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22987

26 p.
tables

No. 01/00

**International Centre for Science and High Technology
United Nations Industrial Development Organization**

in cooperation with

the Moroccan Association of Catalysis and Environment

Final Report of the Workshop

on

***“Application of remediation technologies for heavily polluted sites,
with focus on water and promotion of projects for the
Mediterranean region”***

Fez, Morocco
29-30 September 2003

UNIDO Project **TF/GLO/00/105**
UNIDO Contract No. **2003/141**

Background

One of the most urgent problems to be faced at a global level is the decontamination of soil and waters, both in industrialized countries and in those having in transition economies. There is the need to allocate extensive financial as well as scientific and technical resources for environmental protection and recovery, and define specific strategies and projects which can solve the problems. Large polluted areas besides having lost their eco-functionality, often represent a serious risk for human health. Environmental situation in each country is specific by type, distribution and extent of contamination and a proper integrated environmental strategy together with the availability of sound and suitable decontamination technologies is one of the priorities for the years to come. In region suffering of scarce water resources such as in the Mediterranean region this problem amplify the question of restoring polluted area.

The International Center for Science and High Technology (ICS) is an autonomous institution, operating within the legal framework of the United Nations Industrial Development Organization (UNIDO). Its headquarters are located in Trieste, Italy. The Center's mandate relates to the transfer of know-how and technology to developing countries and those having in transition economies.

Specifically, ICS within the subprogramme on Remediation of the area of Pure and Applied Chemistry, is presently carrying out a series of initiatives with the aim of preparing and promoting joint projects in the field of environmental protection and recovery, establishing a common platform for harmonizing the actions and strengthening cooperation among institutions of industrialized and developing/in transition economies dealing with environmental issues.

On the basis of above considerations, ICS in cooperation with the Moroccan Association of Catalysis and Environment, organized a workshop on "Application of remediation technologies for heavily polluted sites, with focus on water and promotion of projects for the Mediterranean region" held on 29-30 September 2003 in Fez, Morocco, which represented one the further steps of the above mentioned ICS programme.

Objectives

- To survey strategies, criteria, tools and technologies for monitoring, evaluating, planning, and remediating soil and water contaminated sites in the frame of an integrated risk management and with focus on gaps and needs of remediation technologies for their application in the Mediterranean Basin.
- To collect updated information on environmental problems in Mediterranean Basin, also focusing on transboundary aspects of contamination, and to identify specific common issues and priorities in the area which could be the basis for developing joint initiatives and remediation projects.
- To develop joint initiatives and prepare the relevant project proposals, identifying also the possible funding schemes.
- To present and discuss ongoing initiatives relevant to remediation of polluted sites in the Mediterranean Basin and define suitable follow-up actions in order to strength these initiatives.
- To build awareness and regional capacity of environmental pollution and application of remediation technology to contaminated sites.

To strengthen the links between academy, industry and policy-making sectors in Mediterranean Basin Countries,

Organization

The workshop was organized by ICS – UNIDO in cooperation with the Moroccan Association of Catalysis and Environment, in the VOLUBILIS HOTEL on 29-30 September 2003 in Fez, Morocco, which represented one the further steps of the above mentioned ICS programme.

Funding

The ICS-UNIDO approved contribution was of 15,000 US\$.

The amount received on September 2003 was of 13,000 US\$.

The hosting institution contributed with 2,000 US\$ for the administrative support of the workshop, rent of premises and equipment.

International lecturers received a pocket money of 840 Dirham (equivalent to 88,60 US\$, according to the exchange rate as of the dates of the workshop). A summary of the lecturers who received the pocket money and of the total amount of money disbursed is attached).

A summary of the final budget is given in **Appendix 1**.

