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**FINAL REPORT**

**Training Course on**  
*"Industry and Development Related to the  
Mediterranean Basin"*

**Rabat, Morocco**  
**29 October - 3 November 2001**

*organized by*

**ICS-UNIDO**

*in collaboration with*

**Ecole Mohammadia d'Ingénieurs, Rabat, Morocco**



*and*

**UNEP-MAP**

*ICS-UNIDO is supported by the Italian Ministry of Foreign Affairs*

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## ***BACKGROUND***

The sustainability of the industrial development is under question especially in coastal areas where the continuous increasing of human pressure is strongly threatening the natural ecosystems. A particularly "attractive" area distinguishes the urban, economic and social structure of the Mediterranean Basin, with a high population density and high economical dynamic, which includes many large coastal cities and some big ports. In this regional system including relevant parts of three continents: Europe, Africa and Asia, we find a large-scale industry (refineries, chemical, mechanical, shipyards, tourism and agro-industry) found generally along the coast.

Several conferences have been organized on the matter from the one of Rio of 1992 both at regional and global level to Sofia 1994, Barcelona 1995, New York 1997, and Kyoto 1997. Many conventions and protocols have been produced by these conferences. Relevant for the Mediterranean Sea is the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities adopted on 17 May 1980 by the Conference of Plenipotentiaries of the coastal states of the Mediterranean Sea against pollution from land-based sources (Final Act of the Conference of Plenipotentiaries on the Amendments of the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, Syracuse, Italy, 6 - 7 March 1996, and the amended version of the Land-Based Sources Protocol of 1980).

In this context, ICS-UNIDO has organized in collaboration with EMI (the Ecole Mohammadia d'Ingénieurs) a training course on "Industry and Development related to the Mediterranean Basin" from 29 October to 3 November 2001 in Rabat, Morocco. This Training Course has been developed within the activities of the ICS Area of Earth, Environmental and Marine Sciences and Technologies, under the Coastal Zone Management (CZM) Sub-programme.

This activity was liable to support similar initiatives of the Mediterranean Commission on Sustainable Development (MCSD) in the Mediterranean Region and to strengthen the collaboration between Mediterranean institutions interested in developing Decision Support tools for sustainable industrial development by transferring technologies that are useful to monitor landscape changes in industrial areas and their surrounding environment and to support decision-makers.

### ***JUSTIFICATION***

To achieve balanced environmental planning and sustainable exploitation of natural resources in coastal areas, industrial development has to be supported by a knowledge-based management system. This system should include the access to databases of best available technologies for the production processes, and the best available technologies for monitoring the industrial development, industrial siting and waste treatment and remediation.

Spatial data processing and multi-criteria decision support systems are considered necessary tools for industrial siting, urban planning and for establishing a system of monitoring stations, suitable for registering atmospheric and aquatic pollution. The integration of coastal environment engineering, GIS technology, GPS applications, numerical modelling with remotely sensed data management can be done through image processing and GIS technologies. This is useful for presenting a common "interface" and "approach" to tackle environmental problems and to control the industrialization impact.

### ***OBJECTIVES***

In this Training Course, ICS intended to train junior technicians in the field of coastal environment engineering, numerical modelling, decision support systems, geographic information systems and image processing through the use of advanced information techniques and methodologies for monitoring industrial development and controlling pollution in the Mediterranean Basin.

### ***STRUCTURE OF THE COURSE***

The course was articulated in 4 sessions (see detailed programme in the Annex).

The first session was focused on the presentation of a background and rational overview of the content of the training course and covered the main impacts of industrial development in the coastal areas of the Mediterranean basin. The most important aspects of coastal environmental engineering, including waste treatment and management were presented to the participants; the sustainability of the industrial development in the Mediterranean coastal areas was also discussed especially in function of the continuous increase of human pressure.

The second session covered the Information Technology Tools (IT Tools) and has been focused on:

- the methods and role of the knowledge based engineering to assess water management plans;
- the basic methods and the role of numerical modelling for environmental management of coastal areas;
- the concepts of industrial ecology and its role in the application of IT Tools with special emphasis on process simulation;
- the technology and methods of GPS and Remote Sensing and their applications in coastal zone management;
- the principles, methods, technology and role of Geographic Information System in environmental management of coastal areas;
- the integration between different IT Tools for creating a Spatial Decision Support System (SDSS);
- the application of multivariate analysis to detect trajectories in multidimensional spaces and the application of multi-criteria analysis in SDSS.

The third session was devoted to the applications of IT Tools to some specific case studies; the Strategic Action Plan of the Mediterranean Basin coordinated by UNEP was also illustrated to the participants.

Some participants have also presented their case studies and the actions taken by the Ministry of environment of their Countries to prevent pollution.

The fourth session was dedicated to a field trip in the coastal area of the region of Tetouan to visit the INRH (Institut National de Recherche Halieutique). The participants have been informed about the techniques applied to monitor water pollution and to develop environmental friendly aquacultures based on ecological principles.

## ***RESULTS***

- Trained participants in different technologies.
- The course has given to the participants the opportunity to discuss some real coastal problems.
- Strengthening ICS collaboration with international institutions and organizations in the Mediterranean Basin.

## ***CONCLUSIONS AND RECOMMENDATIONS***

The participants have been exposed and trained to some important techniques and methodologies based on information technology integration for planning the industrial development in Coastal Areas in a sustainable way. They were very interested and some of them very active in contributing to the discussions which has made an interactive exchange of information.

## ***IMMEDIATE FOLLOW-UP***

The participants have expressed to ICS the need of their institutions of having a specific training course, which would offer a full direct access to advanced software packages, in the use of the technology of spatial decision support system including GIS and remote sensing as soon as possible. This course should be included in the ICS activities of next years.

***LIST OF ANNEXES***

1. Programme (Annex I)
2. List of participants (Annex II)
3. Contributions (Annexe III)
4. List of Documents (Annex IV)
5. Opening Ceremony (Annex IV bis)
6. Statistics / Evaluation (Annex V)
7. Financial Issues (Annex VI)

**Training Course on**  
*“Industry and Development Related to the Mediterranean Basin”*  
**Rabat - Morocco, 29 October – 03 November 2001**

**Appendix 1: FINAL PROGRAMME**

**Monday, 29 October 2001: Background and Rationale**

09:00-10:00	Registration
10:00-10:30	Welcome speech by host: D. Bensari Introduction to ICS Area of Environment, ICS: E. Feoli Presentation of the Participants and Overview on the Objectives of the Training Course, Mr. E. Feoli, D. Ouazar
10:30-11:00	Coffee break
11:00-12:30	Focus on the impacts of the industrial development in the Mediterranean Basin, Mr. A. Nejjar
13:00-14:30	Lunch break
14:30-15:30	Coastal environmental engineering, Mr. A. Nejjar
15:30-15:45	Coffee break
15:45-16:45	Coastal environment impact assessment, Mr. D. Bensari
16:45-17:00	Open Discussion

**Tuesday, 30 October 2001: IT Tools**

09:15-11:00	Knowledge based engineering, Mr. D. Ouazar
11:00-11:15	Coffee break
11:15-13:00	Numerical Modelling and simulation aspects, Mr. F. El Dabaghi
13:00-14:30	Lunch break
14:30-15:30	Capabilities and constraints of DSS, Mr. E. Feoli, Mr. M. Ghribi
15:30-15:45	Coffee break
15:45-17:00	GPS applications in coastal areas, Mr. D. Bensari,

**Wednesday, 31 October 2001: IT Tools Cont.**

09:00-11:00	Integration of information by GIS technology, Mr. E. Feoli
11:00-11:15	Coffee break
11:15-13:00	GIS, remote sensing and spatial decision support systems (SDSS) for coastal zone management, Mr. M. Ghribi
13:00-14:30	Lunch break
14:30-15:30	Multivariate data analysis and data classification, Mr. E. Feoli
15:30-15:45	Coffee break
15:45-16:45	Multi-criteria evaluation for industrial siting, Mr. M. Ghribi
16:45-17:00	Open Discussion

**Thursday, 1 November 2001: Applications and Case Studies**

08:30-10:00	Process Simulation and its environmental applications, Mr T. Bounahmidi
10:30-11:00	Coffee break
11:00-13:00	Integration of information technologies for CZM, Ouazar, ElBayad, N. Aqid
13:00-14:30	Lunch break

14:30-15:30 Case Study: Mr. Mdiq Bay; Hydrodynamic Aspects: Mr L. Idrissi, INRH  
15:30-15:45 Coffee break  
15:45-17:00 Case Study: GIS Application to the Mediterranean Area: Mrs. R. Houssa, INRH

