

MED7 FINAL SYNTHESIS DOCUMENT

A. RATIONALE OF THE INITIATIVE AND BACKGROUND SCENARIO

A.1 THE POLITICAL SCENARIO

The VII Euro-Mediterranean Conference of Ministers of Foreign Affairs held in Luxembourg on 30-31 May 2005 (“Barcelona VII”) allowed Ministers to assess what has been achieved so far and to discuss general guidelines and actions for the future of the Euro-Mediterranean Partnership. The year 2005 has been welcomed by European Union as the **Year of Mediterranean**. Ten years have passed since 1995 when the Euro-Med Partnership was launched in Barcelona during the First Meeting of the Ministries of Foreign Affairs of the 15 European Union Member States and the 12 Mediterranean Partners concerned (Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, Syria, Tunisia, Turkey, Palestinian Territories) plus Libya – hereinafter referred also as MPCs.

For the first time the Euro-Med region was conceived as a unique important geo-political area, where collaboration could cover political, economical and social aspects, according to the following inter-connected forms of partnership:

- 1 - Political and Security Partnership, establishing a common area of peace and stability
- 2 - Economic and Financial Partnership, creating an area of shared prosperity
- 3 - Partnership in social, cultural and human affairs

Cooperation in Science and Technology was considered as one of the pivotal elements to achieve most of the objectives to be pursued.

RT&D was assumed to be the *driving force* for the development, in the Med-Area, of a “KNOWLEDGE BASED SOCIETY”.

The fundamental role of the research, in a society rapidly evolving towards a global economy ruled, more and more, by sophisticated technologies, was pointed out during the European Council of Lisbon in 2000 and underlined in the “Communication from the Commission on “the International dimension of the European Research Area”¹ and – above all - in the “Proposal for a Decision of the European Parliament and of the Council concerning the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007-2013)” of 6.4.2005².

The Euro-Med Partnership is consistent with the European Neighbourhood Policy (ENP) launched by EU, following the enlargement of Europe to other 10 Member States of which two Mediterranean ones: Cyprus and Malta. As a matter of fact, with the ENP Europe is willing to implement cooperation with all neighbouring Countries, and in a particular way, the Mediterranean Third Countries, by selecting joint mutual strategies and actions to solve common problems as well as new policies to ensure security in the area concerned.

The present initiative moves from this scenario and from the consciousness of the members of the ‘Monitoring Committee for implementing Euro-Mediterranean Cooperation in Science and Technology’ (MoCo) (settled in 1995 following Barcelona Declaration) that now time has come to evaluate what has been realised in ten years of Euro-Med Partnership and to start reflection on the

¹ COM(2001) 346

² COM (2005) 119 final

achieved objectives and on the effects produced, even in relation to the amount and the modalities of the funds allocated, having in mind that Euro.Med co-operation needs to be renewed through a redefinition of priorities areas and goals as well as operative and financial instruments, taking in due consideration the evolution and socio-economic changes occurred in the Mediterranean area.

The definition of the European Research Policy, for the period 2007-2013, through the elaboration of the 7-Framework Programme of EU for Research, Technological Development and Demonstration Activities, should represent a unique occasion, for the enlarged European Union, to elaborate a renewed and courageous policy for Euro-Mediterranean cooperation with the identification of new financial resources and instruments able to implement the Barcelona Partnership.

The enlargement of European Union cannot and must not be perceived by MPCs as a way to shift the centre of gravity of EU policy irremediably toward North-East Countries, thus failing to take into due account the cooperation with Southern Countries at its boundaries. The development of the Euro-Med region needs to be one of the main scopes of European Union, a “mission” to which is not possible to abdicate.

The Mediterranean basin is unique, in terms of history, cultural heritage, environmental, climatic, biological and social and economic diversity. However, its fragile ecosystem, the global climatic change, the overexploitation of its marine resources, the progressive scarcity of water, the migrations of people for economic reasons or tourism, together with the severe risks associated to natural hazards of human conflicts, create a specific scenario of problems where the RTD cooperation can be used as a source to provide knowledge and intervention tools. To fulfil the aims of EURO-MED partnership the EU should take into consideration the specificities of the Mediterranean region and should make every effort to enable all Mediterranean countries to participate in 7th Framework Programme and thus become integral players in the European Knowledge-based society.

The action of the European Union through its former INCO-MED Programmes intended to develop collaborative research capacity addressing the common research needs of the societies and economies of the EU and MPCs in order to foster competitiveness and to exploit the results of scientific research and development. Concrete action plans and projects have led the way to policies for innovation and competitiveness in MPC and their RTD relations with the EU. The main stakeholders of this policy are the scientific and technological institutions. However, the incorporation of the enterprises and the regional and local intermediary organizations that promote, enhance and foster innovation and technological development is an unavoidable target to reach the objectives of the Euro Mediterranean partnership.

