MIRA
Mediterranean Innovation and Research Coordination Action

Synthetic Report on the common topics in the selected thematic Priorities

Key information and Findings from the Thematic Workshops, Lessons learned

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1. Thematic Workshops within MIRA: Background and Perspectives

The European Union has developed international scientific cooperation (INCO) activities over the last 25 years to address the needs and opportunities of an interconnected world, and to contribute to peace and prosperity for European citizens. In this respect, the MIRA (Mediterranean Innovation and Research Coordination Action) project as part of the INCO-NET actions of the European Union was set up to establish a structured dialogue between the EU and the Mediterranean Partner Countries (MPCs) under the leadership of the Spanish Council for Scientific Research (CSIC). The project activities will lead to the setting of priorities for S&T cooperation based on mutual interest and benefit and thus achieving more targeted use of available resources. Moreover, the activities under the INCO-NET scheme shall identify S&T priorities with third countries to be used by the themes under the FP-Cooperation Programme, stated the Capacities Work Programme 2007.

Across the themes of the FP 7 Cooperation strand, all research activities and areas are open to cooperation with third countries. In more detail, so called SICAs (Specific International Cooperation Actions) within the FP 7 Cooperation Programme are directed towards collaboration with third countries to tackle issues of common interest, issues of joint and mutual benefit and to address problems faced by third countries. These SICAs offer opportunities for bi-regional – here EU-MPC – research collaborations. Hence, the formulation of SICA proposals plays a central part within MIRA.

For identifying priorities for S&T cooperation, areas and topics for SICAs based on mutual interest and benefit, a dedicated mechanism and process was established within MIRA's Work Package (WP) 4, which is lead by MHESR (Egypt) and co-lead by DLR (Germany). While the overall aim of WP 4 strives to enhance the EU-MPC S&T cooperation – especially within FP 7 – task 4 of WP 4 can be perceived as an appropriate means to this end. Task 4, which is under the responsibility of DLR, aimed at elaborating S&T activities, areas and topics of mutual interest and benefit along the EU-Framework Programme on research (FP 7) – strand Cooperation – by conducting dedicated "Thematic Workshops". Within these Thematic Workshops a number of research activities and areas – specific for the Mediterranean area – have been selected for further investigation.

The workshop themes and research areas have been identified through an ex ante assessment exercise in which the MIRA consortium took stock of the results from previous projects and a questionnaire among the MIRA partners. Finally, the following five themes of the FP Cooperation Programme have been fixed in a screening conference:

- Environment;
- Energy;
- Health;
- ICT;
- Food, Fisheries, Agriculture and Biotechnology.

Five thematic workshops have been carried out between January and July 2009 by various hosting organisations. Against the background of the limited resources available and the aim to concentrate the effort and resources to dedicated research activities which are of mutual interest and benefit, it was agreed to implement five thematic workshops instead of the initially planned 10 workshops.
Each of these workshops formulated areas for common research activities and topics in form of proposals for **SICAs**. In total, **244 S&T experts** from the EU and MPCs were involved in

these workshops and **55 SICAs** have been formulated. In a next step – having the endorsement of the MoCo – the SICA proposals will be communicated to the EU-Commission with the aim to integrate these proposals in the following Work Programmes in question. Besides the formulation of SICAs it turned out that the workshops have been successful in laying a basis for enhancing the MPC participation in FP 7 and in co-ordinating MIRA activities with related projects (e.g. ERA-NETs).

With this report we show that the thematic workshops for priority setting have been an effective mechanism to reach the objectives of WP 4. **Chapter 2** gives a brief overview on the key findings and the SICA topics of each of the workshops. **Chapter 3** summarises our experiences with the thematic workshops and gives information on the main success factors. **Chapter 4** gives detailed information on the SICA proposals (justification, topic, impact). The **annex** gives further information on the agenda and the list of participants for each of the workshops.

In addition, follow-up activities like the dissemination of the workshop results to the Thematic Directorates of the EU-Commission will strengthen the sustainability of the workshop results. **In this respect, the 55 SICA proposals, which embody a joint effort of the EU-MPC research community, shall be endorsed by the MoCo.**

In conclusion, we can state that the MIRA project has been successfully established as a platform and reference frame for S&T activities in the Mediterranean area. As a result of the WP 4 activities besides the formulation of SICAs an S&T community has been established and further developed related to research activities, areas and topics of mutual interest and benefit for EU-MPC cooperation. It will be now our task to further process these results through appropriate measures and by this to ensure the sustainability of these efforts.

Strategic Perspectives and Dissemination

Moreover, developments like the Union for the Mediterranean (UfM), the Mediterranean Solar Plan, the debate on the EU's Innovation Action Plan and the Euro-Mediterranean industrial co-operation will act as political reference frame for MIRA's future activities. Hence, – related to WP 4's mission of MIRA as stated above (enhancing the EU-MPC S&T cooperation) – **future activities** targeting S&T will reflect more directly on research related activities and areas within the Union for the Mediterranean. **Research Working Groups** covering the S&T aspects of the UfM priorities (e.g. transport, environment/civil protection, renewable energy) will be set up to formulate research agendas. In this respect, the activities will also capitalise on the results which have been generated by the previous thematic workshops to date. In addition, through the integration of further UfM countries the elaborated results will be validated and amended, if necessary. Moreover, specific measures will be implemented to combat water pollution in the context of **Horizon 2020**. Finally, due to the importance of innovation for the EU-Med co-operation, appropriate measures in the **Euro-Mediterranean Innovation Space** (EMIS) context will be realised (e.g. Fora, capacity building).

With regard to dissemination activities we will explore the use of this document as a tool for the design of the European Neighbourhood Policy and the CIP (in particular for EU-MPC cooperation) under the frame of the priorities of the UfM. To this end, the SICA recommendations will be disseminated to all UfM partners so that they benefit from the work done in other running RTD cooperation programs (e.g. bilateral actions) and to foster the dialogue through the MIRA platform on common problems and initiatives (Task 2). Complement to these activities, tailor-made dissemination activities will focus on various actors like the European Technology Platforms and the Programme Committee Members.

2. Thematic Workshops at a Glance

(Texts have been taken from the final workshop documents; edited by DLR)

Thematic Workshop on FAB

The thematic workshop on Food, Agriculture, Fisheries and Biotechnology (FAB) has been organized in Valenzano, Bari, Italy on 13-14 July 2009. Focuses of the workshop were the aspects of Mediterranean sustainable agriculture under climate changes. More than 55 experts discussed in two parallel working groups challenges for food chain, food safety and food security as well as for water and land resources management.

Sustainable Management of Water and Land Resources

In the last 10-15 years, water management policies in the Mediterranean region have been shifting from supply-oriented to water demand strategies. These are becoming increasingly important in agriculture since this sector uses almost 80% of natural waters in Southern and Eastern Mediterranean countries. This process of adoption of water saving practices and technical tools has been going on in many areas transferring the knowledge acquired at experimental sites to application at farmer's level. The advantages of these programs have become evident in many Southern Mediterranean countries where efficiency of irrigated agriculture has been improved and farmers have started to gain the benefits of a more efficient water use. Nevertheless, these actions are still at the beginning and are restricted to pilot areas that are under particular attention of local authorities. Furthermore, these programs are still sector-oriented aiming to satisfy the interests of agricultural production and are not fully embedded in integrated water management strategies. As a result, there is no equity in the access to water resources; there is an increasing non-controlled use of groundwater resources; little consideration is given to water quality issues and poor attention is paid to water-related natural hazards, mainly drought.

Food Chain, Food Safety, Food Security

In the Southern Mediterranean, agriculture is one of the major economic driving forces contributing more than 50% of the gross income of the region, and is the basic means for ensuring adequate food both in terms of quality and quantity.

Food security does not depend only on structural, social and economic factors but also on natural elements such as the availability of natural resources (mainly land and water) as well as the climate. Therefore, a sustainable agricultural production together with a predictable and stable trading system as well as a good knowledge of natural resources availability and climate impact are key elements to food security in the Mediterranean partner countries. In addition, an adequate management of the entire food chain is essential to ensure safe and healthy food.

Several Med Countries are faced with some **common problems,** including for example continued reliance on traditional technological schemes (dominance by small and medium *family* enterprises, with limited investment capabilities), limited typically traditional local markets, weak adoption of hygienic and quality schemes, lack of appropriate facilities and laboratory equipment to carry out the required analyses, lack of appropriate programs concerning prospects for innovative processes and novel products, poor coordination between industry and teaching/research institutions, limited land and water resources for producing large food quantities, relatively high costs of

required pesticides, herbicides, and fertilizers.

Participation of related Projects

Due to the participation of representatives of EU projects, the outputs from other projects were also presented e.g.: ARIMnet project, MEDA GO TO EUROPE project, BIOCIRCLE project.

Participants

55 experts out of 19 countries (**Morocco, Tunisia, Egypt, Algeria, Libya, Lebanon, Turkey, Palestine, Jordan, Syria, Cyprus, Spain, France, Germany, Malta, Italy**) as well as representatives of the EU-Commission, ICARDA and the Food and Agriculture Organisation of the United Nations were participants of this workshop.

Organisation

The organizing and hosting Institution of this thematic workshop was the CIHEAM – IAMB (International Centre for Advanced Mediterranean Agronomic Studies), in collaboration with the CNR – Mediterranean and Middle East (Italy)

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Proposed Specific International Coordination Activities (SICAs)[1]

Water and Land Resources Management

- Design, develop and disseminate appropriate and sustainable technologies through multi-scale and multidisciplinary approaches to promote the efficient and productive use of available water in agriculture
- Development of affordable technologies (emphasizing biotechnologies) for waste water treatment and safe agricultural reuse in the Mediterranean
- Develop new tools to target more effective measures to assess and manage climatic risks, to enhance adaptation to drought and climate change and contribute to mitigation via land and water management
- Develop new plant materials specifically adapted to climate change, drought and salinity in the Mediterranean
- Explore new governance, institutional mechanisms (or models) and economic tools enabling the implementation of sustainable water use

Food Chain, Food Safety and Food Security

- Measures to adapt the crop chains of Mediterranean products (i.e. olive, citrus) to the effect of climate change
- Reducing post-harvest losses and contaminations
- Improvement of access to nutritious and safe food
- Low environmental impact for the quality improvement of Mediterranean fruits (dates, citrus, olive etc.) and vegetables productions
- Competitiveness of agricultural products from non EU Med. countries to global market
- Networking for data and technology exchange in the Med. Area
- Governance and institutional aspects for sustainable development

[1] For detailed information on the SICA's justifications and rationales please see chapter 4 of this document.

EC and CIHEAM representatives during the plenary session on “Mediterranean sustainable agriculture under climate change”

Working Group discussion on food chain, food safety and food security under the Chair of Ayman Abou Hadid, ARC, Egypt.

Participants to the plenary session on “Mediterranean sustainable agriculture under climate change”

Thematic Workshop on Information and Communication Technologies

The thematic workshop on Information and Communication Technologies has been organized in Istanbul, Turkey on 18-19 June 2009. ICT might be considered to be a global research and development domain with little or no regional and geographical specificities. This may lead to the assumption that there are no topic areas in the MPC that would be of mutual interest for the EU and MPC, however, the outcome of this workshop give a slightly different picture.

ICT Topics of common Interest

After consultation with European Commission DG-INFSO officers, and taking into account several assessment analyses of the existing information on ICT research national priorities and needs of the Mediterranean Partner Countries, it was decided to focus on the following ICT objectives:

- ICTs for e-Government
- ICTs for Learning & e-Learning
- Natural language processing and Multilingual e-Content
- Language-Based Interaction
- ICTs for e-Inclusion
- ICTs for e-Health
- ICT Service Architectures and Platforms

ICT Working Group Session

These topics were decided initially. It was a dynamic workshop. During the discussions the recommendations were summarized under the topics below and mapped with the ICT WP:

- ICTs for e-Learning
- Natural language processing & Language-Based Interaction
- ICTs for e-Inclusion
- ICTs for e-Health
- ICT Service Architectures and Platforms
- ICT for e-Government

Knowledge Management System

In order to facilitate communication and also to be well prepared for the workshop, experts were invited to start the discussion amongst them by contributing with their comments and feedbacks through MIRA Website. This preliminary work was important and done prior to the workshop itself. Several background documents were uploaded into a specific section of the MIRA Website and Knowledge Management System (KMS). These documents were taken into consideration and exploited as discussion "seed documents". Throughout this process, experts contributed to the discussions, conclusions and documents prepared.

Participation of related Projects

MED-IST, IDEAL-IST, MEDAR

Participants

26 participants out of 13 countries (Algeria, Egypt, Denmark, Germany, Israel, Italy, Jordan, Lebanon, Malta, Morocco, Spain, Tunisia, Turkey)

Organisation

TÜBITAK – The Scientific & Technological Research Council of Turkey.

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Proposed Specific International Coordination Activities (SICAs)[2]

- **Human Language Technologies – HLT**: The support for research collaborations between EU research institutes and MPC actors in the field of language processing, or Human Language Technologies – HLT, with the focus on Semitic languages (Arabic, Hebrew, Maltese, …) has a strong relevance for EU-MPC research activities and a wide application potential.
- **Pervasive and Trustworthy Network and Service infrastructures**: A second important research area is related to Challenge 1 (Pervasive and Trustworthy Network and Service Infrastructures) because of the very good research capacities in the MPCs and a significant application potential.
- **ICT and Health**: Support to research collaborations on sustainable and personalised healthcare linked to health activities targeting diabetes in the MPCs is a research topic with high relevance for EU-MPC-collaborations.
- **Application-oriented domains**: All e-application fields (e-Government, e-Banking, e-Procurement, …) have a significant potential for EU-MPC cooperation.
- **Human Resources**: The lack of human (IT) resources throughout Europe on the one side and the surplus of IT graduates in the MPC on the other side offer many opportunities for joint ICT research activities.

[2] For detailed information on the SICA's justifications and rationales please see chapter 4 of this document.

Thematic Workshop on Health

A high-level expert group consisting of 25 scientists from European and Mediterranean Partner Countries convened in Malta on June 4 – 5, 2009 to discuss health sub-themes for the Euro-Med area. Four health sub-themes, falling within the scope of the current EU 7th Framework Programme were identified for discussion in four separate panels.

Background

Four health sub-themes, falling within the scope of the current EU 7th Framework Programme were identified for discussion in four separate panels. The themes were chosen following: (1) a review of the MPC MIRA partners' health national priorities; (2) a recap of the conclusions of the MED7 workshop held on the health theme (this was a FP6 project dedicated to identifying priorities in MPC); and (3) a discussion with the Health Unit Policy Officer from DG RTD, in charge of International cooperation.

The main purpose of these discussions was to identify research topics of mutual need and interest to MPC and EU countries in the 4 sub-themes, and, to propose that these topics are included in future FP7 Health Work programmes (WPs) with the intent of fostering EU-MPC cooperation in the Health sector. The majority of the topics have been proposed as Specific International Coordination Actions (SICAs); these are funding schemes in FP7 supporting

Prior to the workshop, MIRA partners were asked to nominate experts in the various areas from their countries. The European Commission was also consulted and asked to recommend experts in the four fields. The experts were selected on the basis of the profiles received, their knowledge of European Projects and their preference for one working group or another. The organisers of the Workshop attempted to balance each group, in terms of geographical coverage, experience of FP projects, knowledge on National Health and R&D policies, and, past collaboration with MPC/European partners. Discussions during the workshop were based on:

- feedback received from Policy Officers responsible for the different sub-themes in Directorate F about the way forward in future Health WPs;
- identification of gaps in the 4 sub-themes by the experts;
- a review of funded projects in these sub-themes through FP6 and previous FP7 calls to avoid duplicating work;
- proposing new research topics to build on existing knowledge in the field and to go beyond the current state of the art; and
- definition of new Research topics of joint interest to EU and MPC in order to facilitate participation of research groups from MPC into FP7.

Focus on Diabetes, Infectious Diseases, Public and Rare Diseases

In the Health area, special focus lies in certain research areas targeting a number of conditions concerning Africa; this includes diabetes, infectious diseases, rare diseases and public health issues. The world is experiencing a global epidemic of obesity and diabetes, with its incidence increasing rapidly in the ageing as well as the younger segments of all populations. Diabetes and diabetes-related complications utilise a huge and growing percentage of the national health budget in developed and developing countries alike. Thus, no health-related research program is complete without a major emphasis on obesity, diabetes and

their related complications. The Mediterranean countries are no different from the rest of the world in that they too are seeing a marked increase in the incidence and prevalence of diabetes as their population ages.

Discussion of SICA proposals during the plenary session

In MPCs there is a strong need for mapping capacities for social and health sciences across these countries making public health issues very relevant to be studied and brought at par with European initiatives where possible. The occurrence of Rare Diseases in MPCs is much more drastic and significant than in EU countries and the need to study these regions is very important. The lack of epidemiological studies and diagnostics in this area increases the need to study these conditions both in MPCs and the EU. Currently, some European countries have structured the activities in the field of rare disease through National Plans for Rare Diseases, it would be beneficial for all the stakeholders to involve third countries in this restructuring effort.

Way forward and recommended actions

The underlying scope of this workshop is to signal to the EC the continuous need to stimulate and encourage participation of Mediterranean partners in the Framework Programme together with European counterparts in the Health area. By bringing together these experts from the different countries, the workshop has furthermore been significant in fostering links and networks which form the basis of excellent research groups. Moreover, it is expected that, through the future topping-up of the Inco-Nets, the experts will be given the opportunity to meet again to develop together project ideas for submission in future calls; this certainly is a significant achievement and spill-over effect. The successful outcome of the workshop underlines the fact that researchers from EU and MPC recognize the need to work together, and, to create networks and synergies between their institutes and countries to tackle common problems. Through their willingness to do so, several research projects have been proposed in the sub-themes of Diabetes, Infectious Disease, Public Health and Rare Diseases. The significant results generated by this Health Forum alert the EC to the several Health needs which the experts have identified, and, call for their inclusion in the next WP for 2011 and beyond. Funding such research is the way forward to growing collaboration within EU Member States and Mediterranean Partners, and also, towards contributing to developing further the European Research Area.

Participation of related Projects

Heloise Lemoine from CAAST-NET,
Celine Damon form the NCP Health-Net as French NCP, M2ERA (INCO Bilat with Morocco), NEUROMED, Zeinab El-Sadr representative of the Health NCP-NET

Participants

37 participants out of 17 countries (Algeria, Cyprus, Egypt, France, Germany, Greece, Israel, Italy, Jordan, Lebanon, Libya, Malta, Morocco, Spain, Tunisia, Turkey, UK) and one representative from the EU-Commission

Organisation

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Proposed Specific International Coordination Activities (SICAs)[3]

Diabetes

- Genetic and environmental factors causing the geographic variation in prevalence and incidence of Type 2 Diabetes, diabetic complications and obesity in the Mediterranean origin population
- Monogenic causes of abnormal glucose metabolism and/or obesity in the genetically diverse populations of the Mediterranean basin
- Genetic predictors of response to diabetes therapy in the Mediterranean populations
- Mediterranean Diabetes College
- Culturally appropriate lifestyle intervention programs for the prevention and treatment of Type 2 diabetes and obesity

Infectious Diseases

- Integrated multi-parametric approach for epidemiology, surveillance, and diagnosis of sand fly-associated diseases
- Implementation of transversal approach for inventory of pathogens (viruses, bacteria, and other micro-organisms) causing acute respiratory infections (ARI) in Mediterranean countries
- Identification of nodes for a network of cooperative translational research in Mediterranean countries

Public Health

- Research capacities in public health
- Challenges to health system: ageing populations
- Challenges to health systems: prisons - a neglected population
- Equity in health: current status, determinants, comparisons and opportunities in MPC

Rare Diseases

- Developmental disorders with unknown genetic aetiology in populations with endogamy and consanguinity
- Rare Mendelian phenotypes of autoimmune disorders
- Treatment and therapies for haemoglobinopathies

[3] For detailed information on the SICA's justifications and rationales please see chapter 4 of this document.