Lecturers

Andrea Lodolo	ICS-UNIDO Trieste	Italy
Martin Schamann	Austrian Federal Environment Agency	Austria
Gabrielle Centi	ICS-UNIDO	Italy
José Duarte	INETI	Portugal
Pinar Kara	University of IZMIR	Turkey
Nor Eddine Abriak	Ecole des Mines de Douai	France
Serge Vigneron	MEDIANTEC	Belgium
Mohamed Allagui	Industrial	Tunisia
K. Ait Mokhtar	Université Houari Boumediene Alger	Algeria

Participation

Participation was opened to scientists, experts in remediation, governmental representatives, representatives of industries, universities, managers and others dealing with environmental protection and recovery issues.

The total number of registered participants and lecturers was 52.

The full list and addresses of lecturers and participants are in **Appendix 2**.

Participants by their sphere of operation

Country	Government	Industry	Science and Research	Others	Total
Italy			2		2
Austria	1				1

Portugal			2		2
France			1		1
Belgium		1			1
Turkey			1		1
Tunisia		1			1
Palestine		2			2
Algeria			2		2
Morocco	3	7	7	2	19
Total	4	9	15	3	32

Materials

Each workshop participant obtained a folder with the essential information, agenda, list of participants, lecture notes, a notebook and badge.

Opening Ceremony

The Opening Ceremony was attended by about 55 people: invited guests, lecturers and participants.

The workshop was opened by Ahmed Belkhiri, Director of Sebou Basin Agency of The Moroccan Department of the Environment,

Other welcome speeches were delivered by:

- Stefano Ravagnan, Economic Counsellor of Italian Embassy in Morocco,
- Andrea Lodolo, Scientific Advisor, ICS-UNIDO, Italy
- Abdelhak Kherbeche, Moroccan Association of Catalysis and Environment

Programme

The programme was structured into different sessions, focusing on the following main topics:

- International Initiatives and Funding Opportunities
- Environmental Pollution and Remediation. General Issues
- Projects in the Field of Environmental Protection and Remediation in the Mediatrranean Basin
- Country Reports
- Follow-up Activities and Common Initiatives

The situation in the field of remediation of polluted sites in the Mediterranean Region countries was presented and discussed, focusing on water resources contamination problems, survey of contaminated sites affecting water resources quality, prioritization of remediation interventions, characteristics, availability and applicability of soil remediation and water treatment technologies, guidelines and decision support tools for integrated management of contaminated sites, etc.

A strong need to have regular exchange of information and knowledge among Med Basin countries on the above topics has been underlined during the discussions held at the end of each session.

In the final session of the workshop a general discussion on the environmental problems of the Med Region was held. At the end of the open discussion, participants identified some common problems of the region and prepared some draft proposals to be promoted for concerted initiatives in the region (see **Conclusions**).

The Agenda of the workshop is in the **Appendix 3**.

Assessment of the Workshop

A questionnaire was distributed to the participants. The results are summarized in the table below.

<i>Item</i>	<i>Excellent %</i>	<i>Very good %</i>	<i>Good %</i>	<i>Fair %</i>	<i>No reply</i>
The information process was	47	26	20	7	0
Announcement & pre-course material	30	30	29	6	5
Scientific program (general)	28	56	6	0	10
Lecture / workshop	33	44	23	0	0
Small working groups	47	20	33	0	0
Case studies	33	27	40	0	0
Extra-time specific question / example	52	19	24	0	5
Students:	Balanced	Unbalanced	No reply	No reply	
scientific knowledge	85	5	0	10	
Duration of program:	Just right	Too long	Too short	No reply	
number of days	50	00	42	8	
length of working days	64	29	7	0	
Training facilities and hotel	Excellent	Very good	Good	Fair	No reply
Lecture / training room	53	17	20	10	0
Breaks / refreshment	48	18	29	0	5
Hotel accommodation	62	18	13	7	00
Meals at the hotel	36	18	41	5	00
Organizer's response	50	20	20	10	00
Overall program organization	56	6	33	0	5
Follow-up:	Yes	Maybe	No		
Would you recommend to others	94	6	00		
Evaluation of lectures and Speakers	Excellent	Very Good	Good	Fair	No reply
Course material	50	13	37	0	0
Resident Lecture presentation	30	25	35	10	0
International Lecture presentation	32	25	35	8	0
Ability of Lectures to answer specific questions	40	20	30	10	0

As can be seen from the table, the participants' feedback was very positive and the overall score of the top two grades (excellent + very good) was 70%.