**Friday, 2 November 2001: Applications and Case Studies Cont.**

09:00-10:30 Overview of the Strategic action Programme and its Implementation by the Industrial Sector, (UNEP, Mr F. Abousamra)  
10:30-10:45 Coffee break  
10:45-12:30 The Influence of dams on coastal areas in North Africa. Case studies of Smir (Morocco) and El-Zouaraa (Tunisia), Mr. L. Cassar  
12:45-14:30 Lunch  
14:30-15:30 Open Discussion,  
15:30-16:00 Conclusions and Closure of the Training Course  
16:00-16:30 Coffee Break

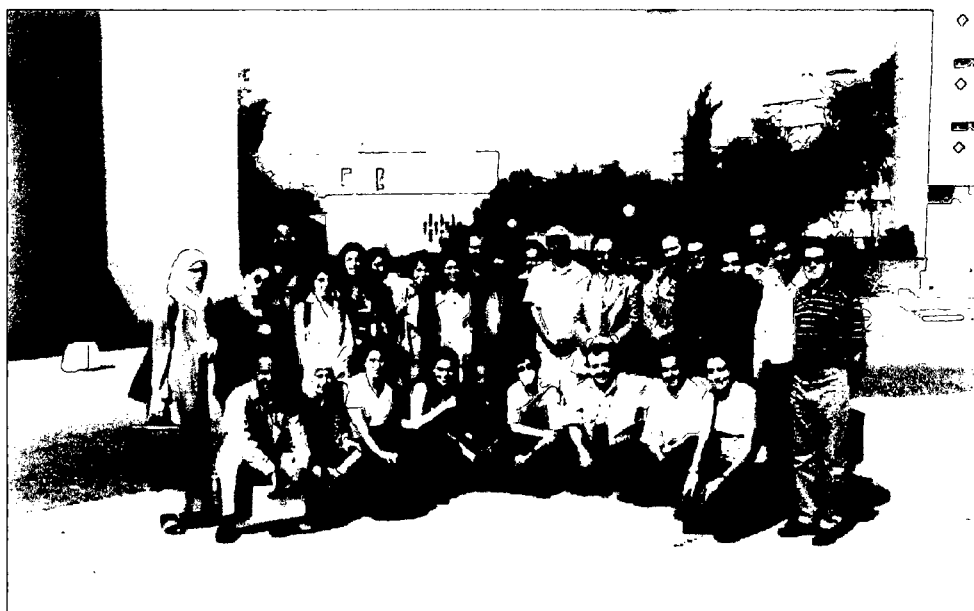
**Saturday, 3 November 2001: Field Trip**

06:30 Departure to Tetouan  
09:30-11:00 Case Study: Mr. Mdiq Bay; Quality Aspects: Mr M. Maghraoui, INRH  
10:30-12:30 Visit of the INRH Institute of Halieutic Research , Scientific investigations  
13:00-14:30 Lunch  
17:00 Back to Rabat



**Training Course on**  
*“Industry and Development Related to the Mediterranean Basin”*  
**Rabat - Morocco, 29 October – 03 November 2001**

**Appendix 2: LIST OF PARTICIPANTS**



## List of Participants

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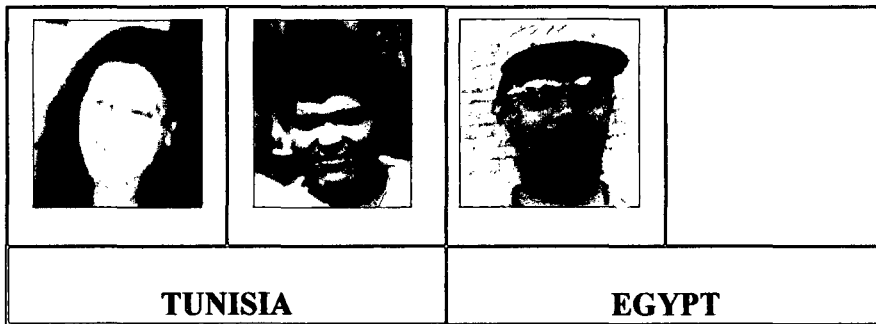
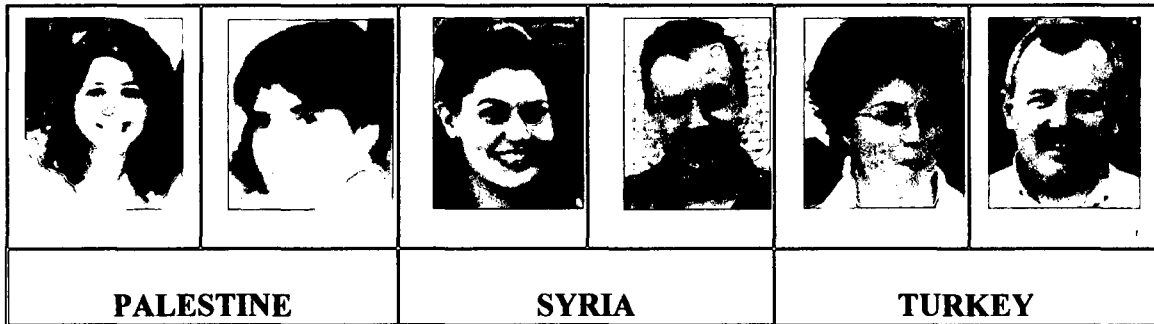
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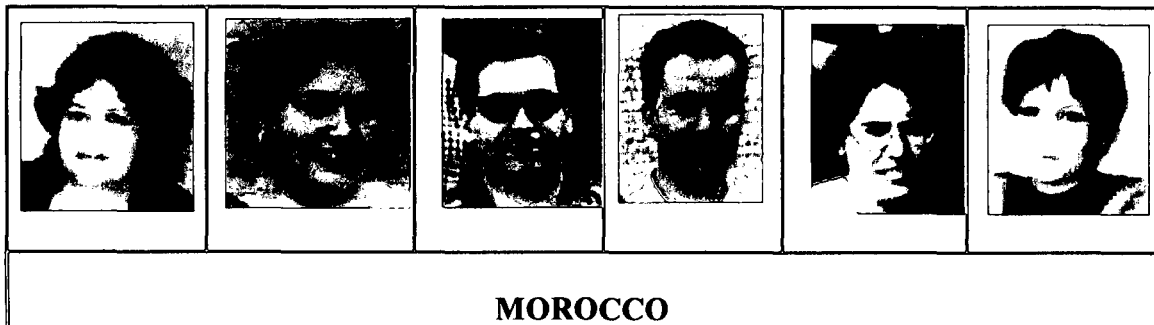
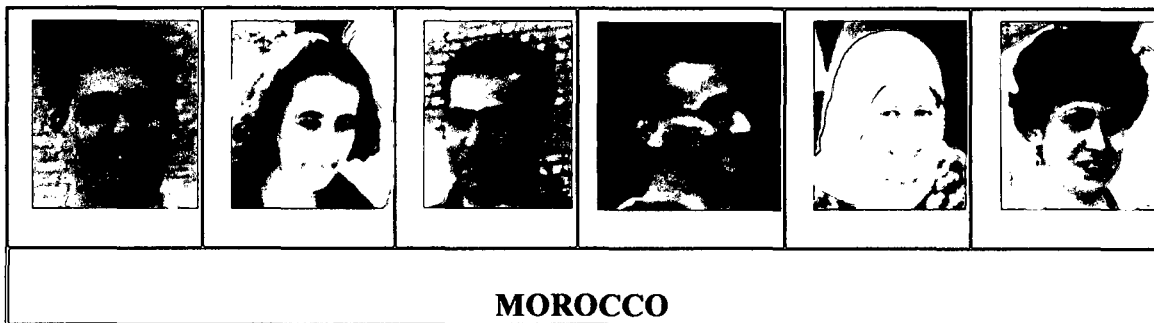
Participants were chosen following criteria related to age, sex, education, profile, number of the participants per country and past experience. They are coming from Mediterranean, West and North Africa countries. The following picture shows the different countries representatives / delegates.

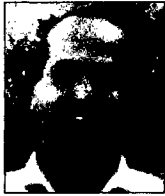



**15 FOREIGN PARTICIPANTS**



**13 MOROCCAN PARTICIPANTS**



		
<b>MOROCCO</b>		


<b>TC Secretary</b>

## Lectures

The workshop started with general lectures for the background, then specialised topics, demonstrations and cases studies presentation by various country papers concerning problem statements, GIS, GPS applications and / or RS applications, numerical modelling/simulation, funding/international co-operative projects. Detailed information can be found in (Contributors/ Contributions) section.



Highly advanced equipment was used for tutoring.  
Overhead Projectors  
In Focus Data Display



## Scientific Trip

A trip to M'Diq coastal was planned on 03<sup>th</sup> November to illustrate and visualize the scientific equipment.



