

PROJECT FINAL REPORT

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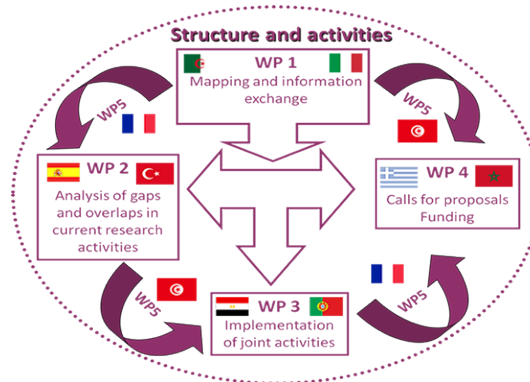


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1. An executive summary

Agricultural research in the Mediterranean is characterised by three main features: it is scattered within the EU members and in Mediterranean Partner Countries as well as most of the problems and challenges that the Mediterranean agriculture is facing are shared by all the countries in the area and even further, its objectives are largely the same in the whole area, even if priorities can vary from one country to another; the conditions resulting from climate change as well as the objective of sustainable development and production need to rethink agricultural research in all the countries and to begin its alignment in the whole area to increase its impact. This situation allows and requires a coordination action at the level of the Mediterranean (among EU members and between them and the other Mediterranean countries) to fight against fragmentation in fostering the convergence of national programmes and in founding a new critical mass to address the key issues (such as the growing demand for safer, healthier and higher quality food; the sustainable production and use of renewable bio-resources; threats to the sustainability and security of agricultural and fisheries production resulting in particular from climate change), to increase excellence and relevance of research, to enhance and strengthen the cooperation within the region in sharing the objectives and the priorities. These were the aims of ARIMNet an ERA-Net for Coordination of Agricultural Research in the Mediterranean which bears clearly a double ambition: to enhance coordination of agricultural research programmes within the Mediterranean area and to improve the cooperation within the area. It is gathering eleven countries (6 EU members, 1 associated country and 4 other Mediterranean countries). The concept of ARIMNet was to foster the coordination of the network participants' programmes through a need-driven approach based on four steps (the work packages) to go from the present state to the implementation and the funding of joint activities, each one contributing on its own to the reinforcement of the cooperation, and at the same time providing the basis for the design of the next stages:



The main products of the project are:

- The realization of a common mapping and analysis of existing research programmes and research capacity on Mediterranean agriculture in the ARIMNet countries (available on <http://www.arimnet.net>)
- The organization of a conference of stakeholders, in Palma de Mallorca, Spain, 28th-29th October 2010, that helped the identification of relevant potential priorities and thematic areas in the Mediterranean
- The launching of a transnational joint call for proposal (2011) and the selection of 10 projects to be funded among 86 transnational proposals
- The elaboration of methodological documents that aims to help a next deeper cooperation: identification of barriers that hinder future cooperation, identification and specification of the enabling conditions to implement joint activities, analysis of the output and the impact of the first joint call, lessons learnt from this call.



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Beyond this concrete results, ARIMNet lead to a better coordination between partners' agricultural research institutions and engaged an in-depth and durable cooperation between the ARIMNet partners. Through the consortium of the ERA-Net itself but also through the stakeholders mobilized for the Conference of Stakeholders and through the researchers and experts involved in the Call, ARIMNet contributed to the emergence of a Mediterranean Agricultural Research community.



2 Summary description of project context and objectives

2.1 Mediterranean agriculture's specificities

The Mediterranean countries share in common three specificities, which are important for agriculture and food production: their climate, their vegetation, and their unique biodiversity.

To preserve these features, the Mediterranean agriculture has to respond to the questions of rural development and urbanisation and to face the environmental challenge. For instance, a sustainable equilibrium should be found between preservation of biodiversity and use of natural resources in increasing food and non food production. This balance is all the more necessary to reach due to the high sensitivity of the Mediterranean vegetation and fauna to biotic and abiotic stress, whatever due to lack of water, land degradation, natural hazards, and plant and animal diseases.

Agriculture is a major component of the economic and social activity in the Mediterranean area. While the contribution of agriculture is rather low in the Mediterranean EU member states (2% to 3% of the GDP²), the economic growth in other countries of the Mediterranean area relies more importantly on agricultural production which contributes from 10% to 15% of the GDP. Agricultural and agro-food products have an important share in trade: 5% to 20% of the imports and 15% to 25% of the exports. These exports remain a key factor in the Greek and Cypriot national economies and, to lesser extent, French, Spanish, Moroccan and Egyptian ones.

The part of rural population in the Mediterranean is declining due to urbanisation however it remains high and stable in absolute terms. In terms of people working in agriculture the average rate is around 3% in EU and around 20% in the other countries (25% in Turkey, Egypt and Morocco). The question of rural development is clearly another key issue faced by all the Mediterranean countries.

2.2 Scientific research in the Mediterranean area

Scientific research plays a central role in the building of solutions to meet these challenges. Its role is made even stronger in such a context of fragile and vulnerable resources. In the Mediterranean area, problems are global but agricultural research systems to address those problems are local. The weakness in coordination at the European level as well as scattered cooperation policies are minimising the impact of research programmes and jeopardising the capacity to deliver properly efficient solutions. In this context, the challenge for all the Mediterranean countries is, beyond the enhancement of their own capacity in agricultural research, to gather their national capacities through a mechanism of alignment of programmes and of renewed cooperation in order to achieve the necessary critical mass (at least in the areas that are crucial for Mediterranean agriculture and ecosystem) and to have a stronger impact of research on the development of the whole area.

In the field of research, 1992 can be considered as the starting point of the EU-Mediterranean partnership with activities set up through continuous dialogue and with a problem solving approach. The Euro-Mediterranean cooperation in agricultural research has been growing step by step from the FP4 to the FP7. Under the FP6 and FP7, the International Cooperation activities developed for Mediterranean partner countries (MPC) had, as a general objective, the creation of a Euro-Mediterranean Research and Innovation Area. Considered as a component of the opening of the European Research Area towards this region, it

² Growth Domestic Product. The figures in this part are for 2011 or 2010, depending of sources availability and come from CIHEAM-Observatory <http://www.ciheam.org/index.php/en/observatory>



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targets a long range sustainable development around the Mediterranean Sea in the context of trans-boundary economic, environmental and socio-political problems. The approach is to concentrate on a set of strategic themes of specific relevance to the region, which have been selected through an extensive Euro-Mediterranean dialogue.

Within the Standing Committee for Agricultural Research (SCAR), a Collaborative Working Group has been created in 2005, led by Italy, on the topic of “Mediterranean Agriculture” to foster the coordination of agricultural research activities in the EU addressing the questions raised by it. The purpose and the mission of this group were re-designed in 2006 to enlarge its vision to a more comprehensive approach of key issues that are largely shared from each side of the Mediterranean basin. France and Italy that are two of the most involved countries in agricultural research and agricultural research cooperation among the EU Mediterranean member states have been designated to lead this new perspective. In that context, it became clear that if a coordination action had to be built, it should have to integrate all the Mediterranean countries as full members, be they EU members or Mediterranean Partner Countries. That is the aim of ARIMNet.

In 2012 the EU Commission proposed to renew the Research and Innovation partnership between the European Union and Mediterranean Countries. A Euro-Mediterranean Conference on Research and Innovation held in Barcelona in April 2102 draw pathways to launch this new partnership. The conference outcome stressed the need to tackle the Mediterranean challenges jointly and to bring scientists together, and the fact that cooperation should be based on the principles of co-ownership, mutual interest and shared benefit.

ARIMNet is clearly in line with all these objectives.

2.3 Contribution to the co-ordination of high quality research

Agricultural research in the Mediterranean is very poorly coordinated and very unequally developed.

In Europe, research activities concerning the questions arising from Mediterranean agriculture are largely driven on national level, if even some topics are addressed through bilateral cooperation or through coordination activities of the Framework Programme (in forestry for instance). Each EU member has its own set of scientific cooperation with each or some of the MPC according (replying) to their specific mutual interests.

The situation is very similar in the MPC, but a mechanism aimed at multilateral cooperation support like the Framework Programme is still missing.

The Euro-Med Partnership provides a frame and has opened some specific tools in order to create the condition of a better and stronger cooperation (cf. supra) but not to organise the coordination of programmes.

One specific intergovernmental international organisation, International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) is completely devoted to this area of Agricultural Research and Training in the Mediterranean. Other international organisations like International Centre for Agricultural Research in the Dry Areas (ICARDA) or the programme of United Nations for the Mediterranean are important actor in the geographic as well as scientific area, but none of them have any responsibility in coordinating national programmes.



This review is clearly showing that a coordination action, as defined and proposed through ARIMNet, has an added value for the targeted research area.

If agricultural research which deal with the questions arising from Mediterranean agriculture is well developed in some EU countries (about 1000 researchers in France or in Italy, nearly 400 in Spain for instance) or in Turkey, the AKST3 potential is significantly lower in other countries participating in ARIMNet where few resources, except in Tunisia, are allocated to agricultural research. The involvement of participants, whose level of agricultural research development is very different, opens an opportunity to enhance the general level and to improve the quality of research in the area as a whole. It is also a support to National Agricultural Research Systems which are gradually moving towards problem-solving oriented agricultural research. It could also help them to take into account consumer's demand.

For these reasons, ARIMNet is of primary importance and will provide a highly added value to the present situation by offering opportunities for a higher quality agricultural research in the Mediterranean area.

2.4 Strategic aim and scientific and technological objectives

ARIMNet had as its strategic objective to reinforce the scientific coordination of programmes in agricultural research and the scientific cooperation between countries of the Mediterranean area, including EU and non-EU member states, in order to maximise its support to sustainable development, notably, management of natural resources and mitigation of threats resulting from global change.