Thematic Workshop on Energy

The MIRA workshop on Energy Research Priorities in the EU-MPC was conducted in Cairo, Egypt on March 23-24, 2009. The workshop was organized by the Ministry of Higher Education and Scientific Research, which is responsible for Work Package 4 within MIRA.

Background

The workshop design strongly referred to the Strategic Energy Technology Plan from the EU-Commission on the one hand and to the Mediterranean Solar Plan on the other hand. In its Strategic Energy Technology Plan the EU-Commission sees the need for actions to deliver sustainable, secure and competitive energy. Challenging targets for 2020 are: reduction greenhouse gas emissions by 20% and ensure 20% of renewable energy sources in the EU energy mix; a plan to reduce EU global primary energy use by 20% by 2020; carbon pricing through the Emissions Trading Scheme and energy taxation. In this context the importance these goals have been reaffirmed by the EU-Commission's communication in 2009[4] as well as the relation between the EU and the Mediterranean Partner Countries, whereas the continuing support for activities derived from the EUROMED Energy Cooperation during the Ministerial meeting in Cyprus in December 2007 was underlined. The importance of the Mediterranean Solar Plan was recently acknowledged by EU-Commissioner Ferrero-Waldner stressing that the Solar Plan is a necessity not an option.[5]

Workshop Topics

Taking this into account, the following research areas have been discussed in detail by the experts:

- Photovoltaic;
- Concentrating Solar Power;
- Wind Energy;
- Energy Efficiency.

In addition, presentations were given on the EU's Strategic Energy Technology Plan, the Mediterranean Solar Plan, the energy research landscape and priorities in the MPCs.

Workshop participants in the guild hall

Participation of related Projects

MED-EMIP, DESERTEC foundation

Participants

71 participants from 16 countries (Algeria, Cyprus, Egypt, France, Germany, Greece, Italy, Jordan, Lebanon, Malta, Morocco, The Netherlands, Portugal, Spain, Tunisia, Turkey). In addition nine representatives form the EU Commission / DG RTD (also form the EC delegation in Cairo) and from the League of Arab States.

Organisation

Ministry of Higher Education and Scientific Research, Egypt. The workshop was co-financed by the Egyptian Programme for Research, Development and Innovation.

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Ministry of Higher Education and Scientific Research

[4] See EU-Commission COM(2009) 519 final.

[5] See Benita Ferrero-Waldner Commissioner for External Relations and European Neighbourhood Policy "The Mediterranean Solar Plan – a necessity, not an option" European Union Sustainable Energy Week, Brussels, 13 February 2009.

Proposed Specific International Coordination Activities (SICAs)[6]

Photovoltaic

- Advancement of PV system components including cells, storage devices, inverters, and controllers for micro grid applications
- Integration of PV/CPV systems in industrial grid connected applications
- Development of operation and maintenance training programs to support deployment of PV technology
- Policy research and legislation development and awareness building for integration of PV technology application in energy management and resource planning

Concentrating Solar Power

- Local manufacturing of components
- Advanced materials and surfaces
- Improved weather forecasts models for direct normal Irradiation
- New joint test facilities for CSP in the MENA region collocated to pilot power plants
- CSP Dissemination and Education Program "Educate the Educators"
- Evaluation of Hybrid Concepts

Wind Energy

- Wind Energy Conversion Systems in Desert "extreme" Conditions (industrial aspects)
- High penetration of wind energy in electric grid for MPC Countries
- Stand alone Autonomous wind systems

Energy Efficiency

- Energy Efficiency Road Map (Prospects and Challenges)
- Develop optimized energy efficient buildings for the region
- Increasing efficiency and reliability of the solar collectors through developing new materials, specific coating materials & cleaning techniques
- Large energy intensive industries: Energy intensity improvements through Energy Efficiency

[6] For detailed information on the SICA's justifications and rationale please see chapter 4 of this document.

Thematic Workshop on Environment

The MIRA workshop on Environment Priorities in the EU-MPC was conducted in Cairo, Egypt on January 26-27, 2009. The workshop was organized by the Moroccan Ministry of Higher Education, Executive Training and Scientific Research – Direction of Technology together with the Ministry of Higher Education and Scientific Research in Egypt.

Background

As the Regional Strategy Paper for the intervention of the European Neighbourhood and Partnership Instrument[7] points out, the Mediterranean environment remains fragile and due to various pressure factors deteriorate. The Regional Strategy Paper says that, on current projections 50% of the Mediterranean coastline could be built on by 2025. Furthermore the report underlines that, quality and quantity of water "is one of the most serious environmental problems currently facing all the countries in the region. Water scarcity is set to worsen with the projected increase of the population in the region, while poor water quality or water pollution tends to result from high salinity due to over-abstraction and poor irrigation techniques, pollution from agricultural run-off and uncontrolled discharges of wastewater and effluent. (…) The region's rich biodiversity – both marine and terrestrial - continues to be threatened, with alien invasive species and habitat destruction being the two most significant contributions to its loss." Further challenges are

- inadequate municipal and industrial solid waste management;
- poor air quality due to transport and industrialisation;
- marine pollution and coastal degradation;
- land degradation and desertification.

Workshop Topics

Against this background, the following research areas and topics have been discussed in detail by the experts:

- Climate change pollution and risks;
- Sustainable management of resources;
- Environmental technologies.

Introduction to the workshop

Participation of related Projects

RDI program. Egypt, SMAP III Project UNEP/METAP, Water Resources program. Egypt

Participants

68 participants out of 11 countries (Algeria, Egypt, France, Germany, Jordan, Italy, Lebanon, Morocco, Spain, Turkey, UK) and representatives of the EU-Commission.

[7] Source: EUROPEAN NEIGHBOURHOOD AND PARTNERSHIP INSTRUMENT (ENPI); REGIONAL STRATEGY PAPER (2007-2013) AND REGIONAL INDICATIVE PROGRAMME (2007-2010) FOR THE EURO-MEDITERRANEAN PARTNERSHIP, p. 9ff.

Organisation

Moroccan Ministry of Higher Education, Executive Training and Scientific Research –Direction of Technology together with the Ministry of Higher Education and Scientific Research in Egypt (the workshop was co-finaced by the Egyptian program on research, development and innovation)

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Working group session

Meeting in the guild hall

Proposed Specific International Coordination Activities (SICAs)[8]

- Response of coastal Mediterranean ecosystems to anthropogenic pressures
- Responses and adaptation of freshwater ecosystems/systems in the Mediterranean region in response to climate change
- Integrated assessment of hydro-ecological functioning at catchment basin scale for sustainable management of natural resources
- Sustainable technologies and alternative management options for agricultural and agro-industrial activities in the Mediterranean region
- Natural hazards analysis and construction of scenarios for natural risks

[8] For detailed information on the SICA's justifications and rationale please see chapter 4 of this document.

3. Lessons learned from the thematic Workshops

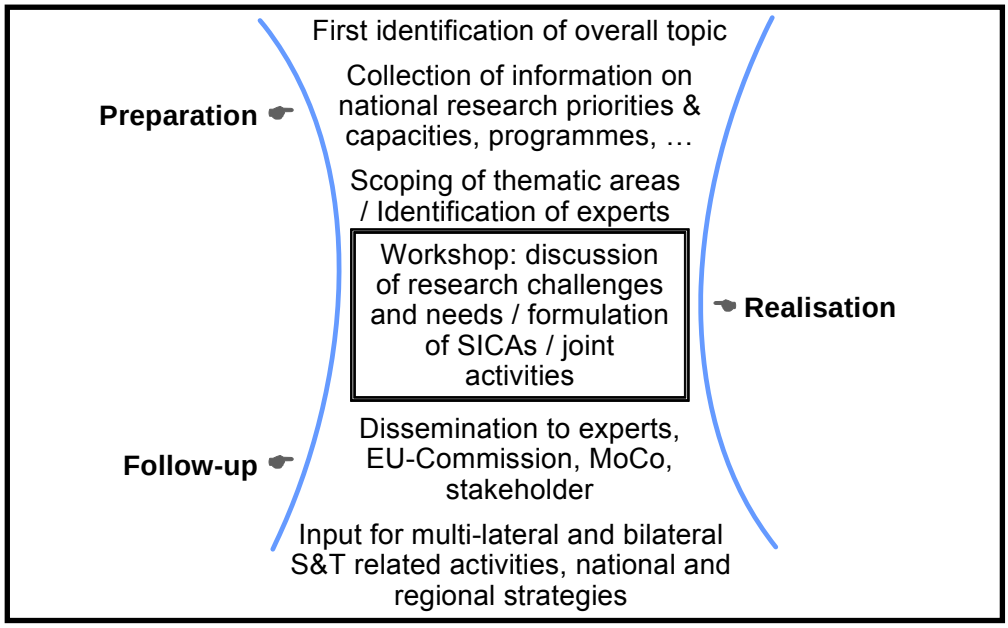
As stated above, five thematic workshops have been realised between January and July 2009 in order to formulate research areas and topics of mutual interest and benefit (SICAs), to initiate common research activities and by this to enhance the participation of MPCs in the EU's Framework Programme. The following thematic workshops have been carried out after an ex ante assessment of research activities and areas which are of mutual interest:

1. **Environment**: 26-27 January 2009, Cairo, Egypt; workshop organiser: Moroccan Ministry of Higher Education, Executive Training and Scientific Research – Direction of Technology; Ministry of Higher Education and Scientific Research, Egypt
2. **Energy**: 23-24 March 2009, Cairo, Egypt; workshop organiser: Ministry of Higher Education and Scientific Research, Egypt
3. **Health**: 04.-05. June 2009, Malta; workshop organiser: Malta Council for Science and Technology
4. **ICT**: 18-19 June 2009, Istanbul, Turkey; workshop organiser: TÜBITAK – The Scientific & Technological Research Council of Turkey
5. **Agriculture, Food, Fisheries & Biotechnology**: 13-14 July 2009, Bari, Italy; workshop organiser: C.I.H.E.A.M., Mediterranean Agronomic Institute of Bari

In total, 244 experts from the EU and the MPCs as well as from further countries participated in these workshops. 55 SICAs have been formulated, while their character reflect the different research patterns and therefore differ in terms of their specifications. They also reflect the constraints under which the workshops have been accomplished with regard to the limited time period and the given financial resources for this exercise available.

Having organised these five thematic workshops we have compiled a **toolbox for the successful implementation of thematic priority setting workshops**. It contains a detailed "**Story Board" for the preparation, realisation and the follow-up of thematic workshops including various templates** (e.g. expert's profile template, guideline on the structure of workshop documents, standard template for the formulation of SICAs). The complete toolbox is available on the MIRA webpage (http://www.miraproject.eu/workgroups-area/workgroup.wp3/working-documents/toolbox-for-the-preparation-implementation-and-follow-up-of-thematic-workshops/).

As one can see from the following graph, each workshop is integrated part of a process which can be divided into a preparation, realisation and follow-up phase.



Source: Own design

In the following, key elements as well as success factors and potential pitfalls related to the preparation, realisation and the follow-up of the thematic workshops will be highlighted: Findings are based on personal interviews with chairs, experts and hosting organisations of the workshops.

Preparation Phase:

Against the background of our experiences with the thematic workshops, the **preparatory phase** plays a crucial role for the successful implementation of the workshops. Hence, a sound ex-ante assessment of potential common S&T activities, areas and topics has been carried out by accomplishing an evaluation of previous EU-Med-projects in particular Med 7 in a first step. In a second step a questionnaire among the MIRA partners has been conducted to figure out research activities and areas of mutual interest and benefit. Finally, a selection of the S&T activities and areas of mutual interest and benefits took place at a screening conference in Cairo in April 2008 with participants from the EU- and MPC-research community, fixing the following themes: Environment, Energy, ICT, Health, FAB. During this screening conference also the process and methodology of regional priority setting was discussed at length and agreed upon by the MIRA partners. This methodology was further elaborated and presented to the Monitoring Committee for the Euro-Mediterranean Cooperation in RTD (MoCo) ad hoc meeting in Cairo in April 2008 and the plenary MoCo meeting in Istanbul in November 2008.

For the implementation of the thematic workshops, experienced workshop organisers / hosting organisations within the MIRA-consortium have been selected. Having done this, a further identification of research areas has been carried out by the hosting organisations. On basis of this, a sound identification and selection of experts in the given field was realised. In this respect it should be noted that this task has been challenging for all workshop organisers, yet a methodology paper for the realisation of the workshops – prepared by MHESR – turned out to be very helpful in this respect. A detailed example from the **Health** workshop is given by the following text box.

Prior to the workshop, MIRA partners were asked to nominate experts in the various areas from their countries. The European Commission was also consulted and asked to recommend experts in the four fields. The experts were selected on the basis of the profiles received, their knowledge of European Projects and their preference for one working group or another. The organisers of the Workshop attempted to balance each group, in terms of geographical coverage, experience of FP projects, knowledge on National Health and R&D policies, and, past collaboration with MPC/European partners. Discussions during the workshop were based on:
- feedback received from Policy Officers responsible for the different sub-themes in Directorate F about the way forward in future Health WPs;
- identification of gaps in the 4 sub-themes by the experts;
- a review of funded projects in these sub-themes through FP6 and previous FP7 calls to avoid duplicating work;
- proposing new research topics to build on existing knowledge in the field and to go beyond the current state of the art and
- definition of new research topics of joint interest to EU and MPC in order to facilitate participation of research groups from MPC into FP7.

Source: Final Workshop Document on Health

The following success factors for the preparation phase have been mentioned by the interviewees:

- Pre-meeting with EU-Commission on research areas of interest and experts to be invited
- Installation of a Scientific Committee for the scoping and the identification of experts
- Identification and involvement of the „ideal expert/stakeholder“
- A sound preparation of documents on national priorities, previous FP-calls, SICAs, Work Programmes, previous projects (MED 7), …
- A pre-briefing of facilitators and rapporteurs on objectives, method and approach
- Workshop methodology paper provided by WP 4 leader

In conclusion, we would like to underline that all workshops have been successful in involving an appropriate number of experts. In addition, the preparatory desk work was also successful. In this respect, the preparatory report for the thematic workshop on FAB can be seen as one good example. A pre-meeting of the scientific committee (if in place) or the rapporteurs, facilitators and moderators in some cases was of advantage to gain a common understanding regarding the workshop objectives and its process. A pre-meeting of chairs, facilitators and hosting organisations might be recommendable for future thematic workshops.

Summarising these findings the following table shows a suggestion how to prepare thematic workshops for priority setting (a detailed “Story Board” for the workshop preparation, realisation and follow-up can be found on the MIRA-webpage[9]).

[9] http://www.miraproject.eu/workgroups-area/workgroup.wp3/working-documents/toolbox-for-the-preparation-implementation-and-follow-up-of-thematic-workshops/

Time bar / week	Activity
- 18	"Screening Conference" to identify overall research themes Sharing experience with other workshop organisers
	Forming a Scientific Committee (5-7 experts). Experts should have an overview on the research landscape. Tasks of the Scientific Committee: Support the identification of research areas and topics, the drafting of the agenda, co-ordinate and supervise the workshop, chair and facilitate sessions
	Gathering Information through the MIRA partners on: national priorities, research capacities, research strengths and weaknesses, needs, funding programmes, related projects (MED7, …), as well as on past and future FP 7 Research Programmes (data to be considered to avoid identification of previous calls: Previous SICA's under 2007, 2008 & 2009 Work programs)
	Scientific Committee will discuss the gathered information, draft an agenda and share it with the thematic Directorates -> scoping thematic research areas out of the overall research theme for the workshop, final agenda Meeting with thematic Directorates of the EU Commission
	Workshop organiser asks MIRA partners, NCPs, EC Thematic Directorates, NCPs to nominate/suggest experts according to the required expert profile
	The Scientific Committee agrees on a final list of experts to be invited (incl. "substitute list"). Average participant number of 20-25 for each research area.
- 12	The workshop organiser invites identified experts
	Experts should receive: ▪ a questionnaire on national research priorities / suggestions for SICAs ▪ a guideline to the workshop, documents for reflection on past and future FP 7 Research Programmes, related projects, …
	Establishing an expert discussion forum on the MIRA platform to narrow down the themes to research areas/activities of common EU/MPC interest. Discussion among the experts via MIRA webpage.
- 4	Identification of chairmen, facilitators and rapporteurs for the workshops. Pre-meetings for detailed workshop activities
0	Workshop

Realisation Phase:

As stated above, five workshops have been carried out by various hosting organisations in the Mediterranean area as listed below. Against the background of the limited resources available and the aim to concentrate the effort and resources to dedicated research activities, areas and topics which are of mutual interest and benefit, it was agreed to implement five thematic workshops instead of the initially planned 10 workshops. The workshop focused on the challenges and strategies of common interest to the EU and Mediterranean partner countries, capitalising on previous experiences and research results and providing suggestions for the implementation of S&T international cooperation. The following process followed basically a standard routine which was outlined by a methodology paper for implementing the workshops.

The workshop itself can be regarded as a complex group dynamic process that should result in the precise formulation of research areas and topics which are of mutual interest and benefit (SICAs), as stated before. Moreover, building on previous experiences was possible only to a limited extent. Thus, an appropriate motto for carrying out the workshop would be "invest in communication and facilitation" during the workshop. This phrase reflects the nature of the thematic workshops as a group dynamic process for which i) a clear formulation

of objectives, ii) a professional facilitation (moderation) and iii) a smart process structure is compulsory.

The following success factors for the realisation phase have been mentioned by the interviewees:

- Information on national priorities as well as on previous and future Work Programmes
- Professional facilitation during the workshops is necessary to reach the workshop objectives
- Participation of related projects, e.g. ERA-NETs in order to connect project activities

The participation of representatives from ERA-NETs or other related project turned out to be very helpful to set links to other projects and to support the follow-up activities. Through the ICT-workshop it was possible to set up strong links between the "MIRA-ICT research community" and the ICT project JOIN-MED[10] which has just started, for example. Besides the fact that MIRA results could be taken on board, about 10 experts from the MIRA-ICT-workshop are now involved in the JOIN-MED activities.

In conclusion, one can state that effort was necessary to reach the appropriate mind-set during some workshops. Different views regarding the workshop objectives and its process among the rapporteurs, facilitators and moderators have been recognised in some workshops. Summarising these findings the following table shows a suggestion how to implement the workshop (a detailed "Story Board" for the workshop preparation, realisation and follow-up can be found on the MIRA-webpage[11]).