## **Detailed Technical contents**

### **Prof. A.Nejjar**

- L: Technologies pour le Contrôle de la Pollution du Milieu Marin.
- L: Focus On the Impacts of the Industrial Development in the Mediterranean Basin.
- L: Nutriments Impact: Eutrophication.

### **Prof. D.BENSARI**

- L: Coastal Environmental Impact Assessment
- L: GPS Measurement and Applications

### **Prof. D. Ouazar**

- L: An Overview of Knowledge Based Expert Systems and Object Concepts

### **Prof F. Dabaghi / D. Ouazar**

- L: Numerical Modelling and simulation aspects: Esimeau Integrated Information System for Modelling and Management of Water resources Concept and Architecture.

### **Prof E.Feoli**

- L: Spatial Decision Support for Integrated Coastal Area Management
- L: Multidimensional Spaces of Landscape System
- L: Industrial Ecology

### **Ing M.Ghribi**

- L: Use of GIS, Remote Sensing and Spatial Decision Support Systems (SDSS) for the environmental management of coastal areas

### **Prof. F.Abousamra**

- L: Strategic Action Programme To Address Pollution From Land- Based Activities (SAP) United Nations Environment Programme-Mediterranean Action Plan.

## **Accommodation and Food**

All the foreign participants and Moroccan participants not living at Rabat were lodged at the "Agriculture Club" ACSA.

The lecturers were at Ecole Mohammadia d'Ingénieurs. All lunches for the group were organized at Fath Club, while the dinner is taking at ACSA. The following pictures give an idea of the organization and facilities offered.







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**Appendix 3: LIST OF CONTRIBUTIONS**

## ALGERIA

**Anissa LOUKRIZ : Environment's Ministry**

Engineer in chemical Industry, Special field : Environment

I'm working on different files concerning :

- o The pollution in factories
- o The marine pollution
- o The cheking of industrial's pollution.

I'm a member in different groups in charge of :

- o Environment's National Action Plan
- o The Elaboration of Environment's Indicators
- o The Elaboration of the Report on State's Environment.

## TURKEY

**Almila KINDAN :**

I am working in Foundation for Environmental Education in Turkey (Feee, Turkey) I am a Bleu Flag Coordinator of Turkey.

Feee, Turkey is a member of the Foundation for Environmental Education Blue Flag Project and also two other execution of firstly expects ; Eco Schools Projet ans Young Reporters for the Environment Project. Blue Flag criteria can be grouped to four main categories :

1. Bathing water Quality
2. Equipment and Services
3. Environnemental Management
4. Environnemental Education

For the Bathing water quality there are currently 336 sample points for the regular checks of bathing water quality of Turkey. Samplings; the microbiological (total calibacteria, feaceal calibacteria, feaceal sterptococci) and physico-chemical (pH, colour, phenols, terry vesidues, surface active agents, ...) analyses are performed by Ministry of Health. However they are evaluated by the Foundation for Environmental Education in Turkey in compliance with the EU Bathin Water Directive. In Feee,, Turkey ; we solely keep bathing water quality of coastal zones of Turkey basdan EU Bathing Water Directive.

In order to keep the Bathin Water Quality below the limits the treatment plants and sanitary facilities must be cartroved also.

One of the criteria says there must be severage system and a treatment plant correspondingly in accordance with the equivalent population and they must also be cartroved regularly. Therefore for Fee, Turkey keeps the reports of dischange effluent analyses of the concerned treatment plants placed in the municipality of the candidate beach. Dischange effluents & the sewerage system must be in compliance with EU Urban Wastewater Directive.

Since the Blue Campaign have important role on coastal zone management, I have been in environmental management through coastal areas pf Turkey. I provide coordination among beach responsible, local government, municipality, local associations, central and rural organisations of Environment – Tourism – Health Ministries in towers having Blue Flag awarded or candidate beaches.

## LEBANON

### Sarah KOUZI

#### Education :

- MPH (Master of Public Health) concentration in Environmental Health at the American University of Beirut (AUB). 1995 – 1997.
- B.S in Environmental Health – AUB, 1992 – 1995.

Current Field of Work : Technical Assistant on strengthening the Permitting : Auditing System for Industries (SPASI) project. The project is funded by the EC, managed by UNDP and based at the Lebanese Ministry of Environment. The duration of the project is two years starting February 2000 until February 2002.

Goal of SPASI : To strengthen the permitting auditing and monitoring system for industry the development of necessary legislation and the introduction of adequate tools.

#### Field I have worked on :

- Development of to ministerial decisions related to classified establishments.
- Monitoring the development of the National Standards for Environmental Quality.
- Development of the Environmental Auditing Manual for Hotels.
- Development of the Green Motel Guidelines.
- Aided in the Development of the National Compliance Action Plan for Industries.
- Monitoring the development of a monitoring software to aid Ministry of Environment Staff in Monitoring Industries.

### Alissar CHAKER

#### I- Education :

- Bachelor of Science in Agricultural Sciences of a Diploma of “Ingenieur Agricole”, the American University of Beirut (AUB).
- Master of Science in Pollution of Environmental Control, the University of Manchester, United Kingdom
- Cycle Post-grade en Ingénierie of Management de l’Environnement, Ecole Polytechnique Fédérale de Lausanne, Switzerland.

Member of the Order of Lebanese Engineers & Architects

Member of the Institute of Wastes Management, United Kingdom.

#### II- Field of work :

Environmental Consulting in the following fields :

1. Solid waste management (including hospital waste, industrial & domestic waste).
2. EIA
3. Pollution assessment
4. Integrated coastal zone management
5. Cleaner production (particularly the planning sector (of EMS).

## PALESTINE

### **Khalid Ahmed QUAHMAN**

Research topic: saltwater intrusion into coastal aquifers, environmental aspects.

## MOROCCO

### **Abdellali FADIL**

Search subject: Climate change and precipitable water vapour by application of morocco GPS Data (Global Positioning System).

On order to analyse G.P.S. Data. I will be Expert in the Gamit/Globk Software which. Is a comprehensive GPS analysis package developed at M.I.T (Massachusetts Institute of Technology) and Scripps for the estimation of three dimensional relative positions of ground stations and satellites orbits.

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**Appendix 4: LIST OF DOCUMENTS**

<i>Authors</i>	<i>Subject</i>
Prof A.Nejjar	<ul style="list-style-type: none"> <li>○ Technologies pour le Contrôle de la Pollution du Milieu Marin..</li> <li>○ Focus On the Impacts of the Industrial Development in the Mediterranean Basin.</li> <li>○ Nutrients Impact: Eutrophication</li> </ul>
Prof D.Bensari	<ul style="list-style-type: none"> <li>○ Coastal Environmental Impact Assessment</li> <li>○ GPS Measurement and Applications</li> </ul>
Dr. F.Dabaghi	Numerical Modelling and simulation aspects: Esimeau Integrated Information System for Modelling and Management of Water resources Concept and Architecture
Prof E.Feoli	<ul style="list-style-type: none"> <li>○ Spatial Decision Support for Integrated Coastal Area Management</li> <li>○ Multidimensional Spaces of Landscape System</li> <li>○ Industrial Ecology</li> </ul>
Prof D.Ouazar	An Overview of Knowledge Based Expert Systems and Object Concepts
Dr. F.Abousamra	Strategic Action Programme To Address Pollution From Land- Based Activities (SAP) United Nations Environment Programme-Mediterranean Action Plan
Ing M.Ghribi	<ul style="list-style-type: none"> <li>○ Basic Concepts of Remote Sensing (RS), Geographic Information System (GIS) and Decision Support (DSS).</li> <li>○ Case study in India.</li> <li>○ Exercices.</li> </ul>

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**Appendix 4 Bis: Opening Ceremony**

Opening speeches were delivered respectively by Prof. E. Feoli ICS scientific consultant, Prof. D. Bensari and D. Ouazar local coordinators.

In his speech, D. Bensari welcomed the participants from 12 Mediterranean countries at this T.C on behalf of the Director of EMI & the local organisers. He thanked ICS-UNIDO for this opportunity offered to EMI Rabat Morocco and its representative E. Feoli and M. Ghribi for the efforts concerning the preparation of this T.C.

Prof. E. Feoli presented ICS history & objectives, ICS actions and the objectives of the T.C. Prof. D. Ouazar welcomed the participants attending the “Training Course on Industry and Development Related to Mediterranean Basin” jointly organised by ICS-UNIDO & EMI-Mohammed V University, Rabat.

