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Dealing with a common research agenda between the EU and Mediterranean Partner Countries

A methodological approach

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Abstract. This paper outlines a methodology developed and adopted in the framework of MIRA project thematic workshops, as well as the process of setting regional research priorities implemented through a multidisciplinary and participatory approach. Furthermore, an overview of the key findings and research topics of mutual interest for developing a common EU-MED research agenda, and of the experiences and lessons learnt is presented.

Keywords. Research policies – Regional policies – Coordination – Mediterranean region.

Elaboration d'un programme de recherche commun entre l'UE et les Pays Partenaires Méditerranéens. Une approche méthodologique

Résumé. Ce document décrit une méthode élaborée et adoptée dans le cadre d'ateliers thématiques du projet MIRA, ainsi que le processus de fixation des priorités de recherche au niveau régional mises en œuvre à travers une approche multidisciplinaire et participative. En outre, il donne un aperçu des principales conclusions et des sujets de recherche d'intérêt commun pour l'élaboration d'un programme de recherche UE-MED commun, ainsi que des expériences et des leçons apprises.

Mots-clés. Politiques de recherche – Politiques régionales - Coordination – Région méditerranéenne.

I – Introduction

The recent revolutions in the south Mediterranean have driven the region in the throes of major political, economic and societal transformations, the effects of which will extend beyond the Mediterranean region.

Education, research policies, sustainable development, and democracy, among others, are emerging as fundamental areas of transformation in the region. Rethinking the EU-MPC cooperation agenda is a necessity to address such dynamic transformations.

In May 2011, by addressing the ongoing transformation in the Mediterranean, the EU issued a Joint Communication - “A new response to a changing Neighbourhood” - stressing the need for a new approach to strengthen partnership between the EU and the ENP countries. Working towards the development of a “common knowledge and innovation space” is underlined as a cooperation priority. The EU member states and the MPCs share the responsibility and commitment of putting these words into action, as recommended during the *Euro-Mediterranean Conference on Research and Innovation* held in Barcelona in 2012.

Research is an important ingredient and determinant of the innovation process and innovation always needs new knowledge based on the outcomes of research. Thus, research and innovation (RI) offer significant opportunities for Mediterranean countries to develop and exploit their assets for the benefit of their economies and their peoples, especially as drivers of economic

development. Increased knowledge and RI are keys to the successful deployment of specific solutions which, in turn, may provide economic benefits on a wider scale.

The development of a Common Knowledge and Innovation Space and the EU's Innovation Agenda are essential for building a common innovation and research-based culture. As reported in the outcomes of the abovementioned Euro-Mediterranean Conference, a renewed partnership in Research and Innovation should be based on the principles of co-ownership, mutual interest and shared benefit. In this framework, for a sustainable Euro-Mediterranean Cooperation in Research and Innovation it is essential, among other things, to define the objectives and main elements of a medium to long-term agenda based on the views of leading scientists and senior policy makers as well as the experience gained from ongoing initiatives.

II – Background and Rationale

The experience of the last 20 years clearly shows that the Agenda for the Euro-Mediterranean partnership defined in Barcelona in 1995 cannot be implemented due to political and social constraints. On the contrary, the scientific cooperation, driven by curiosity and sharing of common language and long-term interests, has always been maintained, even between hostile countries, and has considerably improved along these years, reaching a stage where further developments are blocked mainly by procedural obstacles.

Most of the surveys dealing with improvements of the Euro-Med ST cooperation activities acknowledge the blocking effects of the administrative and financial management barriers to make the most of the many bilateral and multilateral programmes aimed at supporting the EU-MPC ST cooperation. On the other hand, the new perspectives in the European Neighbourhood Policy and the upcoming EU Framework Programme Horizon 2020 place emphasis on the co-ownership of the International Cooperation actions and the target of mutual benefits of these actions.

Numerous approaches exist to design research agendas in national and international contexts. Studies, foresight, road mapping and expert committees are only some of the approaches used in the last years. In the framework of INCO (*International Scientific Cooperation Activities*), various approaches have been adapted to the specific needs of the international scientific cooperation that requires a common research agenda based on mutual benefit and interest, for a real partnership between the EU and the Southern Mediterranean countries. The EU's INCO-programme has been the reference and funding frame for these activities.