To reach this overall goal, ARIMNet aimed at:

- Enhancing synergies between research programmes in view of avoiding duplication of efforts and orienting spared resources to unaddressed issues;
- Developing knowledge and fostering sharing of foresight visions (national and regional) in the Mediterranean area that could be a driver for agricultural research;
- Raising cooperation between the organisations in order to carry out ambitious research projects that cannot be undertaken at an individual level;
- Outreaching the benefit of the network beyond the consortium to create spill-over effects impacting all concerned research organisations, and out of the Mediterranean area, export the concept to other relevant areas, the Black Sea area or other neighbourhood areas, for instance.

2.5 Concept of the project

The concept of ARIMNet was to foster the coordination of the network participants' programmes through a need-driven approach based on four steps each one contributing on its own to the reinforcement of the cooperation, and at the same time providing the basis for the design of the next stages:

- Information exchange and mapping to improve mutual acquaintance and share of best practices
- Strategic orientation of research programmes to eliminate overlapping and open novel issues
- Joint activities to consolidate and harmonise partnership outline common vision and agenda
- Calls for proposals to expand the structuring impact of the network

2.6 Achievements of the project

ARIMNet aimed at resulting in three main achievements:

- Better coordination between partners' agricultural research programmes through: monitoring of participating countries' agricultural research programmes; identification of duplications, complementarities, gaps, and synergies between partners' agricultural research programmes; redesign

³ Agricultural Knowledge, Science and Technology



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of partners' agricultural research programmes in order to eliminate overlapping and address uncovered topics

- In-depth and durable cooperation between the ARIMNet partners thanks to: transnational joint activities; institutional arrangement for facilitating the implementation of joint research projects; design and development of common methodologies for programme management
- Long term contribution to structuring the European Research Area by: elaboration of common vision on agricultural research in the Mediterranean area; proposal for a strategic outline of agricultural research in the Mediterranean area; take-up activities for bringing the experience, methods and tools gained by ARIMNet into use by other geographical areas.



3 A description of the main S&T results/foregrounds

3.1 Information exchange and mapping to improve mutual acquaintance and share of best practices (WP1)

In 2008, ARIMNet started to address key common issues fostering the convergence of national research programmes and creating a critical mass to develop knowledge and transfer innovation. Among the activities foreseen in this action, the monitoring of research programmes and research capacity of the partner countries have been considered the starting point to identify gaps, overlaps and common tools to be put in force to realize common objectives.

The methodological approach to take a picture of the state of art in the Mediterranean agricultural research has been to use a questionnaire, organized in different sections, to collect information on research programmes and their management, the research institutions, their facilities and the training schemes running in the partner countries. The objective of the questionnaire was to provide a systematic overview of the research programmes and to map the research capacity involved in the Mediterranean agriculture in each partner country of the ARIMNet consortium.

To manage, analyse, update and make information available to public an information system has been built up under the responsibility of the Tunisian partner. It is based on a website and a metadatabase where partners and interested organizations have been able to enter and share information on their own activities with the scope to strengthen the research capacity and knowledge transfer in the Mediterranean agriculture.

A final WP1 report analysed the data obtained through the questionnaire and integrated by information made available by the partners of the ARIMNet consortium. It aimed contributing to identify common points, differences, overlaps and future opportunities for collaboration and research coordination among partners and help networking research communities and stakeholders of the ARIMNet countries, thus strengthening the development of the Mediterranean agriculture.

To achieve these goals a mapping exercise was organized based on a questionnaire set up through methodological workshops involving all partner countries and the development of a dynamic database to collect and manage data by assisted search interfaces.

The questionnaire was structured in three sections:

- ✓ section A on “General actors presentation” providing information on public bodies who fund or manage research activities on Mediterranean agriculture in each country (11 questions).
- ✓ section B on “Research Programmes and projects” providing information on single programmes/ coordinated joint projects on specific thematic areas, managed by bodies having a funding role or delegated to fund within the partner countries. This section includes:
 - part B1 on programmes details (19 questions);
 - part B2 on implementation procedures (application, evaluation procedures; 22 questions);
 - part B3 on evaluation of programmes (4 questions).

The mapping exercise refers to programmes/projects financed in the period 2006-2009. In some cases also data on 2010 have been reported.

- ✓ section C on “R & D actors”, their research activities and their research capacity. This section includes:
 - part C1 collecting information on the research organizations and their types of activities (6 general questions and 6 on main subject areas description, maximum 5 subject areas);



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- part C2 making a survey of research-experimental-technological facilities available for sharing expertise on agri-Med research (11 types of facilities were monitored);
- part C3 dealing with fellowships and training schemes description in each country (5 types of questions on 5 types of training schemes).

To make easier the collection and analysis of the answers, the questionnaire has been uploaded on the ARIMNet website in a database area open to registered organizations for the online compilation; this latter has also been encouraged by making available a French version.

The choice of using a single questionnaire structured in multiple sections which refers to the different WP1 tasks has required a strong effort to design a suitable management structure of the database allowing the organization of collected data, statistical analysis of answers and providing searching masks for sharing information. A step by step procedure has been adopted to design prototype solutions which are still under testing.

Country focal points (CFP) have been identified for each partner country, who have played a crucial role in the mapping exercise promoting the mapping activity at local level, contacting people, sending the questionnaire to the most representative bodies, filling online their own questionnaire. They have also been in charge of reporting the general situation of their own country through a country report, based on first results of the statistical analysis of data made available by the database facilities.

The twelve country reports describing the research systems in the partner countries and factsheets summarizing the main features of the research systems of each partner country can be uploaded on the ARIMNet website and are available to public. (This material has been provided also to the stakeholders participants in the Conference organized in October 2010 in Palma de Maiorca by the WP2.)

It can be highlighted that the participating organizations showed a great interest in exchanging information within the ARIMNet network as essential starting point to build up future cooperation activities within the field of Agri-Med research.

By September 2010, 204 organizations were registered (including the 12 ARIMNet partners), 50 of them provided data on 149 Agri-Med funding programmes/coordinated actions/federative projects and 134 on research institutions (Table 1).

Table 1. ARIMNet questionnaire statistics*.

Country	R	Section					
		A		B		C	
		F	F/R %	F	F/R %	F	F/R %
DZ							
CY	3	3	100	1	33	1	33
EG	12	10	83	10	83	10	83
FR	4	4	100	1	25	4	100
GR							
IL	11	3	27	3	27	9	82
IT	32	18	56	9	28	12	37
MA	6	2	33	3	5	3	5
PT	65	1	1	1	1	38	58
ES	27	4	15	3	11	19	7
TN	18	13	72	16	89	12	67
TR	24	1	4	1	4	24	100
ICARDA	1	1	100	1	100	1	100
CIHEAM	1	1	100	1	100	1	100
total	204	61	30	50	24	134	66

Legenda: *updated to 3/09/2010; R=registered; F= filled

3.1.1 Analysis of data on Agri-Med research systems in ARIMNet countries.

The large amount of data collected through the questionnaire reflects the heterogeneity of the participating countries both in terms of organization and structure of the Agri-Med research system as well as their similarities in sharing common priorities and perspectives, among them the need to strengthen future collaboration in this area to better exploit the financial resources and valorize the human potential. Many countries, in fact, have started a reform of their agricultural research system in the last ten years moving towards a more centralized scheme of funding, the definition of medium- long term strategic plans (5-10 years), a concentration of the research capacity in few highly specialized centers, located in strategic agri-ecological zones to promote their development, and towards the harmonization of the education and researcher training schemes to the international rules (see country reports and factsheets on ARIMNet website).

In this context, a strong expectation of positive impacts on the own country research systems from cooperating within the ARIMNet consortium has been stated in most country reports.

The mapping exercise based on the questionnaire has allowed gathering a big amount of information on thematic research areas, main features and management procedures, research institutions playing a role but less data on human resources and financial issues than expected.

This has mainly been due to inherent difficulties concerning the highly scattered research system structures and funding schemes in most of the ARIMNet countries and to some misleading in answering to questions



on programmes, single projects budgets, human resources distribution. In most cases this kind of information has been supplemented, whenever possible, with additional data by the CFPs and presented in the country reports or in the factsheets.

A big effort has also been made to analyse information on thematic areas covered by the programmes/projects, research institutions and to identify the most important ones due both to the complexity of the Mediterranean agriculture itself and the choice of using different levels of the Agrovoc multilingual structured thesaurus in different sections of the questionnaire to classify the subject areas.

In some countries more than one hundred and fifty research topics have been quoted as funded and investigated by the research organizations.

Thus an attempt has been made to group the data in thematic areas, covering most of the agriculture domains of Mediterranean agriculture and to roughly estimate programme funds available for those areas.

3.1.1.1 Agri-Med Research: programmes structure and implementation procedures (questionnaire sections A-B).

The main information provided by the mapping exercise through the answers to the sections A and B of the questionnaire can be summed up as follows.

✓ The number of the Agri-Med programme owner/manager organizations per country is strictly related to the national and regional government structure and to the function of the different administrations involved in agricultural research. Almost all these organizations are ministries, government agencies and other public bodies (Table 3).

In some countries (Italy, Spain) Regions play an important role directly financing applied experimental research on critical local issues and challenges and in the transfer of knowledge to promote both agri-food industry and rural development.

In the other countries this kind of activity is mainly in charge of the main research manager organizations acting on behalf of the fund's owner.

In most countries the Ministry of Agriculture (usually covering more sectors like environment, fishery, forestry, rural development, etc.) is both the main programme funder/owner and agro-research institutions funder thus plying an operative role too.

This may suggest that agricultural policies could both draw direct benefits from the results and knowledge transfer and better steer research towards strategic priorities for the agricultural sector.

In some countries this Ministry shares its role with the Ministry of Higher Education and Research which can also have in charge, apart the Academia research system, research institutions and agricultural research programmes (Algeria and Italy).

Only in few cases the agricultural research organization shows a high concentrated structure. In the case of Portugal the Foundation for Science and Technology (FCT), under the authority of the Ministry of Higher Education and Research, is the only one delegated to fund and manage research programmes related to all fields of knowledge including agricultural subjects.

In the case of France few organizations (5) fund and manage 85% of the resources covering almost all the fields and are involved in the process of building up a research funding and managing structure specifically devoted to Agri-Med.