The objectives as they will be discussed in detail by Prof D.Bensari and Prof E.Feoli are quite clear; Offer a methodology and computational tools for:

- Saving resources whilst saving money
- Protecting the Environment

For a specific and broad area: Marine systems

Within the framework of this workshop, participants will acquire knowledge on:

- Parameters, parameters identification and environmental standards.
- Main governing equations
- Instrumentation / measurements, monitoring networks.

They will learn about:

- Problem statement
- Problem assessment
- A series of computational tools such:

Geographic Information System (GIS), Remote sensing, numerical methods, GPS techniques, Oriented Data Bases (OODB), knowledge Based Expert Systems (KBES).

For handling the complexity of the environmental systems, identifying, analysing, modelling and simulating the behaviour of coastal Mediterranean industry.

The concept of integrated environment in general.

The approach is as follows:

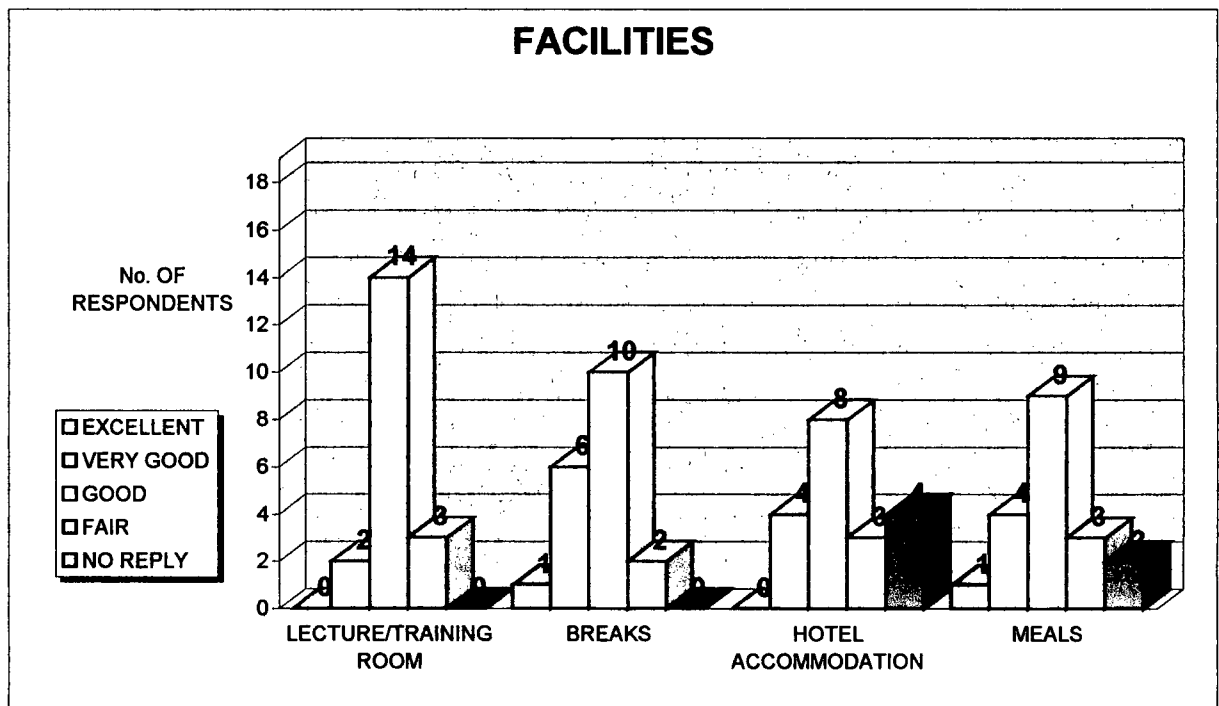
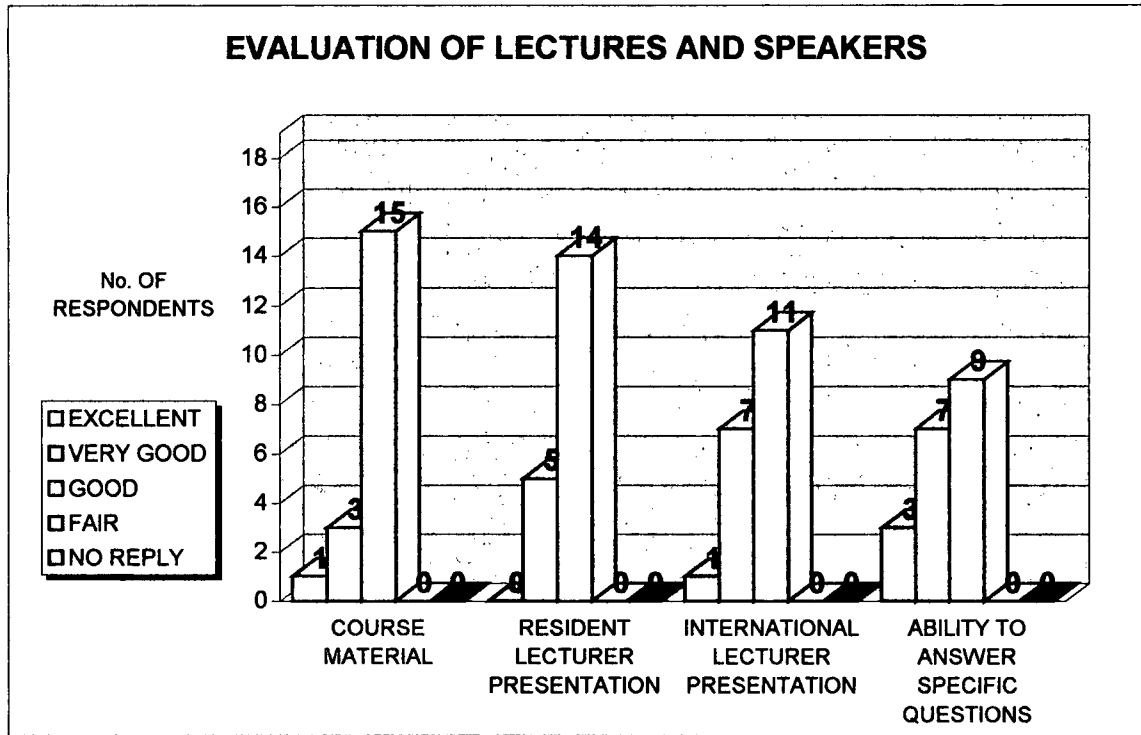
- A series of lectures/ tutorials delivered by highly internationally well know scientists from Europe, Asia and Africa, for the background and the state of the art,
- Hands on applications using the most advanced software and numerical models,
- Validation tests and case studies.

The overall objective is to initiate regional and international research co-operation to combat all the bad environmental effects and to master environmental impact assessment, and to develop integrated environmental management methodologies, in order to avoid the worst for the region

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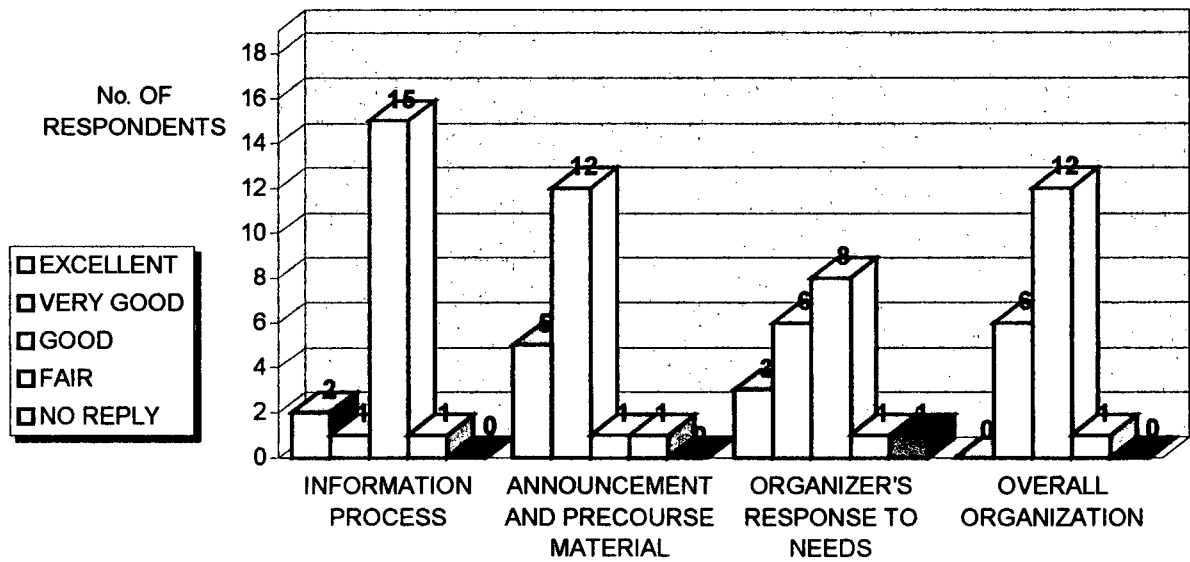
**Appendix 5 : STATISTICS/EVALUATION**