Over the last 25 years, the European Union has developed INCO activities 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 project (Mediterranean Innovation and Research Coordination Action) as part of the INCO-NET actions of the European Union, was set up to establish a structured dialogue between the EU and the Southern Mediterranean countries. The project activities were aimed at setting priorities for ST cooperation based on mutual interest and benefit and thus achieving a more targeted use of available resources. Moreover, the activities under the INCO-NET scheme identified ST priorities with Third countries in line with the themes of the FP-Cooperation Programme.

Across the themes of the FP7 Cooperation strand, all research activities and areas are open to cooperation with Third Countries, through also the SICAs (*Specific International Cooperation Actions*) within the FP7 Cooperation Programme. SICAs are directed towards collaboration with third countries to tackle issues of common interest, issues of joint and mutual benefit and to address specific problems faced by third countries. Thus, these SICAs offer opportunities for bi-regional (EU/Southern Mediterranean countries in this particular case) research collaborations. Hence, the formulation of SICA proposals played a central part within MIRA project.

Identifying priorities for ST cooperation, areas and topics for SICAs based on mutual interest, shared benefit and common challenges is a strategic effort, and dedicated methodology and processes were established within MIRA's Work Package (WP)4, which was led by MHESR (Egypt) and co-led by DLR (Germany). The overall aim of WP4 was to enhance the EU/Southern Mediterranean countries ST cooperation, especially within FP7, whereas another activity was aimed at elaborating ST activities, areas and topics of mutual interest and benefits during the EU-FP7 by conducting dedicated "Thematic Workshops". Within these Thematic Workshops, several research activities and areas – specific to the Mediterranean region – were selected for further investigation. The workshops focused on the main challenges and strategies of common interest to the EU and Mediterranean partner countries, capitalizing on previous experiences and research results and providing suggestions for the implementation of ST international cooperation. They were essential elements for a common research agenda.

This paper outlines the methodology developed and adopted in all MIRA workshops and the process of priority setting implemented through a multidisciplinary and participatory approach. Furthermore, an overview of the key findings and the SICA topics of each of the research workshops is presented, along with the experiences and lessons learnt, based on desk research, workshop documents and interviews with experts and chairs of the workshops.

III – Methodological Approach

In order to enhance the dialogue between the EU-MPC, MIRA project proposed the thematic workshops as a regional discussion platform, pursuing the following main objectives:

- identifying research areas/topics of mutual interest in the Mediterranean region;
- planning joint research activities within the EC-funded Programmes, and particularly FP7;
- identifying and addressing certain challenges & opportunities in fostering the participation of the MPCs in the Framework Programme;
- assisting the EC thematic directorates in defining/shaping the Specific International Cooperation Actions.

During the MIRA Screening Conference, held in Cairo in April 2008, the process and methodology for the identification of the regional research priorities were discussed and agreed by MIRA project partners, and the following thematic areas of the FP Cooperation Programme were considered as being of mutual regional interest.

The proposed methodology was further elaborated and presented for endorsement to the Monitoring Committee for the Euro-Mediterranean Cooperation in RTD (MoCo), in an *ad hoc* meeting in Cairo in April 2008, and the plenary MoCo meeting in Istanbul in November 2008.

The workshops were designed as an opportunity for researchers, stakeholders and international experts to debate the main issues relating to the Euro-Mediterranean research area, and they focused on challenges and strategies of common interest to the EU and Mediterranean partner countries, capitalizing on previous experiences and research results. Researchers, observers, decision makers and stakeholders were involved to actively contribute to the achievement of the objectives of the workshops.

The workshops approached the research issues not only from the traditional technical point of view, but also in socio-economic and governance terms, helping assess how research can contribute to addressing the above issues. Outputs from other European projects were also considered. The workshops covered relevant issues linked to the existing global economic crisis and its impact on regional research and activities, and an intellectual analysis of the research themes and their links to real problems was carried out.

A “toolbox” for the successful implementation of thematic priority setting workshops was created. It contains a detailed “Story Board” for the preparation, implementation and 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).

Each workshop is an integral part of a methodological path that can be divided into three phases: preparation, implementation and follow-up (Fig. 1).