Conclusions

Organizers, international and national experts and participants coming from the following countries: Italy, Austria, France, Belgium, Portugal, Turkey, Palestine, Tunisia, Algeria and Morocco, have noted high quality of the workshop and a good balance between fundamental aspects and practical applications presented and discussed.

The aspects of environmental problems have been largely developed, analyzing differences and common aspects in each represented country.

The need to deeply analyze the applicability (technological as well as economic aspects) of the remediation of polluted sites and the treatment waste waters have been highlighted. The reduction of suitable water resources for drinking purposes has been also indicated as priority issue in the region.

The workshop has been a good occasion to gather representatives from industrial sector, the Ministry of Environment and university researchers, making them work together in this field.

Resulting from the discussion, the following four main subjects have commonly been considered as priority topics for all represented countries:

- 1-Valorisation of Phosphogypsum [PG]
- 2- Treatment of waste water from olive oil production
- 3-Treatment of waste water from tanneries
- 4-Water pollution by NO₃

On the basis of the above, the following four project proposals have been formulated:

Project Proposals

1- Valorisation of Phosphogypsum [PG]

Justification

Phosphoric acid production generates high amounts of PG. Its uncontrolled/unappropriate disposal/storage causes serious pollution problems of underground and surface water and marine environments.

Objectives

To find suitable recycling/reuse PG processes in order to avoid pollution and reduce PG environmental impact (e.g. elemental sulfur production, road construction, cement additives)

Expected outputs / deliverables

Development of specific new processes/treatments for the re-utilization of PG in sulfur production, road construction and cement industries. Feasibility studies.

Partners

Phosphoric Acid Producers (Morocco, Tunisia, France, Italy, Jordan, Spain,...), Cement Production Federation, R&D Institutions (CERPHOS), Universities, Ministries. Others...

2- Treatment of waste water from olive oil production

Justification

High amounts of hardly degradable waste waters (high contents of polyphenols, tannins, etc.) are generated by olive oil production in many Mediterranean basin countries and affect water resources quality.

Objectives:

Water resources protection, polyphenols recovery and reutilization in leather, pharmaceutical and cosmetic industries. Supports for pilot plant projects: JACTO and TSN processes.

Expected outputs / deliverables:

Development of specific treatments for OWW and of specific polyphenols recovery and reutilization processes in industry. Feasibility studies.

Partners

Almost all mediteraneen countries. Organisms: ONEP, SEE, Chapem, CERPHOS, Universities, in Morocco. INETI in Portugal, Univ. Granada and Sevilla in Spain. Others...

3- Treatment of waste waters from tanneries

Justification

Pollution of water resources by Cr, CaO, and other suspended materials generated by tanneries represents a common problem for many countries of MED basin.

Objectives:

Implementation of treatment facilities for Cr and organic material recovery in tannery industries. Design and implementation of suitable water recycling processes and ungrade of existing tannery processes in order to reduce the production of contaminated waters.

Expected outputs / deliverables:

Identification and application of specific treatments for Cr and organic material recovery and water recycling in tannery industries. Feasibility studies.

Partners:

Almost all mediteraneen countries. Organisms: ONEP, SEE, Chapem, CERPHOS (Morocco), INETI (Portugal).

4- Water pollution by NO3-

Justification

Surface and groundwater resources for drinking water production are affected by NO3- contamination in many mediterranean countries.

Objectives

Identification and application of surface/groundwater preservation strategies and suitable treatments for potable water production.

Expected outputs / deliverables:

Design and implementation of suitable treatment processes for nitrates level reduction in drinking water production. Feasibility studies

Partners:

Morocco, Algeria, Tunisia, Palestine, Portugal, Spain, France.