## STATISTICS/EVALUATION

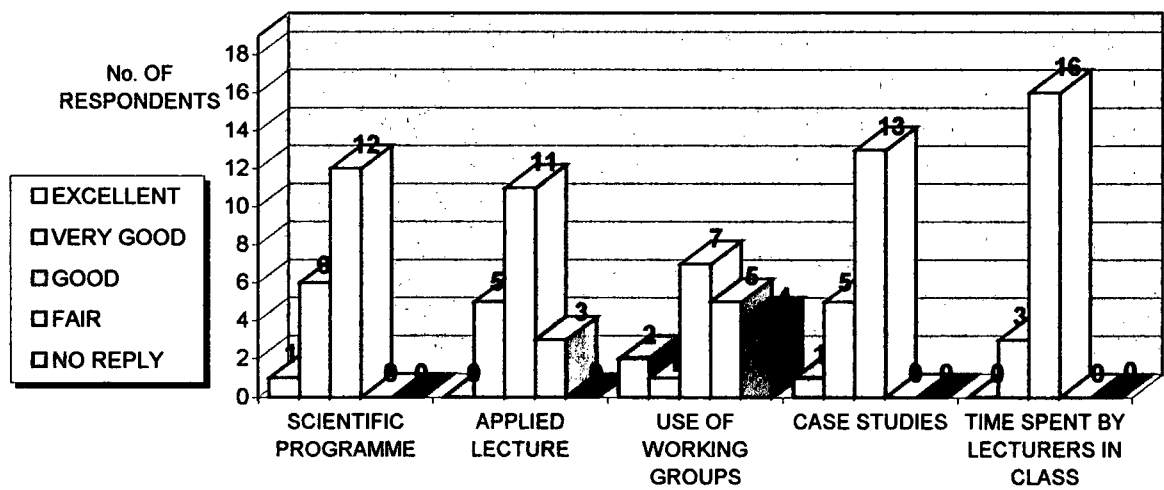




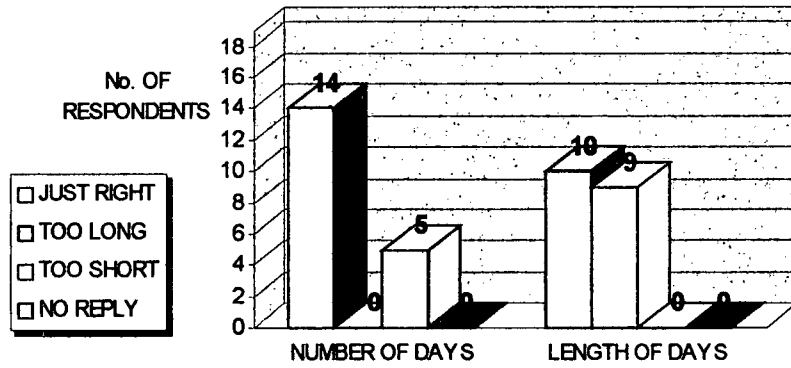
## ORGANIZATION



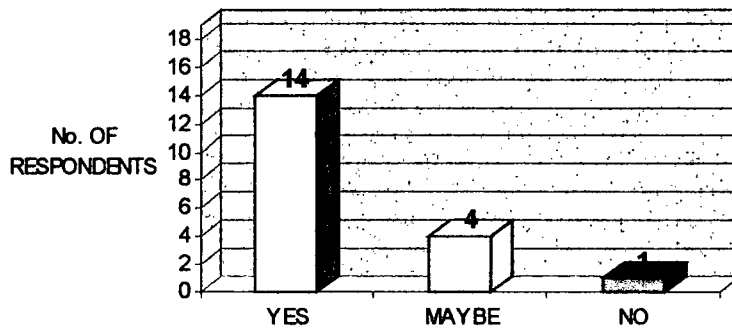
## SCIENTIFIC PROGRAMME



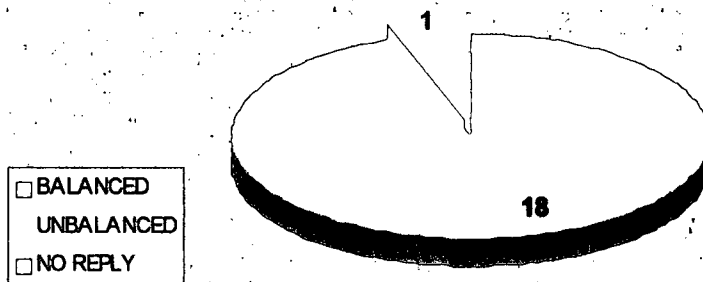
### DURATION OF PROGRAMME



### WOULD YOU RECOMMEND TO OTHERS FROM YOUR INSTITUTE/COUNTRY TO ATTEND A SIMILAR ACTIVITY IN THE FUTURE?



### STUDENTS SCIENTIFIC KNOWLEDGE



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**POCKET MONEY / EXTRA INCLUDED COSTS**

**Appendix 5**



**Training Course on  
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**ATTESTATION**

**I Prof. Luis Cassar**

**Certify that I have received an amount of \$1187,2 (Dhs 13059,2)  
representing the reimbursement of my flight ticket Malta-Casa-Malta  
(\$302) 5 days (\$735) per diem and \$ 150 honorarium from the local  
organisers**



**Prof. Luis CASSAR**



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## **ATTESTATION**

**Prof. Fadi El Dabaghi**

**Certify that I have received an amount of Dhs 15179,025  
representing the reimbursement of my flight ticket Dhs 5098,875  
5 days Dhs 8371,65 per diem an \$150 (1708,52 Dhs) honorarium  
from the local organisers.**

**Prof. Fadi El Dabaghi**



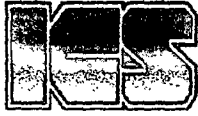
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Industry and Development Related to the Mediterranean Basin  
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## **ATTESTATION**

**I Tijani BOUNAHMIDI**

hereby certify that I have received an amount of \$150 covering  
honorarium from the local organizers

**Tijani BOUNAHMIDI**



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## **ATTESTATION**

**I Rachid EL BAYAD**

hereby certify that I have received an amount of \$150 covering  
honorarium from the local organizers

**Rachid EL BAYAD**



EMI



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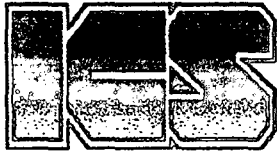
## **ATTESTATION**

**I Aqid NAIMA**

hereby certify that I have received an amount of \$150 covering  
honorarium from the local organizers

**Aqid NAIMA**





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## **ATTESTATION**

*J* **Nacera KACIMI**

hereby certify that I have received an amount of 1950 Dhs  
covering my pocket money for 7 days and local  
transportation expenses from the local organizers.

**Nacera KACIMI**



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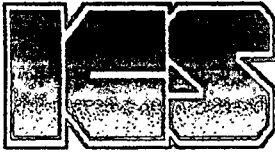
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Industry and Development Related to the Mediterranean Basin  
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## **ATTESTATION**

*J* **Anissa LOUKRIZ**

hereby certify that I have received an amount of 1950 Dhs  
covering my pocket money for 7 days and local  
transportation expenses from the local organizers.

**Anissa LOUKRIZ**



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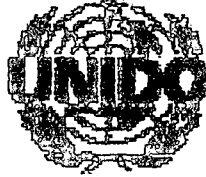
**ATTESTATION**

*J* **Essam NADA**

hereby certify that I have received an amount of 1700 Dhs  
covering my pocket money for 6 days and local  
transportation expenses from the local organizers.

**Essam NADA**

*Essam NADA*  
*2-11-2001*



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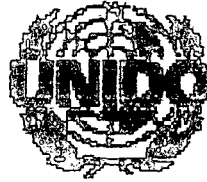
**ATTESTATION**

*J* **Sarah KOUZI**

hereby certify that I have received an amount of 2200 Dhs  
covering my pocket money for 8 days and local  
transportation expenses from the local organizers.

**Sarah KOUZI**

*Sarah Kouzi*



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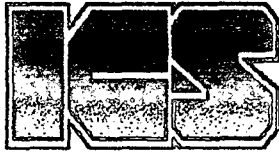
**Training Course on  
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**ATTESTATION**

*I* **Alissar CHAKER**

hereby certify that I have received an amount of 2200 Dhs  
covering my pocket money for 8 days and local  
transportation expenses from the local organizers.