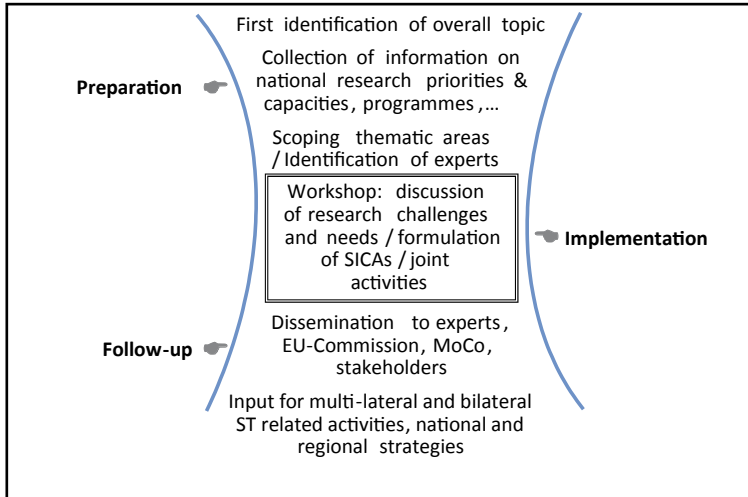


Figure 1. Schematic layout of the methodological approach for the thematic workshop (elaborated by Noetzel and El Zoheiry).

1. Preparation Phase

The **preparatory phase** plays a crucial role for the successful implementation of the workshops. Hence, a sound ex-ante assessment of potential common ST activities, areas and topics was carried out by performing an evaluation of previous EU-Med-projects and Med 7 in particular as a first step. As a second step, a questionnaire among the MIRA partners was circulated to figure out research activities and areas of mutual interest and benefit. The selection of the ST activities and areas of mutual interest and benefits took place on the occasion of a screening conference (Cairo, 2008) with participants from the EU and Southern Mediterranean countries research community, and the following themes of mutual interest were fixed: Environment, Energy, Health, ICT, Food, Agriculture, Fisheries and Biotechnology, Social Sciences. During this screening conference also the process and methodology of regional priority setting were discussed at length and agreed upon by the MIRA partners.

A. Mediterranean stakeholders' involvement

The selected institution responsible for each thematic workshop was experienced in workshop organization. The main stakeholders involved were: the workshop coordinator, the members of the scientific committee and the panel of national experts, with the active participation and involvement of the relevant EC Thematic Directorates. Also members of national associations participated in the priority setting process.

Each workshop coordinator elaborated the “thematic working document” taking several documents as references, in order to identify common research areas based on national research priorities provided by each MPC. As an example, the following documents were considered in the case of the Workshop on food and agriculture:

- results of previous and current programmes/projects between the EU and the MPCs, especially within FP7 Cooperation Work Programme;
- outputs from previous brokerage events to set regional priorities;
- list of research topics that are of high common interest for researchers from the MPCs (e.g. results of the Scoping questionnaire);
- results of previous regional programmes to identify regional priorities (e.g.: Project MED 7 Output; Project WASAMED Vision Document);
- relevant policy documents (e.g. FP7 Cooperation Work Programme; MPC National Priorities research document);
- regional strategic documents (e.g. Declaration of the Conference for the “Union for the Mediterranean” UfM, 2008; Meeting of the Ministers of Agriculture of CIHEAM, 2008; G8 Agriculture 2009 – Final declaration; World Water Forum 2009; Blue Plan Intervention Framework 2007 – 2015);
- list of Previous SICAs of FP7 Work programmes (Thematic area 2 – Food, agriculture and biotechnology).

The working document was submitted to the **members of the scientific committee** (5/7 experts) appointed among EU and MPC experts who have an overview of their countries’ research landscape. This comprehensive document supported the validation of the main areas of the workshop, for choosing the main activity areas of the workshop based on several criteria, e.g. alignment with the FP7 activity areas, conformity with national priorities and relevance to the capacity of the MPCs as shown by data from previous participation.

Table 1. Main steps for preparing a workshop following the participatory approach.

Timeline (week)	Scheduled Activity
- 18	<p>“Screening Conference” to identify overall research themes</p> <p>Sharing experience with other workshop organisers</p> <p>Forming a Scientific Committee (5-7 experts). Experts should have an overview of the research landscape. Tasks of the Scientific Committee: supporting the identification of research areas and topics, drafting the agenda, co-ordinating and supervising the workshop, chairing and facilitating sessions</p> <p>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 FP7 Research Programmes (data to be considered to avoid duplicating items already covered in previous calls: Previous SICAs under 2007, 2008 & 2009 Work programmes)</p> <p>The Scientific Committee discusses the gathered information, drafts an agenda and shares it with the thematic Directorates -> scoping thematic research areas out of the overall research theme for the workshop, final agenda</p> <p>Meeting with thematic Directorates of the EU Commission</p> <p>The Workshop organiser asks MIRA partners, NCPs, EC Thematic Directorates, NCPs to nominate/suggest experts according to the required expert profile</p> <p>The Scientific Committee agrees on a final list of experts to be invited (incl. “substitute list”). Average number of participants, 20-25 for each research area</p>
- 12	<p>The workshop organiser invites the identified experts</p> <p>Experts receive:</p> <ul style="list-style-type: none"> ▪ a questionnaire on national research priorities/suggestions for SICAs ▪ a guideline to the workshop, documents for reflection on past and future FP7 Research Programmes, related projects, etc. <p>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.</p>
- 4	Identification of chairmen, facilitators and rapporteurs for the workshops. Pre-meetings for detailed workshop activities
0	Workshop