Timing	Activity
Evening before start	Briefing session of the Scientific Committee / or facilitators, chairs, rapporteurs, presenters
Day 1 / Morning Session	Opening & Welcome
	Setting the Frame I: Relevance of the theme and research area for EU-MPC cooperation activities / information on the MIRA project / objectives & results Setting the Frame II: Information on / presentation of related projects Setting the Frame III: Information on the DG Work Programme in question
Afternoon Session	Presentation on national priorities gathered beforehand and / or Presentation on the "State of the Art" from a scientific point of view
	Working Group(s): Introductory remarks on objective (formulation of SICA recommendations), results (SICA Call text along a standard template) and process (discussion, priority setting, filling the template).
	Working Group discussion I - Brainstorming
Morning Session	Working Group discussion II - Priority setting and elaboration of SICA calls along a template.
Afternoon Session	Plenary Session Presentation of the working group conclusions (SICAs) by the facilitators/rapporteurs Synthesis of results / discussion and conclusions/ next steps Optional: Poster Session / FP 7 brokerage with pitch presentations

[10] Join-Med is a FP 7 ICT project; see www.Join-Med.eu
[11] http://www.miraproject.eu/workgroups-area/workgroup.wp3/working-documents/toolbox-for-the-preparation-implementation-and-follow-up-of-thematic-workshops/

Follow-up Phase:

Having organised five thematic workshops the proposed SICAs will be presented to the MoCo for their endorsement. The endorsement by the MoCo plays a crucial role for the follow-up activities within MIRA. Through the endorsement the proposed SICAs will receive more attention for the dissemination and communication to the EU, national and regional institutions. More precisely, dedicated follow-up meetings with thematic directorates of the EU-Commission will enhance the opportunities to integrate the workshop findings into the forthcoming work programmes. Moreover, a customised dissemination strategy on basis of the endorsed SICAs targeting Programme Committee Members, NCPs, related projects and the wider research community will contribute decisively to the sustainability of the workshop results.

4. Proposed Specific International Cooperation Actions (SICAs)

Texts have been taken from the final workshop documents

SICA Recommendations for Agriculture, Food, Fisheries and Biotechnology Research

A) Water and Land Resources Management

Topic: Design, develop and disseminate appropriate and sustainable technologies through multi-scale and multidisciplinary approaches to promote the efficient and productive use of available water in agriculture

Wording of call: Projects should address approaches such as water harvesting, improved land and water management, enhanced use of marginal water, hydroponics… to promote efficient use of available water in agriculture. Activities should focus on scales ranging from the farm to the basin, integrate all water sources (surface, groundwater and non-conventional), and consider institutional aspects.

Justification: Given the expected trends on pressure over water resources in the Mediterranean, projects are required to fill the gap between the state of science and current water management practices. Technologies that improve control on water withdrawals, support water governance, enhance water productivity and optimize farmers' water use need to be deployed.

Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).

Expected impact: Increasing water use efficiency in the whole system, from the farm to the basin, including all water sources and considering the institutional aspects. Improving water use efficiency and productivity in Mediterranean environments will result in increased water availability for alternative uses and improved life standards for rural populations. The multi-scale and multidisciplinary approach will result in improved user acceptance of the proposed measures and wider societal implication in technological water issues. The solutions proposed as a result of this project could contribute to address the water problems of similar areas of the world.

Topic: Development of affordable technologies (emphasizing biotechnologies) for waste water treatment and safe agricultural reuse in the Mediterranean.

Wording of call: Projects should focus on innovative, appropriate and cost-effective technologies (and biotechnologies) for wastewater and sludge treatment. Solutions will be proposed for the main constraints: institutional, economic (including energy input and cost recovery) and financial. Viable options based on different treatment levels for different uses of wastewater (including food and non-food crops, landscaping and groundwater recharge) and sludge will be assessed accounting for the parameters of the Mediterranean region, addressing sustainability and social acceptance.

Justification: As the Mediterranean population becomes increasingly urban, it becomes more important to ensure proper urban wastewater treatment and reuse for additional purposes. The current Mediterranean water deficits will be alleviated by the adoption of safe wastewater reuse programs. Research is needed to address the factors currently limiting the

affordability, robustness and user acceptance of these technologies in Mediterranean environments.
Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).
Expected impact: Making available appropriate and cost-effective new technologies, including biotechnologies for wastewater and sludge treatment, make it easier to progressively extend the reuse (and recycling) of urban and industrial waters in agriculture and landscape irrigation, their use for groundwater recharge, as well as the disposal of treated waters with avoidance of negative impacts on the human health. In particular, it will become also easier to adopt an integrated management of surface, groundwater and non-conventional water resources in areas where scarcity is or may become a key issue.

Topic: Develop new tools to target more effective measures to assess and manage climatic risks, to enhance adaptation to drought and climate change and contribute to mitigation via land and water management
Wording of call: Projects should focus on agro-ecosystem response to climate change, using models and/or scenarios (combining ICT, system biology, environmental sciences, hydrology…) to assess adaptation measures and evaluate their mitigation capacity. Specific attention should be attached to the availability of and access to data. Projects will also provide options for long-term solutions to respond to conditions created by climate change and/or tools to assess risks related to extreme events (specifically drought).
Justification: A better understanding of the response of agro-ecosystems to climate change and drought will provide a knowledge frame for decision making from risk management institutions, water and land management agencies and farmers' organizations. It will contribute to designing new governance models and institutional arrangements.
Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).
Expected impact: the development of agro-ecosystem responses to climate change shall lead to adaptation measures that will help to progressively coping with climate change impacts and challenges. Using models and scenarios relative to climate change, ecosystem and agricultural responses, as well as relative to related impacts constitute adequate approaches to understand affected process and to develop measures, whatever they are of physical, biologic, economic, social or institutional nature. In particular, if attention is paid to extreme phenomena, whatever they are of local and short scale (such as flooding), or large temporal and spatial scale (droughts), related studies and developments will help to mitigate and adapt to climate change.

Topic: Develop new plant materials specifically adapted to climate change, drought and salinity in the Mediterranean
Wording of call: Projects should focus on breeding and genomic technologies for crop adaptation to climate change and drought. Breeding targets should include drought and salinity tolerance, as well as low-input cultivation. The use of wild relatives and local cultivars will be considered. The project should target specific Mediterranean crops.
Justification: Climate change will result in more severe dry spells and increased soil salinity in a number of Mediterranean agro-ecosystems. Under these circumstances, attaining food security goals will require use of germplasm showing tolerance to the abovementioned factors and being profitable even with the expected high energy costs. Low-input Mediterranean agriculture can benefit from new varieties of traditional crops which constitute the basis for the local diet. These plant materials will be used to reduce food security uncertainties caused by climate change. Proponents of the technology argue that biotechnology has the potential to lead to increase in food security, decreased pressure on

land use, sustainable yield increase in marginal lands or inhospitable environments and reduced use of water and agrochemicals in agriculture.
Funding scheme: Specific International Cooperation Action (SICA) targeted at MPCs Collaborative projects (small or medium scaled focused research projects).
Expected impact: Rehabilitation of marginal lands, enhancing the plant tolerance to abiotic stress and the sustainability of crop chains which lead to increase the yield, especially in marginal lands, and their positive socio-economic effects on local communities. The plant materials resulting from the project will contribute to the sustainability of rural Mediterranean communities in the context of climate change. Maintaining agricultural production in the foreseen conditions requires a combination of plant materials and agricultural practices. This proposal addresses part of the solution, producing plants capable of attaining profitable yields under variable levels of drought and salinity. Targeting local cultivars adapted to low-input cultivation requires public research funds, since the project outputs are far from the interests of agribusiness companies.

Topic: Explore new governance, institutional mechanisms (or models) and economic tools enabling the implementation of sustainable water use
Wording of call: The proposal will assess from an institutional point of view to what extent is the current Mediterranean water governance suited to meet the challenges derived from societal transformation and climate change. After the identification of the major gaps, the proposal should design suitable solutions for the local water institutions (including economic instruments) and discuss the conditions for their successful implementation in the region.
Justification: The growing consideration of sustainability in water management requires relevant changes in the current governance schemes and institutional arrangements. Inter-sector conflicts, environmental issues and the need to effectively respond to extreme events ask for new governance models based on economic criteria, long-term perspective and strong societal participation.
Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).
Expected impact: The proposal aims at improving governance techniques for water resources in the Mediterranean countries inducing the users, at all levels, to a better and appropriate water management.

Topic: Develop analytical tools to support decisions on land and water use and technology adaptation at farm level
Wording of call: Projects should focus on developing innovative analytical approaches and decision support tools. These will address farmers' selection of land and water use technologies and management strategies. The local institutional and governance constraints will be considered. The output will respond to appropriate economic, environmental, social and technical criteria, including interaction with the water distribution system.
Justification: Considering that the farm level is the one where land and water are used for agriculture production and for generation farmers' income, it is important to focus attention on the processes and mechanisms that lead farmers to select management and technology options considering external and farms constraints.
Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).
Expected impact: Farmers will be helped to increase their income through the development of innovative decision tools.

Topic: Development of affordable appropriate solutions to improve rangeland management and help livestock producers (particularly small ruminants and camels) to adapt to changing climatic conditions
Wording of call: Projects should focus on identifying means and ways to improve rangeland management in the Mediterranean region including improvement and conservation of adapted local breeds, especially small ruminants and camels. These techniques will be considered in combination with water conservation and water harvesting operations.
Justification: Regions receiving 100-200 mm of rainfall cover large areas in many Mediterranean countries, where livelihood of inhabitants heavily depends on livestock production. Inhabitants of such regions are facing a number of challenges such as rangeland degradation, shortage in animal feed and trans-boundary diseases that limit livestock trade and affect human health. With climate change, such challenges are likely to become more severe. Intensifying research in these areas will offer solutions which will promote better livestock and natural resources management.
Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).
Expected impact: Rationalizing rangeland management, rehabilitation of natural resources, strengthening animal health services and setting up veterinary checkpoints, technical support to livestock activities.

B) Food Chain, Food Safety and Food Security

Topic: Measures to adapt the crop chains of Mediterranean products (i.e. olive, citrus) to the effect of climate change
Wording of call: Projects should focus on innovative tools and technologies for: enhancing plant resistance/tolerance to biotic and abiotic stress by the improvement of gene transfer technology between plants and double haploid technology; controlling plant adversities by the improvement of Systematic Taxonomy and the development of innovative Pest Risk Assessment (PRA) programmes of emerging and/or introduced pests/pathogens of Mediterranean fruit trees and vegetables (i.e modeling, remote sensing, DNA-barcoding); enhancing identification, conservation and use of the Mediterranean biodiversity by the improvement of molecular techniques for Taxa characterization.
Justification: Mediterranean biogeography has gradually modified due to climate changes; actually the newly introduced and the secondary plant pests/pathogens and new abiotic stress are seriously influencing plant species, varieties survival and the sustainability of crop chains. To this aim National Services for '*Species identification and conservation and use'* and for 'Plant Protection need to be provided with innovative tools and technologies.
Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).
Expected impact: Agriculture productive scenario will move to the use of new developed varieties, which are more resistant/tolerant to abiotic and biotic stresses showing up in relation to climatic changes. The use of resistant/tolerant varieties obtained with innovative techniques in combination with the application of proper pest control and PRA strategies will preserve the biodiversity and improve food availability and economic income to match with population wellness. The process will lead to social stability by the maintenance and/or enhancement of the economic value of production.

Topic: Reducing post-harvest losses and contaminations
Wording of call: Projects should focus on hazard control strategies in food storage facilities, handling and transport such as: the employment of natural antimicrobial compounds to increase microbial safety and quality of food; the use of edible packaging to reduce the

contact between food and environment; the improvement of the handling, grading, packaging and use of food products. A reduction of health hazards through surveillance, prevention and control of post-harvest secondary pathogens and food-borne diseases, establishment of food hazard monitoring and evaluation units.

Justification*:* Post-harvest losses greatly vary among commodities in relation to production areas, storage and management. For example, estimates of the post-harvest losses of food grains in the developing world may reach 50 percent. To reduce such losses research is needed to address to the development of food contact materials (major methods for gas permeability), predictive modeling of spoilage and food antimicrobial interaction.

Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).

Expected impact: Reducing post harvest contamination and losses by innovative and environmental friendly techniques will increase the gross agriculture product, improve food quality and safety, leading to a safer and healthy environment. Control of food stuffs and feed contaminants will reduce the amount of food-related diseases improving population income and wellness. Year-around availability of quality stored food will give the opportunity of balanced meal and thus better personal and social life.

Topic: Improvement of access to nutritious and safe food

Wording of call*:* Projects should focus on: improvement of methods for the identification, assessment and monitoring of food quality in Mediterranean foodstuffs; improvement of knowledge and capacity to anticipate major threats in production, storage, processing and distribution of food and feed under the influence of climate change; innovation of diagnosis and control methods of animal zoonotic diseases (epidemiology data collection). Projects should focus on:

a) Improving knowledge and capacity to anticipate major threats in the production, storage, processing and distribution of food and feed under the influence of climate change. The project is expected to propose supportive measures and systems that protect the vulnerable producers and their products (whether crops or animals) and help them resume production.

b) Innovation of diagnosis and control methods of animal zoonotic diseases (epidemiology data collection). The project will contribute to the production of updated knowledge on the mapping of the epidemiology of animal zoonotic diseases and propose a monitoring system that can raise the efficiency of control measures.

c) Improvement of methods for the identification, assessment and monitoring of food intolerance provoking factors in Mediterranean foodstuffs.

Justification:

a) Acquiring the ability to anticipate major threats to agricultural production, that can be attributed to climate change, can raise the preparedness of the producers and increase their capacity to cope with the impact of climate change as well as shorten the period of interruption of production. This can represent a significant contribution to limiting food losses at a time of a food crisis.

b) With climate change and due to other factors such as trans-boundary spread, the epidemiology of animal zoonotic diseases is changing and new diseases are emerging in regions or climatic zones where they did not exist before. Identification and sharing of diagnosis and control measures can have a significant impact on control and prevention of these animal diseases that are becoming an important threat to the health of communities.

c) Food intolerance represents an important health problem in Mediterranean countries. Undeclared components in food products pose a major risk for hypersensitive persons. Reliable detection and quantification methods for food intolerance are necessary to ensure compliance with food labeling and to improve consumer's protection. Special emphasis must be laid on traditional foods for the support of both products and consumer's health. Food

intolerance can be managed simply by cutting the food out of the diet. For this reason there is a need to develop the methodology for analysis of local foods and to control the market.

Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).
Expected impact: Predetermination of food risk factors, such as intolerance- inducing compounds, production threats and zoonotic bacteria that are related to the Mediterranean foods help in pre-arrangement of risk-coping plans that limit the occurrence of these risks and provide safer foods.

Topic: Low environmental impact for the quality improvement of Mediterranean fruits (dates, citrus, olive etc.) and vegetables productions
Wording of call: Projects should focus on Integrated Pest Management and Organic production (nursery plants included) and processing systems, using natural active substances and plant-growth promoting microorganisms for fertility and biological control management.
Justification: The quality and safety of fruit and vegetables at Mediterranean level are not enough to meet the international standards and food needs of the local population. Innovative approaches based on efficient and environmentally-friendly tools are highly demanded to reduce/replace chemical fertilizers and plant protection products in agricultural production.
Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).
Expected impact: A sustainable pest control by innovative and coordinated use of pest mortality factors, reduction or replacement of chemical fertilizers by the sustainable use of natural resources, will lead to reduction of environmental pollution, production of healthy food, with a cost reduction, for better life quality.
Certified IPM/organic fruits and vegetables will open the international market for Mediterranean agriculture products increasing the national income and social development.

Topic: Competitiveness of agricultural products from non EU Med. countries to global market
Wording of call: Projects should focus on promotion, characterization and processing of traditional products for modern consumers. This will improve commercial and health images of traditional food product and will give to non-EU Mediterranean countries the possibility to enter the European food market. More enhanced traditional food quality will provide local consumers with lower food-connected risk and better nutritional quality of the food itself.
Justification: Rural development in many countries around the Mediterranean Basin depends on agriculture and in many non EU countries, local products are the most dominant and the main source of income. These products can play a good role in human nutrition and health, if they are well characterized and accepted by the modern consumer. However, limited information is known about their genetics, composition and nutritional value. So their inventory, identification, characterization, and presentation can place them in the global market. Moreover, the typical agricultural products' knowledge will contribute to develop database, food matrices, new food technologies in order to apply the appropriate technology to disclose their richness. Nevertheless, the quality and safety of several agricultural products of non-EU Mediterranean countries are still below the market trade requirements, therefore, implementing effective and innovative management practices to ensure cost efficiency and reduce/replace chemical fertilizers and pesticides in agricultural crop production and food processing (i.e. probiotic starter bacteria can give an added value by fighting against food-borne diseases) are necessary.

Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).
Expected Impact: Characterization and enhancing quality of the traditional foods provide European market with new foods that are high in nutrients, safe, contain low chemical compounds and increase the income of the local producers.
The overall aims of these actions are:
- to increase the knowledge on local products strengthening the network among scientific institutions (from universities or ministries) to enhance the dialogue between North and South Mediterranean shores and to characterize the resources existing in rural areas.
- to activate the chain organization for local products creating job opportunities in the countries that have developing capacity
- to develop quality and safety standards for the production and processing of local products that could comply with the International standards generating innovation process in loco and economic support
These expected standards can be assessed by measurable indicators linked to the collaboration and activities developed, products and innovations identified, people and institutions involved.
These actions will eventually provide: a better knowledge about the composition and specific health and nutrition attributes of these foods; harmonization of information among Med. Producing countries; provide information to the consumer; more added value to these foods; better and more efficient use or appropriate cultural practices and production and handling technologies to maximize quality of these foods; positive economic impact on the growers and on local communities in the villages where these foods are grown.

Topic: Networking for data and technology exchange in the Med. Area
Wording of call*:* Projects should focus on integrating existing resources (e.g. data sharing) and taking full advantage of new technologies. Improvement of research facilities and access of local research teams to available data.
Justification*:* Information technology will greatly help the growth of all topics and dissemination of results among partners: databases will contain the memory of study and experience and will serve to start up further studies. Main aspects of databases will cover traditional foodstuff composition and characterization, IPM/PRA sources of information, biotechnological, and molecular characterization of products; molecular epidemiology in aquatic animal disease control. This kind of database will greatly support the harmonization of the Mediterranean trade policy.
Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).
Expected Impact:

- Technology transfer from developed to developing countries;
- Improvement of research facilities and easier access to available information and research results for network partners;
- Increased knowledge and awareness among scientists, industry partners and all food chains stakeholders regarding aspects of their interest;
- Harmonisation of information among Med. Countries to facilitate trade and policy-making.

Topic: Governance and institutional aspects for sustainable development
Wording of call: Projects should investigate the forms, tools and objectives of political interventions for food safety and food security, in order to increase the knowledge about the relevance of appropriate forms of governance, at international, national and sub-national level (e.g. regulating the effect of oil price on food production cost; promoting diversification of energy availability at farm level, as recycling from unconventional plant biomass).

Justification*:* Food security and food safety issues are public goods, which require State interventions to elaborate legislations and for their implementation and enforcement. Both food safety and food security are multi-stakeholder issues, where public and private operators as well as for NGOs are at work, but there is a need for further investigation about their relationships and overall effectiveness.
The lacking or poor regulations on food security and safety at national and Mediterranean level impose the harmonization of regulations in order to favour the free trade of agricultural products in the region, as agreed in Barcelona Declaration (1995). Moreover, oil price fluctuation is highly influencing the price of agricultural products: therefore new sources of energy are needed at farm level and strict regulations for transportation would be necessary.
Funding scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).
Expected Impact: Increased dialogue and cooperation between decision /policy makers and public/ private enterprising in the agro-food sector. Improved governance systems for ensuring higher levels of food security and food safety. Improved national regulatory systems to enhance policies and legislations to help in globalisation trading of the safer foods at reasonable and stable prices.