A.2 THE COMMON INTERESTS

The Mediterranean Countries have an economic evolution of their industrial sectors characterized by low development levels. They face with some problems which are also common to some EU countries or regions:

- Continued reliance on the traditional technological schemes. Dominance by small and medium enterprises (< 200 employees) with limited investment capabilities and lack of skilled operators,
- Traditional industry covering domestic markets and lacking capabilities for international competition
- Weak adoption of quality schemes
- Lack of appropriate facilities to check quality standards
- Lack of appropriate programs concerning prospects for innovative processes and novel products.

- Lack of awareness of the impact of research on industry development
- Weak coordination between industry and teaching/research institutions
- Lack of technological watch

All the Mediterranean area has a mild average climate which is attracting population to its shores, but it is affected by severe summer climate. The actual trends in building design (imported from northern latitudes) and the rising living standard in Mediterranean countries have promoted a massive use of energy, with peaks of consumption due to the use of air conditioning systems. Unfortunately, these new trends do not take into account the indigenous traditional architectural concepts, which were better adapted to the climatic conditions and could represent a source of energy saving. Energy production is a common problem in the Mediterranean basin. Renewable energy sources must be developed to guarantee energetic independence, fight against the greenhouse effect and obtention of water from the sea by desalinisation processes. Although energy production from organic waste and crops has been developing in many countries, its application in Mediterranean region is very limited. The cheapest forms of biomass for generating electricity are residues and wastes. Energy crops are still in the early stages of development, although progress has been made. In the long term, energy crops could be a very important biomass fuel source. At present, however, wastes (wood, agricultural, municipal or industrial) are the major biomass sources. Moreover, the development of green-houses agriculture produces excess of residues that can be sources of biomass for energy production. Technologies such as combustion, gasification, anaerobic digestion, fermentation, biodiesel will still benefit from mass to energy efficiency improvements.

Needless to say the common interest in the preservation and sustainable exploitation of the Mediterranean cultural heritage, including the common roots of the enormous varieties of traditional cooking.

A common feature of all countries of the Mediterranean Basin is the handling of Risk assessment, and the management of mitigation strategies related to:

- Risk related to water supply and quality, which is perhaps the most important issue
- Natural hazards, such as drought, fires, floods, earthquakes, volcanoes, etc.
- Plant and animal diseases, related or not to water scarcity
- Contamination of air, seas, rivers and soils, coupled with atmospheric phenomena such as heat waves or sand storms.
- Emergent diseases related to immigration, displacement of populations or contamination.

The protection of cultural heritage and local knowledge in the Mediterranean region in the context of globalization, climatic change, the increased urbanisation of the shores and the development of tourism infrastructures. Vandalism, political turmoil and wars are serious risks for the preservation of cultural heritage that also needs to be assessed

The EU-Med RTD cooperation could create the basis for sustainable development of the Med countries and the improvement of the quality of their governance by:

- Developing and implementing appropriate programs concerning prospects for innovative processes and novel products, and knowledge transfer about the techniques that can be used to a scale justifying industrial production.
- Upgrading the skills of the human resources using the Mobility instruments of FP7

- Setting the basis to develop Good Manufacturing Practices and Hazard Analysis and Critical Control Point (HACCP)
- Encouraging projects that favour regional integration and contribute to ameliorate political stability
- Supporting national initiatives for up grading scientific and technical skills in view of the Free Trade Area foreseen in 2010.
- The MPC industry must move toward higher added value products, processes and enterprises using the benefits of incorporating into Technological Platforms.
- Optimizing the use of the existing bilateral, multilateral and world-wide RTD cooperation instruments
- Increasing consistency between the CAP, the Water Directive and the natural resources policies to meet agriculture and environment challenges in MED countries
- Strengthening the existing "centres of excellence" and encourage disseminate scientific, technological and institutional knowledge through networking

A.3. SPECIFIC OBJECTIVES OF MED 7

The MPCs have actively promoted the transformation of their scientific and technological research structure; strengthen the insertion of the research potential in the international scientific community both at a regional level and EU-MPC level, and intensively promoted RTD activities. Building the national RTD system in each MPC has been an objective of the past INCO-Med activities following the recommendations of the MoCo Meeting in Cairo in 2003, and will be an objective for the near future. Some of the common scientific and technical objectives for cooperation have been identified and presented.

“MED 7 - Thematic workshops for the definition of the Science and Technology Euro-Mediterranean policy within FP7” has been co-financed by European Commission as a Specific Support Action (SSA) under the INCO-MPCs (International Cooperation with Mediterranean Partner Countries) Activity of the 6TH Framework Programme for RT&D (2002-06). It is coordinated by the *Spanish Council for Scientific Research (CSIC)* and involves the following Institutions as contractors and partners of the initiative: *Direction of Technology of the Ministry of Science and Higher Education-Morocco; National Hellenic Research Foundation (NHRF)-Greece; Israel-Europe R&D Directorate for EU Framework Programme (ISERD)-Israel; Centre de Cooperation internationale en recherche agronomique pour le developpement (CIRAD)-France; Malta Council for Science and Technology - Malta; Consiglio Nazionale delle Ricerche- Dip. Attività Internazionali - Servizio III – Mediterraneo e Medio Oriente – Italy.*

MED7 has been designed to answer to the ever pressing need to have a better targeted and a more incisive policy and instruments for enhancing RT&D in the Mediterranean area. Thus it is aimed at:

- strengthening coordination and complementarity with activities carried out by means of Community foreign policy instruments, specifically MEDA;
- supporting particular joint efforts by the Community and the Member States to the opening up of the European research Area to the rest of the world.