The workshop coordinator also requested the project partners to appoint a **panel of national experts** for the working groups on different thematic areas, and the final list of experts was subjected to the approval by the scientific committee. A sound identification and selection of **experts** in the requested field were performed. Invited participants were chosen on the basis of their expertise in a related field and their participation in a larger network, institution, European project or organization. Participants were also selected in order to ensure a wide geographical spread; often, several Euro-Mediterranean countries were represented.

Successively, the national experts invited to attend each workshop were assigned to the different working groups (according to the pre-determined activity areas and their field of expertise) and received the guidelines and relevant working documents (results of the questionnaire). Each working group included a chairman and a rapporteur.

Summarising these findings, Table 1 shows the main steps for preparing a workshop following a participatory approach, in a total time period of 18 weeks.

B. The assessment of MED-EU research priorities

The MPCs thematic national research priorities were assessed through the result of a “*Scoping questionnaire for the establishment of national research priorities for the future MED–EU research collaboration*”, carried out in 2009 for implementing this methodology.

The questionnaire collected relevant information on the research priorities in selected topics for the Mediterranean Partner Countries. The collected inputs described a framework of the MPC policies on the topics of the thematic workshop and their relation with the FP7, so as to validate the most important subjects to be addressed during the workshop. The questionnaire was filled by the responsible ICPC Contact Points and by a competent national research institution, involving also the national experts appointed for the MIRA thematic workshop.

For example, referring to theme 2 of the FP7 cooperation WP 2009, the FAB workshop coordinator prepared a questionnaire submitted to the national Contact Point of Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, and Tunisia. In this way, relevant information regarding the research priorities on agriculture in the Mediterranean Partner Countries was collected. The questionnaire was aimed at providing the thematic workshop with a clear picture of the Med research priorities in relation to the FP7 Cooperation FAB research. For this reason, the thematic area taxonomy used throughout the questionnaire was based on FP7 taxonomy.

In particular, for the establishment of national research priorities for the future MED–EU research collaboration, the Scoping questionnaire considered:

- **Mapping of current national research landscape** (*Results on level of priorities of the FAB areas in which research activities have been carried out in each Country in the last five years*);
- **National research areas strength** (*where strength is defined in terms of research capacity and innovation, e.g. research performance, quality of human resources, relevant R&D infrastructures, etc. These may reflect research output, as number of publications or participation in international research projects, research staff qualification, etc.*);
- **National research priorities related to relevant Previous Euro-Mediterranean thematic programmes setting regional priorities:** (*Results of ranking the level of priority of national research areas with the outputs of thematic project as, for example, MED 7 project*);
- **National research priorities and their alignment to the Union for the Mediterranean (UfM)** (*Results of ranking the level of priority of national research areas with the “fields of*

cooperation to be pursued in 2009” proposed in the final “Declaration of the Conference for the Union for the Mediterranean”, Marseille, November 2008);

- **The future national research priorities** (results of identification of the top three research priorities for MP Countries over the next five years and the research areas that may contribute to the national economy, justified by estimating the importance of: research and technological opportunities, economic impact, social impact, research and technological potential, application potential).

Therefore, the selected **key research topics of common interest for future Euro-Mediterranean research and cooperation**, to be discussed during the thematic workshop, came from a matrix of different data resulting from the scoping questionnaire (an example for FAB workshop, Table 2).

Obviously, the obtained results are not expected to represent an exhaustive study, but rather a common starting point for the discussion of the working groups during the workshop.

Table 2. Future key research topics of common interest for FAB research and cooperation in the MPCs: matrix of national research priorities and FP7-FAB research priorities. (An extract from the MIRA FAB working group, Morini, 2009).