SICA Recommendations for Information and Communication Technologies (ICT) Research

Topic: Human Language Technologies – HLT

The most obvious research topic that is indeed of mutual interest and where research activities depend on collaboration with the MPC is the field of language processing, or Human Language Technologies – HLT, with the focus on Semitic languages (Arabic, Hebrew, Maltese, …). There is one ongoing project in this field as a follow-up of a previous one[12], but given the wide implications of HLT in particular for Arabic, this is only a small activity. As it has been pointed out by the experts, HLT is not just an academic exercise but has a tremendous application and market potential in all e-technologies, but also in some core ICT fields like service infrastructures (FP-ICT-Challenge 1), self-learning machine translation (FP-ICT-Challenge 2), technology-enhanced learning (FP-ICT-Challenge 4), or patient safety (FP-ICT-Challenge 5).

Topic: Pervasive and Trustworthy Network and Service infrastructures

A second important research area is related to FP-ICT-Challenge 1 (Pervasive and Trustworthy Network and Service Infrastructures) where the entire region has not only a very good research background but also a significant application potential, in particular for all forms of mobile communication and computing. The fixed-line network is far less developed than in Europe and is expected to remain so, at least in the remote and rural areas.

Topic: ICT and Health

On the boundary between FP-ICT-Challenge 5 (sustainable and personalised healthcare) and the FP7 Theme 1 (Health) the problem of wide-spread diabetics in the Mediterranean region is a field of high significance for joint activities. Such topic can be treated on the ICT side on the FP-ICT-Objective 5.1 or on the medical side in Theme 1 of FP7.

Application-oriented domains

All e-application fields (eGovernment, eBanking, eProcurement, …) have a significant potential for collaborations with partners from the MPCs. It is not only a technical challenge to fully exploit that potential (there are many examples of highly successful applications) but to a large extent an acceptance and attitude challenge. In the same field the still open issues of secure payment systems in the MPC need to be addressed, on technical, administrative and socio-economic levels. In this context it is interesting to note that one of the best e-signature devices, which received many international awards, stems from Egypt, but so far has no real domestic market.

Topic: Human Resources

Finally, there is another aspect that clearly justifies a much closer collaboration in ICT with the MPC: the lack of human (IT) resources throughout Europe on the one side and the surplus of IT graduates in the MPC[13] on the other side. Due to the expertise in the MPC related to ICT Europe could profit significantly through setting up closer R&D collaboration.

[12] The current MEDAR project that is based on NEMLAR, for both see www.medar.info

[13] In 2000 the percentage of university graduates leaving the countries was for example 5% in Egypt, 12% in Tunisia, 18% in Morocco and nearly 40% in Lebanon. See: Brain Drain in Middle East & North Africa– The Patterns under the Surface, Çağlar Özden, UN/POP/EGM/2006/10, 11May 2006

SICA Recommendations for Health Research

A) Diabetes

Genetic and environmental factors causing the geographic variation in prevalence and incidence of Type 2 Diabetes, diabetic complications and obesity in the Mediterranean origin population.

Topic: Projects should compare different Mediterranean and European populations in their native countries and as immigrant populations. Emphasis should be put on the role of genetic, environmental and lifestyle factors, as well as their interactions, on the incidence, prevalence and age of onset of obesity, diabetes and their complications.

Keywords: Diabetes, obesity, nephropathy, neuropathy, CVD, retinopathy, insulin resistance

European partners: Academic centers, clinical centers and SMEs.

Justification: The population structure of the MPCs and the fact that these populations are represented in EC countries and thus exposed to different environmental factors, makes this an ideal situation to study the genetic risks and gene-environment interactions defining the risk for polygenic diseases such as diabetes and obesity.

Funding structure: SICA Collaborative project (Small or medium scale focused research project) with participation of Mediterranean Partner Countries.

EC contribution requested: minimum 3M to 6M euros; one or more projects selected.

Expected impact: Findings will be relevant for Mediterranean populations, both in their home countries and immigrant populations in EC countries and throughout the world. It is expected that novel genetic and other risk factors for diabetes and obesity will be identified. These are expected to lead to improved diagnosis and treatment and possibly the development of novel therapeutic targets. All of these are expected to have global impact, far beyond their effect on the specific populations studied.

Monogenic causes of abnormal glucose metabolism and/or obesity in the genetically diverse populations of the Mediterranean basin

Topic: This is a call for proposals that will capitalize on the genetic diversity as well as high consanguinity rates in some segments of the Mediterranean populations, for the purpose of identifying novel genes and mechanisms associated with monogenic disease characterized by abnormal control of glucose metabolism and/or body weight.

Keywords: Diabetes, obesity, insulin resistance, beta-cell dysfunction, insulin action, monogenic disease,

European partners: Academic centers, clinical centers and SMEs

Justification: The MPCs have a highly appropriate population base, with isolated sub-populations with high degree of genetic homogeneity providing an excellent opportunity to study monogenic disease. Discovering the etiology of monogenic disease will provide important insight into the pathophysiology of common, polygenic forms of diabetes and obesity, providing new opportunities for the development of novel therapeutic targets.

Funding structure: SICA Collaborative project (Small or medium scale focused research project) with participation of Mediterranean Partner Countries .

EC contribution requested: minimum 3M to 6M euros; one or more projects selected

Expected impact: For patients with monogenic disease and their families, the identification of causal mutations will provide the opportunity for improved diagnosis and effective genetic counseling. In some cases this may also facilitate the development of novel therapeutic approaches. For the general population, discovery of novel genes associated with monogenic diabetes is likely to have implications for better understanding of pathogenesis of polygenic diabetes and obesity and for the development of novel therapies for all forms of diabetes and obesity.

Genetic predictors of response to diabetes therapy in the Mediterranean populations

Topic: This topic is intended to identify genetic markers that are associated with the efficacy and safety of all forms of therapy for diabetes, obesity and associated complications. These therapies include pharmacologic as well as life-style interventions. The call is specifically targeted to populations of the Mediterranean basin. Participation of SMEs could lead to increased impact of the research proposed and this will be considered in the evaluation of the proposal.

Keywords: Diabetes, obesity, nephropathy, neuropathy, CVD, insulin resistance, beta-cell function etc.

European partners: Academic centers, clinical centers and in particular SMEs

Justification: The vast majority of therapy efficacy and safety trials are conducted in heterogeneous populations in Europe and North America. Since genetic variation may affect both the efficacy and safety of different therapies, conclusions for such trials cannot be automatically applied to other ethnic populations without specific validation. Furthermore, identification of genetic markers of variation in response to specific medication may be more easily achieved in homogeneous populations such as those found in the Mediterranean region. Thus, projects included in this call are expected to have a leverage effect on the genetic characteristics of populations in MPCs to identify novel and important genetic determinants of response to specific treatment. The decision to focus this call on the generic drugs in common use, is driven primarily by cost and availability issues.

Funding structure: SICA Collaborative project (Small or medium scale focused research project) with participation of Mediterranean Partner Countries

EC contribution requested: minimum 3M euros – maximum 6M euros; one or more projects selected.

Expected impact: The identification of genetic predictors of response and safety will enhance the safety and efficacy of therapeutic interventions, allowing the treating physician to focus efforts on interventions, whether pharmaceutical or lifestyle, that are most likely to yield the desired result.

Mediterranean Diabetes College (MDC)

Topic: This topic focuses on mechanisms designed to train the next generation of diabetes and obesity researchers in the region. It is expected that it will first be necessary to identify the resources and expertise already available in the countries of the Mediterranean basin. Next it will be necessary to identify specific needs required to help build infrastructures for research in countries in the region. Priority will be given for proposals that include maximum number of participating countries. The scope should include training of basic as well as clinical research skills. Mechanisms can include the establishment of a virtual college providing e-learning, as well as focused courses and workshops of variable lengths.

Keywords: Diabetes, obesity, molecular biology, genetics, in vitro research, animal model research.

European partners: EC countries and MPCs: Academic centers, clinical centers, SMEs (to provide teaching materials, translation etc.)

Justification: There is a lack of researchers and infrastructure in some countries. Furthermore, many of the existing facilities are not adequate to properly train potential researchers. Whereas training periods in major facilities abroad provide an excellent basis, these are frequently not cost effective and are not available to all who require such training. Furthermore, even for those who received excellent training abroad, there is a need for continuous updating of knowledge and experience, particularly as new technologies become available. Many academic centers in the region lack the critical mass required to sustain state-of-the-art expertise over time. Successful proposals would be expected to provide mechanisms for sharing and filling in gaps in technology infrastructure and expertise around the Mediterranean.

Funding structure: Coodination and Support Actions (Coordination Action).

EC contribution requested: 1M Euros

Expected impact: This project is expected to upgrade the research capabilities of the MPCs by providing advanced training for both junior and senior investigators. Improved training will translate into higher level of research, enhancing the competitiveness of the local institutions on the international scene. Improved research capabilities, typically brings with it improved diagnosis and treatment, thus benefiting the general health of the population.

Note: Although the basic concept is to provide a convenient and cost-effective regional solution, it is possible that this project could be part of a larger initiative to provide these services to other regions, particularly those that are geographically adjacent, such as sub-Saharan Africa.

Culturally appropriate lifestyle intervention programs for the prevention and treatment of Type 2 diabetes and obesity

Topic: Projects applying for funding under this call are expected to focus on designing, testing and implementing lifestyle intervention programs, including but not limited to diet and physical activity, for maximum efficacy and efficiency in the MPC populations. Emphasis should be given to programs aimed at the prevention and treatment of childhood obesity and diabetes as well as those aimed specifically at high-risk groups. Successful applications are expected to include comparative studies, as well as mechanisms for translating the results of clinical trials into programs designed for use the general community. Further emphasis should be given to the development of mechanisms designed to translate programs created for populations in the MPCs to those that can be applicable to immigrant populations in EU countries.

Keywords: Diabetes, obesity, nephropathy, neuropathy, CVD, insulin resistance

European partners: Academic centers, clinical centers and SMEs.

Justification: In the ethnically diverse populations of the MPCs, religious and cultural issues limit the efficacy of lifestyle interventional programs that are designed to focus on European or North American populations. To be successful, lifestyle interventions must be appropriate for the ethnic and cultural aspects of target population.

Funding structure: Coodination and Support Actions (Coordination Action) with participation of Mediterranean Partner Countries.

EC contribution requested: 2M Euros

Expected impact: Diabetes and obesity is increasing rapidly in the Mediterranean populations. Multiple studies in European and North American populations have demonstrated the efficacy of lifestyle intervention in delaying or preventing the onset of clinical disease. Specific cultural and religious characteristics pose challenges that are not addressed in existing large-scale trials. Culturally appropriate intervention programs that can be translated into the general community are expected to have major impact on public health, healthcare expenditure, longevity and quality of life.
Note: This proposal may better fit in a public health call, since it deals with studies and interventions that would most likely involve epidemiologic tools, or as part of the food thematic, because of the emphasis on diet evaluation and intervention.

B) Infectious Diseases

Integrated multi-parametric approach for epidemiology, surveillance, and diagnosis of sandfly-associated diseases

Topic: Research should aim to investigate a large range of potential pathogens harboured, and potentially transmitted, by sandfly vectors in the Mediterranean region. The emphasis should be on a transversal approach integrating expertise in entomology, epidemiology, diagnostics, vector-pathogen-host relationships, surveillance and human health impact. Special attention will be devoted to both (1) a syndromic based approach and (2) prospective follow-up of human and possible vertebrate reservoir host cohorts (asymptomatics vs symptomatics) in order to better delineate the role of known/newly discovered pathogens in human diseases, and their epidemic potential, via seroprevalence studies and direct detection of pathogens. Projects proposing a combination of classic and innovative tools for

the discovery of possible new pathogens are encouraged. The role of different host reservoir should be addressed. Projects are encouraged to include transfer of diagnostic/detection capacities toward MPC partners, and to organize quality control based monitoring to assess standardization. This should include monitoring of treatment outcomes in order to early identify possibly emerging drug resistance. Specific attention should be paid to standardisation of diagnostics/methods. Proposals involving a multidisciplinary approach, including significant participation of MPC must be encouraged. Where applicable, technology transfer, training activities, and human capacity building should also be part of the projects. Risk assessment should be considered via an integrated approach (GIS, nutritional, behaviour, geography and immunology). Projects should consider virus, bacteria and parasites in a balanced manner.

Expected impact: Research shall gather a multinational and multidisciplinary team of scientists from Europe and MPC working on the different sandfly associated diseases and possible pathogens prevalent in the Mediterranean area. It must use state-of-the-art knowledge in epidemiology, entomology, clinical science and molecular diagnostic technology to 1) develop a diagnostic platform for detection of sandfly-associated human pathogens, 2) elucidate the true prevalence and significance of sandfly-associated diseases in Mediterranean, 3) investigate the role of different vectors and hosts in the transmission of the diseases, and 4) delineate the importance of host and pathogen factors for the clinical manifestations of the infections. This should lead to recommendations to policy makers and health care managers for a better control of sandfly-associated diseases.

Funding scheme: SICA targeted at MPC, Collaborative project (Large scale integrating project)

EC contribution per project: 6-12 Meuros, 1 project selected

Justification: Sandflies are widely distributed in the Mediterranean region, and known to transmit parasites (*Leishmania* spp.), bacteria (*Bartonella bacilliformis*), and viruses (phleboviruses, flaviviruses, bunyaviruses). For instance, seroprevalence of antibodies against phleboviruses in countries located north of the Mediterranean indicate that 10-25% of the general population has been infected or will be infected during lifetime. Besides, the Toscana virus, a species of phlebovirus, is among the first three causes of aseptic meningitis in these countries, making of it a prominent problem in terms of public health. These pathogens are considered as emerging threats, but also are associated with neglected diseases in many cases. Most of the knowledge accumulated on sandfly-associated diseases/pathogens has been brought through programs dedicated to leishmaniasis, while the other pathogens have remained neglected. For this reason, we believe that a large program dedicated to a large range of sandfly-transmitted microorganisms may benefit from the experience provided by previously organized programs focusing on leishmaniasis. Despite the fact that progress has been done worldwide and around the Mediterranean, and, despite quite active research on the disease in Europe, sandfly-transmitted diseases presently belong to the category of the most neglected diseases. These diseases are under-reported even in countries where notification is compulsory. Due to climatic changes and resulting modified environments, the sandfly vectors and the pathogens are spreading northwards and can be imported with tourists and immigrants to northern non-endemic countries. There is still no public health surveillance of the disease at European level, and also not in MPC. The three pillars of sandfly transmitted diseases control are **early diagnosis**, **vector control** and **efficient treatment of cases**. Diagnosis is still mostly done on clinical grounds only or not done at all. For some pathogens, PCR–based detection

methods have been developed in northern countries but are not transferred in endemic regions.

In conclusion, there is an urgent need for a sensitive and robust diagnostic platform that can be used directly with clinical material and, preferably, allows identification of the infecting agent at species level. Vector control requires an excellent knowledge of vector mapping which is far from achieved in Mediterranean regions. Therapeutic failure and resistance of Leishmania parasites to the first-line antimonial drugs is very dramatic in India (>60% unresponsiveness), but also seems to become an issue for treating infections by *L. infantum* in dogs, as shown in some local studies. Detection of human cases, unresponsive to antimonial treatment, resulted in the use of Amphotericin B as first-line drug in some south European countries. However, no systematic or coordinated studies on treatment outcomes have been performed in the Mediterranean Basin. Compared to the situation in leishmaniasis much less is known for viral and bacterial diseases transmitted by sand flies. Some local studies have shown that human populations are exposed to sandfly-transmitted viral infections presenting with clinical symptoms ranging from mild febrile illnesses to meningitis and neurological disorders. Systematic studies on the impact of these diseases, their epidemiology and vector-host-pathogen relationship are missing. A diagnostic platform is needed allowing detection of the already incriminated pathogen and possibly new ones. Studies on sandfly-borne viral and bacterial pathogens could profit from being studied together with leishmaniasis because they could make use of the existing experiences and knowledge. If molecular methods are used, a diagnostic platform could be developed that allows detection of different pathogens by using the same technology. Control measures directed to the reduction or elimination of vectors would be the same for the viral diseases and leishmaniasis.

A Euro-Med consortium investigating sandfly-associated diseases could serve as a platform for further dissemination to other regions where leishmaniasis and other sandfly-borne diseases are a problem.

Implementation of a transversal approach for inventory of pathogens (viruses, bacteria, and other microorganisms) causing acute respiratory infections (ARI) in Mediterranean countries.

Topic: Research should aim to propose a comprehensive approach for the respective and/or associative role of known / neglected / newly discovered respiratory pathogens, including commensal pathogens. Projects should examine the causes of acute respiratory infections (ARI) in different climatic and cultural settings and determine the relative frequency and involvement in ARI of viruses, bacteria and other microorganisms. Epidemiological features, molecular profiles and drug susceptibility patterns of the prevalent pathogens need to be determined. Development of qualitative and quantitative broad multiplex assays for detection of these pathogens are particularly sought. European and MPC partners should work jointly towards the establishment of a cost-effective standardized diagnostic platform (quality controlled, continuously evaluated). Comparison of the data should benefit from a compatible database system to provide insight into the frequency and distribution of pathogens according to countries and seasons. Biological materials will be used to evaluate the adaptation of diagnostic tests to country-specific pathogens (genetically characterized), and to evaluate currently used or accessible therapy and prevention means. Using this data, tailored point-of-care multiplex diagnostic tests will be developed and evaluated on both sides of the Mediterranean sea.

Expected impact: The research program should tackle several aspects of ARI including surveillance, epidemiology, and molecular mechanisms of diseases and development of new and adapted diagnostic and therapeutic tools. It is also expected to lead to the establishment of a network endowed with classical and cutting-edge molecular diagnostic tools to make both regions equally prepared with respect to these new risks. Furthermore it will make possible to have a timely description of outbreaks and to identify the epidemic sources and transmission chains. Furthermore, this could lead to a set of recommendations for the rational and judicious use of antibiotics and for increased effectiveness of vaccine formulations. A blueprint to the development in parallel of more fundamental research projects addressing the complex host-pathogen interactions of ARI as well as virulence and invasiveness determinants of the involved pathogens.

Funding scheme: SICA targeted at MPC – Large scale Collaborative project (Integrated project)

EC contribution per project: 6-12 million euros

Justification: Acute respiratory infections (ARI) are a major cause of morbidity and mortality worldwide. ARI-causing pathogens are considered as the third most important cause of mortality globally. They are believed to be responsible for more than 6 to 7 million deaths annually, 90% of which occur in developing countries. This is most likely because of malnutrition, poor hygiene conditions, HIV/AIDS burden, exacerbated tobacco use, and the limited access to healthcare services.
ARI are particularly crucial in young children, as they account for nearly 3.9 million deaths every year globally. On average a child has 5 to 8 attacks of ARI annually. It is estimated that in practice. 30-40% of the hospital visits by children are due to ARI. About 20% of all deaths in children under 5 years are due to Acute Lower Respiratory Infections (ALRIs - pneumonia, bronchiolitis and bronchitis); 90% of these deaths are due to pneumonia. Thus, early recognition and prompt treatment of pneumonia is life saving.

