRTRs can be complementary to industry programmes such as ISO14000.

PRTRs have generally these defining characteristics:

- reporting on individual chemicals;
- by individual industrial facilities;
- on all releases and transfers;
- to all environmental media (air, water, land);
- periodically;
- with consistently structured data;
- entered into a computer database;
- actively disseminated to the public;
- with limited data held as trade secrets;
- with the aim to improve environmental quality and promote cleaner technology.

OBJECTIVES

The project aims at the implementation of a PRTR system for selected chemicals, as pilot project, in one Mediterranean country. The implementation strategy falls under the on-job training system. The goals of the entire project are the following:

1. identification and validation of a data bank on chemicals to be used as information sources and in the reporting system of the PRTR;
2. quantification of releases by means of (i) monitoring campaign, (ii) using available software for process simulation and (iii) a combination of the previous options.

With these objectives in mind, the aim of the meeting in Alexandria was to present a summary of the results achieved during the pilot project. Such project is of particular importance since it is the first project of this kind in the Mediterranean region, therefore, great attention has been given, during the presentation of the results to both the statistical results and to the methodology used to get them. The presentation of the methodology, could be used as a template for other projects in the Mediterranean region that will follow in the next future.

Additionally, as a pilot exercise, a portfolio of industrial opportunity in the field of local production of equipment, components and complete treatment or disposal plant and installation has

been identified and quantified. Such an exercise should permit also local SMEs to benefit from the results of the programme as providers of equipment using their own technology and know-how and/or in the framework of industrial agreement with foreign technologists. The financial schemes implementing the projects will be identified and arranged, as well.

In this respect, the following objectives have been pursued in the meeting:

- Revision of the implementation process of Alexandria Pilot Project with paper presented by EEAA personnel and by Industries;
- Analysis of the data stored in the data bank and presentation of a short report on the overall releases from Alexandria district limited to the project industrial partners;
- Revision made by the representatives of the documents prepared by UNEP/MAP and ICS-UNIDO (see annexes);
- Definition of the follow-up for Egypt and for the Mediterranean countries.

STRUCTURE OF THE WORKSHOP

The Workshop was divided into five sessions according to the following programme:

- Opening and Welcome addresses
- Session 1: Supporting Tools for Implementation
 - Concept of Alexandria pilot project implementation.
 - Software aids: presentation of data banks and process simulation software used in the project.
 - The data base structure, the reporting system and the query tools.
 - Software aids: case studies.
- Session 2: Review of the Results of the Project.
 - Analysis of the collected data by presenting results of the queries and showing trends
 - Public information and participation process.
 - Industrial partner's presentation: benefits and point of attentions, barriers and success stories.
- Session 3: Implementation of the PRTR system in Mediterranean countries.
 - Review the conceptual approach on the basis of the Egyptian experience.
 - Review the reporting format and guidelines
 - List of chemicals and industrial sectors to be considered in the future and time table for future implementations.
- Session 4: Project opportunity portfolio
 - Presentation of project opportunity for local production of equipment/component for treatment and disposals.
 - Opportunities generated by PRTR: the Italian Experience.
- Session 5: Conclusions and Recommendations.

PARTICIPANTS

The Workshop was directed to technologists, planners, decision-makers and NGO's who are working in close contact with industry, particularly engineers, scientists and managers directly involved in the implementation of this specific project. In addition some representatives of the UNEP/MAP National Focal Points attended the Workshop.

RESULTS

The results obtained are in line with the goals of the PRTR project, namely:

- the applicability of PRTR in Mediterranean developing countries;
- the possibility of adaptation according to situation and needs;
- the methodology to be followed for the implementation of a PRTR project in other Mediterranean countries.

The outputs of the meeting in Alexandria are of course in line with the expectation of the entire project. Specifically, the outputs obtained in the meeting are the following:

- A summary report describing the different steps of the project implementation, including the detail on the software developed, the data base structure, the reporting schema and the flow of information as well as the role of the supporting software in the project;
- A summary of case studies for which process simulation has proven to be an important tool for the project;
- An analysis of the state of art of the data collection and a report produced by the industrial partners on benefits, points of attention, barriers and success stories;
- A document, produced after a discussion among all the participants, describing the possibility of implementing a similar project in other Mediterranean countries and including suggestion for modification of the procedure followed during the Egyptian project (see annex Recommendations document for details).

CONCLUSIONS AND RECOMMENDATIONS

The participants to the Regional Meeting to review the Implementation of PRTR, held in Alexandria, Egypt on 30 June – 1 July 2003, are convinced that:

- A PRTR or any equivalent programme is valuable as a cost effective tool for encouraging improvement in environmental performance. It is also important for providing public access to information on pollutants released into/and transferred in and through community. It can be used by governments in tracking trends and demonstrating progress in pollution reduction and confirming compliance with/and implementing environmental management concepts.
- A PRTR can bring tangible benefits to industry and community through improved management of pollutants and implementation of cleaner technology leading to reduction of production cost and improvement of product competitiveness.
- There is an opportunity for using data from PRTR as additional sources of information combined with health, environmental, demographic, economic and other types of relevant information for the purpose of gaining better understanding of potential problems, identifying hot spots and setting environmental management priorities.
- It is important to develop regionally comparable PRTR systems to increase comparability of data.
- Progressive development of PRTR systems in Mediterranean countries is needed.
- The Alexandria PRTR pilot project was successful and very informative about the barriers, gaps and benefits of the implementation of PRTR system.