TABLE 2. RESEARCH ORGANIZATION & FUNDING SCHEMES IN ARIMNET COUNTRIES

COUNTRY	FUNDS OWNER				RESEARCH FUNDING SCHEME				RFS FUNDER/MANAGER			
	MA	MHER	REGIONS	OTHER	RNPR	ARNPR	ARCATA	OTHER	MA	MHER	REGIONS	OTHER
FR	x	x		ANR-National Res.Agency	x		X	X				INRA+
IT	X	X	X	other Ministries	X		X	X	X	X	X	National & Regions Res.Centres
DZ	x	X			Nat. Res. Fund	X		Nat.Fund Environm.+		X		Programme Pilot Organism/INRAA
ES			X	Ministry of science & innovation+M.Environm.Rural & Marine Affairs	X	X		X				DG Research & NRPR Management /INIA+
TR	X			TUBITAK Sci.&Technol.Res.Council		X			X			GDAR
EG	X	X		ARD fund	STDF	ARDF						ARDC/ARC
PT		X			X			X				FCT
MA	X	x				X		X	X			INRA+
GR	X	x		Min. Developm.-Gen. Secret. R &T -State scholarship Foundation-IKY				RC's projects	X			NAGREF+
TN	X	x				X			X			IRESA
CY	x			Planning Bureau		X		RPF calls				Research Promotion Foundation, ARI
IL	X			BARD+JNF+		X	X	Bilateral projects	X			MOARD,BARD,JNF

LEGENDA of general items:

X: main actor; x: other role (e.g. research capacity funding)

MA: Ministry of agriculture.

MHER: Ministry of high education & research

RNPR: Research National Programme

ARNPR: Agricultural Research National Programme

ARCATA: Agricultural Research Coordinated Actions on Thematic Areas

RFS: Research Funding

Scheme; RC:Research Centres;



✓ The funding structure shows a large heterogeneity, which probably can be traced back to the different budget and funding laws of the different countries. Nevertheless, three main types of funding schemes can be recognized as prevalent among the partner countries to support agricultural research:

- Research National Programmes which finance, among others, research topics related to agriculture through a national fund (RNPR);
- Agricultural Research National Programmes with specific funds to support joint and single research projects on prioritized agricultural domains (ARNPR);
- Coordinated actions and joint projects referring to specific agriculture thematic areas funded by different national authorities in the framework of a political strategic agenda (ARCATA) and Ministry guidelines.

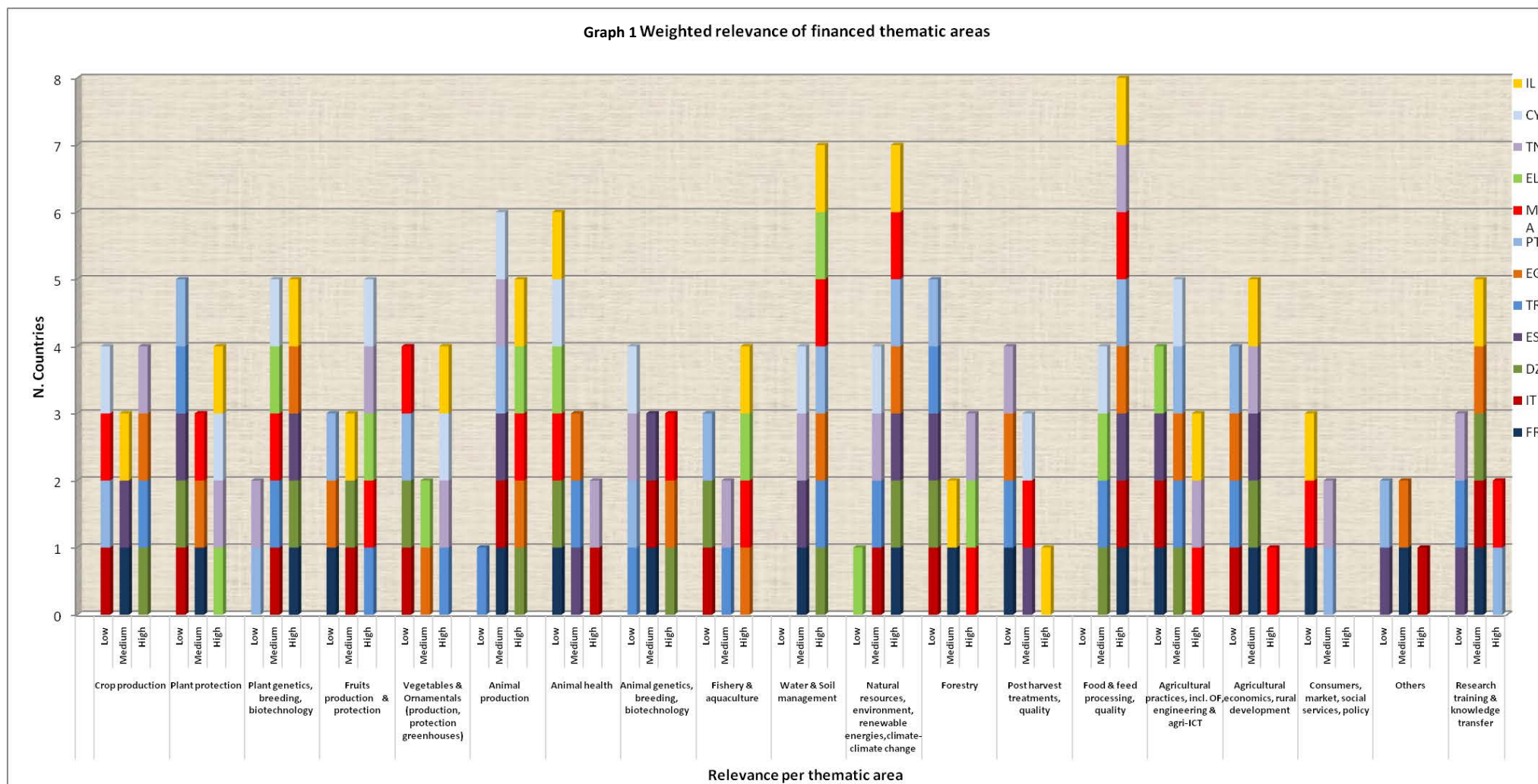
Other funding schemes include the Regional Government programmes directly funded by local authorities on their own budget and in the framework of strategic agendas, participation in joint programmes funding among the public and private sectors etc.

✓ From the analysis of the information collected through the questionnaire, the country reports and the factsheets, 19 main thematic areas covering most of the agriculture domains of Mediterranean agriculture have been identified and an attempt to distribute the financial data according to those areas has been made.

However, the poor response rate (less than 30% the organizations answering to financial questions in the questionnaire), and the fact that some of the mapped programmes investigate a wide range of subjects and in some cases not only fund Agri-Med research do not allow to get insight into the analysis of the financial framework. A partial estimation of the annual total funding available for those areas obtained from the factsheets is about 1.0 Billion Euros, including the budget of the research centers involved in the mapped programmes/projects.

Figure 1 reports a roughly estimation of the relevance of main financed research areas for each country based both on qualitative description and quantitative data available.

The more relevant research area supported by the Agri-Med programmes and projects seem to be: plant genetics and biotechnology, animal production, water & soil management, natural resources, environment, renewable energies & climate-climate change, food & feed processing and quality, agricultural practices-engineering and ICT, and fruits production and protection.





The average annual budget of single programmes/coordinated actions which could be used in some cases as an indicator of the relative priority of the thematic area seems to range from 0.06 M€ to 12 M€ while the size of individual projects from 0,002 to 0,5 M€ depending on the subject and programme. This wide range of financial conditions might partly be due to different administration rules and economic parameters, like the cost of living which influence the comparison.

✓ The management of programmes in terms of definition of priorities, utilization of competitive mechanisms, criteria and procedures to select projects and evaluate them does not show such differences to becoming an obstacle in view of the activation of joint actions.

3.1.1.2 Agri-Med Research: mapping of research capacity (questionnaire section C).

The mapping of research institutions playing a role in the agri-Med research has allowed identifying more than two hundred public research centres and laboratories. Most of them are under tutorial of Ministries and cover all thematic area of agri-Med research being specialized on certain domains in relation to the specific agro-ecological zones and cultural heritage of their own country. Through the analysis of data some common concerns, strategic research priorities and methodological approaches have been identified. A detailed assessment of financial and human resources at stake resulted more difficult than expected being those data unstructured and not easily accessible. Little information has been collected on international cooperation even if most of the institutions stated having this kind of activity.

In terms of organization of the research structures at least two kinds of features can be distinguished:

- In many countries there are one or few centralized research structures, under tutorial of a Ministry, to which most of the research groups and centres refer to both in terms of financial and work priority setting and infrastructures management. It's the case of Morocco, Algeria, Tunisia, Egypt, Israel, Cyprus, France, Spain, Portugal.
- In other countries there are many research institutions under tutorial of one or more government authorities (Italy, Greece Turkey) that play a relevant role on different agricultural domains.

In many cases the mapped research structures are also directly involved in researcher training and higher level education.

A description of the main research institutions and facilities available in each country is provided by the country reports and the factsheets

✓ From the data collected both by the questionnaires and the country reports a good description of structures and expertise of the institutions has been obtained. Even if it should be considered a partial estimation due to the constraints stated above, the total annual budget of the research institutions seems to represent 35-40% of the total annual funds devoted to agri-Med research in the ARIMNet partner countries, being 23.000 researchers involved.

✓ As regards the inventory of facilities operating in the participating countries and available for sharing expertise in future coordinated activities, the collected information is less valuable than expected. Most of the monitored facilities are basic lab equipment's, experimental stations, animal facilities, some database tools, little information has been provided on big facilities, platforms, centers of excellence, etc..



Most of the facilities are directly managed by the institutions and related to their main domains of activity, specialized lab equipment's are the prevalent ones. In *most* countries they can be open to collaboration under specific conditions: the access require an agreement between parties or may be open in the framework of joint research projects/activities. In some country reports a strategic plan of building up shared infrastructures to reinforce the national research system has been quoted.