The focus and the main objective of the initiative is the identification of relevant topics, priorities and instruments to be tackled within the Euro-Mediterranean RTD cooperation perspective in the 7th Framework Programme, as well as the best approaches to address these issues.

The SSA consists of the organisation of five thematic working groups (WGs) formed of experts from euro-med countries plus a Synthesis Conference aimed at refining all the conclusions of the WGs and elaborating a final documentation that can provide European Commission and the MoCo members with clear recommendations for the implementation of the euro-med RTD policy.

The meetings and the final conference have been held in different Countries, according to the nation of the partners involved in the initiative. They are the followings:

THEMATIC WORKING GROUPS	Place and Date	Organising Institution and Partner of SSA
Innovative production systems and processes	(Morocco, 6-7 May 2005)	Direction of Technology- Ministry of Science and Higher Education of Morocco
Water risk management and renewable energies	(Greece, 16-17 May 2005)	National Hellenic Research Foundation (NHRF)
Public Health	(Israel, 25-26 May 2005)	Israel-Europe R&D Directorate for EU framework Programme (ISERD)
Agro-food and Industrial agriculture	(France, 9-10 June 2005)	Centre de Cooperation international en recherché agronomique pour le developpement (CIRAD)
Cultural heritage	(Malta, 16-17 June 2005)	Malta Council for Science and Technology
SYNTHESIS CONFERENCE	(Italy, 25-26 June 2005)	CNR – Department of International Activities – III Division – Mediterranean and Middle East.

The **MED 7 Synthesis Conference** has been organised in Naples by the Italian National Research Council – Department of International Activities - Third Division - Mediterranean and Middle East, following the agenda in the [annex 1](#).

It has been attended by members of European Commission, of the ‘Monitoring Committee for implementing Euro-Mediterranean Cooperation in Science and Technology’ (MoCo), delegations of experts from the euro-med countries concerned and stake-holders (see also the list of participants in the [annex 2](#)) with the final goal to identify specific priorities and new instruments for a more effective scientific and technological collaboration between EU Member States and Mediterranean Third Countries under the forthcoming VII Framework Programme for RT&D (2007-13).

Its Conclusions and Recommendations will be illustrated to MoCo members during the MoCo meeting of Tunis (28-29 June 2005) and addressed to the European Commission representatives to be further refined and endorsed.

B. CONCLUSIONS AND RECOMMENDATIONS

B.1. GENERAL ISSUES

It was recognized that transition to the knowledge based economy of MPCs requires:

- a) an economic and institutional frameworks able to promote the efficient use of knowledge and the flourishing of innovative forms of entrepreneurship;
- b) an educated and skilled population to create, share and use knowledge;
- c) dynamic information infrastructures;
- d) an efficient integrated Innovation Systems of firms and research centres;
- e) a competitive National Research System suitable to create synergies with industrial and socio-economic apparatus.

The influence of the EU-MPC RTD cooperation on the above requirements could be instrumented through actions to:

- 1) Building a Support System for RTD
- 2) Identification and selection of the more appropriate priorities for MPCs taking into consideration aspects such as: complementary, synergy and contiguity with EU priorities (MEDA and Framework Programmes) and with bilateral projects on national scale; regional specificity and diversity.
- 3) Instruments and measures able to: increase funds available for MPCs and reduce parcelling out of funding; increase the number of partners from MPCs taking part to FP7 projects; value and exploit the results and the research developed;
- 4) Implementation of measures allowing an easier access and the participation of MPCs. to the **nine thematic areas** of Cooperation Programme of the 7th FP; assuming that funds allocated will be additive to those reserved for INCO-MED PRIORITIES.

The inclusion of International Cooperation within the regular activities of the Priorities of FP7 is both a challenging opportunity and a threat. The opportunity springs up from the possibility of inclusion of Med groups in the leading research activities of the EU. However, the specific orientation of the priorities to EU common issues, and the highly competitive character of FP7 participation, makes uncertain the usefulness of most of the topics addressed for the Med countries and positions the Med research groups and companies in a weak position compared to their European equivalent. **Of most importance is the identification of topics and areas of common interest in order to create sections of the Specific Work Programmes of the FP7 priorities oriented to the fostering of EU-MPC collaboration.** The setting of a strong RTD system in the MPC was identified as a prerequisite to guarantee their fair participation in the FP. Actions are being taken to reach this objective, but at the present moment, and for a few years more, the EU-MPC cooperation in RTD needs to focus on the topics of common interest, where the MPC are making efforts to develop scientific groups, to create infrastructures and to push innovation in the industrial tissues.