Country	FP7 Research Activity 2.1 Sustainable production and management of biological resources from land, forest and aquatic environment		FP7 Research Activity 2.2 Fork to farm: Food (including seafood), health and well-being		FP7 Research Activity 2.3 Life sciences, biotechnology and biochemistry for sustainable non-food products and processes			Other Regional Challenges proposed
	2.1.1 Enabling research	2.1.2 Increased sustainability of all production systems; plant health and crop protection	2.2.1 Nutrition	2.2.2 Food quality and safety	2.2.4 Consumers	2.3.1 Novel sources of biomass and bioproducts	2.3.5 Environmental biotechnology	
Algeria	3		2			1		-
Egypt	3		2					Climate Change Climate change
Jordan		3			1			Climate change
Lebanon		3			2		1	-
Morocco		3			2			Climate change
Palestine		3		2		1		-
Tunisia		1		3		2		-

Legend: 3/green = high priority, 2/blue = moderate priority, 1/yellow = limited priority/none.

2. Implementation Phase

The workshops were conducted by various hosting organizations in the Mediterranean area, and assigned to a coordinator selected from the MIRA partners. Each workshop was a two-day event with an average of 20-25 thematic experts and policy makers from the EU and the MPCs.

Each event included the following activities:

- a plenary session, to present general issues concerning the joint research between the EU and the Mediterranean region in the thematic research areas;
- the parallel working groups in the pre-selected fields identified among the main areas of common interest for the Mediterranean regions taking into account the specific programme of the 7th FP RTD;
- a plenary session to share conclusions and recommendations.

During the workshop implementation, the scientific committee coordinated and supervised the working groups, chaired and moderated the parallel sessions of the working groups, prepared the final conclusions of the workshop. Parallel working groups were chaired by members of the scientific committee, in which the invited national experts were requested to spur EU and Mediterranean countries' participants to debate relevant Mediterranean needs and priorities, and to provide suggestions for the implementation of ST international cooperation.

During each workshop, invited experts actively participated in open debates with the purpose of identifying common research areas and subjects for the EU and the Mediterranean region, in compliance with the Specific Programme of the 7FP on RTD and aligned with the national priorities.

The invited experts' role in these events did not merely consist in presenting their papers and research activities, but also in making an effort to increase the international dimension of the 7FP on RTD, acting as a link between different scientific communities. Thus, they helped address how international cooperation on research in MPCs may be better integrated within the 7th FP RTD, and how to link the scientific community of the south Mediterranean region to the European scientific community.

The expected outputs included, but were not limited to, suggestions for SICA topics, coordination actions, building thematic networks, developing ideas that could shape regional cooperation programmes, addressing ENPI regional issues and coordination with other INCO-nets, where possible.

For each research topic to be considered as an output for proposing SICAs, the Working groups provided the following information: Title, Call line, Funding structure, Wording of Call, Keywords, European partners, Justification and Expected impact.

Table 3 shows an implementation proposal for the thematic workshop agenda.

3. Follow-up Phase

The main outputs of the Workshops consisted of a frame of identified regional topics and challenges to be considered in the future EU research agenda, particularly the Research Framework Programme, and the most adequate instruments to address them. The Workshops also delivered outputs for the development of future policy dialogue on Science and Technology.

Once organised, the thematic workshops and proposed SICAs were submitted to the MoCo for their endorsement. The endorsement by the MoCo played a crucial role for the follow-up activities within MIRA. Through this endorsement, the proposed SICAs received more attention for the dissemination and communication to the EU and to national and regional institutions. More precisely, dedicated follow-up meetings with thematic directorates of the EU-Commission enhanced the opportunities to integrate the workshop findings into the forthcoming work programmes. Moreover, a customised dissemination strategy based on the endorsed SICAs targeting Programme Committee Members, NCPs, related projects and the wider research community, decisively contributed to the sustainability of the workshop results.

Table 3. Main steps for the implementation phase (Proposal for the workshop agenda).

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 of national priorities gathered beforehand and/or Presentation of the “State of the Art” from a scientific point of view Working Group(s): Introductory remarks on objectives (formulation of SICA recommendations), results (SICA Call text following a standard template) and processes (discussion, priority setting, filling the template). Working Group discussion I - Brainstorming
Morning Session	Working Group discussion II - Priority setting and elaboration of SICA calls following 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/FP7 brokerage with pitch presentations

IV – Research topics of mutual interest for developing a common research agenda

Thematic workshops were held between January 2009 and July 2011 in different Mediterranean Countries. These workshops, following a replicable methodology, identified areas for common research activities (present and future) and formulated topics of mutual interest and benefit to be considered in the form of proposals for SICAs, in order to initiate common research activities, thereby enhancing the participation of southern Mediterranean experts in the EU's Framework Programme.