It could be a matter of discussion if this situation indicates a lack of key infrastructures (e.g biotechnologies, ICT, bioenergy pilot plants, etc.) in the partner countries that could be overcome by planning joint activities on that field or we simply need to provide better tools to analyse this sector.

✓ As regards the training schemes all countries in the last years have moved to the adoption of internationally recognized education and training schemes both at the University and post graduate level. The analysis of the collected data integrated with the description in the country reports has evidenced similar approaches among partner countries being the basic training (M.Sci & PhD) on the main domains of Mediterranean agriculture in charge of Universities and Higher education schools and the researcher training (fellowships, research grants) shared with the research Centres.

In almost all countries the researcher's training is considered one of the key priorities to strengthen the Agri-Med research system both in term of mobility of researchers and education; in some cases specific national plans have been started to improve the human resources potential and the exchange of expertise. To design a strategy on joint training across the ARIMNet partner countries by clustering similar training programs in agricultural research on Mediterranean and shared procedures further information would be required.

3.1.2 Research priorities and emerging issues for future actions.

Through the mapping exercise it has been asked to the research actors of the ARIMNet countries to identify those research priorities and needs that in the near future could benefit from a coordination of the efforts and the sharing of expertise and knowledge.

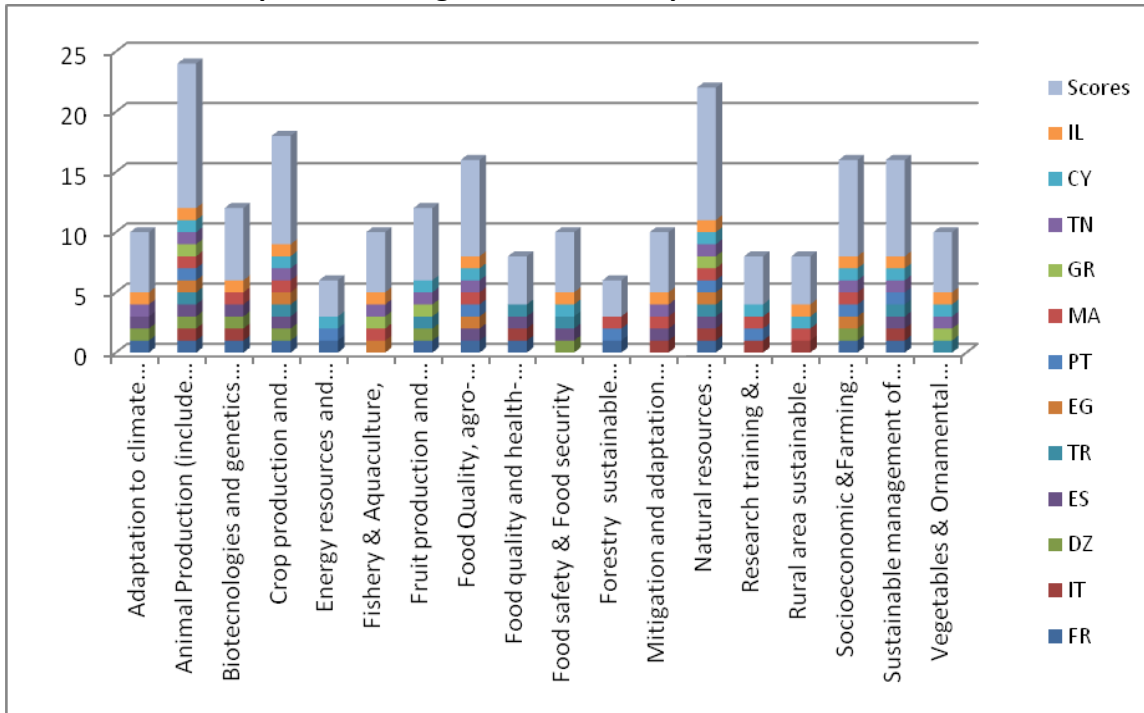
The obtained list of research priorities (Figure 2) has been matched with the main objectives of the financed research; it has been discussed with the stakeholders at the WP2 Conference and it has essentially been confirmed.

✓ **Three major common objectives of the Agri-Med research are shared among all partner countries:**

- **improve yields, quality and safety of commodities and typical food productions through a sustainable management of water, soil and natural resources;**
- **introduce innovation in farming systems to prevent emerging factors of risks (exotic pests and diseases, climate changes), guarantee the food security and to promote the development of rural area valorizing local productions and the multifunctional role of agriculture in land management;**
- **strengthen the research training, the mobility of human resources and the transfer of knowledge to prepare a new generation of researcher and farmers able to jointly face the challenges of the globalization.**

With respect to the distribution of main research areas already covered by the ongoing programmes and projects some research priorities remain key issues to face with also in the near future: **animal production and health, food quality, natural resources management, socioeconomics and farming systems, sustainable management of the agricultural production systems and environment conservation, crop production and protection.**

Graph 2. List of agri-Med research priorities in ARIMNet countries



Conclusions

The mapping exercise based on the questionnaire has allowed gathering a lot of information on research thematic areas, main features and management procedures, research institutions playing a role in Agri-Med research, but less data on human resources and financial issues than expected.

This may be due both to inherent difficulties concerning the highly scattered research system structures and funding schemes in most of the ARIMNet countries and to the complex structure of the questionnaire used.

Nevertheless it has allowed to identify major common objectives shared among all the partner countries on which it would be possible to mobilize a critical mass of funding and research capacity strengthening the cooperation in the agri-Med research area to better exploit the financial resources, valorize the human potential and disseminate knowledge.

The structure of the Agri-Med research system is highly heterogeneous but the management of programmes in terms of definition of priorities, utilization of competitive mechanisms, criteria and procedures to select projects and evaluate them did not evidenced such differences to becoming an obstacle in view of the activation of joint actions.



ANNEX1: LIST OF AGRI-MED RESEARCH PRIORITIES MAPPED IN ARIMNET COUNTRIES

PRIORITIES	FR	IT	DZ	ES	TR	EG	PT	MA	GR	TN	CY	IL	Scores
Adaptation to climate change: biodiversity resources exploitation, aridology and oasis agriculture	X		X	X						X		X	5
Animal Production (<i>include feeding</i>) & Health	X	X	X	X	X	X	X	X	X	X	X	X	12
Biotechnologies and genetics to increase crop and animal production yield and sustainability	X	X	X	X				X				X	6
Crop production and protection (<i>include breeding for biotic and abiotic stress resistance</i>)	X		X	X	X	X		X		X	X	X	9
Energy resources and management	X						X				X		3
Fishery & Aquaculture,						X		X	X	X		X	5
Fruit production and protection (<i>include date, viticulture, olive, citrus etc.</i>)	x		X		X				X	X	X		6
Food quality, agro-industries & post-harvest processing	X			X		X	X	x		X	X	X	8
Food quality and health-well being (<i>valorization of traditional Mediterranean and local food</i>)	X	X		X	X								4
Food safety & Food security			X	X	X						X	X	5
Forestry sustainable management	X						X	X					3
Mitigation and adaptation to climate changes and management of major risks		X		X				X		X		X	5
Natural resources management (<i>water, soil, biodiversity protection & valorization</i>)	X	X		X	X	X	X	X	X	X	X	X	11
Research training & knowledge transfer to farmers and agri-food industry		X					X	X			X		4
Rural area sustainable development (<i>include young farmers support policies</i>)		X						X			X	X	4
Socioeconomic & Farming Systems, market dynamics (<i>fresh products distribution, consumers-farmers interactions etc.</i>)	X		X			X	X	X		X	X	X	8
Sustainable management of the agricultural production systems and environment conservation (<i>including engineering, innovative approaches, OF, ICT</i>),	X	X		X	X		X			X	X	X	8
Vegetables & Ornamental (production, protection greenhouses)					X				X	X	X	X	5



3.2 Strategic orientation of research programmes to eliminate overlapping and open novel issues (WP2)

The objective of WP2 was to **analyse and evaluate the information collected and, after identification of complementarities, overlaps, gaps, barriers, duplications, strengths and weaknesses, identify opportunities and common instruments for future cooperation and agricultural research coordination activities and, finally, ideas for potential future joint activities and transnational research cooperation.**

3.2.1 Identification of barriers that hinder international cooperation between the Mediterranean countries in the field of Agri-Med researches

The first objective of this WP2 was to **identify barriers that hinder international cooperation between the Mediterranean countries in the field of Agri-Med researches.** Within this framework, main objectives of Task 2.2 were as follows:

- Identification of legal, administrative, financial and management barriers which hinder co-operation
- Suggestions for removing or reconciling these barriers
- Sharing the best practices of national/regional programmes for common evaluation systems

Methodology

To reach these objectives, a rather simple questionnaire **T2.2 Questionnaire** was designed and sent 12 partner countries of the ARIMNet. The questionnaire was adapted from the one that was prepared and used for Task 2.2. "*Barriers which hinder trans-national co-operation*" of ERA-NET Plant Genomics (ERA-PG) (www.pg.org). It was formulated to allow respondents (representatives of the funding organisations) to give input on the design of best procedures that should be adopted for future trans-national and joint calls and more specifically for Collaborative Research Projects (CRPs). It gave information on requirements of the funding organisations and *national/regional rules* regarding the selection processes of the (collaborative) research projects, for both national/regional and joint calls.

The first part of the Questionnaire (A) on Administrative barriers focused on the funding organisations' rules and requirements about participation, funding, evaluation and selection processes generally used.

The second part (B, C and D) focused on issues related to transnational activities and Collaborative Research Projects to implement them.

Responses from all funding organisations have been analysed and preliminary results were submitted at the Stakeholders Conference of ARIMNet project took place on 28-29 October 2010 in Palma de Mallorca, Spain.

General Conclusions on the best practices for common evaluation and shared trans-national administration systems

The results of this survey show that there are many similarities in current procedures in the various funding organisations of the ERA-NET in ARIMNet, and in the views expressed by the partner countries on trans-national collaborative calls for projects. Where differences exist, on issues such as evaluation, so long as these differences are not sustained, it could be possible to reach a consensus allowing the achievement of a common framework.