B.2. PARTICIPATING IN FP7

The participation of the MPC in the 7FP should be structured according to the provisions established for International Cooperation in the four Specific Programmes and the specific demands for RTD cooperation in topics of common interest identified by the MoCo, which should be included in the specific Work Programmes and developed through specific calls for proposals where the consortium composition must include a number of MPC partners. Moreover, in order to facilitate the opening of the 9 priorities of the Cooperation Programme to MPC partners, specific tracks and procedures should be envisaged to encourage the incorporation of MPC teams or individuals in the consortia formed to develop the research projects.

B.2.1 COOPERATION

The Thematic Workshops organized by the MED7 SSA on the 5 topics defined by the MoCo Meeting in Carmona (Spain) as priorities for the RTD EU-MPC cooperation have identified the following areas of common interest of the EU and MPC to be incorporated as specific subjects within the corresponding thematic priorities of the Cooperation Programme of FP7:

Part 2.2) § 1

<p style="text-align: center;">Conclusions and Recommendations following the meeting of the thematic Working Group 1 Innovative production systems and processes</p>
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The Conclusions and Recommendations about the topic ‘Innovative production systems and processes’ are based on the results of the experts meeting held in Morocco on 6-7 May 2005 and involving representatives from Algeria, Egypt, France, Greece, Italy, Jordan, Lebanon, Morocco, Palestinian Authority, Spain, Syria, Tunisia as in the Annex 3.1 to the present documentation. The results of this meeting were illustrated by the *rapporteur* and discussed during the Synthesis Conference.

After an in-depth analysis of the documentation, and according to the suggestions made by all the participants in the conference, the following recommendations for the topic concerned were agreed:

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Considering that:

- the setting up of a **Euro-Mediterranean Innovation Space (EMIS)** is crucial growth and development of both EU and Mediterranean Partner Countries;
- the Euro-Mediterranean Innovation Space (EMIS) will be part of the larger policy of the EU in developing an Innovation Policy for Europe and of the 7th Framework Programme;
- EMIS is related also to the efforts deployed by the European Union in enhancing its Neighbourhood policy with Mediterranean Partner Countries, following the recommendations of the Lisbon process,

the proposed methodology for an action plan to foster Innovation and Competitiveness in Mediterranean Countries consists of four ensembles:

- 1- Actions for the building of national innovation systems, through research and technological development in view of the establishment of a Euro-Mediterranean Innovation Space
- 2- Key industrial and economic sectors identification
- 3- Financial and cooperation instruments
- 4- Technological and innovation awareness and dissemination of information

As far as the “Actions for the building of national innovation systems” are concerned, they need to be implemented at a National level, preferably with the support of EU knowledge and expertise.

Some of the activities that can be implemented with the support of European Commission are: Education of technical personnel; Promotion of quality control systems to meet international standards; Strengthening of the linkages between R&D centers of North and South MED and also

South-South; Establishing networking between regional researchers and industry and make use of the existing organisations (i.e. R&D Maroc and LIRA: Lebanese Industrial Research Association); Promoting and developing Mediterranean common strategic vision to generate higher added value products, processes, enterprises (i.e. a Med Technology Platform connected to European Manu-future Platform can be a powerful mechanism); Enhancing mobility of scientists, especially SMEs/industry to universities and research centres; using Marie Curie grants for priority issues of the Mediterranean countries; providing more information about trends and perspectives: benchmarking (also with other countries), technological roadmaps, company diagnostics and surveys, technology forecasting.

With a reference, in particular to the 7th FP , the experts agreed the following **Key Recommendations**:

Sectors/priorities

For enhancing socio-economic development of Mediterranean Countries while ensuring also added value to European Union Member States, issues related to innovative processes, products and services in the following sectors should be taken into consideration:

1- Mechanic and Electronic sector

- Potential growth in IP design for micro-electronics;
- MEMS for auto and bio-medical industries
- Intelligent tools for mechanical design and manufacturing
- Rapid prototyping for electronics and mechanical applications
- Code development and simulation software for mechanical applications

2- Textile and Leather industry

- Ecological processes especially for leather industry
- Technical textiles and geo-textiles
- Quality Control Systems
- Development of e-business

3- Chemical and Materials

- Nano-materials
- New materials (from solid wastes, for cultural heritage , etc.)
- Functional Materials
- Adaptive materials
- Chemical treatment of water and air pollution abatement
- Pharmaceuticals
- Plastics processing business

4- Agro-Industry

- Screening and ex-situ conservation of microbial strains of industrial interests yeasts, bacteria and molds
- Microbial diversity particularly those having potential to be exploited in the agro-industry to produce novel foods, specific enzymes or health promoting factors
- Novel products and/or innovative processes, such as bio-products bio-preservatives, probiotics and nutraceuticals
- Environmental-friendly processes and non-pollutant practices
- Bio-farming
- Food packaging
- Practises for improving storage and distribution of food industrial products
- Practises for harmonisation of quality standards.