The most commonly ARI-causing pathogens may be bacteria (most commonly *Streptococcus pneumoniae* and *Haemophilus influenzae*) or viruses (mainly respiratory synticial virus, but also adenovirus, parainfluenza virus, measles virus and rhinovirus). Several other pathogens have been isolated form ARI conditions and their direct or contributing role needs to be clarified. In fact, the physiopathology of ARI is complex and multifaceted. Indeed, it becomes increasingly clear that a wide variety of respiratory pathogens may cause one clinical syndrome and, conversely, any one pathogen may cause a wide range of clinical diseases. In addition, for any given bacterial or viral pathogen, multiple serotypes may coexist in the community. Another level of complexity consists in the fact that, for some respiratory pathogens, the pathology is more linked to the host immune response rather than to the pathogen itself.

Basically, respiratory pathogens are spread by droplets from the nose and mouth to fairly close contacts. Many of them are highly infectious and invasive and are responsible for severe epidemics. Population migration flows are particularly favorable to trans-border expansion of ARI, thus arguing for a regional strategy to better control them. Combining efforts between European and MPC public health services and research institutions is urgently needed to better explore the multi-etiologic nature of ARI. Concerted actions should be undertaken to standardize protocols for a better diagnosis and laboratory investigation of the involved pathogens. The impact of vaccination and the use of antibiotics must be deeply evaluated and adequacy with the nature of the circulating pathogens must be clearly

established. Particularly, drug-resistant *S. pneumoniae* and all invasive diseases in children <5 years, need to be addressed.

Identification of nodes for a network of cooperative translational research in Mediterranean countries

Topic: A good coordination in medical research among institutions based in the two banks of the Mediterranean, needs first and foremost targeting common problems and, secondly, using similar practices and common standards. On the other hand, the clinical research must address the severe problems emerging from the day to day practice in Hospitals and Health Centres. To strengthen and/or develop translational medical research across the Mediterranean Basin, it should be suitable to carry out a cooperation exercise envisaged both to identify and stimulate Centres, Hospitals and/or medical research centres, with innovative activity in medical care supported by their own or external research actions, based on a "from bench to bed" approach in order to establish a network of cooperative research. The project shall target as its main goal, achieving through consensus an Evaluation Guide which could be used to identify hospitals as the main core of each Centre, where basic scientists could provide clinicians with new tools for use in patients and for assessment of their impact, and clinical researchers could make novel observations about the nature and progression of disease that often stimulate basic investigations. Translational Research, to be efficient, needs to locate basic scientists physically close to clinical researchers. In this sense, participation of Universities and RTD Centers as well as, when possible, enterprises should be an asset. The above proposed Guide could in addition act as a waybill for the constitution of these innovation cores linked to hospitals. Recent experiences indicate that such kinds of evaluation rules have positive effects on future inter-institutional cooperation. In other terms, the Guide should provide effective institutional good practice rules linking health research, both of basic and clinical nature, and medical care. Consensus among Mediterranean EU Member States and MPC is required as far as identified Hospitals shall achieve enough quality standards, in both scientific and medical care terms, as to be preferential recipients of financial support for the development of scientific programs of common interest. This kind of good practice Evaluation Guide should include topics such as inter-institutional cooperation in each node, shared physical space within the hospital for basic and clinical researchers in order to provide a cross-fertilization environment, the elaboration of a strategic plan, intra and extramural training programmes, support measures and incentives for emerging groups and technology transfer policies including spin-off support.

Expected impact: The Guide shall provide a policy instrument for identification of high quality centres of translational research. This instrument should be useful for governments as well as for the European Commission and international supporting Agencies. The Guide shall define minimum common standards of quality across Mediterranean countries. Identified Hospitals should be the basis of a Mediterranean Network of Translational Research, with emphasis in common threats. In addition, the Guide can be used as a waybill for continuous improvement, especially to Hospitals which cannot currently accomplish these standards.

Funding scheme: SICA targeted at MPC - Support action for a feasibility study

EC contribution per project: 0.53 M euros

Justification: In the declaration following the 2nd Euromed Ministerial Conference on Health (Cairo, Egypt, November 2008) Ministers underlined that Health is always a horizontal issue and, in this sense, it should be incorporated as integral component of the whole body of initiatives, programs, projects and activities driven to social development in the context of the Euro-Mediterranean region. They asked for the promotion of an approach envisaged to "health in all policies" (HIAP), deeply taking into consideration cultural dimensions. Ministers agreed that the ever-growing exchange of knowledge as well as technology transfer amongst Euromed members offers the possibility of sharing necessary resources for both development and evaluation of technological advances and, furthermore ensures that innovations, including e-Health, are accessible to citizens, patients and health professionals.

Among the recommended actions, Ministers agreed that these needs can be satisfied through cooperation and constitution of networks in order to share expertise and best practices in matters of surveillance and control of transmissible diseases, with emphasis in development of cooperation on the base of structures and projects, including the promotion of common research.

Resources to be shared are of a different nature, amongst which are human capital and innovation hot-spots in both health research and care; these are of pivotal interest. These could be the basis to provide the Mediterranean basin with a network of Centres where research results are readily translated into clinical practice, with emphasis in health problems of common interest. For some MPC in particular, the provision of a Guide of institutional, quality-based, good practices can act as a true waybill in order to encourage systems based on strategies driven to continuous improvement in organizational terms.

The establishment of an evaluation method that, in addition, may act to encourage organizational positive actions in favour of the implementation of scientific and technological cross-fertilization environments in Hospitals of different Mediterranean countries, shall be the result of a deep consensus work, with participation of experts in different fields (science policy, health policy, basic science, medical practice, organizational quality, etc) and, from different national realities. In addition, an introductory work based on previous know-how in countries where Hospitals with positive experience in implementing translational research activities can come in as a useful set of different models of best aspects. This can be translated to those different realities in order to harmonize a common framework for evaluation.

The aim of such an exercise goes beyond that of providing an active hospital model of translational research. Different models can fit to a set of common criteria. The objective of the proposal is to provide this set of criteria to be fulfilled.

C) Public Health

Research capacities in public health

Topic: Structuring research capacities is crucial to developing support for public health in MPC. Working at population and health system level, public health research provides understanding of disease causation, knowledge for policy directions and methodologies for assessment of impacts of clinical practice and health systems. Research will include health systems and services research, research on health behaviours, and broader environmental, social and economic determinants of health. The first objective will be to map existing national structures responsible for research policies and funding, including donors, in each MPC. Key players should be identified, along with research information systems, choice of

priorities and the processes for making decisions at national and transnational levels. The second step is to develop strategies and action plans to improve research capacities and outputs in MPC, including training, financial instruments and regional collaborative support processes, and establish pathways for translation of public health research into innovations, policies and practice. Complementary synergies should be explored with European funding instruments, and convergence with public health policies of the European Union.

Expected impact: The action will increase knowledge and coordination of public health research at regional level and between national programmes. It will assist development of priorities for research agendas and innovations of practice to meet contemporary public health challenges, and contribute to international actions including the Global Forum for Health Research.

Funding scheme: Coordination or Support Action

EC contribution per project: one project, 1 million euros

Justification: Public health interventions and policies, crucial to population health, need to be evidence-based. International comparisons show a correlation between investment in health R&D and population health status. Many stakeholders are concerned with health research, but in contrast to the biomedical sciences, private enterprise is not a driver of public health research and public funding is necessary. Public health research needs to be multidisciplinary, drawing on applied social and statistical sciences as well as medical sciences. National research councils, ministries of health, and universities and institutes of public health in each country need to recognize and support public health research. The research capacities of MPC need to be determined in order to propose programmes for capacity-building, and research to address policy and practice gaps and needs.

Challenges to health systems: ageing populations

Topic: Research is needed to assess the impact of ageing on healthcare systems in MPC. Issues to be addressed include why healthcare costs are often greatest in the last year of life, what disease treatment is appropriate at all ages of life, what is appropriate preparation and support for dying, how (with reducing family support) to provide equitable long-term care for the ageing population, and, how far prevention and health promotion throughout life can reduce long-standing disability and chronic disease can reduce long-standing disability and chronic disease at older age and can enhance healthy ageing. Research should be multidisciplinary and comparative, drawing from international literature and interpreting this within the context of MPC needs and perspectives, and drawing together examples of good practice. It should determine the cultural factors affecting health and social policies on ageing and health, evaluate the effectiveness of policies including service provision and financial support, and address the availability and reliability of data on long term care and community, providing the evidence for national programmes by MPC.

Expected impact: Ageing has been identified by European member states and the European Parliament to be of special concern for health research because of financial pressures, both on health care systems and pensions. This research will provide knowledge to address future issues, for planning and resource distribution. The research will link health, social and finance policies, and underpin national debates and policy decisions, so as to better manage future challenges, increase public awareness and engagement, and promote equity in access to health and social care.

Funding scheme: SICA targeted at MPC – Small to medium scale collaborative project

EC contribution per project: one project, up to 3 million euros

Justification: Public pressure in MPC, with still relatively youthful populations, mainly focuses on improving current healthcare systems including widening coverage and enhanced treatment of disease. However, as a result of the demographic transition, with falling birth rates, increased migration and extended life expectancies, elderly care also requires attention. Earlier research within the Framework Programmes has addressed socioeconomic and welfare support for ageing populations in Europe, and this call seeks to investigate the experiences and needs within MPC, and make comparisons across regions and cultures. The balance between hospital and community services for cost-effective care needs to be investigated further in MPCs. Another challenge is planning the best for support and health care systems for elderly people, bearing in mind changing family support structures and sustainable health and social services systems.

Challenges to health systems: prisons - a neglected population

Topic: Research on prison health should address a number of fields – understanding and control of the transmission and spread of disease (especially TB, HIV and drug addiction); best management of mental ill-health; selection of prisoners between correctional and mental health facilities; assessing needs for selected groups including female prisoners and ethnic minorities; updating knowledge on minimizing the harmful effects of institutions and promoting health for staff as well as inmates; and promoting more efficient and effective systems delivery including health records, needs for training and capacity development, and contact with the wider national healthcare system including health insurance Research should be multidisciplinary and comparative, drawing on existing knowledge networks, providing baseline data and identifying issues and opportunities. Recognising that this is a new field for MPC, there should be liaison with EURO WHO's national network for prison health, and active collaboration between researchers in both the health and justice fields in relation to national structures.

Expected impact: Prison health is an important contribution to health equity. Prisons are a concentrated focus of disadvantaged and vulnerable people with high incidence of both communicable and chronic diseases as well as high-risk behaviours. Good systems for prison health contribute to controlling the wider spread of disease and to improving reintegration of prisoners into society. The research should also address broader systems for prison health, establishing links between relevant policy organisations, should promote cross-disciplinary research, increasing understanding of the cultural and political issues relevant to MPC, and contribute to development of policies that need to be in place at national and operational levels.

Funding scheme: SICA targeted at MPC – Small to medium scale collaborative project

EC contribution per project: one project, up to 3 million euros

Justification: Prisons, as well as mental hospitals, have been a long-standing focus of concern as state institutions, but health issues in prisons have received insufficient research attention. Prison health care makes contact with population sub-groups who are otherwise difficult to engage and therefore contributes to broader prevention of disease spread. As well as headline issues of infectious diseases, including TB and HIV, controlled drug misuse, and mental disorders (including suicide and violence), concerns for prisoners' health include

health-related behaviours – smoking, alcohol and other dependencies, malnutrition, poor dental health and tattooing – are associated with other risk factors, including intellectual and developmental disability, poor educational attainment, chaotic, unstructured lifestyles, and poverty. WHO European region has coordinated work over the past decade for improved health of the prison population. Staff members also need understanding of, and support in, their roles in promoting prisoners' health, and attention to their own needs including ethical responsibilities and control of violence. Health services in prison should ensure high standards of maintenance of health records for patients, and be in good contact with national healthcare systems to promote innovation in healthcare standards, training and transparency.

Equity in health: current status, determinants, comparisons and opportunities in MPC

Topic: Research is needed on how health systems can achieve equity in health in MPC. While much evidence has accumulated on the social determinants of health, more research is needed on effective policies that would achieve change. The focus will be on studies of action, including healthcare system coverage, financing, quality and outcomes, and assessing (including forecasting and modelling) the health impact of broader policy policies and social development. A range of methodologies is indicated, drawing from health economics, sociological sciences, health services and systems research, operational research and healthcare management. An assessment of the literature should draw on existing evidence syntheses and reports, and focus their relevance for MPC. Descriptive analyses should use comparative approaches, determining current status, draw from international evidence on health determinants, and develop benchmarking of progress and interventions in MPC. The barriers and opportunities to implementing evidence in equity for MPC should be assessed, as well as understanding of political and cultural influences. Dissemination of the research should promote the agenda at governmental, regional and local levels, as well as extending global understanding of these critical fields.

Expected impact: Research on health system approaches to equity will support national wealth creation and contribute to achieving millennium development goals. Collaboration across countries will harness knowledge exchange and build capacities in social and economic sciences for health in MPC. MPC will be brought more closely into international agendas on health equity and the broader determinants of health.

Funding scheme: SICA targeted at MPC – Small to medium scale collaborative project

EC contribution per project: one project, 3-6 million euros

Justification: Public health approaches, drawing on scientific evidence, working alongside other social policy and addressing levers for change, have considerable potential to improve health equity. The European Commission and WHO have both emphasized the importance of equity for health, related to the changing socio-economic forces in, and aspirations of, societies. Health in All Policies is a framework which contributes to reducing health inequalities through broader public policies, while it is also crucial to promote equity in health care across the whole population. Research on equity and health will also contribute to the important debates on good governance in MPC. At the research system level, there is a need to promote collaboration between socio-economic research and medical research to achieve public health goals, and to strengthen cross-disciplinary and innovative research in MPC relevant to national objectives.

D) Rare Diseases

Developmental disorders with unknown genetic aetiology in populations with endogamy and consanguinity

Topic: Collaborative research should aim to investigate developmental disorders with unknown genetic aetiology by a multidisciplinary approach including clinical investigation, phenotype characterisation and database development, chromosome rearrangement and gene identification, development of diagnosis tools and prevention strategies, deciphering patho-physiological mechanisms of developmental disorders using animal models. In order to ensure a global approach, the project should include a wide range of expertise namely clinical geneticists, molecular biologists, cytogeneticists, and experts in bioinformatics and computational analysis. It is highly desirable that the research project would include training activities and transfer of functional investigation and new post-genomic diagnostics capacities, which would enhance existing expertise in MPC countries

Expected impact: This research project is expected to give new insights on the genetic aetiology of rare developmental disorders thus improving clinical diagnosis and management of these disorders. The elucidation of patho-physiological mechanisms would lead to the development of new treatments that would result in the reduction of morbidity and mortality and hence in improved quality of life for patients. These new findings are also expected to have an important impact on the elucidation of the patho-physiological mechanisms involved in common genetic diseases. The project would facilitate the development of research cooperation and promote lasting partnership between European and MPC countries,, thus ensuring high quality research in the field of rare diseases

Funding Scheme: SICA targeted at MPC – Small to medium scale collaborative project

EC contribution per project: 6 Meuros – 1 to 2 projects selected.

Justification: Genetic diseases constitute a significant public health problem in MPC. Although a single disease entity is rare and thus affects relatively small number of individuals, they correspond to a large disease group when taken altogether. High rate of endogamous and consanguineous marriages increase the prevalence of rare genetic diseases in MPC. A similar situation is observed among migrant or isolated populations (for cultural and geographic reasons) in EU countries. Prevention and management of rare diseases in Europe is relatively well structured but rare diseases are still neglected in MPC. Although several programmes on genetic diseases have been funded in the different framework programmes, contribution of MPC in these projects is still modest. The development of competencies and capacities and subsequent implementation of post-genomic approaches to rare diseases in MPC, is strongly recommended. This is in view of the fact that among the 7000 rare diseases, the aetiology is still unknown for more than 2000 disorders, The latter corresponds to unique phenotypes observed in MPC as a consequence of endogamy. Moreover, investigation of these Mendelian disorders will also have a direct or indirect impact on common disorders.

Rare Mendelian phenotypes of autoimmune disorders:

Topic: Research should aim to investigate rare mendelian phenotypes of autoimmune disorders including juvenile forms of idiopathic arthritis, scleroderma, and diabetes associated with thyroid diseases. A multidisciplinary approach should be adopted for clinical characterization, genome wide association analysis and sequencing for identification and

functional characterization of risk alleles, and for annotation of genome based targets for the development of treatment modalities.

Expected impact: The research should give new insights into Mendelian as well as multifactorial autoimmune diseases, improve diagnosis of these phenotypes, impact on quality of life of patients and reduce morbidity. The projects should promote lasting partnerships between European and MPC, improve the quality of research in the field of autoimmune diseases through exchange of information and expertise.

Funding Scheme: SICA targeted at MPC – Small to medium scale collaborative project

EC contribution per project: 3 or 6 Meuros 1 or 2 projects selected

Justification: Paths to understanding the genetic basis of autoimmune diseases have shown that simple Mendelian traits arising from single-gene mutations and complex traits resulting from interactions between multiple genotypes and the environment contribute to the breakdown of self-tolerance. Important environmental factors include pathogen exposure, pregnancy and lifestyle. Despite significant advances, our present day understanding of the mechanisms of self-tolerance and its breakdown is not complete. Novel mechanisms including those other than classical patterns of inheritance may play a critical role. Candidate mechanisms include pregnancy related traffic of fetal and maternal cells leading to « microchimerism », and skewed X-chromosome inactivation (XCI) leading to « loss of mosaicism » for X-linked gene expression.

Treatment and therapies for haemoglobinopathies

Topic: The project aims to improve treatment and develop new innovative therapies for haemoglobinopathies, through multidisciplinary translational research including iron overload assessment in childhood and iron chelation treatment, determination of genetic factors and genes that allow reactivation of fetal globin gene transcription, screening for new fetal haemoglobin (HbF) inducers and development of orphan drugs. The project should include training activities and capacity building in MPC countries on translational research in the field of rare diseases.

Expected impact: The project should conduct better clinical management and therapy of haemoglobinopathies, accelerate development of promising therapeutic strategies, cost savings in the health care sector (diagnosis, treatment) and to improve quality of life of patients. The projects should promote lasting partnership between European and MPC.

Funding Scheme: Specific International Cooperation Action (SICA) targeted at MPC Collaborative projects (small or medium scaled focused research projects).

EC contribution per project: Max EUR 3M Euros Only up to one project can be selected.

Justification: Haemoglobinopathies are severe, inherited blood disorders. Chronic red blood cell transfusions to maintain hemoglobin levels alleviate the anemia and partially suppress erythropoiesis. The regular administration of red blood cells also improves growth, delays or prevents enlargement of the liver, and spleen, and prevents the development of bone abnormalities that cause fractures as well as disfiguring changes. Transfusions carry risks of alloimmunization, iron overload, and blood transmitted infections. In the absence of effective iron chelation therapy, iron overload leads to numerous complications. Therefore, there is an urgent need to develop new therapeutic approaches for persons with haemoglobinopathies

especially thalasseamia, and to disseminate the findings to health care professionals, patients and the public.

Miscellaneous

All experts agreed on the importance of training and capacity building in postgenomics for MPC and on importance of specific measures for rare diseases under the frame of international cooperation and potentially under other programmes.