These proposals will be taken into account for the implementation of possible joint initiatives in the Mediterranean Basin countries and will be further developed in the next future. The coordination of the four project proposals will be assured by ICS-UNIDO and Prof. Abdelhak KHERBECHE.

Fez, 15 october 2003

Abdelhak Kherbeche
Local Organizer



INTERNATIONAL CENTRE FOR SCIENCE AND HIGH TECHNOLOGY

Aide-Mémoire

**Workshop
on**

“Application of remediation technologies for heavily polluted sites, with focus on water and promotion of projects for the Mediterranean region”

Fez, Morocco

September 29-30, 2003



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

1. Background

One of the most urgent problems to be faced at a global level is the decontamination of soil and waters, both in industrialized countries and in those having in transition economies. There is the need to allocate extensive financial as well as scientific and technical resources for environmental protection and recovery, and define specific strategies and projects which can solve the problems. Large polluted areas besides having lost their eco-functionality, often represent a serious risk for human health. Environmental situation in each country is specific by type, distribution and extent of contamination and a proper integrated environmental strategy together with the availability of sound and suitable decontamination technologies is one of the priorities for the years to come. In region suffering of scarce water resources such as in the Mediterranean region this problem amplifies the question of restoring polluted area.

The International Center for Science and High Technology (ICS) is an autonomous institution, operating within the legal framework of the United Nations Industrial Development Organization (UNIDO). Its headquarters are located in Trieste, Italy. The Center's mandate relates to the transfer of know-how and technology to developing countries and those having in transition economies.

Specifically, ICS within the subprogramme on Remediation of the area of Pure and Applied Chemistry, is presently carrying out a series of initiatives with the aim of preparing and promoting joint projects in the field of environmental protection and recovery, establishing a common platform for harmonizing the actions and strengthening cooperation among institutions of industrialized and developing/in transition economies dealing with environmental issues.

On the basis of above considerations, ICS in cooperation with the Moroccan Association of Catalysis and Environment, is organizing a workshop on **"Application of remediation technologies for heavily polluted sites, with focus on water and promotion of projects for the Mediterranean region"** to be held on 29-30 September 2003 in Fez, Morocco, which represents one of the further steps of the above mentioned ICS programme.

2. Justification

The status of pollution and the relevant prevention policies and decontamination strategies markedly differ between regions of the world and between countries of a same region, because of the different socio-economic and industrial situation in the past and the present time. A proper planning and management of environmental problems, the introduction and implementation of suitable remediation technologies together with the introduction of environmental friendly industrial technologies, are the key factors to face these problems. In addition, there is the need to adapt the remediation technologies to specific country needs or to develop new specific remediation technologies. Therefore, remediation strategies and technology transfer or development should be linked in an integrated regional approach.

Some new approaches and tools are nowadays becoming available for a proper management and planning of remediation initiatives and ICS is then promoting their introduction, development and application and contributing to strengthen national capabilities with adequate programmes and initiatives.

The workshop on **"Application of remediation technologies for heavily polluted sites, with focus on water and promotion of projects for the Mediterranean region"**, follows the EGM

on "Remediation Technologies and Promotion of related projects", held in Trieste on May 5-6, 2003. In such occasion objectives, contents/programme and expected outputs of the workshop in Morocco were discussed and defined, with the aim of identifying the appropriate strategies, policies, and initiatives to face the specific environmental problems in Morocco and the other countries of the Mediterranean region within an international perspective and of defining suitable actions for a proper environmental management and planning.

The workshop is particularly focused on defining suitable common initiatives and on promoting joint projects and will collect updated information on the situation of contaminated sites and on the adopted strategies and relevant on-going/planned remediation interventions in Euro-Mediterranean's countries, in order to evaluate the possibility to link different initiatives and launch joint projects.

The outputs of the meeting will also provide suggestions and recommendations for the ICS-UNIDO future international programmes in the field.