**Conclusions and Recommendations following the meeting of the thematic
Working Group 2
Water risk management and renewable energies**

The Conclusions and Recommendations about the topic ‘Water risk management and renewable energies’ are based on the results of the experts meeting held in Greece on 16-17 May 2005 and involving representatives from Algeria, Austria, Egypt, France, Germany, Greece, Italy, Jordan, Lebanon, Morocco, Palestine, Slovenia, Spain, Syria, Tunisia as in the Annex 3.2 to the present documentation. The results of this meeting were illustrated by the *rapporteur* and discussed during the Synthesis Conference.

After an in-depth analysis of the documentation, and according to the suggestions made by all the participants in the conference, the following recommendations for the topic concerned were agreed:

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RENEWABLE ENERGY SOURCES

Four main fields of intervention have been identified, namely:

- A- Sustainability in building design and retrofitting for Mediterranean Areas;
- B- New sources for renewable energies;
- C- Technology adaptation to Mediterranean conditions;
- D- Renewable energy and water.

A- Sustainability in building design and retrofitting for Mediterranean Areas

- Domestic solar cooling
- Passive techniques/ bioclimatic architecture
- Integration of solar energy in design of buildings

B - New sources from renewable energies

1. Hydrogen from renewable energy sources (mainly solar)

Research should be carried out to develop and optimize such systems, which can produce hydrogen at a competitive cost.

2. Energy from organic wastes (link with water) and crops

Favour use of energy production from organic waste and crops that can improve the economics of farming while solving some of the most intractable environmental problems in agricultural today.

C- Technology adaptation to Mediterranean conditions

1. Improving PV systems performance under severe external conditions (cooling, coatings, cleaning)
2. Improving solar thermal systems performance under severe external conditions (coatings, cleaning, stagnation)

3. Improving solar collectors and systems efficiency
4. Big solar power plants (stability, control, simulation of operation)
5. Integration of solar energy in industrial applications
6. Distributed electricity generation including storage and microgrids in remote areas (control, connection to the grid, small communities, islands)

D- Renewable energy and water

1. Use of renewable energy sources for desalination, water supply and waste water treatment

WATER RISK MANAGEMENT

Two main fields of intervention have been identified, namely:

- A- Integrated water risk management;
- B- Water policy and regulatory framework;

For every field, the state of the art and the relevance to the Mediterranean region has been described, properly discussed and analysed so that for each of the above mentioned fields the following topics for research have been recommended.

Key topics for FP7

1. Integrated water risk management

- 1.1. Risk to water supply and quality
- 1.2. Risk due to extreme events
- 1.3. Support to decision making

2. Water policy and regulatory framework

- 2.1. Water policy analysis
- 2.2. Common indicators to assess water policy objectives.

Part 2.2) § 3

**Conclusions and Recommendations following the meeting of the thematic
Working Group 3
Public Health**

The Conclusions and Recommendations about the topic 'Public Health' on the results of the experts meeting held in Israel on 25-26 May 2005 and involving representatives from Austria, Croatia, France, Germany, Israel, Italy, Jordan, Norway, Palestinian Authority and Spain, as in the Annex 3.3 to the present documentation.

The results of this meeting were illustrated by the *rapporteur* and discussed during the Synthesis Conference.

After an in-depth analysis of the documentation, and according to the suggestions made by all the participants in the conference, the following recommendations for the topic concerned were agreed:

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“In addition to the cross-cutting issues already included in the FP7 Commission proposal there are some specific cross-cutting issues of high importance to the MPC countries such as social inequalities and the study of the migration and health. Furthermore, research in itself could not bring about a breakthrough in public health conditions in the region without improving the related research capacities and infrastructures.“

Nutritional disorders - Malnutrition, micronutrients deficiencies, Obesity.

- Research has to focus on diagnostic as well as interventional aspects of the issue.

Major chronic disorders

- Focus on epidemiological research of chronic disorders (cancer, diabetes, cardiovascular, obesity) that show strong variations in occurrence both among and within Mediterranean countries, including research on gene-environment interaction.

Infectious diseases

- Surveillance, preventive and diagnosis research on TB, HIV, Zoonosis and parasitic infections
- Research on new strategies for the prevention of antibiotic resistance including studies on surveillance and consumption patterns.

Consanguinity related diseases and genetic research

- Identification of disease genes of public health relevance;
- Genetic predispositions for cancer and infectious diseases.

Health system research

-Research aiming to the improvement of health information systems, the effectiveness of health interventions;
-Operational research on the provision of health care and improvement of equity.

Research capacity building as well as socio-economic issues should be brought up to the horizontal level of the five working groups and presented in one coherent general abstract.

Research capacities and infrastructures

Networking of research institutions fostering international cooperation and (public health) capacity building

Promotion of mobility of scientists with an emphasis on early-stage researchers

Strong programmes in post-graduate education and training (for ALL health professions.)

Using new information technologies (diagnostic and communication devices)

Research aiming at strengthening and improving the quality of public (health) services and systems.

