



ACTING TOGETHER FOR THE MEDITERRANEAN

ANALYSIS AND PERSPECTIVES
OF CROSS-BORDER COOPERATION



Programme
funded by the
EUROPEAN UNION



**ENPI
CBCMED**
CROSS-BORDER COOPERATION
IN THE MEDITERRANEAN



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DE SARDIGNA
REGIONE AUTONOMA
DELLA SARDEGNA

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ANALYSIS OF GOOD PRACTICES AND OPPORTUNITIES FOR FOLLOW-UP ACTIONS

This section provides detailed information on projects outcomes which may still be supported at regional level by re-launching tailored activities in countries already involved and/or by involving other countries where activities were not implemented.

They are reported considering all thematic objectives of the 2014-2020 ENI CBC Med Programme and concern also projects having faced some problems and delays during their implementation.

This approach is meant to open up a concrete, wide and long-lasting range of opportunities for potential synergies and complementarities for future actions taking advantage of valuable results as well as a set of lessons learnt on key selected topics/areas of intervention to be further exploited within the 2014-2020 programming period.

BUSINESS AND SMEs DEVELOPMENT

KEY CHALLENGES

- Heterogeneous business supporting policies, fiscal legislation, standards and trade regulations.
- In Mediterranean Partner Countries (MPCs), large employers (public and private) have tended to dominate product markets and enjoy privileged access to banking systems.
- Uneven presence of innovative SMEs across the countries of the Mediterranean.
- MSMEs losing ground in terms of competitiveness and leading to a predominance of necessity-driven, "survivalist enterprises".
- Unbalanced level of "culture of entrepreneurship" among countries of the area.
- Skill mismatches between qualification and labour market requirements.

One of the biggest challenges in the Programme area is to create opportunities and jobs to reduce the high rates of unemployment, especially among youth, and absorb the huge number of new entrants into the labour market, especially in the MPCs. Responding adequately to the job challenge is even more pressing in this phase of political and economic transformation.

Micro, Small and Medium Enterprises (MSMEs) are key drivers of development, as they can generate jobs and stimulate innovation processes (both technological innovation and innovation in operations and management). Despite the differences in their definition, MSMEs constitute a significant economic and employment driver, representing more than 50% of total workforce and over 90% of overall enterprises in the region, and accounting for a significant portion of export and GDP.

Among the most important factors leading to innovation and entrepreneurial performance are education and training. Several studies have found a positive correlation between these two factors. Even if the educational gap between the two shores of the Mediterranean is gradually narrowing, skill shortages are still a major constraint.

Additional options to strengthen the positive outcomes of some ENPI CBC Med projects having as target groups MSMEs have been found for the following projects: **MedDiet**, **Tex-MED Clusters**, **SUSTEXNET** and **EDILE**.

MedDiet: Mediterranean Diet and enhancement of traditional foodstuff

<http://www.med-diet.eu/>

COUNTRIES ALREADY INVOLVED

EGYPT, GREECE, ITALY, LEBANON, SPAIN, TUNISIA

SELECTED RESULTS ACHIEVED

- The launching of the MedDiet quality label for restaurants and the training of owners and staff resulted in 270 SMEs across the Mediterranean offering a real Mediterranean diet menu and committed to promote the Mediterranean diet.
- Many restaurants, all over the world, are asking for the MedDiet trademark (i.e. Barilla for its restaurants).
- Further to the training of teachers and school directors and the pilot initiatives within the project, many schools have developed their own actions on the Mediterranean Diet, including taste laboratories, visits to farms and factories, and development of school gardens.

LESSONS LEARNT

Access to finance, particularly for micro and small firms, is difficult. In MPCs, higher collateral requirements, higher costs of capital in general, as well as high rejection rates hamper access to credit and, indeed, only about 20% of the region's MSMEs have access to financing. As reported in the final MedDiet report, the mission of the partnership is "to promote the dissemination of the Mediterranean diet throughout the world, based on the true values contained in the System of MedDiet Knowledge and bearing the registered trademark MedDiet®". This option may lead to valuable opportunities for MSMEs if they have adequate financing along each stage of their life cycle, including marketing, labelling and market access. The trademark MedDiet® may pave the way for a wide range of commercial activities.