**Alissar CHAKER**



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## **ATTESTATION**

*J* **Fatma Nadia RIFAAT**

hereby certify that I have received an amount of 1100 Dhs  
covering my pocket money for 4 days and local  
transportation expenses from the local organizers.

**Fatma Nadia RIFAAT**



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## **ATTESTATION**

*J* **Khadija AL NAILI**

hereby certify that I have received an amount of 1100 Dhs  
covering my pocket money for 4 days and local  
transportation expenses from the local organizers.

  
**Khadija AL NAILI**



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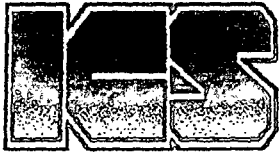
**ATTESTATION**

*J* **Nancy RUMMAN**

hereby certify that I have received an amount of 10681,25 Dhs  
covering my pocket money for 7 days, local transportation and  
Travel expenses from the local organizers

**Nancy RUMMAN**





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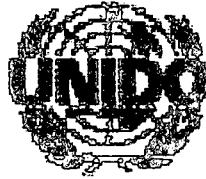
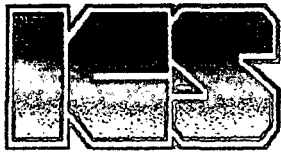
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Industry and Development Related to the Mediterranean Basin  
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**ATTESTATION**

*J* **Khaled QAHMAN**

hereby certify that I have received an amount of 1700 Dhs  
covering my pocket money for 6 days and local  
transportation expenses from the local organizers.

**Khaled QAHMAN**



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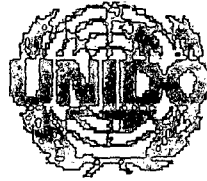
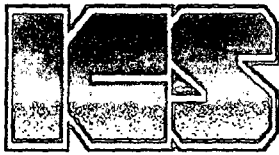
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Industry and Development Related to the Mediterranean Basin  
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## **ATTESTATION**

*J* **Souliman KALOU**

hereby certify that I have received an amount of 1950 Dhs  
covering my pocket money for 7 days and local  
transportation expenses from the local organizers.

**Souliman KALOU**



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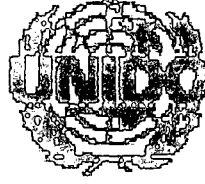
**Training Course on  
Industry and Development Related to the Mediterranean Basin  
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**ATTESTATION**

I **Yara HAZZOURI**

hereby certify that I have received an amount of 1950 Dhs  
covering my pocket money for 7 days and local  
transportation expenses from the local organizers.

**Yara HAZZOURI**



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**ATTESTATION**

*J* **Hayri DENIZ**

hereby certify that I have received an amount of 2200 Dhs  
covering my pocket money for 8 days and local  
transportation expenses from the local organizers.

  
**Hayri DENIZ**



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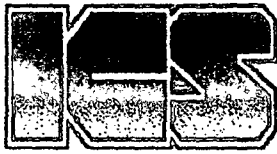
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Industry and Development Related to the Mediterranean Basin  
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## **ATTESTATION**

*I* **Almila KINDAN**

hereby certify that I have received an amount of 2200 Dhs  
covering my pocket money for 8 days and local  
transportation expenses from the local organizers.

  
**Almila KINDAN**



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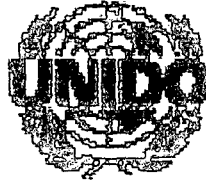
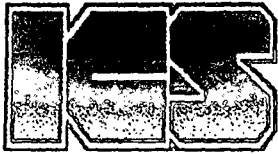
**Training Course on  
Industry and Development Related to the Mediterranean Basin  
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## **ATTESTATION**

*J* **Nejla BEN CHEIKH**

hereby certify that I have received an amount of 1950 Dhs  
covering my pocket money for 7 days and local  
transportation expenses from the local organizers.

**Nejla BEN CHEIKH**



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**ATTESTATION**

*J* **Jmaiel HAOUARI**

hereby certify that I have received an amount of 1950 Dhs  
covering my pocket money for 7 days and local  
transportation expenses from the local organizers.

**Jmaiel HAOUARI**



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## **ATTESTATION**

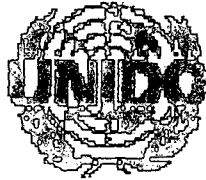
*J* **Lahoucine BENZINE**

hereby certify that I have received an amount of 1300 Dhs  
covering my pocket money for 6 days and local  
transportation expenses from the local organizers.

**Lahoucine BENZINE**

*L BENZINE*





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## **ATTESTATION**

*J* **Rachida HOUSSA**

hereby certify that I have received an amount of 1739 Dhs  
covering my pocket money for 6 days and local  
transportation expenses from the local organizers.

**Rachida HOUSSA**



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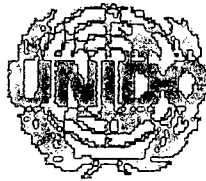
**Training Course on  
Industry and Development Related to the Mediterranean Basin  
Rabat-Morocco, 29 oct. - 03 nov. 2001**

**ATTESTATION**

*J* **Khalid MAKROUM**

hereby certify that I have received an amount of 1300 Dhs  
covering my pocket money for 6 days and local  
transportation expenses from the local organizers.

**Khalid MAKROUM**



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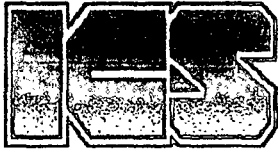
**Training Course on  
Industry and Development Related to the Mediterranean Basin  
Rabat-Morocco, 29 oct. - 03 nov. 2001**

**ATTESTATION**

*J* **Abdelilah TAHAYT**

hereby certify that I have received an amount of 1256 Dhs  
covering my pocket money for 6 days and local  
transportation expenses from the local organizers.

**Abdelilah TAHAYT**



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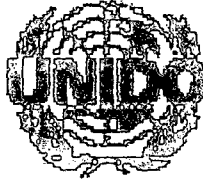
**Training Course on  
Industry and Development Related to the Mediterranean Basin  
Rabat-Morocco, 29 oct. - 03 nov. 2001**

**ATTESTATION**

*J* **Abdellaoui BENYOUNES**

hereby certify that I have received an amount of 1739 Dhs  
covering my pocket money for 6 days and local  
transportation expenses from the local organizers.

**Abdellaoui BENYOUN**



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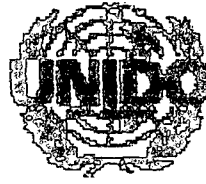
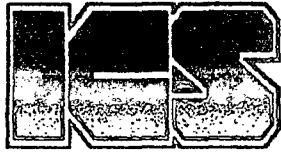
**Training Course on  
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**ATTESTATION**

*I* **Abdelali FADIL**

hereby certify that I have received an amount of 1300 Dhs  
covering my pocket money for 6 days and local  
transportation expenses from the local organizers.

**Abdelali FADIL**



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Industry and Development Related to the Mediterranean Basin  
Rabat-Morocco, 29 oct. - 03 nov. 2001**

**ATTESTATION**

*J* **Ali SRAIRI**

hereby certify that I have received an amount of 1300 Dhs  
covering my pocket money for 6 days and local  
transportation expenses from the local organizers.

**Ali SRAIRI**

**Training Course on**  
*“Industry and Development Related to the Mediterranean Basin”*  
**Rabat - Morocco, 29 October – 03 November 2001**

**Appendix 6 : INVOICES**

# TAK VOYAGES

Rabat, le

TOURISME AVIONS BATEAUX TRAINS AUTO-CARS

Email: [tak.voyages@iam.net.ma](mailto:tak.voyages@iam.net.ma)

1 BIS, AVENUE IBN SINA AGDAL - RABAT  
Téléphone: 037.77.16.84 Télécopie: 037.77.70.68

## FACTURE

ECOLE MOHAMMADIA D'INGENIEURS  
TC/ ICS- UNIDO

FACTURE N°:

REFERENCE	DESIGNATION	Quantité	Montant en dh
	BILLET D AVION EN PTA POUR <b>BEYROUTH-CASA-BEYROUTH</b> SARAH KOUZI		18,324.00
	<b>DAMAS-CASA-DAMAS</b> KALO /HAZZOURI		34,666.00
	<b>CAIRO-CASA-CAIRO</b> ESSAM		15,173.00
	<b>ALGER-CASA-ALGER</b> ANISSA / NACERA		8,748.00
	<b>TRIPOLI-CASA-TRIPOLI</b> RIFAAT FATIMA		6,416.00
	<b>GENEVE-CASA-GENEVE</b> ALISSAR CHAKER		14,459.00
	<b>ISTAMBUL-CASA-ISTAMBUL</b> ALMILA KINDAN /YAHRI DENIZ		29,132.00
	<b>TUNIS-CASA-TUNIS</b> BENCHEIKH / BEN MOHAMED		12,204.00
	<b>AGADIR-CASA-AGADIR</b> BENZINE / MAKROUM		3,952.00
<b>Total T.T.C.</b>			<b>143,074.00 DH</b>