Public (health) problems related to social inequalities

Impact of socio-economic inequalities (on infant and child mortality)

Impact of socio-economic inequalities in the access to, and use of, (health) services

Part 2.2) § 4

**Conclusions and Recommendations following the meeting of the thematic
Working Group 4
Food and Agro-Industry**

The Conclusions and Recommendations about the topic ‘Agro-Food and Industrial Agriculture’ are based on the results of the experts meeting held in France on 9-10 June 2005 and involving representatives from France, Egypt, Germany, Israel, Italy, Jordan, Lebanon, Malta, Morocco, Palestinian Authority, Spain, Tunisia and Turkey as in the Annex 3.4 to the present documentation. The results of this meeting were illustrated by the *rapporteur* and discussed during the Synthesis Conference.

After an in-depth analysis of the documentation, and according to the suggestions made by all the participants in the conference, the following recommendations for the topic concerned were agreed:

1. Topics:

Mediterranean Agriculture and Agro-food Industry have big challenges to overcome due to the fast growing population and ecological and physical constraints of arid regions. But they have numerous potentials positive assets which can allow them to compete efficiently in national, regional and international markets. Hence the topics identified are the following:

Topic 1: Sustainable use of agro-environment and technological development of agro-industry in arid regions.

Objective : to develop "clean" technologies as a response to market needs

- Interaction between farming systems and ecosystems
- Biotic and abiotic stress adaptation of plants, including applied genomics to multi - parallel analysis and data collection, evaluation, interpretation and predictions
- Low input production systems
- Optimal application of agrochemicals, effluents and recycled waste material
- Raw material quality
- Strategy to cope with animal and plant diseases risks
- Assessment of climate hazards (drought, floods, fires, ...)
- Development of appropriate Information and communication technologies (e.g. GIS, data bases, SIT, agri-environmental indicators, ...)

Topic 2 : Improve and promote Mediterranean traditional agro-food products in their positive added values

Objective: to explore the science base of traditional food to facilitate development of new processes and technologies that will convert "home-made" to manufactured products that have commercial value and a potential global market.

- Identification and characterization of health benefit to human nutrition together with risk assessment of Mediterranean food.
- Adaptation of new advanced technologies in processing, preservation and food safety of products of great interest to Mediterranean countries.
- Exploring / improving the traditional Mediterranean food quality through innovative technology.
- Biological basis of the positive effects of Mediterranean environmental stresses (drought, high temperatures and salinity) on plant derived food quality and nutraceutical value.
- Natural and cultivated sustainable fish production in Mediterranean ecosystems.

Topic 3 : Analysis and comprehension of Mediterranean ways of consumption and commercialisation of agro-food products

Objective: to know whether or not and to what extent the Mediterranean diet is still the dietary regime/habit followed by Mediterranean people and to create an appropriate environment conducive to the establishment of synergies among the main stakeholders

- Better understanding of consumers' preferences about traditional and modern food (type of products, nutrients, share of industrial products, consumers practices)
- Quality perception by the consumer (organoleptic, sanitary aspects, nutritional characteristics) for traditional (historical, certified, labelled) and new products (GMO, bio, organic food, functional food, etc.)
- Need to develop new methods of information and education for consumers (about traceability labels, quality standards, scientific knowledge, regulations, etc...);
- Establish relationship among main actors across the food chain, and evaluate the interactions with the value chain;
- Understand how modern catering can coexist with the traditional one;
- Assess the role of the informal sector, its organisation, its economic relevance, its impact on the social wellbeing, on the safety and quality of food
- Define the role and the institutional set up in order to guarantee quality, safety and security

Topic 4 : Policy and institutional aspects for sustainable agriculture and rural development

Objective : to develop a comprehensive knowledge-based framework for institutional capacity building to support policy decision making towards sustainable rural livelihoods

- Impact of agricultural, rural and environmental policies
- Medium term effects of cross compliance on rural development
- Impact of norms and standards on trade
- Macroeconomic policies (monetary, fiscal, trade, social, credit, etc.)
- Develop and strengthen market-based organizations to improve food security and alleviate poverty
- Develop negotiation tools for conflict resolution between rural-urban
- Property rights structure (access to land, water, credit, land tenure, etc.) and IPR
- Gender issues (role of women in farm management and processing activities)

Part 2.2) § 5

Conclusions and Recommendations following the meeting of the thematic Working Group 5 Cultural heritage

The Conclusions and Recommendations about the topic 'Cultural heritage' are based on the results of the experts meeting held in Malta on 16-17 June 2005 and involving representatives from Egypt,

France, Greece, Israel, Italy, Jordan, Lebanon, Malta, Morocco, Palestinian Authority and Spain, as in the Annex 3.5 to the present documentation.

The results of this meeting were illustrated by the *rapporteur* and discussed during the Synthesis Conference.

After an in-depth analysis of the documentation, and according to the suggestions made by all the participants in the conference, the following recommendations for the topic concerned were agreed:

Scientific topics and priorities

The concepts of Continuity and Change must orient the research activities for the maintenance and preservation of Euro Mediterranean cultural identity in today's globalisation process.