3. Site of the workshop

The workshop on **"Application of remediation technologies for heavily polluted sites, with focus on water and promotion of projects for the Mediterranean region"** is organized in cooperation with the Moroccan Association of Catalysis and Environment.

The **Moroccan Association of Catalysis and Environment (MACE)** was established in 1999. It is a scientific association and is operating on the whole territory of Morocco. Its activities are focused on the improvement and protection of the environment on the principles of sustainable development.

AMCE possesses strong links and cooperates with national agencies and with other regional institutions/organizations in the Mediterranean Region dealing with environmental protection.

In Morocco, there is a will to put into place a dynamic environmental policy having as basic action the preservation of the quality of natural surroundings. In this respect and after the organization of the Fourth International Symposium on "Environment, Catalysis and Processes Engineering" (April 15-16, 2003; Fez, Morocco), the Moroccan Association of Catalysis and Environment will act as the ICS-UNIDO local counterpart in the organization of the Workshop on "Application of remediation technologies for heavily polluted sites, with focus on water and promotion of projects for the Mediterranean region" which will be held on September 29-30, 2003 in Fez (Morocco).

4. Objectives

- To survey strategies, criteria, tools and technologies for monitoring, evaluating, planning, and remediating soil and water contaminated sites in the frame of an integrated risk management and with focus on gaps and needs of remediation technologies for their application in the Mediterranean Basin.
- To collect updated information on environmental problems in Mediterranean Basin, also focusing on transboundary aspects of contamination, and to identify specific common issues and priorities in the area which could be the basis for developing joint initiatives and remediation projects.
- To develop joint initiatives and prepare the relevant project proposals, identifying also the possible funding schemes.

- To present and discuss ongoing initiatives relevant to remediation of polluted sites in the Mediterranean Basin and define suitable follow-up actions in order to strengthen these initiatives.
- To build awareness and regional capacity of environmental pollution and application of remediation technology to contaminated sites.
- To strengthen the links between academy, industry and policy-making sectors in Mediterranean Basin Countries,

5. Expected Outputs

- Survey of strategies, criteria, methodologies and tools for the risk based management of contaminated sites in the Mediterranean Basin and survey of technologies (needs and gaps) for the remediation of soil and water contaminated sites in this region.
- Survey of environmental problems in Mediterranean Basin, including also transboundary aspects of contamination, and identification of specific common issues and priorities in the area which could be the basis for developing joint initiatives and remediation projects.
- Create the basis for joint initiatives and project proposals with the identification of the objectives, actions and tools necessary to reach the objectives, possible funding schemes, possible partnership.
- Survey of the ongoing initiatives relevant to remediation of polluted sites in the Mediterranean Basin and follow-up actions relevant to strengthen these initiatives.
- Improved awareness and regional capacity of environmental pollution and application of remediation technology to contaminated sites.

6. Profile of Participants

Experts on environmental pollution and remediation, governmental representatives, decision makers and responsible persons of international and national organizations; selected representatives from Mediterranean Basin Countries (Morocco, Tunisia, Algeria, Egypt, Jordan, Turkey, etc.) dealing with environmental protection and recovery issues will be invited in the event.

7. Tentative Programme

Main topics to be dealt with:

SESSION 1 - INTERNATIONAL INITIATIVES AND FUNDING OPPORTUNITIES

- ICS-UNIDO International programmes/initiatives in the field of remediation and environmental pollution reduction.
- Other international programmes/initiatives and international funding opportunities for environmental protection/recovery.

SESSION 2 - ENVIRONMENTAL POLLUTION AND REMEDIATION. GENERAL ISSUES

- Risk based approach for the management of contaminated sites.
- Established and emerging technologies in soil remediation water treatment: characteristics, applicability, advantages, limitations.
- Decision support tools in the remediation of polluted sites.

SESSION 3 - PROJECTS IN THE FIELD OF ENVIRONMENTAL PROTECTION AND REMEDIATION IN MEDITERRANEAN BASIN

- Ongoing and planned initiatives in the EU on soil/water remediation and environmental recovery of contaminated sites
- Regional and transnational initiatives in Mediterranean region.