The following thematic workshops were held:

- *Environment*: 26-27 January 2009, Cairo, Egypt;
- *Energy*: 23-24 March 2009, Cairo, Egypt;
- *Health*: 4-5 June 2009, Malta;
- *ICT*: 18-19 June 2009, Istanbul, Turkey;
- *Agriculture, Food, Fisheries & Biotechnology*: 13-14 July 2009, Bari, Italy;
- *Social Sciences and Humanities*: 6-7 July, 2011, El-Gouna, Egypt.

1. Thematic Workshop on FAB

The thematic workshop on Food, Agriculture, Fisheries and Biotechnology (FAB) was organized in Valenzano, Bari, Italy, on 13-14 July 2009. The workshops focused on the aspects of Mediterranean sustainable agriculture under climate change. More than 55 experts discussed

challenges in two parallel working groups: food chain, food safety and food security; water and land resources management.

Proposed Specific International Coordination Actions (SICAs)

Water and Land Resources Management

- Design, development and dissemination of 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.
- Development of new tools to target more effective measures to assess and manage climate risks, to enhance adaptation to drought and climate change and contribute to mitigation via land and water management.
- Development of new plant materials specifically adapted to climate change, drought and salinity in the Mediterranean.
- Exploring 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 contamination.
- Improving the access to nutritious and safe food.
- Low environmental impact for the quality improvement of Mediterranean fruits (dates, citrus, olive, etc.) and vegetable production.
- 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.

2. Thematic Workshop on Information and Communication Technologies

The thematic workshop on Information and Communication Technologies was organized in Istanbul, Turkey, on 18-19 June 2009. ICT might be considered 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 southern Mediterranean countries that would be of mutual interest for international co-operation. However, the outcome of this workshop gives a slightly different picture. Through the ICT-workshop, it was possible to set up strong links between the "MIRA-ICT research community" and the FP7-ICT JOIN-MED project. As described in the workshop report "Establishing the EU-Mediterranean ICT Research Network", an Arab-EU partnership in ICT research will expand the pools of research areas and researchers. It will also facilitate the formulation of medium-to-long-term research programmes that address the economic and social needs of both regions and are relevant to the existing and evolving capacity of the MPC researchers. Moreover, it will nurture the inter-MPC ICT research cooperation. This EU-MPC partnership can contribute to both advancing the research capacity of MPC ICT researchers and academics, of research and industry institutions, and establishing an internationally competitive Arab MPC ICT sector through developing ICT products and innovative solutions for the region and its common challenges and becoming a major player in providing ICTs and ICT-enabled services.

Proposed Specific International Coordination Actions (SICAs)

- **Human Language Technologies – HLT:** The support for research collaborations between EU research institutes and southern Mediterranean players in the field of language processing, or Human Language Technologies – HLT, with the focus on Semitic languages (Arabic, Hebrew, Maltese, etc.), is of great significance for EU/Southern Mediterranean countries research activities and has 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 Southern Mediterranean countries 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 Southern Mediterranean countries, this being an all-important research topic for EU/Southern Mediterranean countries collaborations.
- **Application-oriented domains:** All e-application fields (e-Government, e-Banking, and e-Procurement) have a significant potential for EU/Southern Mediterranean countries cooperation.
- **Human Resources:** The lack of human (IT) resources throughout Europe on one hand, and the surplus of IT graduates in the Southern Mediterranean countries on the other hand, offer many opportunities for joint ICT research activities.

3. 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 separate panels.

Proposed Specific International Coordination Actions (SICAs):

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 programmes 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 a cross-party 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 transnational research in Mediterranean countries.

Public Health

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

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.

4. Thematic Workshop on Energy

The MIRA workshop on Energy Research Priorities in the EU/Southern Mediterranean countries was held 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. 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.

Proposed Specific International Coordination Actions (SICAs):

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 programmes to support deployment of PV technology.
- Policy research, legislation development and awareness building for integration of PV technology application into 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 combined with pilot power plants.
- CSP Dissemination and Education Programme "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 Southern Mediterranean countries.
- Stand-alone Autonomous wind systems.

Energy Efficiency

- Energy Efficiency Road Map (Prospects and Challenges).
- Developing 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.