The underlying principles may be reached by the following core actions:

- Integration of cultural heritage in sustainable development, security and socio-economic programmes in the fields of food, health, energy, transport, ICT, environment and climate, new materials and socio-economics.
- Promote research on eco and cultural tourism, creative, traditional, rural and urban industries integrating archaeological, traditional and ICT knowledge and technologies
- Encourage research on public participation in all aspects of cultural heritage management projects, including the use of new ICT technologies, and the active engagement/involvement of local communities in cultural heritage development activities.
- Promote research on the multicultural aspects of Euro-Med cultural heritage to enhance mutual understanding of the common past.
- Integrate socio-economic aspects with principles of scientific restoration of cultural heritage with the aim to develop the concept of "sustainable conservation".
- Application of cutting-edge science and technology in socio-environment through "Science in Society" programme and the establishment of an integrated network of specialized centres of excellence.

Four main fields of interest and related topics of research have been highlighted:

1. Knowledge and Documentation

1.1. Development and integration of new technologies of remote sensing, space archaeology, coring, ground penetrating radar and other new geophysical techniques for characterization and mapping.

1.2. Development of appropriate ICT and GIS systems for the generation of national, regional, thematic and trans-regional, cataloguing tools. (compatible databases, archives, inventories, national registers and atlases.)

2. Diagnosis, Monitoring and Assessment

2.1. Research on diagnostic techniques, with special attention to the promotion of non destructive methods, for identification of deterioration processes and mechanisms and their effect on material cultural heritage in Mediterranean environments.

2.2. Risk assessment methodologies for identification and mapping of anthropogenic and natural hazards.

2.3. Study and monitoring of microclimatic and environmental conditions for the development of appropriate methods for conservation of archaeological and historical sites and monuments.

3. Materials and Techniques of Intervention

3.1. Development of protective and conservative materials, integrating ancient and innovative technologies in the conservation of artefacts and the built environment.

3.2. Optimisation of instruments, techniques and uniform procedures (protocols) for assessment of different restoration and preservation techniques following accepted professional codes and conventions.

3.3. Identification, recovery, adaptation and enhancement of traditional materials and technologies for sustainable development.

4. Integrated Management and Valorisation

4.1. Guidelines for identification and valorisation of natural, historical urban and cultural landscapes with the aim of safeguarding the EuroMed biodiversity and cultural diversity.

4.2. Integration of multidisciplinary diagnosis methodologies and advanced design strategies for the sustainable management of the whole conservation process.

4.3. Maintenance, reuse and adaptation of function of immovable heritage with the balance between new requirements and authenticity and compatibility of conservation materials.

4.4. Decision making procedures based on expert systems.

The following transversal activities are considered as requirements in all topics of research :

- Training/Education;
- Capacity building
- Best practises/Technical specifications
- Socio-oriented dissemination

B.2.2. IDEAS

This Programme offers unique opportunities to work in the edge of scientific knowledge. It is of the outmost interest of high quality scientific groups of the MPC to participate in these actions perhaps by incorporating scientist from MPC in the IDEAS teams using specific Marie Curie grants.

B.2.3. PEOPLE

This programme is of very special interest for the MPC because, as stated before, the human capital is the basis for the Knowledge Society. The interest of the MPC makes necessary to:

- Networking of research institutions, researchers and research teams fostering regional cooperation and capacity building.
- Promoting mobility of scientists with special emphasis on early-stage researchers. Skills and career development. Encourage the exchange of doctoral students through actions including “Marie Curie”. Return grants for research institutions and private industries
- Set up researchers mobility centres in the MPCs and to create a mobility portal for the MED-AREA with the assistance from EU-Commission. This would facilitate the uptake, for instance, of Marie Curie Fellowships by young researchers from MPCs.
- Develop research and training networks based on the concept of distance learning.
- Promote an assessment, benchmarking and foresight of the opportunities for training and mobility in the MED-AREA in order to match demand with offer.

B.2.4. CAPACITIES

The improvement of RT&D INFRASTRUCTURES and CAPACITY BUILDING in the MPC could be related to the implementation of a number of horizontal action related to the establishment of:

- a more interdisciplinary and integrated research and innovation system in the MPC,
- technological parks, business incubators and innovation poles;
- conditions leading to the accessibility to large scale RT&D facilities;
- transnational networks based on national centres of large facilities.
- incentives for the participation of SMEs to demonstration projects connected to the exploitation of know-how obtained in the course of previous FPs
- clusters to favour the merging of enabling technologies in sectors of regional interest
- cross bilateral and regional activities.
- taking advantage of the new information and communication technologies and foster their massive implantation and use in: training (e-learning), knowledge sharing and dissemination (communities of practices), early alarm system related to risk management

Moreover, the implementation of national capacity building and RT&D infrastructures, for MPCs, can be only fulfilled through the elaboration of An Action plan (complementary to national dedicated plans) with specific measures to be adopted under MEDA Programme and with corresponding funds allocated.