It can be envisaged that this would be demonstrated by the adaptation of most of the funding organisations' rules to comply with the framework of ARIMNet, first call for projects, which will be implemented by the **Call coordination team** (teams of the national call coordinators who are correspondents or representatives of the funding organisations) and the **Call secretariat**.

In fact, there were no major barriers encountered in the areas of administration, funds and management for the establishment of common evaluation and shared trans-national systems. Of course, some countries have specific rules which will need to be adapted in order to facilitate these systems. There are some areas where there is less agreement in the responses from the funding organisations, in particular on legal issues. On the whole, management of IPR is not the direct responsibility of the funding organisations and they therefore do not exert control over this and cannot be flexible in their approach. The results of the activity on legal aspects may help to reinforce the homogeneity of these trans-national and national/regional rules.

The first conclusion was then that, perhaps contrary to the initial expectations of the partners, the establishment of a trans-national programme based on existing national/regional programmes is possible and does not require major changes at the national/regional level.

3.2.2 Identification of thematic areas to be opened to cooperation: the Conference of Stakeholders

The WP1 mapping gave element to identify thematic areas to be opened to further Mediterranean cooperation.

In order to complete and check the relevance of this first data of the WP1&2, another step of the WP2 was to organize a **decision-making process for priority setting to enable the Steering Committee to select the themes for joint activities and for transnational funding**. In order to strengthen this process the involvement of the stakeholders of agricultural research was necessary to ensure the full relevance of the selected priorities.

To that purpose a **conference of stakeholders** has been convened to provide a wider and deeper view on areas open for coordination and to identify and share key areas of cooperation, to collect information, suggestions and proposals on the potential joint activities. The aim of this conference was therefore to open a discussion with representatives of the different groups of stakeholders on the key issues for Agricultural Research in the Mediterranean area based upon the analysis of the real programmes that are really implemented in the region, to cross this knowledge with the real forces in research that are represented through the Agricultural Research Programmes that are currently running in the different countries participating in ARIMNet.

The will to have a fruitful and open discussion during this Conference has led to have a limited number of participants, around 80. The different groups of stakeholders identified to participate have been:

- governments (ARIMNet participants could be considered as governments representatives);
- research institutions (funding agencies and research performing organisations);
- international institutions actively involved in the region (Ciheam and ICARDA of course, but also FAO, PAM, AARINENA, EFARD, EU and other ERA-Nets involved in the Mediterranean);
- farmers organisations;
- industry (agro- and agro-food industry);



Coordination of the Agricultural Research In the Mediterranean Area

- Consumers, environmentalists and other NGOs.

The purpose was that the three first groups could represent half of the attendance and the three others the second half. It has been asked to ARIMNet's members to propose representative organisations in those different fields to which an invitation could be launched.

The output of this conference was a set of propositions for potential joint activities and transnational research and recommendations.

INIA was in charge of the organization of the Conference of Stakeholders. During this second period the ARIMNET-INIA team has been deeply involved in such preparation in close collaboration with the Coordinator, the deputy leader (Turkey) and the experts from CIHEAM and ICARDA. The Conference was held in the University of Balearic Islands (Palma de Mallorca) on **28-29th October 2010** (beginning of the period 3).

For this task, the main steps carried out during this period have been the following:

- Elaboration of the pre-draft proposal (exploring options and design). This document was the starting point proposing a Working Group composed by the Coordinator, INIA, GDAR, CIHEAM and ICARDA, venue, dates, timing and tentative budget and later discussed in the Steering Committee.
- Elaboration of a draft agenda and later of a provisional agenda.
- Elaboration of the first announcement.
- 22 December 2009. The first announcement has been sent to all partners asking them to identify and propose participants.
- Discussion on the venue: first INIA proposed the Valencian Institut of Agricultural Research Headquarters in Valencia and finally, due to some difficulties, a new proposal in the University of Balearic Islands was agreed.
- Discussion on the experts and speakers to participate in the Conference. Contacts and formal invitations particularly by the Coordinator.
- Discussion and decision on moderators and reporters for each parallel session. Elaboration of a document with recommendations for moderators and reporters and their role in the Conference.
- A first circular was elaborated and circulated.
- 15 July 2010. A request was made to partners in order to confirm a list of proposed participants and check their addresses and data asking which of them needed external support. Individual contacts with partners and elaboration of a final list of participants.
- Budget: research of external budget to support stakeholders to come to the conference.

A preliminary budget was prepared and discussed in the Working Group and finally agreed. It was necessary to search external financial support, resulting some financial offers from Agropolis-INRA, INIA and CIHEAM apart from the own ARIMNET contribution. For the INIA financing, two "Complementary actions", competitive grant application dossiers were prepared and justified: one to INIA and another to the Ministry of Science and Innovation. The most important cost has been the external travel expenses for a number of participants: in order to get a better diversity and representativeness of the stakeholders, it appeared that the project had to support them, especially the representatives of farmers' organisations, consumers, environmentalists and other NGOs and the experts invited to add value to the contents of the conference. A formal agreement between INIA and the Balearic Islands General Foundation (UIB Congress) was established for the Conference technical issues including all logistics, and a web site link for registration, hosting and accommodation

Output of the conference: Recommendations for future calls



FP7 ARIMNET ERANET Coordination Action
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The Conference of Stakeholders of the ARIMNet project was a key event in the process of selecting agricultural research areas that could be opened for further calls to trigger coordination of national programmes in the Mediterranean basin..

It was organised in two parts: the first one aimed at giving to the participants a global picture of the stakes, challenges and opportunities in the Mediterranean for agriculture and agricultural research, the second one to debate on the priorities. This second part was considering both scientific areas – on the basis of the programmes that are currently run in the Mediterranean – and design of calls and management of research projects to better integrate the issues of innovation, capacity development and involvement of stakeholders in the design and run of the projects at the Mediterranean scale. It was prepared by an analysis of the current programmes (an outcome of WP1) and three parallel sessions devoted to innovation, capacity development and involvement of the stakeholders in the whole process.

1. The scientific areas that should be considered for priorities

Basically, the purpose of the Conference was to prepare the decisions of the Steering Committee of ARIMNet on the future calls that should be launched in 2011. The first issue to be discussed was about the scientific areas that should be selected, according to the real agricultural research programmes that are currently run in the different countries member of ARIMNet and the experience and visions of the stakeholders of those countries.

On the bases of the WP1 identification of thematic areas for cooperation, a discussion took place in the Plenary to check that those areas were – or not – shared priorities and to elaborate a little bit more on the priorities and to focus more for giving relevant advices to the Steering Committee of ARIMNet.

The topics **animal production and animal health, crop production and protection** were considered to be better addressed while linked with the issue of **water stress, water scarcity and natural resources management..** Those two topics have also to be considered under the general issues of **biodiversity conservation** and the relationship between agriculture and climate change.

Concerning food quality topic, the issue of **post-harvest losses and contamination** was mentioned as well as the thematic of valorising the agro co-products and their use.

The issue of socio-economics, farming systems and agriculture policy introduces four more focused topics: **cold chain management, transportation energy saving, access to the market for small farmers** and the **gender issue**.

A strong advocacy of **organic farming** was also made as a support to the more generic issue of sustainable management of agricultural production systems and environment conservation.

2. Adding value: a more integrative approach

The WP1 identified priorities were approved by the Conference in Plenary as relevant areas for coordinated actions in the future. By themselves, they do not provide real original value to what was already done, even if a more coordinated effort is *per se* an important achievement. The “High Level Panel” that followed the plenary pointed out that complex issues require multi and trans disciplinary approaches, complex set of people, research institutions and research set-ups It strongly pushed for a more integrative approach..

a. In science



The central issues that were put forward by the “High Level Panel” is to identify what should be achieved through ARIMNet: thinking together the shared challenges and their possible responses, looking at themes that should be linked together (e.g. cropping systems and livestock), the development of an inclusive development model, thinking forward even beyond the ERA-Net.

That means to overcome disciplines barriers and segmentation, developing more systemic, holistic approaches, multi-, inter-, trans-disciplinary approaches that could really take into account that Mediterranean agriculture is plurifunctional and multicultural and is facing complex global issues.

The design of calls would have to drive integrated programmes and projects.

b. In the design and management of the calls and projects

Beyond scientific priorities, the ARIMNet project has the ambition to design calls that could lead to projects opening to innovation in agricultural production and farming systems, linking capacity development to performing projects and to involve stakeholders all along the process. The three parallel sessions organised on those topics gave useful indications to help the Steering Committee to fulfil these ambitions.

3.3 Joint activities to consolidate and harmonise partnership outline common vision and agenda (WP3)

The objective of WP3 was to demonstrate the feasibility of joint activities in some areas relevant to the project and implement those that are jointly strategic. The WP3 had been redefined . While keeping the spirit of the Grant agreement, it seemed untimely to launch joint activities before an in depth analysis of the conditions required to successfully drive such activities.

The new objective was basically to **define the enabling conditions for the implementation of joint activities in the future, including in the long term joint programming or participation in relevant existing JPIs**. The ways to structure and strengthen co-operation and coordination was worked out and will result in the preparation of a basic and shared document.

WP4 has been developed before **WP3** and the work done by the WP3 leaders and deputy leaders (Egyptian and the Portuguese partners) for WP3 has been strongly influenced by all the work done for and lessons drawn from WP4, even if the project was initially to lead both work package in parallel. That means also that priority has been given to transnational activities over joint activities for which, in the light of WP4, it became clear that a first step – identifying the basic requirements to organise various kind of joint activity (“enabling conditions for implementation of joint activities” as written in the ARIMNet Document of Work) – was necessary. The WP3 tasks were therefore partly re-designed in that way to serve as a tool to identify and specify decision-making process that should lead to the implementation of various joint activities to promote greater coherence at Mediterranean scale.

On the basis of the WP2 report on barriers that could hinder coordination and cooperation in the Mediterranean, some points that could be important in the case of joint activities had been highlighted by



WP3. But the core of the WP3 was to establish a methodology to explore basic requirements to implement joint activities and three case studies.