HIGHLIGHTS FOR DECISION-MAKERS

The partnership is currently defining the best organisation model (association, foundation, network, etc.) for implementing the potential additional activities as listed below:

- Nutrition educational programmes on the Mediterranean diet addressed to teachers of primary and secondary schools.
- Release of the MedDiet® accreditation to trainers and training agencies.
- Production of educational material on Mediterranean diet.
- Issuing of the MedDiet® certification to restaurants.
- MedDiet® training for restaurant owners and restaurant staff.
- As already done during the implementation of MedDiet in Lebanon and Spain where some schools decided to modify the menu of their canteens by including healthier local products. This practice could be further promoted, based on the experience of schools involved in the MedDiet project.
- Since food and cooking, especially when it comes to traditional products, are often linked to women, the project follow-up should focus on women.
- From an environmental point of view, the increase in the consumption of local foodstuff helps reinforcing environmental sustainability.

Tex-MED Clusters: Innovative cross-border approaches for Textile and Clothing Clusters co-development in the Mediterranean basin

www.texmedclusters.eu

SUSTEXNET: Sustainable textile Mediterranean network

<http://www.enpicbcmmed.eu/sites/default/files/sustexnet.pdf>

COUNTRIES ALREADY INVOLVED

EGYPT, GREECE, JORDAN, ITALY, LEBANON, PALESTINE, SPAIN, TUNISIA

SELECTED RESULTS ACHIEVED

- Detailed territorial and cluster based studies, analysis and trainings combined with B2B in Monastir, Athens, Dead Sea, Prato. Innovation days, guided visits to the international fairs. Market analysis for the EuroMed Raw Material Virtual Platform (Tex-MED Clusters).
- 8 clusters and 4 permanent agreements to ensure the exploitation of results and sustainability of successful initiatives after the project's conclusion on: Mediterranean desks, innovation days, leftovers/stocks management and EU programmes for innovation (Tex-MED Clusters).
- 64 diagnoses (16 per country); 25 best practices collected and 16 proposals of improvements delivered to textile companies (SUSTEXNET).

LESSONS LEARNT

Despite of the increasingly fierce global competition, textile continues to be an important industrial sector, with an annual turnover of more than €210 billion and total workforce of 2.3 million. The Mediterranean textile industry has a longstanding tradition of leadership in terms of innovation, fashion, design and creativity. In 24 months, Tex-MED Clusters organised 48 business initiatives and 350 B2B meetings leading to 180 Memoranda of Understanding signed among SMEs. In total, over 1,700 people participated in project events/conferences. Among other results, some valuable achievements highlighting the added value of cross-border cooperation in the textile sector are: 4 Spanish companies have now direct access to the US market via a cooperation with Jordan SMEs; in the framework of the cooperation between Tunisian and Italian companies, a new machine has been designed to better use the recycled cotton yarn from denim.

HIGHLIGHTS FOR DECISION-MAKERS

- A cluster-based approach leads to supporting local brands in setting up their own collections and becoming producers/retailers (instead of subcontractors). Based on the experience of Tex-MED Clusters, new markets might be addressed by selecting additional MSMEs during B2B events.
- Innovation processes are becoming increasingly open to different stakeholders able to access high quality trainings and researches. The EuroMed Raw Material Virtual Platform developed by Tex-MED Clusters (i.e. feasibility study) might be a concrete reference for developing new joint projects targeting MSMEs with training and research activities.