SICA Recommendations for Energy Research

A) Photovoltaic

Topic: Advancement of PV system components including cells, storage devices, inverters, and controllers for micro grid applications

Content/scope:
The aim is to improve component's efficiency, reduce production costs and material characteristics used in manufacturing of various PV system components including PV cells, modules, and storage devices for micro-grid applications

Expected impact:
Facilitate deployment of PV technology in MENA region

Funding scheme:
Collaborative R&D project

Topic: Integration of PV/CPV systems in industrial grid connected applications
Content/scope:
The aim is to develop and demonstrate design and operating principles for cost effective large scale grid integration of PV/CPV systems. Issues to be addressed include the demonstration of electric/electronic components and technologies for grid connection and operation.

Expected impact:
Large scale deployment of PV/CPV for electricity generation

Funding scheme:
Collaborative project with predominant demonstration component

Topic: Development of operation and maintenance training programs to support deployment of PV technology
Content/Scope:
The aim is to develop skilled infrastructure in the MENA region capable to support PV deployment. Activities should include educational programs for knowledge transfer.

Expected impact:
Enhancement of personnel skills in the MENA region.

Funding Scheme:
Coordination and support action

Topic: Policy research and legislation development and awareness building for integration of PV technology application in energy management and resource planning

Content/scope:
The aim is to develop policies and legislations to foster and encourage the deployment of PV technology in the MENA region.

Expected impact:
Facilitate realization of renewable energy long term programs objectives.

Funding Scheme:
Coordination and support action

B) Concentrating Solar Power

Topic: Local manufacturing of components
Objective
Develop and produce key components based on local research and manufacturing capacities and benchmark them against state-of-the art technology in terms of cost, performance and durability.

Rationale
Establish the basis to increase local supply share, to strengthen a new sector , to increase employment and to reduce dependence of fossil fuel resources.

Need
A high fraction of key components need to be imported in today's CSP power plants, the appropriate exchange rate risks are penalizing the cost of renewable electricity.

Impact
Positive impact on cost of electricity, employment, sector development

Topic: Advanced materials and surfaces
Objective
Develop advanced materials for the next generation power plant technology operating at higher temperatures. Special focus is given to new selective coatings and new storage materials with high energy density.

Rationale
High temperature processes with an efficient thermal energy storage are considered to be the key for improved performance and cost reduction. Advanced materials and new surfaces adapted to the higher temperatures needs to be developed for a successful transfer.

Need
Today's commercial project are limited to temperature below 400°C. Higher temperature requires advanced materials and surfaces.

Impact
Positive impact on performance of plant and cost of electricity

Topic: Improved weather forecasts models for direct normal irradiation
Objective
Develop new models for weather forecast of DNI and integrate them **in** CSP power plant simulation to optimize operation and maximize revenues. Special focus is given on the development of local correlations for sites in the MENA region.

Rationale

CSP power plants with thermal energy storage can provide dispatchable power supply. To optimize the scheduling and ensure high availability figures, weather forecast information need to be considered to identify the appropriate operation strategy.

Need
High share of low-cost wind energy needs to be stabilized by dispatchable CSP power.

Impact
High shares of renewable electricity in the grid become feasible.

Topic: New joint test facilities for CSP in the MENA region collocated to pilot power plants
Objective
Set-up new joint research facilities for CSP co-located existing pilot power plants.

Rationale
Newly developed products and components needs to be tested under real conditions. Test facilities co-located to pilot plants CSP power plants can be set-up with marginal additional effort as they can benefit from some of the existing infrastructure and personal. A cost shared approach among several partner countries can bundle the efforts.

Need
There is no large scale test facility available today in MENA countries.

Impact
Increase in development and local capacity building.

Topic: CSP Dissemination and Education Program "Educate the Educators"
Objective
Set-up a dissemination and education program on CSP with the focus on the education of educators like teachers and professors. Provide appropriate learning material (in Arabic) and train the educators.

Rationale
Application and adaptation of existing education programs in Europe to the education systems in MENA generates high multiplier effects and ensures and efficient capacity building.

Need
No specific education programs on CSP are available.

Impact
Local capacity building.

Topic: Evaluation of Hybrid Concepts
Objective
Set-up a fair methodology to asses the value and impact solar hybrid (fossil/biomass) concepts, that takes aspects like time of delivery as well as CO2 avoidance into account. Benchmark different hybrid concepts with this methodology.

Rationale

Hybrid concept promise low solar electricity cost vs. full dispatch ability. However some concepts only have very limited impact on CO2 reduction. A selection of different hybrid concepts is therefore necessary.

Need
A fair assessment methodology is lacking

Impact
Low cost CSP electricity through efficient hybrid concepts

B) Wind Energy

Topic: Wind Energy Conversion Systems in Desert "extreme" Conditions (industrial aspects)
Scope: Design an adapted wind power conversion system to local conditions taking into account the extreme climatic conditions found in Southern Mediterranean Partner countries. The design will take into account the experiences conducted so far in the region (Zafarana Egypt, Morocco…). The dedicated design will have to take in consideration local industrial capacities to ensure appropriate industrial integration, leading to a higher local economic impact and enhanced operation and maintenance:

1. Extreme desert aerodynamic and climatic conditions
    a. Meteo, temperature, humidity, Sand, dust, salinity, ozone, other chemicals… Sand+salt compounds
2. Wind turbine components
    a. Gear Boxes (Analyse failure of gearboxes…)
    b. Direct Drive
    c. Blades
        i. materials
        ii. Coating
    d. Rotor
    e. Generator
    f. Power conditioning and Control system
    g. Towers
3. O&M (software, protocols, statistics, meteorological data …)
4. Standards and specifications
5. Verification (Actual performance of wind turbines)
6. Industrial integration / Engineering
7. Logistics
8. Economic analysis

Rationale:
The perspective of wind development in the MPC is very promising as highlighted by the countries specific targets. The systems that have been deployed initially in the region have shown higher rates of failures due to the extreme environmental conditions under which these system are operating. Improving the technological/economical designs of wind energy systems to the MPC's extreme conditions to accommodate more efficient and adapted designs is a mutual challenge that needs to be addressed by EU and Med PC alike. Indeed, the market of wind turbines outside of the EU experiences very high growth worldwide which needs to be met. As the geographical locations of these markets are bound to be more remote, the MPC markets that are linked to EU markets may provide an optimal setting for enabling this industry to expand more comprehensively.

Objectives/Impact:
- Economics Impact (local/regional/global)
- Industrial
- Economic
- Social
- Energy security
- Climate Change
- Technical Impacts
- Improving technology/Systems Integration / costs reduction

Topic: High penetration of wind energy in electric grid for MPC Countries
Scope:
Although experiencing a higher growth rate, the grid capacities of MPC are smaller than EU countries. The current limited installed wind power capacities have not yet reached a level where grid stability and dispatching problems. Since these countries dispose of significant wind resources, the main limiting factor will remain grid absorption capacities. The targets for 2020 are in fact very difficult to assess in these countries, knowing that the grids will witness expansions which will need to take in consideration the nature and operation of wind energy systems. Hence, the issue of grid integration of wind needs to be assessed, and forecasted in order to determine the most cost-effective ways of ensuring reliability at high wind penetration levels using wind power plant capabilities.
Benefits of local and regional dimensions of grid expansions, planning and management for cost-effective and reliable power systems will be assessed, ensuring that higher wind power penetration is compatible with grid stability, operations and grid code requirements.

Objectives:
To manage a large-scale fluctuating production, the grid infrastructure and interconnections should be extended and reinforced through strong planning and the early identification of bottlenecks at local and regional level. Today's curtailment of wind power in-feed experiences in Germany, and Spain for example, show the risks of grid operation when higher wind penetration rates are reached. The objective of this proposal is to plan for the connection of larger wind capacities, at a local level and evaluate the levelling needs of power demand and supply to ensure improved power system operation efficiency. The complementarities of fossil and renewable based power generating systems such as solar energies will be compared. The impact of the Union for the Mediterranean Solar Plan, involving trans-national exchanges and their effects will be assessed accordingly. The objectives are supported by three research topics:
- Wind power plant capabilities
- Grid planning and operation (accelerated/improved extension and reinforcement as well as improved operation of the existing grid)
- Energy and power management
- Besides, the MPC wind energy targets for 2020 are very difficult to assess due to the limited grid absorption capacities.

Impact:
- Economics Impact (local/regional/global)
- Industrial
- Economic
- Social
- Energy security
- Regional integration

- Climate Change
- Technical Impacts
- Improving technology
- Systems Integration / costs reduction

1. Turbine/grid relationship
    a. Reactive power
    b. Dispatching
    c. Harmonics
    d. Flickers
2. Wind farm size optimization / Prospective and wind planning
3. Plant planning (Optimal Plant size)
    a. Wakes…Shading effects of wind turbines, wind flows… possible law suits with different players….Modeling of this effect is important. Wakes effects up to 8% evaluated…rules of thumb is not enough)
    b. Turbine arrangements?
4. Grid load / generation matching / dispatching
5. Load Storage, Smoothing, Storage, spinning reserve, integrated applications, Wind desalination (desalination) Storage/ice/air co/district cooling
6. Predictability and grid management
7. Control strategy and planning Integration in MPC's.

Topic: Stand alone autonomous wind systems

Scope:
Rationale: Many areas of MPC are not covered by the grid. Non-grid connected communities' needs to dispose of adapted systems. Whereas wind energy is available, integrating the wind energy resource into local non-grid connected energy systems represents a challenge that needs to be addressed. Introducing wind energy technologies at an early stage and building up these systems before their integration to a larger grid energy infrastructure where renewables will have a significant impact is important.

Objective/Impact:
- Analysis, system
- Local adaptation of technologies (bottom up)
- Equipment configuration, integration, industrial engineering
- Integrated applications
- Storage

Topic: Advancement of PV system components including cells, storage devices, inverters, and controllers for micro grid applications

Content/scope:
The aim is to improve component's efficiency, reduce production costs and material characteristics used in manufacturing of various PV system components including PV cells, modules, and storage devices for micro-grid applications.

Expected impact:
Facilitate deployment of PV technology in MENA region

Funding scheme:
Collaborative R&D project

Topic: Integration of PV/CPV systems in industrial grid connected applications

Content/scope:
The aim is to develop and demonstrate design and operating principles for cost effective large scale grid integration of PV/CPV systems. Issues to be addressed include the demonstration of electric/electronic components and technologies for grid connection and operation.

Expected impact:
Large scale deployment of PV/CPV for electricity generation

Funding scheme:
Collaborative project with predominant demonstration component

Topic: Development of operation and maintenance training programs to support deployment of PV technology

Content/Scope:
The aim is to develop skilled infrastructure in the MENA region capable to support PV deployment. Activities should include educational programs for knowledge transfer.

Expected impact:
Enhancement of personnel skills in the MENA region.

Funding Scheme:
Coordination and support action

Topic: Policy research and legislation development and awareness building for integration of PV technology application in energy management and resource planning

Content/scope:
The aim is to develop policies and legislations to foster and encourage the deployment of PV technology in the MENA region.

Expected impact:
Facilitate realization of renewable energy long term programs objectives.

Funding Scheme:
Coordination and support action

D) Energy Efficiency

Topic: Energy Efficiency Road Map (Prospects and Challenges)

Funding Scheme:
Coordination Action (CSA/CA):

Activity Area:
Energy. 9: Knowledge for Energy Policy Making
9.1 Knowledge tools for energy-Related Policy Making (3/4)

9.2 Scientific support to policy (2/4) “Doing more with less at MPCs.”

Rationale
In line with the EU Green paper “doing more with Less” and also in line with recent MED-EMIP(Euro Mediterranean Energy Market Integration Project) activities with LAS/ Energy Department/Council of Arab Electricity Ministers to collectively adopt the EC EE end use EE directive –Huge energy efficiency potential is not being tapped in most MPCs. This is mainly due to the lack of reliable information for the decision makers on such potential and the associated positive socio economic impact. Mostly they are used to supply side management practices in which demand forecasting based on historical trends is done and then power plants are tendered. This practice has lead to more than 10% increase in peak demand annually in recent years. On the other hand huge energy subsidies prevent private sector / end users from being very proactive in pursuing such opportunities. Such subsidies are being paid by “a subsidizers” such as ministries of finance and it might be cost effective to subsidize some EE measures to kick start the market.

Objectives
The objective of this coordination action is to provide the governments and policy makers and other relevant stakeholders such as financial institutions of decision support information and know-how to move the subject of EE forward and be able to allocate and justify the needed financial resources. The objective of this coordination action is to provide the governments and policy makers and other relevant stakeholders such as financial institutions of decision support information and know-how to move the subject of EE forward and be able to allocate and justify the needed financial resources.

Topic: Develop optimized energy efficient buildings for the region.
Funding Scheme:
Collaborative project SICA
MED-ENEC I & MED-ENEC II “Energy Efficiency in the Construction in the Mediterranean”

Rationale:
Buildings are long lived assets and what we decide on today, we have to live with for a long time with possibilities of minor retrofits. Such Designs needs to be localized to provide a reasonable practical solutions based on the regional, climate, social and economic situation and needs and available building material.

Objectives:
To identify solutions which effectively minimize energy consumption in buildings, improve comfort based on local conditions. This also can be for exiting and new buildings and can include Solar heating / cooling and application of innovative building materials, urban planning, related codes and legislation and experience exchange.

Topic: Increasing efficiency and reliability of the solar collectors through developing new materials, specific coating materials & cleaning techniques

Funding Scheme:
(CP/SICA) Collaborative project-Specific international cooperation action

Rationale:
Efficiency of solar water heaters and other solar energy devices is dropping sharply due to local climatic conditions such as dust collection and adhesion. Also this will result in accelerated deterioration of such equipment.

Objectives:
To find solution to the problem by either developing new material, new coatings or new cleaning solutions. Increase efficiency & lifetime of solar collectors in dusty climates.

Topic: Large energy intensive industries: Energy intensity improvements through Energy Efficiency
Funding Scheme:
CSA/SA Coordination and support action / Support Action

Rationale:
The industries in the MPC's consume about one third of the total energy consumption. Out of the 1000s of registered industries only few large and energy intensive industries consumes most of the energy in this sector. This is about the Perito principle were few consumes most of the energy, therefore this project is to concentrate on such a few to improve efficiency, reduce waste and optimize processes.

Objectives:
Analyses of technical solutions identified by similar industries in the region and legislations and frame work conditions that are needed for their successful implementation. Know-how transfer of EE practices from North to south
and South to South.

SICA Recommendations for Environment Research

Topic: Response of coastal Mediterranean ecosystems to anthropogenic pressures
Aims:
Assess the response of coastal ecosystems to the pressures induced by anthropogenic activities which are increasing in the Mediterranean region. Contribute to knowledge about complex coastal ecosystem functioning under multiple stresses. Study land-sea interactions especially in urban, peri-urban areas and in coastal wetlands. Better understand the specific sensitivity of the Mediterranean Sea to chemical contamination, the pathways and the fate of contaminants in the marine environment in relation to geochemical cycles, their bioaccumulation and biomagnifications in marine food webs and their impact on ecosystems.

Rationale:
According to the Blue Plan 2005 prospective study, more than 50 % of the Mediterranean coast could be artificialized by 2025. Permanent and seasonal populations living in coastal areas are growing. Diffuse and small scale interactions between land and coastal sea are difficult to study.
Mediterranean top predator fishes bioaccumulate much more (5 to 10 times) chemical contaminants than those in the Atlantic. Bioconcentration factors (the ratio between the concentration in water and in fish flesh) can reach 106 in the Mediterranean. This difference appears to be controlled by the specificities of the Mediterranean Sea biogeochemistry (poor in nutrients, seasonal-stressors) and food webs which all need to be better known. Knowledge of the food webs is especially necessary to develop an ecosystem approach in fishery management, to tackle with biodiversity issues, and to support the implementation of the Marine Strategy Framework Directive and Horizon 2020 initiative. An improved knowledge of the processes inducing the contamination of marine ecosystems by micro pollutants will help to take appropriate management measures (including source control and waste management), to preserve the quality of marine resources and to protect the ability of ecosystems to provide services to coastal populations.

Topic: Responses and adaptation of freshwater ecosystems/systems in the Mediterranean region in response to climate change
Aims:
Identify impacts of climate changes on freshwater systems and to distinguish these from those caused by human practices and pressures. Improve knowledge about changing climate threats to the quality, quantity and sustainability of freshwater systems. Identify environmental change thresholds, critical points, and the most vulnerable areas. Assess the impacts of the extreme climatic events frequencies on modifying freshwater systems. Develop new policies and schemes for improved management of freshwater resources in the region. Construct and assess scenarios about fresh water resources and their sustainability that take account of population evolution and repartition in response to changes in fresh water resources availability.

Rationale:
Water scarcity is already a major problem in many Mediterranean countries. Pressures on freshwater resources are strong and increasing (due to population growth and increased consumption per capita). Climatic models agree in predicting increased temperatures and reduced precipitation in the Mediterranean region. Maintaining high quality freshwater systems is essential for both people and biodiversity yet management systems for the 21st century are underdeveloped. As an area of high risks (dense and growing population, rich

biodiversity, and a dry climate predicted to intensify and increase, active desertification), the Mediterranean region can be taken as a model for studying impact and adaptations to climate change. [A new FP7 on climate change in the Mediterranean region must be complementary to CIRCE project which carries out extensive modelling work]

Topic: Integrated assessment of hydro-ecological functioning at catchments basin scale for sustainable management of natural resources

Aims:

Better understanding of processes involved in the hydro-ecological system functioning at the catchments basin scale. These processes concern: ground water (including aquifer compaction and salinization), surface water, evapotranspiration, ecological processes, land degradation (including soil and vegetation systems), socio-economic aspects e.g. water and land use, and policy strategies. They impact the quantity and quality of water resources. An integrated approach requires improvement and standardization of data collection and management systems (including GIS, DSS) and development of modelling and scenario assessment tools.

Rationale:

Interactions between different processes involved in the water cycle at the catchments basin scale are complex and require an integrated approach. A better knowledge of the consequences of environmental change processes that include agricultural and land use practices on water resources is expected. Results will provide decision-makers with the information needed to improve water resources management and land use policy in a sustainable way.

Topic: Sustainable technologies and alternative management options for agricultural and agro-industrial activities in the Mediterranean region

Aims:

Develop and assess innovative technologies and methodologies aiming to improve the sustainability of agricultural and agro-industrial practices in the Mediterranean region. Research results should contribute to the development of recycling and reuse practices, to better waste management, to improved water-use efficiency (including harvesting, conservation, and leakage control) and to reduce pollution. Relevant fields include biomass exploitation (energy, biochar, etc.), olive oil mills waste, and wastewater management. Attention will be paid to the preservation and sustainable management of cultural and natural heritage when developing new practices.

Rationale:

Agriculture is a traditional activity in the Mediterranean and is a key point for the socioeconomic development of several countries by providing goods, shaping the landscape, impacting water resource quality and quantity. New models for agriculture and agro industries development in the Mediterranean region can lead to a better integration with other activities like tourism (agro-tourism) while preserving natural resources (biodiversity, water, soils…) and cultural heritage. A better exploitation of rural areas should help to limit urban encroachment (in so called ”rurban” areas).