A specific workshop held in Lisbon has been organised to build “scenarios”, that was to put the partner in the situation they do have to implement a joint activity:

- What is really expected?
- What should really be done?
- Who are the real beneficiaries?
- What are the different elementary steps?
- How should they appear in the course of implementing the activity?
- How to organise an adequate follow up?

Three scenarios were developed:

- mobility of researchers (and more specifically young researchers). The considered action was a mobility scheme focused on a training/capacity building activity, for which the welcome team will request funds and select the researchers to undertake the activities framed within a work plan initially presented.

- networking of institutions (or part of them). The levels that have been considered is subsets of research institutions (basically research units of laboratories) which complementarities are necessary to organise in a federation of labs in order to address research issues that cannot be addressed at the level of one single laboratory. It requires agreement between the research institutions they are belonging to (e.g. to set up an appropriate governance for the network), funding commitment of these organisations.

- mutual opening of facilities, databases and laboratories. The main focus of this action would be to allow the sharing of information (data bases) and facilities (especially large ones), to foster the exchange of information useful for on-going research and to optimize the available resources of the Institutions. The selection of the infrastructures where MOFALA should take place would be accomplished on a top-down basis, i.e., by invitation from the funding agencies to the Institutions responsible for the facilities and laboratories or by the research institutions themselves. It is important to point out that a simultaneous double funding strategy would be desirable: a) funding of travels and subsistence of the facilities users by national agencies of the users’ countries; b) subvention to the welcome facilities Institutions by national agencies of the welcome facilities’ countries.

Conclusions

The experience gained in WP4 and the preparation, launching and management of the Call shows that the identification of barriers was not enough to successfully implement properly a joint or a transnational activity. The precise identification of the different steps, one by one, one after the other, is at least as crucial and can lead to look at the barriers in a different way. The same process should be followed for launching joint actions. The implementation of joint activities could be complementary to the implementation of transnational activities in two ways. First, it could be organised jointly with a transnational activity, e.g. mobility of researchers and collaborative research projects in response to a call. Second, transnational activities organised through calls are promoting the establishment of scientific networks and promote the emergence of a scientific community that is the basis for further coordination and cooperation. WP3 and WP4 considered together are certainly a first step that helped to build trust among the partners of ARIMNet and are an opening on and an encouragement for further developments in the coordination of Mediterranean Agricultural Research and implementation of joint activities.



3.4 Calls for proposals to expand the structuring impact of the network (WP4)

The objective of WP4 is to **organise joint transnational programme(s) that means to organise the real convergence among the participants through the joint definition of programme(s) and of consolidated mechanisms including common calls, common evaluation, funding sources** (joint pool of funds in order to finance projects resulting from the joint call – each country finance own researchers).

Based on the two first WPs, the WP4 has been designed to organise the real convergence among participants through the joint definition of a research programme and consolidated mechanisms including funding commitments, a common call, common evaluation and selection. On the basis of the WP1 and WP2, the scope of the call has been designed. A Call board gathering representatives of the funding agencies has been composed. Common rules for evaluation, composition of the Evaluation Committee and criteria for the evaluation have been defined. ARIMNet partners have been involved to gather a wide database of Mediterranean and international experts that could review the proposals of the call. A common electronic submission system has been built, together with a panel of different guidelines, useful for the application of the researchers to the call and also useful for the referee and Evaluation Committee members.

This call was aimed to enable collaborative interdisciplinary projects based on complementarities between scientists, disciplines and countries. Its objective was to promote international collaboration to create research consortia in order to respond appropriately to the global stakes and challenges Mediterranean Agriculture is facing. Three topics have been prioritized:

- 1 Production systems and their components: Developing sustainable agricultural production in a context of increasing ecological and climatic stresses
- 2 Food chain from production to distribution: Enhancing the advantages of Mediterranean agriculture in developing products with high added value
- 3 Landscape and resources uses for agricultural and environmental purposes: Sustainable management of land and natural resources

The call for proposal has been launched on the 20th of June, 2011: 86 letters of intent have been received in July and 86 full proposals on the 25th of September, deadline of the call.

3.4.1 Evaluation and selection of the projects

3.4.1.1 Evaluation and Selection Process

Table 3. Time table of the different phases of the implementation of the Call

05.10.2011	1st meeting of the Evaluation committee: identification of referees and assignation of potential referees to each proposal
Oct.- Dec.	Contact by the Call Office of the referees, sending of guidelines for evaluation and proposals, search of other referees when needed
	Follow-up of this evaluation by the Call Office and then review of these reports by the EC members
19-20.12.2011	2 nd meeting of the EC: ranking of the proposals by the EC members
21.12.2011	Meeting of the Call Board: first selection of the projects to be funded. Funders are asked to check again their availability to fund the projects.
19.01.2012	After final validation, publication of the projects first list on ARIMNet Website and on the applicants database
Jan.-Mar.	Negotiation of selected projects for funding
02.03.2012	Final list published on the Call ARIMNet website

Role of the Call Bodies and steps for the implementation of the Call

The Evaluation Committee

An international Evaluation Committee of 11 high-level scientists was constituted with one scientific representative of each country involved in the financing of the Call for proposals. These experts were chosen upon their expertise and also in order to cover as much as possible the thematic areas and scientific fields of the scope the call. A chairman of this Evaluation Committee was also nominated.

The Evaluation Committee was in charge of the following tasks during the last ARIMNet period:

- Help identifying experts and assign experts to evaluate proposals;
- Review experts evaluation report;
- State on the experts evaluation report;
- Select and rank the best proposals recommended for funding to the Call Board
- Contribute to the redaction of a synthetic evaluation to be sent to the applicants

The Evaluation Committee members met twice:

- in the first week of October (5th of October)
- and in the second week of December 2011 (19th and 20th of December).

The Call Experts Panel

In order to constitute a database of potential reviewers, the Call Office invited each ARIMNet partner to send a list of national experts. The Evaluation Committee members also contributed to the identification of supplementary reviewers. Finally the Call Office provided other names when needed.

More than 150 experts profiles were gathered in the database.

The peer-review was organized between the 05/10/2011 and the 15/12/2011. The Call Office sent the proposals to the identified reviewers and had also to send several reminder to get their evaluation ready in due time and published on the Call intranet website.

Reviewers sent notes and arguments that the EC members read and analyzed in order to prepare the ranking of the proposition.

The Call Board

The Call Board (representatives of the funders-11 funding agencies, of the coordination team and WP4 leaders) first check the eligibility call criteria of the 86 proposals. Finally, 79 proposals were considered as eligible and submitted to scientific evaluation.

On the basis of the scientific evaluation and ranking of the Evaluation Committee, and within the limits of funding constraints of each funder, the Call Board selected ten projects for funding.

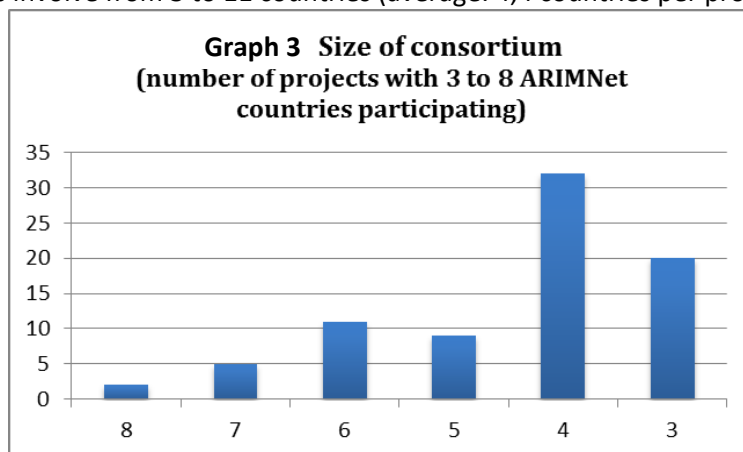
The Call Office

The Call Office organized the whole process, the mobilization of all the actors above described (through meetings, emails, creation of common web tools,...),the circulation of communication among them. The Call Office organized also the communication on the results to the applicants and to the research community. The French ANR has funded and made the payment of fees to the evaluators after this issue had been discussed and decided by the Call Board. The Call Office followed-up this evaluator’s fees payment. The Call Office managed also the sending of certificates of evaluation to the referees (136).

3.4.1.2 Analysis of the submitted proposals

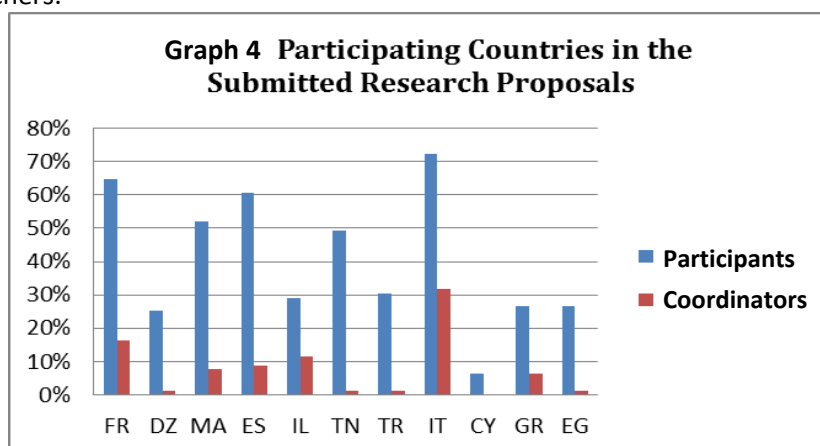
Size of the consortiums of submitted proposals

The 79 eligible projects involve from 3 to 11 countries (average: 4,4 countries per project).



Home country of researchers involved in the submitted proposals

The different countries concerned by the call are well represented in the submitted proposals. The Italian and French teams are the most numerous: 72% of the submitted proposals involve Italian researchers and 65% French researchers.