ARRETEE LA PRESENTE FACTURE A LA SOMME DE :  
CENT QUARANTE TROIS MILLE SOIXANTE QUATORZE DIRHAMS

TAK VOYAGES  
1 Bis, Avenue IBN SINA  
Rabat  
Tél. 037.77.16.84 / 037.77.70.68



# VALERA SARL

Organisation de Séminaires et Restauration de Collectivité

Rabat le 30/10/01

## FACTURE

**Attn :** Ecole Mohammadia d'Ingénieurs, Rabat, Training Course on "Industry and Development Related to the Mediterranean Basin", Rabat, Morocco, 29 October - 3 November 2001

**Objet :** Appui logistique à l'organisation du TC-Rabat 27 Octobre-3 Novembre, 2001 (aide à l'hébergement, restauration, pauses café, déplacements sur Rabat, badges)

Total de la Facture = 20480 Dhs T.T.C

Soit vingt mille quatre cents quatre vingt dirhams toutes taxes comprises.

VALERA SARL  
47 AV FAL OULED  
OUMEIR M. 1 AGDAL



Stade Marocain

النادي المغربي

Rabat, le 07 NOV 2001 ..... الرباط في

Patente : 25707700

LF : 511478

Ecole Mohammadia d'ingénieurs

TC Rabat

29 Octobre – 03 Novembre 2001

**FACTURE N° 020/2001**

Déjeuner participants (5jours)

Forfait ..... 26098.00 dhs

Arrêté la présente facture à la somme de : Vingt six mille quatre vingt dix huit dirhams.

Stade Marocain  
Section Tennis



**E.M.I Rabat**  
**T.C en I.C.S ( UNIDO )**

**FACTURE N° 294**

- Location de deux voitures PEUGEOT 406 pour une durée de sept jour ( 7 jours) chacune au prix de QUATRE MILLE NEUF CENT DIRHAMS ( 4 900.00 DHS T.T. C) chacune soit une somme de NEUF MILLE HUIT CENT DIRHAMS (9 800.00 DHS T.T.C ) dont TVA 1 633.33 DHS.
- Location d'une FIAT PALIO pour une durée de sept jour ( 7 jours) au prix de DEUX MILLE CENT DIRHAMS ( 2 100.00 DHS T.T.C ) dont TVA 350.00 DHS.

**Arrêter la présente facture à la somme de : ONZE MILLE NEUF CENT DIRHAMS ( 11 900.00 DUS T. T .C).**

**LA DIRECTION**

*[Signature]*  
RUN TOURS  
Location de Voitures

# Systeme Distribution

Vente rép. matériel informatique

105 rue Oqbah, Agdal, Rabat, Maroc  
Téléphone 77 85 95/ 68 28 31-32  
Télécopie (212) 7 77 85 94  
e-mail sysdisma@yahoo.fr

Ecole Mohammadia d'Ingénieurs  
T.C.I.C.S (UNIDO)

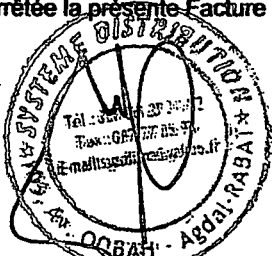
## Facture

Télécopie

Facture N°	DATE	REFERENCE	PAGE N°
FC00337	15/03/02	rach	1

Désignation	Qté	P.U.H.T.	Montant HT
Cartouche d'encre noir pour HP 840C C6615D	1	332,50	332,50
Badge	300	2,50	750,00
Cartouche d'encre noir pour HP 840C C6615D	2	332,50	665,00
Papier couché à fort grammage HP Premium A4 (100 feuilles).	1	230,00	230,00
Paquets Stylos à bille	4	90,00	360,00
Agrapheuse 24/6 Delta	1	82,00	82,00
Paquet de 10 boîtes recharge agraffes 24/6	1	43,00	43,00
CD vierge VERBATIM	40	11,00	440,00
CD vierge VERBATIM	10	11,00	110,00
CD HP Vierge	10	8,00	80,00
CD vierge VERBATIM	4	11,00	44,00
Cartouche d'encre couleur HP C1823DE	2	437,00	874,00
Cartouche d'encre noir HP DeskJet 610C C6614D	3	355,00	1 065,00
HP PAPIER PHOTO PREMIUM A3 20 F. C6059A.	1	555,00	555,00
HP PAPIER EN ROULEAU 90G POUR DJ650C 914mm. C6036A.	1	383,00	383,00
<b>Total HT Facture N° FC00337</b>			<b>6 013,50</b>
<b>Montant de TVA 20%</b>			<b>1 202,70</b>
<b>Total TTC</b>			<b>7 216,20</b>

Arrêtée la présente Facture à la somme toutes taxes comprises de :Sept mille deux cent seize Dirhams vingt Centimes



Le service commercial.



النادي الملكي البحري بالمضيق

ROYAL YACHTING CLUB DE M'DIQ

B.P. 155 - TETQUAN

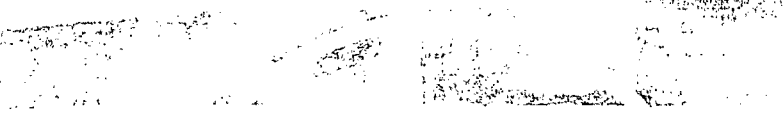
# RESTAURANT

Ecole Mohammadia ~~des~~ Ingenieurs

TC - Rabat ICS - UNIDO

MDiO 3 Nov. 2001

31 Menus Complets 150,00 4650,00



Soir. quatre mille six cents cinquante Dh.  
+ pour boire

Patente N° 52000086

Signé : Restaurant BOU  
Royal Yachting Club M'diq  
Tel.: 061 296 836

Total 4650,00  
pour boire 250,00  

---

4900,00

الجمعية الثقافية والرياضية للفلاحة  
Association Culturelle et Sportive de l'Agriculture  
- ACSA -



Facture: N° 00132 ACSA/R

Date: 05/11/2001

Nom: Ecole No hammatia d'ingénieurs (U. Nat. Agrol)

Désignation	Nombre	Prix Unitaire	Montant
Restauration des participants durant La période du 28/10/2001 au 03/11/2001 (en demi pension)			24.220,00
<b>Total...</b>			24.220,00

Arrêtée la présente facture à la somme de : vingt quatre mille deux cent  
vingt deux

Le Responsable

**MODE DE RÈGLEMENT :**

- 1 - Espèce
- 2 - Chèque N° ..... sur Banque ou CCP
- 3 - Virement : Compte Bancaire : X 500150Z651 CNCA - Agence Ryad - Rabat

Adresse : Avenue Mohamed Bel Arbi El Alaoui - Rabat - Tél. : 037.67-38-96 / 037.67-38-96.99 - Fax : 037.68-00-16

الجمعية الثقافية و الرياضية للفلاحة - ج.ث.ر.ف  
Association Culturelle et Sportive de l'Agriculture - A C S A



FACTURE : N° 00498 ACSA/M.

Destinataire : *AS des oeuvres sociales faculte nationale d'ingenieur*

Prénom et Nom	Chambre		Date d'entrée	Date de sortie	Nombre de nuitées	Prix. Unitaire	Total
	N°	D/S					
<i>Hebergement. CH(D)</i>					<i>78</i>	<i>300,00</i>	<i>23400,00</i>
<i>CH(S)</i>					<i>02</i>	<i>200,00</i>	<i>400,00</i>
<b>TOTAL</b>							<i>23800,00</i>

La présente facture est arrêtée à la somme de : *vingt trois mille huit cent cinquante -*

LE RESPONSABLE

LE DIRECTEUR

**Mode de règlement :**

- 1 - Espèce
- 2 - Chèque N° ..... sur Banque ou CCP
- 3 - Virement : Compte Bancaire : X 500427 B 651 CNCA Agence Ryad Rabat

Adresse : Av. Mohamed Belarbi Alaoui - Rabat - Tél. : 037.67.38.99 / 037.68.00.17 Fax. : 037.68.00.16



R E C E P I S S E   D ' U N   R E G L E M E N T

Date : 15/11/2001

Page : 1 / 1

Point de Paiement Agdal / Point de Paiement Agdal 6

Date de règlement : 15/11/2001      N° de reçu : 912

Numéro client : 3971

Nom / Raison sociale : LABORATOIRE DES SYSTEMES


Mode Règlement	Orga nisme	Agence	N° compte ou N° carte	N° chèque ou date validité
Chèque	TG		402780102 02	514585
Tireur : LABORATOIRE DES SYSTEMES      HYDROLYQUES				