SESSION 4 - COUNTRY REPORTS

- Topical environmental pollution problems in Mediterranean and Middle East (countries: Morocco, Tunisia, Egypt, Jordan, Turkey, etc.). Main topics to be dealt with:
 - *Topical environmental pollution problems in the country: sources for soil and groundwater pollution.*
 - *General strategy for contaminated site remediation, priority sites, long and short term objectives, on-going and planned national projects.*
 - *Gaps and needs for remediation technologies application, facilities for contaminated soil and water treatment.*
 - *Integration of possible projects in national/transnational initiatives.*

SESSION 5 - FOLLOW-UP ACTIVITIES AND COMMON INITIATIVES

- Project proposals' development: Working groups.
- Presentation of results and identification of possible joint initiatives.
- Recommendations and conclusions.

8. Documentation:

The basic documentation for the Workshop will consist of the following:

- Agenda of the workshop
- List of participants
- Abstracts of contributions
- Updated ICS Project Portfolio relevant to the subprogramme on remediation

Relevant written material will be distributed during the Workshop.

9. Time and Venue

The Workshop will be held in Fez (Morocco), on 29-30 September 2003.

10. Language

The official language of the Workshop will be English (some lectures will be delivered in French).

11. Financial/ Administrative Arrangements

For a limited number of participants selected by ICS-UNIDO, round-trip air-ticket from the airport of departure will be reimbursed for the most direct and economical route. Pre-paid tickets will be issued where necessary. If you prefer a pre-paid ticket, please inform the local organizer as soon as possible.

Living expenses for a selected number of participants will be covered by the organizers of the workshop. The participants will be accommodated in the facilities selected by the organizers.

Participants will be required to bear the costs of all expenses in their home country incidental to travel abroad, such as expenditure for passport, visa and any other miscellaneous items as well as internal travel to and from the international airport of departure in their home country.

The airport of Fez has connections with some Euro-Mediterranean cities via Casablanca Airport.

The organizer will not be responsible for any of the following costs, which may be incurred by the participants while attending the workshop:

- Compensation for salary or related allowances during the period of the meeting;
- Any cost incurred with respect to insurance, medical bills and hospitalization fees;
- Compensation in the event of death, disability or illness;
- Loss or damage to personal property of participants while attending the training course.

12. Visa Arrangements

Participants are requested to arrange for their visa, if required, as early as possible at the Embassy in their home country. In case of difficulties, please advise the contact persons mentioned below.

13. Registration and Contact Persons

Local Contact Person

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ICS-UNIDO Contact Person

Stanislav Miertus
ICS-UNIDO Area Director
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Appendix - 1

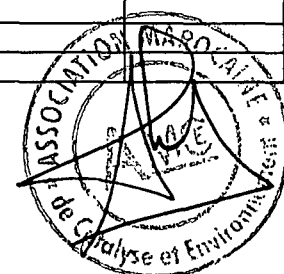
**“Application of remediation technologies for heavily polluted sites,
with focus on water and promotion of project of the mediterranean region
Fez, Morocco, 29-30 September 2003**

Rate of Exchange: value 9,48/dollar

BUDGET UNIDO

Advanced Payment by UNIDO (80%) US\$ 13000
Advanced Payment by UNIDO (80%) local currency 123243,59