Topic: Natural hazards analysis and construction of scenarios for natural risks

Aims:

Better understanding of the natural hazards and the vulnerabilities of the Mediterranean countries to contribute effectively in the reduction of disaster risks. Hazard analysis (earthquake, storms, floods, desertification, drought, fires, etc.) and vulnerability (social,

physical, economic, etc.) evaluation and the construction of scenarios are needed to develop a new strategy for disaster risk reduction in the Mediterranean countries. A Mediterranean natural hazards observatory should be set up. Its main task is to ensure coordination of scientific investigations in the Mediterranean. A database on the characteristics of the extreme nature phenomena is needed to face the consequences of events like earthquakes, tsunamis, floods, heat waves or cold, advance of sand, locust, lush flood and heavy snow cover, etc. A particular interest should devoted to the threats to the soils of the southern Mediterranean, as these soils are in a stage of advanced degradation.

Rationale:

It well known that all the Mediterranean countries have been affected by so many natural hazards (e.g. earthquakes, storms, floods, drought, desertification, fires, etc...). As in many recent disasters had their main impact in urban areas where there is a large concentration of people with a heavy dependency on infrastructure and services. The rapid urbanization, population increase, development of critical engineering works, industrialization of cities with modern types of buildings and the concentration of population living in hazardous areas are matter of growing concern, as they are likely to contribute to heavier loss of life and seriously increasing the economic losses in future disaster damage.

ANNEX

Thematic Workshop "Agriculture, Food, Fisheries & Biotechnology"
Agenda
List of Participants

Thematic Workshop "Information and Communication Technologies"
Agenda
List of Participants

Thematic Workshop "Health"
Agenda
List of Participants

Thematic Workshop "Energy Research"
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List of Participants

Thematic Workshop "Environment, including climate change"
Agenda
List of Participants

Thematic Workshop "Agriculture, Food, Fisheries & Biotechnology"

July 12th – 14th 2009, Bari, Italy

Agenda	
Date/ Time	**Topic**
Sunday, July 12th 19:00	Preliminary Meeting of the Workshop Scientific Committee Members and of the Invited Experts
Monday, July 13th	**Plenary Session:** "MEDITERRANEAN SUSTAINABLE AGRICULTURE UNDER CLIMATE CHANGE" Chairman: S. Metani, CIHEAM Delegate
9.00 – 9.15	**Welcome address** *(C. Lacirignola, CIHEAM – IAMB Director)*
9.15-9.35	**The recent policy and research developments in the Mediterranean Agriculture** *(B. Hervieu, Secretary General, CIHEAM)*
9.35-9.55	**FP7 research in Agriculture, Fisheries and Biotechnology: strategies, achievement and prospects, with a view to the Mediterranean Region** *(T. Hall, Head of Unit Agriculture, Forestry, Fisheries and Aquaculture, European Commission, DG Research)*
9.55 – 10.15	**Fork to Farm: FP7 and food chain research challenges, with prospects for international cooperation** *(A. Di Giulio, Head of Unit Food, Health and Wellbeing,*
10.15 – 10.25	**An outline of international activities in FP7 – Capacities** (*P. Froissard, Deputy Head of Unit, European Commission, DG Research)*
10.25 – 10.35	**From policy dialogue to work programme and the participation of MPCs in FP7** *(C. Bogliotti, Mediterranean S&T Policy, European Commission, DG Research)*
10.35- 11.00	**The regional approach for EU- MPC cooperation** *(M. Rossano, CNR - Mediterranean and Middle East, Italy)*
11.30-11.45	***Water, Land and Food security in the Southern Mediterranean. An overview.*** *(NRLW, FAO)*
11.45-12.00	**Synthesis of the Scoping questionnaires for the establishment of national FAB research priorities for the future MED – EU research collaboration** *(N. Lamaddalena, CIHEAM - IAMB)*
12.00-12.15	**Rethink and develop scientific cooperation with the Mediterranean Countries: the ARIMnet Project** *(M. Dodet, Vice President INRA, France)*

12.15-12.30	**Fostering the participation of MED researchers in research projects under the FAB theme of the FP7** *(S. Zebakh, DT-MENESFCRS, Morocco)*
12.30-12.45	**Overview on the MIRA project and on WP 4** *(R. Noetzel, PT-DLR, Germany)*
12.45- 13.00	**Introduction to the parallel sessions** *(C. Morini, CIHEAM– IAMB)*
14:30-18:30	**Parallel Session:** ➢ **Group 1 – SUSTAINABLE MANAGEMENT of WATER AND LAND RESOURCES** **- Chairman***: K. Makkouk (CNRS, Lebanon)* **- Rapporteur** *: N. Lamaddalena (CIHEAM - IAMB, Italy) and R. Capone (CIHEAM - IAMB ,Italy)* Start-up Presentation with framing, problems and objectives, for stimulating the discussion: *E. Playan (CSIC, Spain)* Working group and preparatory reporting activities ➢ **Group 2 - FOOD CHAIN, FOOD SAFETY AND FOOD SECURITY** **- Chairman:** *A. F. Abou Hadid (ARC, Egypt – CIHEAM Delegate)* **- Rapporteur***: A. D'Onghia (CIHEAM - IAMB, Italy) and B. Di Terlizzi (CIHEAM - IAMB, Italy)* Start-up Presentation with framing, problems and objectives, for stimulating the discussion: C. Pocaterra (APRE, Italy) Working group and preparatory reporting activities
Tuesday, July 14th 9:00-13:00	**Parallel Session:** ➢ **Group 1 – SUSTAINABLE MANAGEMENT of WATER AND LAND RESOURCES** Working group and preparatory reporting activities for the plenary session ➢ **Group 2 - FOOD CHAIN, FOOD SAFETY AND FOOD SECURITY** Working group and preparatory reporting activities for the plenary session
14:30-17:00	**Plenary Session:** Working group conclusions by the rapporteur of Group 1 Discussion Working group conclusions by the rapporteur of Group 2 Discussion **Closing Session:** Discussion on the results and recommendations Chaired by *Timothy Hall, Head of Unit FAB, European Commission, DG Research*

List of Participants		
Name	**Country**	**Institution**
Playan JUBILLAR ENRIQUE	SPAIN	Scientific Research Council (CSIC)
Mohamed EL OTHMANI	MOROCCO	ISTITUT AGRONOMIC ET VET. HASSAN II, AGADIR Professor of Horticulture and Director of Programs and Studies Department of Horticulture
Chour-Allah REDOUANE	MOROCCO	AGRONOMICAL AND VETERINARY INSTITUTE AGADIR
Rekia BELAHSEN	MOROCCO	CHOUAIB DOUKKALI UNIVERSITY Training and Research Unit on Nutrition & Food Sciences
Bouksaim MOHAMMED	MOROCCO	INRA
Sanaa ZEBAKH	MOROCCO	DT- MENESFCRS
Hamdi SALEM	TUNISIA	ESIAT (Ecole Supérieure des Industries Alimentaires de Tunis)
Ilona BÄRLUND	GERMANY	Center for Environmental Systems Research (CESR) University of Kassel
Roman NOETZEL	GERMANY	PT - DLR
Marica GATT	MALTA	MRRA
Sadi ABDELKRIM	ALGERIA	Institution: C.D.E.R. - Centre de Développement des Energies Renouvelables (Algiers)
Salim KEHAL	ALGERIA	C.D.E.R.
Mouin HAMZE	LEBANON	CNRS Lebanon
Khaled MAKKOUK	LEBANON	CNRS Lebanon
Ali ISMAIL	LEBANON	Lebanese University Faculty of Agriculture
Flikrettin SAHIN	TURKEY	Yeditepe University,

		Faculty of Engineering and Architecture - Dep. of Genetics and Bioengineering Istanbul
Sahin ANIL	TURKEY	Ministry of Agriculture and Rural Affairs –"General Directorate of Agricultural Research" (GDAR)
Hassan ABU- QAOUD	PALESTINE	An-Najah University Nablus – Palestine College of agriculture
Abujafar MILOUD ALI ALMIRI JANZOUR	LIBYA	ENVIROMENT GENERAL AUTHORITY
Rebecca KOKKINOFTA	CYPRUS	STATE GENERAL LABORATORY, CYPRUS
Mehyar GHADEER	JORDAN	University of Jordan Department of Nutrition and Food Technology
Ayman F. ABOU HADID	EGYPT	Agricultural Research Center (President)
Habiba Hassan WASSEF	EGYPT	NATIONAL RESEARCH CENTER
Gehan Ahmed HOSNY MAHMOUD	EGYPT	ANIMAL HEALTH RESEARCH INSTITUTE
Maha TAWFIK	EGYPT	NATIONAL WATER RESEARCH CENTER
DODET MICHEL	FRANCE	INRA FRANCE
Cristophe COTILLON	FRANCE	ACTIA
Majd JAMAL	SYRIA	ICARDA Assistant Director General
Bayan MUZHER	SYRIA	CGSAR - AGRICULTURAL SCIENTIFIC RESEARCH CENTER IN SWEIDA
Sali METANI	ALBANIA	MINISTERE DE L'AGRICULTURE AL. TIRANA, Responsable du département européen Direction des Relations Extérieures

Pereira LUIS SANTOS	PORTUGAL	CEER – ISA – TECHNICAL UNIVERSITY OF LISBOA
Sisira TISSAKUMARA KODIKARA	SRI LANKA	Ministry of Agriculture
Victor SAMARAWEERA	SRI LANKA	CHIEF SECRETARIAT W.P SKY LANKA Ministry of Agriculture
Parviz KOOHAFKAN	FAO	FAO Director of Land and Water Division
Pasquale STEDUTO	FAO	FAO Service Chief, Land and Water Division
Placido PLAZA	CIHEAM	CIHEAM, Sécrétariat Général
Vincenzo FERSINO	CIHEAM	CIHEAM, Sécrétariat Général
Etienne MONTAIGNE	CIHEAM	CIHEAM – IAM MONTPELLIER
Giuliana TRISORIO LIUZZI	CIHEAM	CIHEAM Vicepresident
Timothy HALL	EUROPEAN COMMISSION	Head of Unit Agriculture, Forests, Fisheries and Aquaculture
Philippe FROISSARD	EUROPEAN COMMISSION	DG Research
Antonio DI GIULIO	EUROPEAN COMMISSION	DG Research
Claudio BOGLIOTTI	EUROPEAN COMMISSION	DG Research
Mario SCALET	EUROPEAN COMMISSION	DG Research
Chiara POCATERRA	ITALY	APRE - Agency for the Promotion of European Research
Marilena ROSSANO	ITALY	CNR
Enrico ARNERI	ITALY	CNR - Istituto di Scienze Marine (ISMAR) Ancona
Pier FRANCESCO MORETTI	ITALY	CNR
Cosimo Lacirignola	ITALY	C.I.H.E.A.M. - IAMB Director
Maurizio Raeli	ITALY	CHIEAM – IAMB Acting Director

Nicola LAMADDALENA	ITALY	CHIEAM - IAMB
Biagio DI TERLIZZI	ITALY	CHIEAM - IAMB
Annamaria D'ONGHIA	ITALY	CHIEAM - IAMB
Chiara MORINI	ITALY	CHIEAM - IAMB
Pandeli PASKO	ITALY	CHIEAM - IAMB
Noureddin DRIOUECH	ITALY	CHIEAM - IAMB
Alessandro GIANICOLO	ITALY	CHIEAM - IAMB
Francesco PORCELLI	ITALY	University of Bari - DIBCA
Domenico PINTO	ITALY	WORLD AGRIPRESS S.A.S.
Elena BELLINI	ITALY	ARSIA

Workshop "Information and Communication Technologies"

June 18thth – 19th 2009, Istanbul, Turkey

<table>
<tr><th colspan="3">Agenda</th></tr>
<tr><th>Date/ Time</th><th colspan="2">Topic</th></tr>
<tr><td>Thursday, June 18th
08:30 - 09:00</td><td colspan="2">Registration</td></tr>
<tr><td>09:00 – 09:10</td><td colspan="2">Opening & Welcoming
Eng. Melis YURTTAGUL, TÜBITAK, Turkey
Eng. Mert AKKUS, TÜBITAK, Turkey</td></tr>
<tr><td>09:10 – 09:40</td><td colspan="2">MIRA Project Presentation
Eng. Juan Miguel GONZÁLEZ-ARANDA, CSIC, Spain</td></tr>
<tr><td>09:40 – 10:00</td><td colspan="2">Thematic Workshops - Contribution to MIRA WP4
Ivika LAEV, DLR, Germany</td></tr>
<tr><td>10:50 – 11:20</td><td colspan="2">IDEAL-IST
Your worldwide ICT support network, Opportunities for Mediterranean Partner Countries
Mr. Mohsine CHEFKI, IDEALIST2011 Coordinator</td></tr>
<tr><td>11:20 – 11:50</td><td colspan="2">Outcomes of the MED-IST Project
"Towards a Mediterranean Research Area in ICT International Conference on Med-EU ICT Co-operation MED-IST"
Dr. Thies WITTIG, MED-IST Partner</td></tr>
<tr><td>11:50 – 12:10</td><td colspan="2">MEDAR Project
(Objectives, Achievements, Opportunities)
Bente MAEGAARD, MEDAR Coordinator</td></tr>
<tr><td>12:10 – 12:40</td><td colspan="2">Workshop Methodology
(Objectives, Expected Outcomes)
Eng. Juan Miguel GONZÁLEZ-ARANDA, CSIC, Spain</td></tr>
<tr><td rowspan="2">14:00 – 16:30</td><td colspan="2">Parallel Sessions of Working Groups
Discussions on recommendations for further cooperation between MPC and EU Countries</td></tr>
<tr><td>Working Group 1

Chairman:
Dr. Thies WITTIG,
MED-IST Partner</td><td>Working Group 2

Chairman:
Prof.Dr. Ahmad NASRI,
American University of Beirut,
Lebanon</td></tr>
</table>

<table>
<tr><td rowspan="4"></td><td colspan="2">Discussion on the topics</td></tr>
<tr><td>Rapporteur:
Eng. Mert AKKUS,
TÜBITAK, Turkey

• ICTs for e-Government
• ICTs for Learning & e-Learning
• Natural language processing and Multilingual e-Content
• Language-Based Interaction</td><td>Rapporteur:
Eng. Melis YURTTAGUL,
TÜBITAK, Turkey

• ICTs for e-Inclusion
• ICTs for e-Health
• ICTs for e-Science & e-Research Collaboration (including the creation of grid-enabled scientific e-infrastructures)
• ICT Service Architectures and Platforms</td></tr>
<tr><td colspan="2">Discussion on the topics (exchange of topics between WGs)</td></tr>
<tr><td>Rapporteur:
Eng. Melis YURTTAGUL,
TÜBITAK, Turkey

• ICTs for e-Inclusion
• ICTs for e-Health
• ICTs for e-Science & e-Research Collaboration (including the creation of grid-enabled scientific e-infrastructures)
• ICT Service Architectures and Platforms</td><td>Rapporteur:
Eng. Mert AKKUS,
TÜBITAK, Turkey

• ICTs for e-Government
• ICTs for Learning & e-Learning
• Natural language processing and Multilingual e-Content
• Language-Based Interaction</td></tr>
<tr><td rowspan="3">Friday, June 19th
09:30 – 12:30</td><td colspan="2">Morning Session:

Presentations on the outcomes of the Working Groups on each set of points generated by the initial debates
Eng. Melis YURTTAGUL, TÜBITAK, Turkey
Eng. Mert AKKUS, TÜBITAK, Turkey</td></tr>
<tr><td colspan="2">Final Debate on the 1st group of Topics
Moderator: Ms. Hande AKCE, TÜBITAK, Turkey

• ICTs for e-Government
• ICTs for Learning & e-Learning
• Natural language processing and Multilingual e-Content
• Language-Based Interaction</td></tr>
<tr><td colspan="2">Final Debate on the 2nd group of Topics
Moderator: Ms. Hande AKCE, TÜBITAK, Turkey

• ICTs for e-Inclusion
• ICTs for e-Health
• ICTs for e-Science & e-Research Collaboration (including the creation of</td></tr>
</table>

	grid-enabled scientific e-infrastructures) • ICT Service Architectures and Platforms
14:00 – 16:30	**Closing Session:** **Final Remarks on Recommendations for further cooperation between MPC and EU Countries for the 1st group of Topics** Dr. Thies WITTIG, MED-IST Partner **Final Remarks on Recommendations for further cooperation between MPC and EU Countries for the 2nd group of Topics** Prof.Dr. Ahmad NASRI, American University of Beirut, Lebanon **Closing Remarks** Eng. Mert AKKUS, TÜBITAK, Turkey

List of Participants		
Name	**Country**	**Institution**
Dr. Mohammed Derras	ALGERIA	USTHB
Isma Boudouane	ALGERIA	USTHB
Prof. Dr. Mohsen Rashwan	EGYPT	RDI Company
Dr. Ayman Bahaa	EGYPT	Softlock
Bente Maegaard	DENMARK	University of Copenhagen
Dr. Mohsine Chefki	GERMANY	DLR
Dr. Thies Wittig	GERMANY	IT Consult
Ivika Laev	GERMANY	DLR
Aviv Zeevi Balasiano	ISRAEL	ISERD
Dr. Luigi Sisto	ITALY	IAMB
Dr. Domenico Laforenza	ITALY	ISTI-CNR
Dr. Khalaf F.Khatatneh	JORDAN	BADIA
Prof. Dr. Ahmad Nasri	LEBANON	American University of Beirut
Jad W. Kawtharani	LEBANON	Arab Open University
Joanna Azzopardi	MALTA	Malta Information Technology Agency
Dr. Ernest Cachia	MALTA	University of Malta
Prof. Dr. Mohamed Essaaidi	MOROCCO	Abdelmalek Essaadi University
Eng. Juan Miguel González-Aranda	SPAIN	CSIC
Dr. Naoufel Kraiem	TUNISIA	High Institute of Computer Science
Prof. Dr. Müslim Bozyiğit	TURKEY	METU
Asc.Prof. Kürşat Çağıltay	TURKEY	METU
Mert Akkus	TURKEY	TÜBITAK
Hande Akce	TURKEY	TÜBITAK
Melis Yurttagül	TURKEY	TÜBITAK
Betül Macit	TURKEY	TÜBITAK
Ezgi Bener	TURKEY	TÜBITAK

Thematic Workshop "Health"

June 4th – 5th 2009, St. Julian's, Malta

Agenda	
Date/ Time	**Topic**
Thursday, June 4th 8:30 – 9:00	Registration of Participants
9:00 – 9:10	Hon Minister George Pullicino (Minister for Resources and Rural Affairs)
9:10 – 9:20	Welcome by Dr. Nicholas Sammut (Chairman, Malta Council for Science and Technology)
9:20 – 9:35	Overview of the MIRA project - Dr. Rafael Rodriguez
9:35 – 9:50	WP4 objectives and the priority settings process
9:50 – 10:00	Thematic Workshops – Contribution to MIRA WP4 Objectives – Ms. Ivika Laev
10:00 – 10:30	Health Work programme 2010/11 and International Cooperation Dr. Indridi Benedikttson
10:30 – 11:15	Questions from the floor
11:15 – 11:30	Health NCP NET – Advantages for MIRA – Joanna Pullicino
11:30 – 11:45	Priority Setting in CAAST NET in Health – synergies and possibilities for collaboration with MIRA—Heloise Lemoine
11:45 – 12:00	Previous EU-MPC activities in Health FP6 and other programmes Sonia Abdelkak,
12:00 – 12:30	Overview of the Health Research Landscape and Priorities in Mediterranean Partner Countries - Celine Damon
12:30 – 13:00	Health Workshop Guidelines for the Working Groups: Expected results – Celine Damon
14:15 – 16:45	**Working Groups: Parallel sessions on each of the 4 topics** These sessions will be animated by the Chairperson and supported by a work group expert acting as rapporteur ➢ Diabetes (Chairperson: Dr. Glaser, Rapporteur: Profs. Johnston); ➢ Infectious Diseases (Chairperson: Dr. Charrel: Rapporteur: Dr. Mardassi); ➢ Public Health (Chairperson: Dr. Pace Asciak; Rapporteur Dr.