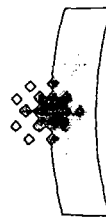
Opération	Numéro d'appel	Montant
Facture 109A-008751	037670579	1832.16

MONTANT TOTAL : 1832.16 Dh

Sous réserve des impayés éventuels au titre des échéances antérieures

- LABORATOIRE DES SYSTEMES HYDRO  
ECOLE MOHAMMEDIA D INGENIEURS  
RABAT AGDAL RYAD





**R E C E P I S S E D ' U N R E G L E M E N T**

Date : 18/02/2002

Page : 1 / 1

Point de Paiement Agdal / Point de Paiement AGDAL 5

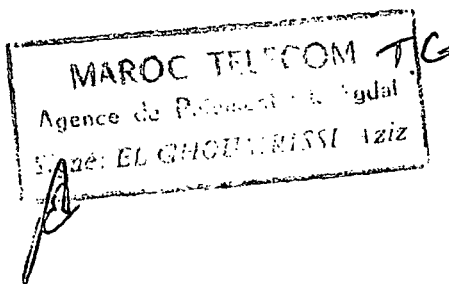
Date de règlement : 18/02/2002 N° de reçu : 23064

Numéro client : 3971

Nom / Raison sociale : LABORATOIRE DES SYSTEMES

Mode Règlement	Orga nisme	Agence	N° compte ou N° carte	N° chèque ou date validité
Chèque	TG		40278-01-02 02	ZA 0514486
Tireur : LABORATOIRE DES SYSTEMES HYDROLYQUES				
Opération	Numéro d'appel		Montant	
Facture 110A-008767	037670579		1233.12	
MONTANT TOTAL : 1233.12 Dh				

Sous réserve des impayés éventuels au titre des échéances antérieures



- LABORATOIRE DES SYSTEMES HYDRO  
ECOLE MOHAMMEDIA D INGENIEURS  
RABAT AGDAL RYAD



ACTEL RABAT-AGDAL

## FACTURE

Nom/Raison :

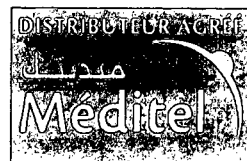
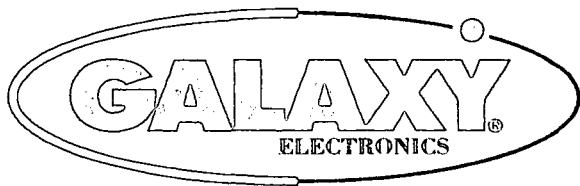
N° Client :

N° Facture :

Date Facture : 31/10/01

DESIGNATION	MONTANT(DH)
Vente Pack Jawal	
Vente Carte Jawal ou de Recharge double (3)	
Vente Télécartes à puces et Kalimat	
Changement de cartes	
Total HT	745,00
TVA 20%	149,00
Total TTC	894,00

La présente facture est arrêtée à la somme de *huit cent quatre-vingt quatreze dirhams*.



11, Rue IBN YAALA AL IFRANI  
QUARTIER RACINE  
20 005 CASABLANCA - MAROC  
TEL : (212) 2 95.08.15 à 18 - Fax : 2 95.08.14

**Rabat, Le 31/10/01**

**Facture n°FA1-10/01**

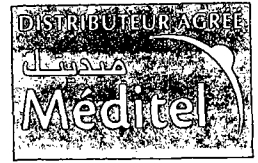
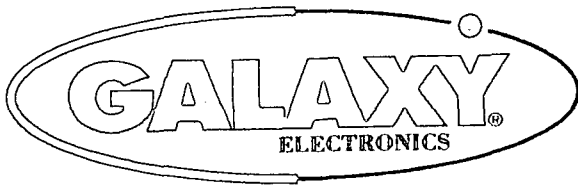
Désignation	Quantité	Prix Unitaire H.T.
PACK PREPAYE ALCATEL 303	1	575,00
Recharge 300 dh	1	250,00
<b>Motant hors taxe</b>		<b>825,00</b>
<b>Montant de la Taxe à 20%</b>		<b>165,00</b>
<b>Montant à Payer T.T.C.</b>		<b>990,00</b>

ARRETEE LA PRESENTE FACTURE A LA SOMME DE NEUF CENT QUATRE VINGT DIX NEUF DHS T.T.C./.

Mode de paiement : Espèces

**GALAXY ELECTRONICS**  
AGENCE RABAT  
13 Avenue Ibn Sina  
Tel: (07) 6809.46  
AGDAL - RABAT

C.N.S. 466 - R.C. - I.F. 0 - PAT. 3,712,590 - CAPITAL 10.000,00 DH



11, Rue IBN YAALA AL IFRANI  
 QUARTIER RACINE  
 20 005 CASABLANCA - MAROC  
 TEL : (212) 2 95.08.15 à 18 - Fax : 2 95.08.14

**Rabat, Le 02 /11/01**

**Facture n°FA2-11/01**

Désignation	Quantité	Prix Unitaire H.T.
PACK PREPAYE ALCATEL 303	2	1150,00
<b>Motant hors taxe</b>		<b>1150,00</b>
<b>Montant de la Taxe à 20%</b>		<b>230,00</b>
<b>Montant à Payer T.T.C.</b>		<b>1380,00</b>

ARRETEE LA PRESENTE FACTURE A LA SOMME DE MILLE TROIS CENT QUATRE- VINGT DHS T.T.C./.

Mode de paiement : Espèces

GALAXY S.A. AU CAPITAL DE 4.000.000,00 DH - PAT. 35712315 - I.F. 01050315 - R.C. 88085 - C.N.S.S. 2701466

**GALAXY ELECTRONICS**  
 AGENCE RABAT  
 13 Avenue Ibn Sina  
 Tel: (07) 68.09.26  
 AGDAL - RABAT

**Training Course on**  
*“Industry and Development Related to the Mediterranean Basin”*  
**Rabat - Morocco, 29 October – 03 November 2001**

**Appendix 7: FINANCIAL STATEMENT**

Training Course on Industry and Development Related to the Mediterranean Basin  
 Rabat, Morocco, 29 October - 3 November 2001  
 Coastal Zone Management (2.2)

Rate of Exchange: 11,3900 dirhams/dollar

BUDGET UNIDO

TOTAL FUNDS FROM ICS-UNIDO US dollars 35 000

DESCRIPTION	Budget in US\$	Budget local curr.	Disbursement US\$	Disbursement l.c.	Difference UD\$	Difference l.c.
Travels						
<i>International lecturers</i>			739,32	8 421		
Louis Cassar			291,66	3 322		
Fadi Dabaghi			447,66	5 099		
<i>National participants</i>			387,71	4 416		
Agadir, Nador, Casablanca, Tetouan						
<i>International participants</i>			13566,57	154523,25		
Loukriz						
Kacimi						
Essam						
Chaker						
Kouzi						
Rifaat						
Al Naili						
Rumman						
Qahman						
Kalou						
Hazzouri						
Ben Cheikh						
Haouari						

Kindan									
Deniz									
<i>Total travels</i>	14 400	164 016	14305,89	162 944	94				1 072
DSA									
international lecturers and participants	18 204	207 344	17423,31	198451					
<i>Total DSA</i>	18 204	207 344	17423,31	198451,475	781				8 892
Stationery	556	6 333	633,5	7216,20	(77,5)				(883)
Local Transportation	500	5 695	1044,7	11900	(544,7)				(6205)
Communication facilities	440	5 012	555,68	6329,28	(116)				(1317)
Fees for lecturers	900	10 251	900,00	10251	-				-
<b>CAP BUDGET</b>	<b>35 000</b>	<b>398 651</b>	<b>34863</b>	<b>397 092</b>	<b>136,8</b>				<b>1 559</b>



35 000  
28 000  
7 000

TOTAL BUDGET FROM UNIDO  
ALREADY TRANSFERRED AMOUNT (80%)  
REMAINING FUNDS TO BE TRANSFERRED  
(after actual disbursement)

• Short Notice

It was planned previously that the participants will be visiting INRH facilities and a scientific ship in Casablanca, and INRH was taking care of the transportation. Unfortunately, due to the fact that the scientific ship had to be moved to Agadir for scientific measurements, it was decided to change the original plan and organise the visit to Tetouan instead. This has permitted to sea a mediterranean case study zone which is compatible with the objectives of the TC-Rabat.



Prof. Driss Bensari  
EMI local organizer  
Rabat, Morocco