DESCRIPTION	Budget US\$	Budget local curr.	Disbursement U	Disbursem	Difference U	Difference I.c.
Travels						
International lecturers						
ALLAGUI M (Tunis-Fès - Tunis).				4121		
PINAR KARA (Istanbul- Casa-				5567		
PINAR KARA (Fès- Casa)				1123		
Ait Mokhtar (Alger- Fès-Casa-				4982		
ABRIAK N (Bruxelles- Fès				4878		
Hadeel Zeidan (Amman- Casa-				7560		
Hadeel Zeidan (Fès- Casa)				913		
José DUARTE				4377		
Gabrielle Centi(Rome-Casa-Fès-Casa-Rome)				4592,7		
Amer Badarneh(Amman-Casa-Fès-Casa-Amman)				7700		
Total	7200	68256	4832,67	45813,7	2367,33	22442,3
Accomodation & meals						
International lecturers						
PINAR KARA (4 days)				5380		
GABRIEL CENTI(4 days)				5380		
ABRIAK N.(4 days)				5380		
ALLAGUI M.(4 days)				5380		
Ait MOKHTAR K.(4 days)				5380		
LAGHA BOUZID(4days)				3700		
JOSE DUARTE(3 days)				4150		
AMER BADARNEH (2 days)				3150		
HADEEL ZEIDANE(2 days)				3150		
VIGNERON S.(2 days)				2310		
Total	4800	45504	4573,84	43360	226,16	2144
National lecturers						
BEKRI Omar				2890		
KABBABI Abdelhak				2890		
BOUAYAD Jamil				2890		
KITANE Said				2890		
EL ABID LOUBNA				2890		
Total	1200	11376	1524,26	14450	-324,26	-3074
National participants						
LMARIOUH A,				2890		
FERHAT M,				2890		
HARTI A,				920		
DIOURI S,				920		
OUZINA A,				920		
ELMRABET R,				920		
KHERBECHÉ A,				1380		
KOTBI M,				1380		
CHAQROUNE A				1380		
CHAOUNI A,				1380		
KERROUM M,				1380		
ZERROUQ F				1380		



EL ALAMI R,				1380		
BOUIRIK B,				1380		
TALEB M,				1380		
TALEB A,				1380		
Total	1400	13272	2453,6	23260	-1053,6	-9988
Local transportation						
Total	400	3792	387,65	3675	12,35	117
TOTAL ICS-UNIDO Contribution	15000	142200	13772,02	130558,7	1227,98	11641,3
Somme qui reste à verser par UNIDO			771,64	7315,1		



Appendix - 2

**ICS-UNIDO Workshop
Fez, Morocco 29-30 Sept. 2003
List of Participants**

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INTERNATIONAL CENTRE FOR SCIENCE AND HIGH TECHNOLOGY

Workshop

on

“Application of remediation technologies for heavily polluted sites, with focus on water and promotion of projects for the Mediterranean region”

Fez, Morocco
29-30 September 2003

AGENDA



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Monday, 29 September

09:00-09:30 Registration of participants.

Opening Session

09:30-09:40 **Opening Ceremony**

Welcome addresses and greetings

- Ahmed Belkhiri, Director of Sebou Basin Agency of The Moroccan Department of the Environment, Morocco
- Stefano Ravagnan, Economic Counsellor of Italian Embassy in Morocco,
- Andrea Lodolo, Scientific Advisor, ICS-UNIDO, Italy
- Abdelhak Kherbeche, Moroccan Association of Catalysis and Environment

09:40-10:00 CS-UNIDO mandate, strategy and programmes. Presentation of the workshop
(Mr. A. Lodolo,, ICS-UNIDO, Italy)

10:00-10:30 *Coffee Break*

Session One

INTERNATIONAL INITIATIVES AND FUNDING OPPORTUNITIES

10:30-10:50 ICS-UNIDO International programmes/initiatives in the field of remediation and environmental pollution reduction
(Mr. A. Lodolo, ICS-UNIDO, Italy)

10:50-11:20 Funding opportunities for projects in the 6th EU Framework Programme
(Nicole Riveill - EU Directorate XII) presented by Mr. G. Centi, ICS-UNIDO, Italy)

Session Two

ENVIRONMENTAL POLLUTION AND REMEDIATION. GENERAL ISSUES

11:20-11:40 Risk based approach for the management of contaminated sites
(Mr. M. Schamann, ICS-UNIDO, Austria)

11:40-12:00 Established and emerging technologies in water treatment and remediation
(Mr. G. Centi, ICS-UNIDO, Italy)