	Kosremelli Asmar); ➢ Rare Disease (Chairperson: – Dr. Abdelhak; Rapporteur: Dr. Borg) Each Chairperson will give a brief presentation of the topic to the group experts (maximum of 10 minutes) to summarise the discussions held (through email) by the group experts
16:45 – 17:15 17:15	**Plenary Session:** First impressions generated by the debates (5 minutes by each Chairperson/rapporteur) End of First day
Friday, June 5th 9:00 – 13:00 14:15 – 16:30 16:30	 Continuation of the Working Group parallel sessions Conclusions generated by each of the 4 topics (20 mins presentation by each group) Discussion of these results with DG RTD-Health and all experts Recommendations for next steps Closing remarks: Joanna Pullicino and Celine Damon

List of Participants		
Name	**Country**	**Institution**
Dr. Carlos Cardoso	FRANCE	INMED INSERM U901 – Parc Scientifique de Luminy
Prof. Benjamin Glaser	ISRAEL	Hadassah-Hebrew University School of Medicine
Dr Tayfun Ozcelik	Turkey	Bilkent University
Dr Michele Asmar Kosremelli	LEBANON	Saint-Joseph University/Institute of Health management and social protection
Dr Sonia Abdelhak	TUNISIA	Institut Pasteur de Tunis
Prof Abdelaziz Sefiani	MOROCCO	University Mohammed V Souissi Rabat
Prof Stefania Maggi	ITALY	national Research Council (CNR) Aging Section-Institute of Neuroscience
Prof Gregorio García Herdugo	SPAIN	Instituto de Salud Carlos III
Prof Mark McCarthy	UK	University College London
Prof Yehia Ghanem	EGYPT	ALEXANDRIA UNVERSITY HOSPITAL
Dr Urania Georgopoulou	GREECE	Hellenic Pasteur Institute
Dr Leila Houti	ALGERIA	ANDRS
Dr Mounaim-Halim El Jalil	MOROCCO	Institut National d'Hygiène du Maroc
Prof Bulent Yildiz	TURKEY	Hacettepe University
Dr Gabriele Schoenian	GERMANY	Charité University Medicine Berlin
Prof Desmond Johnston	UK	Imperial College London
Remi Charrel	FRANCE	Aix-Marseille University
Dr Julian Mamo	MALTA	University of Malta
Dr Isabella Borg	MALTA	Mater Dei Hospital and University of Malta
Prof Josanne Vassallo	MALTA	Departemnt of Medicine, University of Malta Medical School, Mater Dei Hospital
Dr Renzo Pace Asciak	MALTA	Ministry for Social Policy, Strategy and Sustainability Division
Ms Eliane Choueiry	LEBANON	Saint-Joseph University / Genetic Laboratory
Dr Tanya Melillo	MALTA	Department of Health Promotion and Disease Prevention
Dr Issam Mehdi Hajjaji	LIBYA	National Centre for Diabetes & Endocrinology, Tripoli
Dr Helmi Mardassi	TUNISIA	Institut Pasteur de Tunis
Dr Marina Kleanthous	CYPRUS	The Cyprus Institute of Neurology and Genetics
Rafael Rodriguez	SPAIN	Consejo Superior de Investigaciones Cientificas, Spain (CSIC).
Ms Celine Damon	FRANCE	Université de la Méditerranée
Ms Ivika Laev	GERMANY	
Hamid Zoheiry	EGYPT	Ministry of Higher Education and Scientific Research
Ms Zeinab El-Sadr	EGYPT	Ministry of Higher Education and Scientific Research
Ms Judith Cahen	FRANCE	Institut de Recherche pour le Dévelopement
Indridi Benediktsson	BELGIUM	
Prof Abid Ridha	TUNISIA	
Miss Héloïse Lemoine	FRANCE	Institut de Recherche pour le Dévelopement
Dr. Jennifer Harper	MALTA	Malta Council for Science and Technology
Ms Joanna Pullicino	MALTA	Malta Council for Science and Technology

Thematic Workshop "Energy Research"

March 23rd – 24th 2009, Cairo, Egypt

Agenda	
Date/ Time	**Topic**
Monday, March 23rd 8:30 – 9:30	**Registration**
9:30 – 13:00	**Plenary Sessions** ➢ **Session I (Opening Session):** Welcome Notes: *A. Hamid El-Zoheiry, MIRA WP4 Leader and Coordinator, RDI Programme,Ministry of Higher Education and Scientific Research* *Maged Al Sherbiny, Assistant Minister for Scientific Research, Ministry of Higher Education and Scientific Research* Energy Challenges in a Globalized World: *Aly El Saeidi, Chairman of the Energy Committee, National Democratic Party* Energy Business Opportunities in the MEDA Region: *Alaa Ezz, Secretary General, Confederation of Egyptian European Business Associations* Strategic Energy Technology Plan (SET-Plan) – Policy Perspective: *Bruno Schmitz, Head of Unit – New and Renewable Energies, Energy Directorate, DG RTD, EC* ➢ **Session II (Mediterranean Solar Plan):** Studies of the German AeroSpace Center DLR on the Renewable Energy Potentials around the Mediterranean: *Hani El-Nokraschy, CEO, Nokraschy Engineering Gmbh* Clean Power from Deserts for MENA - Programme for Energy Supply Security and Opportunity for Local Industrial Capacity Building: *Gerhard Knies, Chairman, Supervisory Board of the DESERTEC Foundation* The Mediterranean Solar Plan – Idea , Chances and Challenges: *Ammar Altaher, Regional RE/EE & Communication/Marketing Expert, MED-EMIP - Euro-Mediterranean Energy Market Integration Project* ➢ **Session III (Energy Research in EU/MPC):** The International Cooperation Dimension of the European Scientific Research for Energy: *Maeve Barry, Energy Director* MIRA Project: *A. Hamid El-Zoheiry, MIRA WP4 Leader* Thematic Workshops - Contribution to MIRA WP4 Objectives: *Ivika Laev, DLR, Germany*

	Overview of Research Landscape and Priorities in MPCs: *Yasser Elshayeb, FP7 National Contact Point, Egypt* Conclusions and Guidelines on Working Groups: *Mohamed El Sobky, Workshop Scientific Committee Coordinator, Egypt* **Discussion**
14:30 – 17:30	**Working Groups:** Discussion on common priorities and major mutual challenges in MPC/MS (Researchers, policy makers) Priorities, Ranking topics & Discussion on each topic Identification of Potential EU-MPC Organizations / networks with capacity to collaborate on these topics ➢ WG 1: Solar Energy (CSP/PV) ➢ WG 2: Wind Energy ➢ WG 3: Energy Efficiency
17:30 – 18:00	**Plenary Session:** Wrap-up of the day's work
18:00 – 19:00	**Networking Reception**
Tuesday, March 24th 09:30 – 12:30	**Working Groups:** ➢ **WG 1: Solar Energy/SET-Plan** Moderator: Bruno Schmitz SET-Plan Solar Europe Industrial Initiative: Rolf Ostrom, New and Renewables Unit, DG RTD CSP Industry Perspective: The Solar Industrial Initiative – SET-Plan and Mediterranean Solar Plan on Solar Industrial Initiative: José Alfonso Nebrera, President, ESTELA Discussion ➢ **WG 2: Wind Energy** European Perspective Wind Energy Research: FP7- SET-Plan: Thierry Langlois d'Estaintot, New and Renewables Unit, DG RTD Discussion ➢ **WG 3: Energy Efficiency** Moderator: Hany Loka - Reporter: Soha Rashed Discussion
14:00 – 15:30	**Plenary Session**: Presentation by Working Groups Leaders Discussion Wrap up and conclusions
19:00 – 22:00	**Reception**

List of Participants		
Name	**Country**	**Title, Function, Institution**
EU-Experts		
José Alfonso Nebrera	SPAIN	President, ESTELA
Rafael Osuna	SPAIN	General Manager Abengoa Solar New Technologies, S.A.
Guillermo Zaragoza	SPAIN	Senior Researcher Environmental Applications of Solar Energy Plataforma Solar de Almería-Ciemat
Luis Crespo	SPAIN	Secretario General PROTERMOSOLAR
Robert Pitz-Paal	GERMANY	Head of Solar Research Unit DLR
Hani El Nokraschy	GERMANY	Nokraschy Engineering Gmbh
Gerhard Knies	GERMANY	Supervisory Board Chair DESERTEC Foundation
Martha Bissmann	GERMANY	WIP - Renewable Energies
M. Moraleda	FRANCE	General Director, Observatoire Méditerranéen de l'Energie
Hauda Allal	FRANCE	Director of Studies – Head of the Renewable Energy and Sustainble Development Division Observatoire Méditerranéen de l'Energie
Robert Soler		Project Manager Electricité de France EDF R&D – Département Economie, Fonctionnement et Etudes des Systèmes Energétiques
Gilbert Rios	FRANCE	Executive Director European Membrane House
Giovanni Restuccia	ITALY	Research Manager National Research Council (CNR) Institute for Advanced Energy Technologies (ITAE)
Chiara Pocaterra	ITALY	FP7 Energy NCP Network Coordinator Agency for the Promotion of the European Research (APRE)
Mark Scicluna	MALTA	Finance, IT&S Manager

		Abertax Quality Limited KW17A, Corradino Industrial / Estate
Hendrikus Josephus Maria Beurskens	NETHERLANDS	Senior Advisor and Project Leader Energy research Centre of the Netherlands ECN
Joao Augusto Farinha Mendes	PORTUGAL	Head of Solar Energy Unit INETI Departamento de Energias Renováveis
Georgios Papadakis	GREECE	Professor Agricultural University Of Athens Department Of Natural Resources And Agricultural Engineering
Andreas Poullikkas	CYPRUS	Assistant Manager Electricity Authority Of Cyprus
MPC-Experts		
Yurdakul Yigitguden	TURKEY	Senior Policy Expert MED-ENEC
Mustafa Tiris	TURKEY	Director, Energy Institute TUBITAK
Ali Almashaqba	JORDAN	Technical Studies Engineer Electricity Regulatory Commission Swifya – Amman
Mohamed Hamdan	JORDAN	Engineering Advisor Higher Council of Science and Technology
Mohamed Berdai	MOROCCO	Directeur de la Coopération Internationale CDER "Centre de Développement des Energies Renouvelables"
Khalid Benhamou	MOROCCO	Managing Director Sahara Wind Inc.
Abdelaziz Memet	MOROCCO	Professor Département Physique, Laboratoire Energie. Faculté des Sciences - Tetouan
Abdelmajid El Bouardi	MOROCCO	Professor Faculté des Sciences – Tétouan
Ridha Abid	TUNISIA	Professor, Institute des Sciences Appliques et de Technologie Centre Urbain Nord
Amenallah Guizani	TUNISIA	Professor Centre de Recherche et Technologies de l'Energie (CRTEN)
Khaled Zahraman	LEBANON	Researcher National Council for Scientific Research

		Airport Road
Ahmad Reslan	LEBANON	Scientific Researcher CNRS-LAEC
Pierre El Khoury	LEBANON	Project Manager Lebanese Center for Energy Conservation (LCEC) Ministry of Energy and Water, Beirut
Hussein Salloum	LEBANON	Engineering Coordinator Lebanese Center for Energy Conservation (LCEC) Ministry of Energy and Water, Beirut
Salim Kehal	ALGERIA	Directeur Adjoint Centre Développement des Énergies Renouvelables-CDER
Ammar Al-Taher	MED-EMIP	Euro-Mediterranean Energy Market Integration Project Ministry of Electricity and Energy
Egyptian-Experts		
Mohab Hallouda	EGYPT	Prof. Electric Power and Machines Dept Faculty of Engineering, Cairo University Senior Energy Specialist, World Bank, Cairo Office
Hafez El-Salmawy	EGYPT	Head of Egyptian Electric Utility and Consumer Protection Regulatory Agency
Hany El Ghazaly	EGYPT	Professor, Cairo University
Atef Sherif	EGYPT	Professor, Faculty of Engineering, Cairo University
Yehia Bahnas	EGYPT	Professor Cairo University Chairman, BIC Egypt
Galal Osman	EGYPT	Professor of Electrical Power Systems Mansoura university V. President WWEA World Wind Energy Association President AFRI REA African Renewable Energy Association President EGYWEA Egyptian Wind Energy Association
M. F. El-Refaie	EGYPT	Professor, Cairo University
Sabry Abdel-Mottaleb	EGYPT	Professor of Chemistry, Editor-in-Chief Research Letters Phys. Chem

		Principal Investigator, NanoPhotochemistry and Solar Chemistry Lab
Adel Khalil	EGYPT	Professor, Faculty of Engineering, Cairo University Chair of Executive Committee, Regional Centre for Renewable Energy and Energy Efficiency (RCREE)
Amr A. MOHSEN	EGYPT	General Manager, Lotus Solar
Fuad Abulfotuh	EGYPT	Professor Post Graduate Studies and Research Institute, Alexandria University Director of International Programs, American Sustainable Energy Corporation. AZ, USA.
Salah El Araby	EGYPT	Toshiba El Araby
Eman Mettawee	EGYPT	Solar Energy Department, National Research Center
Mohamed El Sobki	EGYPT	Professor Electric Power Systems Faculty of Engineering Cairo University Manager, Renewable Energy & Energy Efficiency Programme, Industry Modernization Centre
Ehab Abdelrahman	EGYPT	Associate Prof. of Physics American University in Cairo
Hany Loka	EGYPT	Vice chairman, Siemens Egypt
Abeer Shakweer	EGYPT	Science and Technology Development Fund
Khaled El Sherbini	EGYPT	Integrated Wind Technologies Department Head SWEG | Elsewedy for Wind Energy Generation Egyptian Co. for Advanced Ind., Elsewedy SEDCO S.A.E.
Mohamed Osama	EGYPT	Vice President, Egyptian Wind Energy Association
Lamyaa El Gabry	EGYPT	Assistant Professor in the Mechanical Engineering Department at the American University in Cairo Vice President, Egyptian Wind Energy Association
Soha Rashed	EGYPT	Business Development

		Associate Siemens Egypt
Fayek Farid	EGYPT	Chairman of National Committee on Electric Distribution Systems (CIRED) Prof., Ain Shams University
Amin Mubarak	EGYPT	Prof., Cairo University Member of the Energy Committee, National Democratic Party
European Commission-Experts		
Bruno Schmitz	EUROPEAN COMMISSION	Head of Unit, New and Renewable Energy Sources, Directorate-General for Research European Commission
Rolf Ostrom	EUROPEAN COMMISSION	Scientific Officer New and Renewable Energy Sources Directorate-General for Research European Commission
Thierry Langlois D'Estaintot	EUROPEAN COMMISSION	DG RTD Energy Directorate
Maeve Barry	EUROPEAN COMMISSION	International Cooperation Officer Energy-Horizontal aspects and coordination Directorate-General for Research European Commission
Philippe Froissard	EUROPEAN COMMISSION	International Cooperation Directorate European Commission
Elena Sachez	EUROPEAN COMMISSION – EGYPT	Counsellor Science and Technology European Commission Delegation in Egypt
Ahmed Badr	EUROPEAN COMMISSION – EGYPT	European Commission Delegation in Egypt
Ahmed El Beltagui	EUROPEAN COMMISSION – EGYPT	European Commission Delegation in Egypt
League of Arab States - Experts		
Jamila Matar	LEAGUE OF ARAB STATES	Director of Energy department League of Arab States
Salha Abouu Saba	LEAGUE OF ARAB STATES	Energy department League of Arab States

Thematic Workshop "Environment, including climate change"

January 26th – 27th 2009, Cairo, Egypt

Agenda	
Date/ Time	**Topic**
Sunday, January 25th	**Preworkshop:** Scientific committee
Monday, January 26th 09:00 – 12:30	**Plenary session:** ➢ Welcome Notes : *A. Hamid Zoheiry*, *MHESR* ➢ European Policy and International Cooperation Activities for Environment thematic : *Ms Manuela Soares, Director, Direction I- Environnement, DG Research* ➢ MIRA project : *Rafael Rodriguez, MIRA COORDINATOR,CSIC, Spain* ➢ Presentation of Workshop objectives (DT, MENESFCRS) ➢ FP7 Environment Priorities, SICAS and MPC participation in FP7 :*Direction I- Environnement, EC* ➢ Overview of research landscape and priorities in MPCs (to be identified) ➢ Conclusions and Guidelines on working groups: *Scientific Committee Coordinator, Pr Sadiki, IAV Hassan II.* ➢ Participants Feed backs
14:30 – 17:30	**Working Groups:** Working groups for each activity (3 working groups): Discussion on common priorities in the MPC and major mutual challenges MPC/MS (Researchers, policy makers) ➢ Activity 6.1 Climate Change, pollution and risks ➢ Activity 6.2 Sustainable management of resources ➢ Activity 6.3 Environmental technologies
Tuesday, January 27th 09:30 – 12:30	**Working groups:** ➢ Priorities Ranking Results, argumentation for each topic ➢ Identification of potential organizations with high expertise in these topics (EU MPC)
14:00 – 15:30	**Plenary session:** Presentation by Working groups leaders ➢ Discussion on the results with DG Env and recommendations for next steps; Final debate & Closing.

List of Participants

Name	Country	Title, Function, Institution
Pr Sadiki Mohamed, Coordinator of the Scientific Committee	MOROCCO	Director of research. IAV Hassan II
Pr.Karrouk , Mohamed Said	MOROCCO	Prof, Centre de Recherche de Climatologie, Université Hassan II, Ben Msick. Casablanca
Pr Munjed AlSharif	JORDAN	Consultant of the environment department" Civil Engineering Department
Prof. Atef Sherif	EGYPT	Professor at Cairo University
Prof. El Sayed Sabry	EGYPT	Directeur de l'unité de changement climatique ; coordinateur de l'AND egyptienne . point focal de la CCNUCC
Djillali Benouar, Ph.D	ALGERIA	Professor & Consultant. Director, Built Environment Res. Lab.(LBE)
Abdelrhani BOUCHAM	MOROCCO	Direction des Etudes de la Planification et de la prospective
Dr. Guyonne Janss	SPAIN	Ph.D Oficina de Coordinación de la Investigación
Prof. Eng. Nicola Lamaddalena	ITALY	Head of Land and Water Dept. IAM BARI
Tom Hopkins	ITALY	CNR - Institute for coastal marine environment
Dr. Jean-François Renault	GERMANY	Projektträger Jülich Geschäftsbereich Umwelt (UMW)
Ms. Carla Khater	LEBANON	Researcher at the CNRS
Dr. Erdin Bozkurt	TURKEY	A geology professor
Dr Abdelghani Chehbouni	FRANCE	directeur de recherche à l'IRD, UMR Centre d'études spatiales de la biosphere
Dr Roger Flower	UK	Principal Research Fellow III, Director of ENSIS. Gower Street, London, WC1E 6BT
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