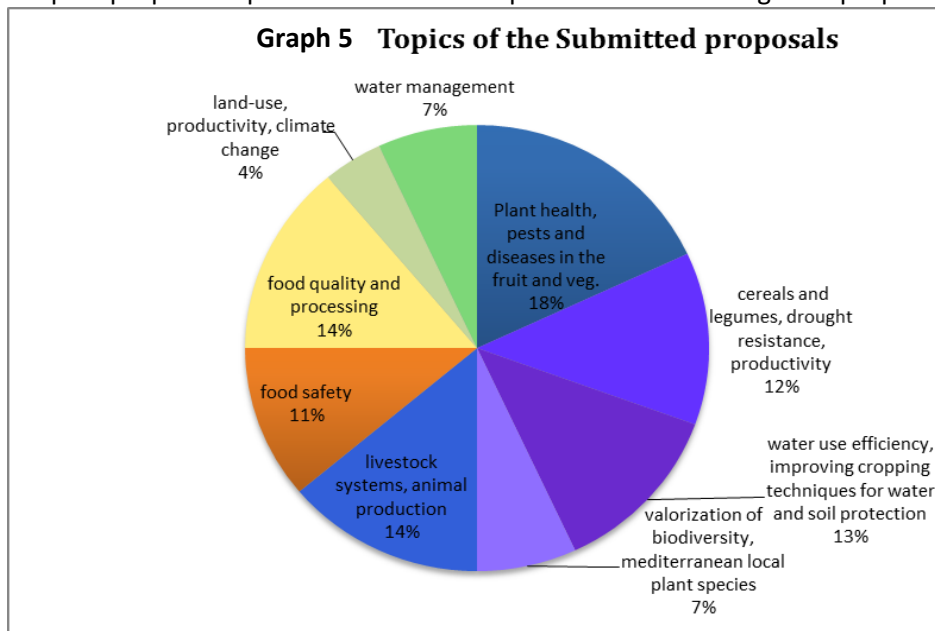
Topics and themes covered

The distribution of submitted proposals among the three axes of the scope of the call was unequal: about 65% of the proposals concern the 1 axis; 25% the second one and 10% the third one. Nevertheless, a lot of projects mainly linked to the first axis investigate also issues underlined by the axes 2 and 3.

Among the production sectors concerned, Fruits and vegetables sector concentrate the biggest number of proposals, before cereal and fodder productions and livestock.

The Call was focused on the main challenges of Mediterranean agriculture. Therefore, the proposals are generally multidisciplinary. The field of disciplines represented is large: from genetic to social sciences.

The description of the topics covered is complex to realize: the projects are often linked to several sub-topics of the call. The Graph 2 proposes a presentation of the topics addressed through the proposals.



Among the topics addressed, the main one is “plant health”. This topic mobilized several projects that are focused on a pest or disease significant for several species of fruit and vegetables in the Mediterranean.

The adaptation of the agricultural production systems to drought conditions is one of the other main topics addressed, through different approaches: understanding of the physiological mechanisms, plant breeding and selection, improvement of technical process of production and irrigation. The introduction or the development of legumes in the production systems was the subject of several projects, as well as the topic of the improvement of efficiency of inputs. The problematic of water was also investigated in some projects that were focused on the management of the resource. Several projects concerned also the livestock systems: cereal-livestock systems or pastoral systems.

Food safety was also a key question of several proposals. Some projects concerned the valorisation of the local biodiversity and of the specific Mediterranean species. Finally, some few others dealt with general aspects of competition for uses of resources, and on the global impacts of climate change.

3.4.1.3 Ten projects selected for funding

Table 4. Title and participating countries of the ten selected projects

Acronym and title of the project	Countries (in bold, country of the coordinator)
APMed Apple and Peach in Mediterranean orchards – Integrating tree water status and irrigation management for coping with water scarcity and aphid control	France, Israel, Italy, Morocco, Spain
ARIDWASTE Development of specific agricultural practices with the use of recycled wastes suitable for intensively cultivated Mediterranean areas under degradation risk	Greece, Israel, Italy, Spain
CLIMED The future of Mediterranean Livestock Farming Systems: Opportunity and efficiency of Crops – Livestock Integration	France, Morocco, Egypt
DOMESTIC Mediterranean biodiversity as a tool for the sustainable development of the small ruminant sector: from traditional knowledge to innovation	Greece, France, Cyprus, Morocco,
MEDILEG Breeding, agronomic and biotechnological approaches for reintegration and revalorization of legumes in Mediterranean agriculture	Spain, Morocco, France, Italy, Tunisia, Portugal, Egypt, Algeria
PESTOLIVE Contribution of olive history for the management of soil-borne parasites in the Mediterranean Basin	France, Greece, Morocco, Spain, Tunisia, Turkey
POHMED Potato Health - Managed for Efficiency and Durability	France, Algeria, Morocco, Egypt
REFORMA Resilient, water- and energy-Efficient FORage and feed crops for Mediterranean Agricultural systems	Italy, France, Morocco, Algeria, Tunisia, United States
SAFEMED Food safety regulations, market access and international competition	France, Italy, Morocco, Tunisia, Spain, Algeria
SWIPE Predicting whitefly population outbreaks in changing environments	Israel, France, Spain, Greece, Italy, Turkey, Switzerland, United States

Table 5. Themes and topics covered by the ten selected projects

Themes and Topics covered	Number of Selected projects
Plant Health (topic 1)	3 (swipe, pohmed, pestolive)
Water and cropping techniques: (topic 1)	1 (apmed)
Water management (topic 3)	1(aridwaste)
Cereals and legumes (topic 1	2 (reforma, medileg)
Livestock systems (topics 1 and 3)	2 (domestic, climed)
Food safety (topic 2)	1 (safemed)



3.4.2 Projects implementation and follow-up

3.4.2.1 Negotiations and implementation

The negotiations of the contracts between funders and selected projects lasted from January 2012 to the end of ARIMNet and beyond. The Call Office followed-up these negotiations and the state of progress of signatures of contracts between researchers and funding agencies. The coordinators requested support in this difficult task.

For several Mediterranean Partner Countries, this was a first experience of cofunding of transnational projects. Delays, sometimes quite long, were observed in the transfer of funds from funding agencies to researchers.

3.4.2.2 Research Projects Follow Up

Some tools have been proposed by the Call Office, and completed and validated by the Call Board, such as:

- Templates of Consortium Agreement for Research Projects Members,
- Webpage per project on the ARIMNet website,
- Scientific and financial reports for periodic evaluation,

Regarding reporting and evaluation, asking for consolidated scientific and light financial reports is the procedure that has been decided by the CB in addition to the national financial and scientific reporting. The templates have been sent to the coordinators at the beginning of their project.

In order to avoid a too important overlap between the national and ERA-Net levels of reporting and to avoid an inefficient waste of reporting time, the Call Office agreed on short reports at the level of the ERA-Net. This transnational reporting is nevertheless compulsory and very useful: it is the only level where the different teams of the project are coordinated. Three reports are asked: at M6, M18 and M36.

3.4.2.3 ARIMNet Call Research Projects Meetings

A kick off coordinators meeting was organized in order to present the projects to the ARIMNet members, the EC members, some invited partners and the other coordinators. It was held on the 14/15.11.2012 in Rome (IT). (Presentations available on http://www.arimnet.net/index.php?p=rome_nov2012)

One mi-term and one final meetings are also planned. The travel and subsistence costs linked to the participation of the coordinators to the two common ARIMNet meetings were foreseen in the budget of each project.

Furthermore, some representatives of ARIMNet attended the kick-off meeting of selected projects, in order to create a link with between research project coordinators and the ARIMNet consortium and facilitate the communication.



4 The potential impact

4.1 Potential impact

By achieving a greater efficiency and coherence of Mediterranean agricultural research firstly at the EU level and beyond at the whole area level, the ARIMNet project expect to have strengthened the capacity of European agricultural research to address the questions Mediterranean agriculture is facing.

The potential impact of ARIMNet should be analysed at different levels and time terms (short, medium or long term). It can concern at least three circles of publics: the members of the ERA-Net ARIMNet consortium themselves and their institution first, then the research community mobilized through the mapping exercise, the call preparation and launching etc., and finally, and less directly, the final beneficiaries (farmers, consumers, Mediterranean population...), private sector, stakeholders.

At this stage, ARIMNet has mainly impacted the first circle of public and begun to impact the second one.

The impact of the ERA-Net itself, but also the impact of the ten transnational projects selected for funding should be both taken into consideration.

ARIMNet helped defining particular topics subjected to joint research activities, providing a shared definition of key issues which is a key input to set priorities together, to define of prioritized challenges. Different steps of the ERA-Net contributed to this task: the mapping of on-going research activities ARIMNet (WP1) and the various expert's and stakeholder's consultations throughout the whole duration of the project (Conference of stakeholders; mobilization of experts and use of foresights exercises and synthesis on the Mediterranean agricultural stakes in order to prepare the scope of the joint call for proposal...). It aims to get an impact on regional agricultural research by exchanging and sharing information, knowledge and good practices. Providing overall information on agricultural research in the Mediterranean aimed to show more evidently to the participants the strengths and the weaknesses at regional level.

This common definition of priorities and actions, in a context of strong government budget constraints for most of the participating countries, allowed achieving critical mass and ensuring better use of limited resources in fields of mutual interests. This helped optimizing the allocation of the financial resources. Joint calls allowed a more effective use of resources.

ARIMNet expects to have therefore an impact on the European Research Area through an overall improvement of efficiency and effectiveness of the European agricultural research related to Mediterranean agriculture, environment, agro-food production and trade. ARIMNet intended contributing to achieve the critical mass required to strengthen and make consistent the European "Mediterranean agricultural research offer" and its contribution to, and impact on regional agricultural research system.

Among the ERA-Net consortium, this cooperation across national boundaries contributed to enhance the competence and experience of managerial staff and to increase the perspective of the MPCs of being part of the European research area. ARIMNet has been a first very crucial step in sharing good practices and enhancing the managerial experience of countries in the implementation of common research funding programmes. In particular, the launching of a common joint call has enabled to implement submission, evaluation and selection procedures, on a high quality level. This is really a great achievement considering the lack of experience of some participating countries at the beginning. Guidelines for implementing and following up joint calls were produced and published in order to capitalize on the common practices developed. ARIMNet intended to have an impact on national programmes through the exchange of good



practices in terms of governance; the development of common approaches and common standards; planning and funding of transnational activities.