They therefore recommend the following:

To UNEP/MAP:

- To continue to provide assistance to the Mediterranean countries for the implementation of national PRTR pilot projects. Potential candidates are Albania, Algeria, Lebanon, Libya, Morocco and Tunisia.
- To strengthen cooperation with ICS-UNIDO in the implementation of future PRTR systems.
- To enhance the regional communication programmes in the field of implementation of PRTR through developing regional information dissemination networks.
- Considering the importance of the sustainability of the PRTR, to continue working with the Alexandria project, taking into consideration the possibility to cover additional industries.

To the Contracting Parties:

- To consider the document entitled "Guidelines for the use of Pollutant Release and Transfer Register (PRTR) formats" (UNEP(DEC)/MED WG.233/2) and its annexes: (I) the reporting format; (II) codes to be used to complete the reporting format; (III) industrial sectors for PRTR reporting; and (IV) list of substances released to land, water and air for PRTR reporting as the basis for the development of national PRTR system.
- To integrate the PRTR concept as part of the national environmental policy.
- To consider environmental and industrial associations and other relevant stakeholders as important partners in the implementation of national PRTR pilot projects.
- To explore the ways to fully integrate SMEs in the PRTR system and get advantage of the benefits that could result of its implementation.

IMMEDIATE FOLLOW-UP

The immediate and medium range (2 months) activities to be carried out as follow-up of the meeting are the following:

- Support to EEAA in the next two months relating to technical aspects of the project (web site installation and optimization, process simulation).
- Possible projects for the revamping of existing plants in the area of Alexandria in cooperation with UNIDO-ITPO.
- Strengthening the cooperation with UNEP/MAP in the implementation of similar PRTR projects in the Mediterranean countries.

LIST OF ANNEXES

PROGRAMME

See attached Annex I.

LIST OF PARTICIPANTS

See attached Annex II.

LECTURE NOTES AND PRESENTATIONS

See attached Annex III.

PROGRAMME

See attached Annex I.

**Regional meeting
to review the implementation of PRTR**

Alexandria – Egypt
30 June - 1 July 2003

AGENDA

Sunday 29 June 2003

- 21.00 - Dinner on the honor of His Excellency, Minister of State for Environmental Affairs. (*Hilton Green Plaza*)

DAY-1-Monday 30 June 2003

- 8.00 - 9.00 **Registration**

- 9.00 -10.00 **Opening and welcome addresses**

- Dr. Fatma Abou-Shouk (*EEAA – Alex*)
- Dr. Gennaro Longo (*ICS-UNIDO*)
- Dr. Fouad Abou-Samra (*UNEP/MAP*)
- Dr. Mohamed Eisa (*UNIDO*)
- Dr. Nasr El-Din Domair (*Head of Alexandria university*)
- Mr. Abdel-Salam El-Mahgoub (*Alexandria Governor*)
- Dr. Mamdouh Reyad (*Minister of Environment*)

- 10.00 – 11.00 **Coffee break**

- 11.00 – 13.30 **Session 1: “supporting tools for implementation”**
(Chairman: Mr. Mohamed Bassiony - Secretary General of Alexandria Governorate.)

- Concept of Alexandria pilot project implementation. (*UNEP/MAP*)
- Software aids: presentation of data banks and process simulation software used in the project. (*ICS-UNIDO*)
- data base structure, the reporting system and the questionnaire tools. (*EEAA*)
- Software aids: case studies. (*EEAA*)

- 13.30 – 15.00 **Lunch - (El-Zahraa hall)**

- 15.00 – 17.30 **Session 2: “Review of the results of the project”**
(Chairman: Dr. Asem Barakat chief of Environmental Science Department – Faculty of Science)

- Analysis of the collected data by presenting results of the queries and showing trends (*EEEA*)
- Public information and participation process (*EEEA*)
- Industrial partner’s presentations: benefits and point of attentions, barriers and success stories (*Industrial Partners*)

- 20.00 -Dinner on the honor of His Excellency, Alexandria Governor. (*Paradise Inn – El-Mamorah*)

DAY-2-Tuesday 1 July 2003

- 09.00 –10.00 Continuation of Industrial partner's presentations
(Chairman: Mr. Mohamed Abd Allah-Egyptian petrochemicals Co.)
- 10.00 –10.30 Coffee break
- 10.30 – 13.30 **Session 3: “implementation of the PRTR system in Mediterranean countries”**
(Chairman: Dr. Mohamed Said Khalil – CEO, EEAA)
- Review the conceptual approach on the basis of the Egyptian experience. *(UNEP/MAP)*
 - Review the reporting format and guidelines *(UNEP/MAP)*
 - Review the proposed list of chemicals, industrial sectors to be considered in the future and timetable for future implementations *(UNEP/MAP)*
- 13.30 – 15.00 Lunch - (El-Zahraa hall)
- 15.00 – 16.00 **Session 4: “project opportunity portfolio”**
(Chairman: Dr. Mohamed El Zarka – International Environmental Expert)
- Presentation of project opportunity for local production of equipment / component for treatment and disposals- *(ITPO-Cairo, Egypt)*
 - Opportunities generated by PRTR: the Italian Experience-*(UNIDO/ITPO)*
- 16.00 – 16.30 **Session 5: “conclusion and recommendations”**
(Chairman: Dr. Fouad Abou-Samra (UNEP/MAP)

LECTURE NOTES AND PRESENTATIONS
See attached Annex III.

LIST OF PARTICIPANTS
See attached Annex II.

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United Nations Environment Programme



UNEP(DEC)/MED WG.233/Inf.2
20 June 2003

ENGLISH



MEDITERRANEAN ACTION PLAN

Regional meeting to review the implementation of PRTR

Alexandria, Egypt, 30 June – 1 July 2003

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In cooperation with



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