The increase in CAPACITY of SMEs to be PART of an INTEGRATED SYSTEM of INNOVATION may be realized only through the application of frontier technologies in the different fields and the implementation of specific instruments where groups, belonging to university and research bodies, to enterprises, stakeholders and intermediaries, have the possibilities to participate with the appropriate conditions of participation in projects dedicated to develop research and innovations.

Such a target can be accomplished if the EU Commission gives the opportunities, to SMEs of MPCs to make plenty profit of :

- Co-operative Research Programmes (CRAFT);
- Collective Research Projects;
- Joint Technology Initiatives (including the instrument of Technological Platforms).

Specifically addressed to industrial fields of common interest, either traditional or emerging, such as textile, electronic, agro-industries, nanotechnology, etc.

ACTIVITIES OF INTERNATIONAL CO-OPERATION

This activity of the CAPACITY programme deserves special attention because it specifically addresses the problems of mutual interest between the EU and the MPC and complements the activities of International Co-operation addresses in the other three programmes.

Within the scope of the mutual interest is of the outmost importance to continue with the line of action of SYSTEM BUILDING SUPPORT because to foster RTD cooperation between the EU and the Mediterranean Partners Countries a consistent RTD system should exist to direct, support and facilitate the activities. These points were stressed in the recommendations of the Cairo MoCo Meeting in 2003, and several SSA projects are being developed at present (EUROMEDANET, ESTIME, ASBIMED). Several actions should be carried out:

- Actions for the building of national RTD and innovation systems, in view of the establishment of a Euro-Mediterranean Research and Innovation Spaces
- Identification of key industrial and economic sectors
- Increasing the technological and innovation awareness, and fostering and sharing dissemination of information
- Monitoring and analysis of public policies and industrial strategies
- Enhancing and making the most of International Cooperation with specialised organisations from EU Member States supporting Innovation and Competitiveness of SMEs.
- Including training program within research projects

Moreover, the following key actions were considered essential to determine a more advanced REGULATORY and INSTITUTIONAL RT&D FRAMEWORK for MPCs:

- Definition and provisions of financial and fiscal instruments to stimulate industrial investments in RTD and innovation
- Set up suitable benchmarking methods for national research/innovation system and with foreign competitors will help develop the global view which allows local actors to learn from best practices, exploit research results, tend to excellence, and compete at an international level.
- Modernize administrative procedures for financing research and innovation in public and private sector and for transfer mechanisms of know-how from research centres and industry.
- Simplifying administrative procedures for increasing research efficiency by making proposals more accessible for non EU Mediterranean countries, and by providing technical support for the preparation of proposals to the researchers through the recently established National Contact Point networks in the MPC
- To create new forms of incentives to promote mobility from university to industry and vice-versa.
- Involving researchers in policy making within national systems.
- Helping Governments to improve legislative systems related to RTD policy and the creation and maintenance of research infrastructures. Training and expertise for decision makers in RTD.
- Engaging all private and public sectors and stakeholders including researchers with the development of local infrastructures.

INSTRUMENTS FOR COOPERATION

Considering the circumstances mentioned above, the instruments to be used to facilitate the participation of the MPC in the 7FP could be summarized in the following list:

- SSAs to support the on going building of the Euro-Med RTD and Innovation Space;
- Traditional instruments of action adapted to the capabilities and managerial skills of the MPC, such as networks for capacity building and communities of practices, small scale projects.
- Demonstration activities.
- Mobility grants (senior and junior scientist and engineers) aimed at facilitating the scientific and technological transfer between the EU and the MPC, e-learning facilities and structures, new opportunities for training (training networks), etc.
- Implement calls for proposals targeted on specific EU-MED interest topics within the thematic priorities
- Funding of actions by bilateral and multilateral international cooperation agreements, in a coordinated way with the FP7 activities.
- Special attention deserves Co-operative and Collective Research Projects and Technological Platforms funded by the EU Framework Programme for RTD, which are the best example of the strategy to involve in the same project SMEs and research institutes, universities, research laboratories, research companies, etc..., from the EU and MPC, to generate new and economically useful knowledge, at disposal of the SMEs and research institutes.

The specific calls for proposals in the different programmes addressing the topics of common interests, should explicitly indicate the need to include a number of MPC teams in the consortium. Moreover, MPC participants should have the right to act as coordinators of these activities.

Of most importance is the increase in **Awareness and Dissemination of RTD policy and results**. Some important actions to be taken are:

- Develop a local “culture of innovation”. Develop slowly but firmly an environment and common awareness of the importance of innovation and competitiveness for the human wellbeing of population.
- Develop organisations able to act as Intermediaries. Improve the quality of the existing Intermediaries. Promote their action by engaging all the relevant stakeholders in a dialogue aimed at creating framework conditions conducive to entrepreneurship.
- Show the opportunities that research and economic dynamism can offer to improve life conditions.
- Foster emulation and imitation of best practices, as a way for strengthening positive values in the society.
- Encourage networking and cooperation among firms and research institutes, mostly using as a reference and a practical tool, in a first stage, European Programmes.