As a result of preparation of joint calls for proposals, ARIMNet enhanced mutual trust and collaboration among national research funding agencies.

Launching and cofunding a joint call for research proposals has been one major achievement of ARIMNet. Through the funding of ten transnational Mediterranean research projects and through this ERANet cooperation, ARIMNet expects to have, in medium or long term, an impact on competitiveness of Mediterranean agriculture by fostering complementarities between national research programmes, ensuring a more comprehensive way to address key issues arisen by Mediterranean agriculture and by providing more accurate responses to the common challenges. ARIMNet project wish to have also had a strong impact on sustainability of Mediterranean agriculture by emphasising the linkage between competitiveness and sustainability that was a major criterion in the selection of coordinated programmes.

ARIMNet may have had also an impact on stakeholders and public awareness by developing a common understanding of strategic issues and a shared vision of Mediterranean agricultural research, its objectives and its priorities.

The dissemination actions held during the project aimed contributing to this widely shared vision.

4.2 Main dissemination activities and exploitation of results

The dissemination plan targeted four main groups: the Consortium itself, the other European countries and Mediterranean Partner Countries, the stakeholders at large, the population of the Mediterranean.

Within the consortium, the first and most obvious task was to keep all its members fully informed of the progress and results achieved mainly through the Steering Committee and the intranet of the ARIMNet web site which is important to ensure a smooth and timely working of the network. Looking at the different phases of the project more specified actions of the dissemination plan were organized.

The exchanges with other European countries and Mediterranean Partner Countries were mostly organized through the participation to European or Mediterranean meetings.

In addition to the more formal and institutional dissemination of the results of the activities of the ARIMNet project, a regular flow of information directed to the stakeholders was spread through the website, main public communication tool of the ARIMNet ERA-Net. A specific ARIMNet event focused on stakeholders group: the results of the WP1 and 2 were presented and discussed with them in a Conference of stakeholders (Oct 2010). It helped preparing the transnational joint call for proposals (WP4) by leading to a new step of common definition of agricultural Mediterranean challenges and priorities.

4.2.1 Logotype

A first version was prepared and published on March 2009. Then a vote was done between all participants to choose between three versions. The logo which received the high number of voices was adopted on July 2009. It was then used by all the participants in their ARIMNet letters and communication products.



4.2.2 ARIMNet websites and electronic tools

Concerning the internal communication, four email lists have been created by the coordination team in order to disseminate systematically targeted information and to help circulation of information among the members:

- arimnet@listes.inra.fr : full list of the participants
- arimnet-cfp@listes.inra.fr : list of the Country Focal Point
- arimnet-mcm@listes.inra.fr : list of the Management Committee members
- arimnet-scm@listes.inra.fr : list of the Steering Committee members

An **intranet website** has also been created by the Tunisian partner (IRESA), with the collaboration of the coordination team. The collaborative platform is an internet-based secured collaborative workspace where ARIMNet partners and decision-making bodies can share and exchange information. This platform was intended to foster collaboration between all partners at all levels: work packages, the Steering Committee, and the Management Committee. Its functions include coordination, administrative and financial information exchange and archiving. It mainly gave access to:

- > the project agenda, the details of last and next meetings (agenda, list of participants, minutes).
 - > the ARIMNet email lists, regularly updated
 - > tables remaining the list of deliverables and milestones, table remaining the planning of the project
 - > the database created under WP1, where each country focal point was able to fill in the questionnaire of WP1 on line and give access to the other actors of the agricultural research in the Mediterranean Area which were not part from the Consortium
 - > guidelines (technical and financial aspects) from the EC
- It had also the function to archive all the documents.

The Tunisian and French partners collaborated to update and give life to this communication tool.

Concerning the external communication, a website with open access has been created by the Tunisian partners (<http://www.arimnet.net/>). The public version was published on the 30th of March 2009.

This website publishes a presentation of the project, its objectives, its participants, work packages, etc... Visitors can also find the synthetic presentations of the different organisations of the agricultural research in each of these twelve countries. Links to other websites concerning Mediterranean cooperation have been also selected. The different publications of the project are available on the website.

This website was completed, filled in, throughout the duration of the project in order to reflect the state of progress of the project.

All the partners have also communicated on the project in their own country.

4.2.3 Meetings and events

Internal meetings

To ensure a fruitful support to the members of ARIMNet, coordinate the “technical” activities of the project, have a regular communication between members of ARIMNet, regular meetings were organized through the whole duration of the ARIMNet project.

Table 6. Meetings and events

Period	Title	Participants	Dates	Venues
1	Management Committee	MCM	04/11/2008	Montpellier (FRANCE)
1	Steering Committee	SCM	04/11/2008	Montpellier (FRANCE)
1	WP1 Task leader meeting/ Preparatory meeting	WP1 Task leader	16/12/2008	Rome (ITALY)
1	Methodological Workshop	CFP	03&04/02/2009	Rome (ITALY)
1	Management Committee	MCM	15/09/2009	Algiers (ALGERIA)
2	Steering Committee Meeting	SCM	29/10/2009	Rome (ITALY)
2	Conference Working Group. Discussion on venue and logistic first proposal (WP2)	Conference Working Group	23/11/2009	Valencia (SPAIN)
2	Conference Working Group. Discussion on Agenda, budget and logistics (WP2)	Conference Working Group	02/02/2010	Madrid (SPAIN)
2	Country Focal Point's Meeting (WP1)	CFP	24/02/2010	Rome (ITALY)
2	Conference Working Group plus University and Balearic Government representatives. Palma de Mallorca. Discussion on Conference venue in Mallorca, financing, stakeholders and logistics. (WP2)	Conference Working Group	11/05/2010	Palma, Balears (SPAIN)
2	Management Committee Meeting	MCM	24/09/2010	Paris (FRANCE)
3	Conference of Stakeholders	ARIMnet partners Stakeholders	28-29/10/2011	Palma, Balears (SPAIN)
3	Steering Committee	SCM	02/02/2011	Rome (ITALY)
3	Management Committee	MCM	03/02/2011	Rome (ITALY)
3	WP4 Workshop	Call Board Members SCM Scientific experts	12-13/04/2011	Athens (GREECE)
3	Call board Meeting	CBM	18/07/2011	Paris (FRANCE)
4	Management & Steering Committee	SCM & MCM	24-25/10/2011	Lisboa (PORTUGAL)
4	Evaluation Committee	ECM	05/10/2011	Paris (FRANCE)
4	Evaluation Committee	ECM	19-20/12/2011	Paris (FRANCE)
4	Call board Meeting	CBM	21/12/2011	Paris (FRANCE)
4	Call board, Management and Steering committee meetings	SCM & MCM, CBM	14-15/02/2012	Paris (FRANCE)
4	ARIMNet final conference	SCM & MCM, CBM, 10 selected projects	14-15/11/2012	Rome (ITALY)

		coordinators, invited experts		
4	ARIMNet final technical meeting	MCM and CBM: Implementation and Follow-up of research projects funded under ARIMNet 2011 Call	11/01/2013	Paris (FRANCE)

The agenda, list of participants and minutes of each of these events (except the working group of the conference) are accessible on line (intranet): <http://www.arimnet.net/>

The Coordination team has also participated to other meetings gathering ERA-Net projects to ensure mutual learning and coordination.

Other meetings have been organised inside each country to reach the objectives of the project, e.g. :

- WP1: internal meetings with the actors of the agricultural research in the Mediterranean area which are not part from the Consortium but which will be also invited to fill in the questionnaire of WP1
- WP3: Specific WP3 meetings (CIRAD-FCT-ARC)
- WP4: Working sessions on the management of the call, especially between members of the Call Office (INRA-FR and IAV HII-MA)
- Working sessions in each country for the purpose of the project gathering the different persons involved in the project (e.g. coordination team in France)



**Kick off meeting, Nov., 2008,
Montpellier, France**

External meetings

With European countries and Mediterranean Partner Countries that are not yet members of the ARIMNet project, decision makers and managers of agricultural research of those countries were kept regularly informed of the progress made. This was done through the participation of the Coordinator and/or ARIMNet participants in different European or Mediterranean meetings.

The coordinator has participated in several international meetings, throughout the whole duration of the project, to present the ARIMNet project and its outcomes (e.g. AARINENA General Meeting in Damascus) and in European meetings (e.g. KBBE meetings in Brussels, Mira Project Meeting in Bari).

It indirectly informed those countries of the potential interest for their countries to join the initiative.



Specific ARIMNet events with large audience

- At the end of WP1, the outcome was not only shared within the network but moreover be largely open to stakeholders of Mediterranean Agricultural research as an overview at the regional level of the research programmes run as national programmes in the conference of Stakeholders in Oct. 2010, that gathered about 80 persons from the different stakeholders groups. The output of this conference was a set of propositions for potential joint activities and transnational research and recommendations.
- A final ARIMNet meeting, held in Roma in November 2012, has gathered a large audience: coordinators of selected projects, ARIMNet partners and Call board members, invited experts, representative of the EC. It was the opportunity to present to this audience the results of the ARIMNet ERA Net and the 10 selected projects.

4.2.4 Other communication products

- The ARIMNet coordination team produced two leaflets: one leaflet on the Conference of stakeholders, disseminated it around Mediterranean stakeholders, another on the 10 selected projects, disseminated it around ARIMNet partners (2012),
- Different presentations have been produced in order to present ARIMNet in other meetings: eg. an ARIMNet poster was designed for the MIRA final conference (2013), an ARIMnet presentation was designed for the Mundiamediterra exhibition and synthesis were disseminated among the participants of the Conference of Stakeholders
- Two articles on the ARIMNet project were published, the first in “International Innovation, Disseminating science, research and technology” (Eurofocus 2011, Issue 5, p109-111) and a second in “International Innovation, Disseminating science, research and technology” (Dec. 2012, p9-13)
- The announcement of the call for proposal and its outcomes have been largely spread in the ARIMNet network and beyond (emailing, websites, ...)