12:00-12:20 Soil remediation technologies: main features and applications
(Mr. A. Lodolo, ICS-UNIDO, Italy)

12:20-21:40 Decision support tools in soil remediation technologies
(Mr. A. Lodolo, ICS-UNIDO, Italy)

13:00-15:00 *Lunch*

15:00-15:20 Industrial technologies in water treatment and remediation
(Mr. Serge Vigneron Director of Medianec- Belgium)

15:20-15:40 New bioreactors for treatment of typical Mediterranean agro-industrial effluents

(J.C. Duarte, Portugal)

- 15:40-15:55 Le Phosphogypse : sous produit à valorisation profitable.
Kabbabi, J. Maghnoij , CERPHOS – Casablanca –Maroc
- 15:55-16:10 Potential use of phosphogypsum in hydraulic binders;General review and perspective
(Nor Edine ABRIAK, DENIS DAMIDOT, Ecole des mines de Douai, France)
- 16:10-16:25 Valorisation du Phosphogypse
(J. Bouayad,PROJEMA, MAROC)
- 16:40-16:55 TSN process activated oil shale for waste water treatment PROCESS
(O. Bekri, CHAPEM, Maroc)
- 16:55-17:10 Qualité de l'huile d'olive et valorisation des grignons d'olive et des margines pour la protection de l'environnement
(S. Kitane (1), M. Maalmi (1), A. Sebban (2), A. Bahloul (2), A.Dahchour (3), A. Kherbeche (4)
1-Ecole Nationale de l'Industrie Minérale (ENIM) – Rabat :
2-Faculté des Sciences Ben M'Sik Casablanca :
3-Institut Agronomique et Vétérinaire Hassan II (IAV) – Rabat :
4-Ecole Supérieure de Technologie (EST) – Fes (Morocco)
- 17:10-17:30 *Coffe Break*

Session Three

PROJECTS IN THE FIELD OF ENVIRONMENTAL PROTECTION AND REMEDIATION IN MEDITERANEAN BASIN

- 17:30-18:00 Ongoing and planned initiatives in the EU on soil/water remediation and environmental recovery: CAT-MED, PALTEC and other Projects
(Mr. G. Centi, ICS-UNIDO, Italy)
- 18:00-18:30 Discussion

Tuesday, 30 September

Session Four

COUNTRY REPORTS

- 09:00-09:30 Environmental Situation in Mediterranean Basin countries)
(Mr. M. Schamann, ICS-UNIDO, Austria)

9:30- 10:30 Topical environmental pollution problems in Mediterranean and Middle East countries. Project proposals' presentation (2 countries, 20 min each)

Main topics to be dealt with:

- Topical environmental pollution problems in the country: sources for soil and groundwater pollution.
- General strategy for contaminated site remediation, priority sites, long and short term objectives.
- Gaps and needs for remediation technologies, facilities for contaminated soil and water treatment
- On-going and planned national projects. Project proposals' presentation

Countries:

- Algeria (*Khedidja Aitmokhtar, Algeria*)
- Palestine (*Hadeel Ahmad Zeidan, Palestinian Territories*)

10:30-11:00 *Coffee Break*

11:00- 12:20 Topical environmental pollution problems in Mediterranean and Middle East countries. Project proposals' presentation (continuation, 4 countries, 20 min each)

- Morocco (*Loubna El Abed, Secrétariat d'Etat chargé de l'Environnement, Maroc*)
- Tunisia (*Mr. M.S. Allagui, SNCPA - Kasserine – Tunisia*)
- Turkey (*Pina Kara, M. Ozsoz, Turkey*)

12:20-13:00 Discussion

13:00-15:00 *Lunch*

Session Five

FOLLOW-UP ACTIVITIES AND COMMON INITIATIVES

15:00-16:30 Project proposals development: Working groups.

16:30-17:00 *Coffe Break*

17:00-18:00 Presentation of results and development of follow-up action plan.

18:30-18:30 Discussion

18:30-19:00 Recommendations and conclusions