5. Thematic Workshop on the Environment

The MIRA workshop on the Environment Priorities in the EU/Southern Mediterranean countries was held 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. The following research areas and topics were discussed in detail by the experts: climate change, pollution and its risks; sustainable management of resources; environmental technologies.

Proposed Specific International Coordination Actions (SICAs)

- Response of coastal Mediterranean ecosystems to anthropogenic pressures.
- Responses and adaptation of freshwater ecosystems/systems in the Mediterranean region 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.

6. Thematic Workshop on Socio-economic Sciences and Humanities (SSH)

In line with the instrumental role MIRA project has played in the Euro-Med region, through creating a dialogue platform to identify common interests in research areas, setting up ST priorities and supporting capacity building activities, a thematic workshop addressing the FP7 Theme 8 - Socio-economic Sciences and Humanities - was organized. This was done also in view of the importance of research and of the recent demand in the field of social sciences and humanities in Southern Mediterranean countries, and to deal with regional priority settings in a field considered to be a pressing issue.

This Workshop on the role of Social Sciences and Humanities in the Reform process in the Arab Countries was held in El Gouna, Egypt, on 6-7 July 2011. It was attended by 30 experts: researchers specialised in various fields (politics, economy, sociology, education, etc.), members of the Civil Society and Non-Governmental Organizations, Ministry Representatives

and EC Representatives. The concept of Regional Integration and Urban Sustainability of the Mediterranean Cities emerged as the priority area of the workshop. Urban Sustainability was regarded as an entry point with possible links to other topics that would include foresight and social innovation, touching upon multi-thematic areas.

Proposed Specific International Coordination Actions (SICAs)

- Environmental challenges of urban development (policies) in the Mediterranean.
- Urban Sustainability, Innovation and Empowerment in the Mediterranean.
- Social media, youth empowerment, and citizenship in the Mediterranean region.
- Changing Social Values of the Youth in Mediterranean Cities.

V – Results and lessons learnt

The transition towards knowledge-based economy in Mediterranean Partner Countries (MPC) requires setting up national and regional research and innovation programmes (to generate synergies with the industrial sector, research centres and, in general, the socio-economic apparatus in the MPCs) and developing regional demand-driven research/innovation and entrepreneurship programmes (that would engage the growing population, especially of the youth in the MPCs).

All these actions must be incorporated in common EU-MPC strategies, merging actions of the European Neighbourhood Policy, the national innovation action plans and other political instruments aimed at using knowledge as a driver of economic development.

In this framework, from 2009 through 2011, **more than 250 ST** national and international **experts** from the EU and the Southern Mediterranean countries were involved in 6 international workshops, and **55 SICAs** were formulated. Their character reflects the different research patterns and thus differs in their specifications. Successively, with the endorsement of the MoCo, the SICA proposals were transmitted to the EU-Commission for them to be integrated into the next Work Programmes.

Themes and research areas were identified through an ex ante assessment of research activities and priorities at national level, involving different stakeholders to share this effort. MIRA consortium played a very active role in all phases and contributed to the success of the proposed methodology implementation. Key elements as well as success factors and potential pitfalls related to the preparation, implementation and follow-up of the thematic workshops were analyzed, also based on personal interviews with chairs, experts and hosting organizations of the workshops.

The key success factors for the “*preparation phase*” were:

- pre-meeting with the EU-Commission on research areas of interest and experts to be invited
- installation of a Scientific Committee for scoping thematic areas and identifying experts
- identification and involvement of the ideal expert/stakeholder
- sound preparation of documents on national priorities, previous FP-calls, SICAs, Work Programmes, previous projects (MED 7)
- pre-briefing of facilitators and rapporteurs on objectives, method and approach
- workshop methodology paper provided by WP 4 leader
- the preparation of the draft agenda for the workshop was shared with the scientific committee and the EC thematic directorate for review and feedback.

The following key factors in the “implementation phase” were:

- information on national priorities as well as on previous and future Work Programmes
- professional facilitation during the workshops to achieve the workshop objectives
- participation of contact persons involved in related projects, e.g. ERA-NETs, in order to connect project activities and share experiences.

The participation of representatives from ERA-NETs or other related projects was very helpful to set links with other projects and to support the follow-up activities. For example, through the ICT-workshop it was possible to establish strong links between the “MIRA-ICT research community” and the FP7-ICT JOIN-MED project. Also synergies with national/regional priorities set through the ENPI are recommended.

The Workshops preparation phase involved an appropriate number of national experts since the early stage. A pre-meeting of the scientific committee (if in place) or the rapporteurs, facilitators and moderators, in some cases facilitated gaining a common understanding regarding the workshop objectives and its process. A pre-meeting of chairs, facilitators and hosting organizations might be also recommended for future thematic workshops. Definitely, some effort was necessary to reach the appropriate mind-set during some workshops. Different views about the workshop objectives and process emerged among the rapporteurs, facilitators and moderators during the implementation phase.

The workshop itself can be regarded as a complex group dynamic and participatory process that should result in the precise formulation of research areas and topics 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 these activities.

This reflects the nature of the thematic workshops, as a group dynamic process, for which the following is a must: a clear formulation of objectives, professional facilitation (moderation), and a smart process structure.

VI – Conclusions

A regional approach is the preferred option for cooperation with Mediterranean Partner Countries, as it could bring a strategic value added to bilateral cooperation. Due to the gap in research capacities and between state-of-the-art technologies on both sides of the Mediterranean, Euro-Mediterranean cooperation on technologies has only partially been in the scope of RI cooperation in FP7.

The identification of priorities, covering the mutual interest of EU-MPC within the FP 7 thematic areas, is certainly an urgent challenge that cannot be postponed further.

New approaches for designing the research agenda will likely fail if they are not supported by real participatory communication among interested stakeholders, local associations and citizens, institutional strengthening, relevant education, common knowledge, and mutual awareness of interested parties.

This methodological proposal, based on the analysis of the previous experiences and participation of interested stakeholders, was intended to support the process definition/shaping of the Specific International Cooperation Actions in the Thematic Priorities. Due to their multidisciplinary and participatory approach, the research workshops for setting regional priorities of research activities and topics of mutual interest and benefit for international cooperation in the Mediterranean area could be an effective instrument for promoting them.

Developing a research agenda for cooperation between the EU and the Southern Mediterranean countries could be successful if European and Mediterranean countries work together and promote bi-regional partnership to address the common challenges, as the renewed partnership in Research and Innovation should be based on the principles of co-ownership, mutual interest and shared benefit.

Some actions to be taken in this line will be:

- linking the International ST Cooperation Programmes to targeted objectives of the national Innovation strategies and, if possible, associating them with the business sector;
- facilitating the mobility of research people to places, companies or research institutions where good practices of technological transfer or knowledge are used;
- capacity building in creating an interface between Research and Innovation systems that, in general, have only random contacts as they fit different demands and expectations. Favouring mutual acknowledgement and trust between the actors of these two systems is a prerequisite to make the most of the efforts in knowledge exploitation in the MPCs;
- specific actions and instruments, including those necessary to achieve the objectives, e.g. training, technology transfer, capacity building, support to reforms, investment opportunities, etc.

However, the necessary condition for EUMPC cooperation aimed at mutual benefits, co-ownership and mutual financial responsibility, is the common acknowledgement of legal and management mechanisms and shared appropriation of the defined structure and its functioning. The key point is to identify a legal structure where the identification of common priorities and funding mechanisms can practically express themselves independently of the national frames, though respecting the national legislation in international cooperation mechanisms, control of expenses and auditing requirements. On the other hand, the implementation mechanism of the decisions of such cooperation frame must be independent and professional at the same time in order to meet sound expectations from handling cooperation projects, by proposing ex ante and ex post evaluation mechanisms under international standards, mechanisms of knowledge exploitation and a fair share of the exploitation results. A legal frame that fits these requirements could be the use of Article 185 of the Treaty on the Functioning of the EU (TFEU), where some member states can decide to implement an action not shared by the rest of the members. This kind of actions could obtain limited support from the EC and could be governed by the agreements between participating countries. These actions are open to international partnership, and could be one of the possible instruments to be used.

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Webliography

Final workshop documents in "Working document":

<http://www.miraproject.eu/workgroups-area/workgroup.wp3/working-documents/>

Complete tool box for Workshops in "WP4 - Enhancing the EU-MPC S&T Cooperation public library":

<http://www.miraproject.eu/workgroups-area/workgroup.wp3/workgroup-documents-library/WP4-Management%20of%20MIRA%20and%20Setting%20of%20the%20Technical%20Platform%20PUBLIC%20LIBRARY/>

Thematic workshop reports in: "WP4 - Enhancing the MPC S&T cooperation, especially within FP7":

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