EDILE: Economic Development through Inclusive and Local Empowerment

<http://www.edile-initiative.org/en>

COUNTRIES ALREADY INVOLVED

FRANCE, ITALY, LEBANON, PALESTINE, SPAIN, TUNISIA

SELECTED RESULTS ACHIEVED

- Methodological guide to support the organisations responsible for the regulation and implementation of investment projects so that they can generate a positive local impact, particularly in terms of employment, subcontracting and preservation of the environment.
- People trained were 288 (+68% in comparison with the target set) and the total number of people involved in EDILE events was 1,462 (more than three times the target set, mainly thanks to the additional dissemination activities organised in Marseille and in Morocco).

LESSONS LEARNT

Public authorities are crucial actors in investment regulation, but they often lack necessary expertise. As a consequence, sound procedures and effective tools for investment projects evaluation are hardly developed. EDILE was able to create a common rating methodology that is now available for free to all private and public stakeholders to assess investment projects that can be now certified (EDILE label) to testify their impact on local economies and social inclusiveness. Initially conceived as a capacity-building operation for Lebanon, Tunisia and Palestine to support public organisations in investment projects evaluation, during the project lifetime, EDILE moved to a broader concept where private donors were actively involved. Nowadays, as reported by the beneficiary (ANIMA), positive results on the longer run rely on political and institutional factors: the development of an evaluation culture will not occur unless it is included in the political agenda at highest level and the effective launch of the EDILE label will depend on the quality of the public private dialogue at national level.

HIGHLIGHTS FOR DECISION-MAKERS

- Quality jobs are those expected to benefit local population, take advantage of partnership, co-contracting and subcontracting opportunities with local companies, encourage the development of complementary activities such as recycling, strengthen the industrial fabric and integrate the regional chain value to the maximum. This clear approach to local development was deeply analyzed by EDILE and resulted in a comprehensive methodology to assess investment projects now available for all interested organisations in the Mediterranean.
- Supporting the EDILE Label (endorsed by the Union for the Mediterranean and acknowledged as a best practice by the United Nations Environment Programme - UNEP) may be an opportunity to promote and bring together a community of businesses actors investing for local impact throughout the Euro-Mediterranean region. This label is an effective way to foster public-private dialogue aiming at improving governance processes regarding investment regulations.

SUPPORT TO EDUCATION, RESEARCH, TECHNOLOGICAL DEVELOPMENT AND INNOVATION

KEY CHALLENGES

- Expenditure on research and development in terms of GDP percentage is generally low, both in Southern and Northern Mediterranean countries.
- There is an uneven level of innovation culture across the Programme countries.
- Number of researchers is still low in MPCs.
- Scientific publications are produced by a small number of universities in MPCs.
- Skilled workforce for upgrading the industrial sector is limited.
- Around 90% of spending on research and development comes from the public sector in the MPCs, against around one third in European countries. In the MPCs, the private sector is scarcely involved in funding research centres and technological parks.
- The financing system for innovative activities (venture capital) needs to be developed in the Mediterranean area.

Economies grow as a result of companies' expansion or new investments that occur through the adoption of new technologies (process upgrading) or the introduction of new products in the markets (product upgrading). The concept of innovation that we refer to herewith is, therefore, a broader one that goes beyond theoretical/fundamental research and scientific publications to encompass social innovations and business model innovations as well. As the Oslo Manual, jointly developed by the EU and the OECD, states, *"an innovation is the implementation of a new or significantly improved product (good or service), a new process, a new marketing method, or a new organizational method in business practices, workplace organization, or external relations, available to markets, governments and society."*

Innovation is also among the priorities of the European Neighbourhood Policy (ENP) and research is one of the focus areas of the Union for the Mediterranean. Association Agreements between the EU and its Mediterranean Partner Countries attribute a significant role to research and development and the EU has concluded with a number of MPCs ad hoc Science and Technology cooperation agreements to strengthen the bilateral policy dialogues and promote cooperation in science and technology.

The recently launched Partnership for Research and Innovation in the Mediterranean Area (PRI-MA) is an additional proof of the importance of innovation and research topics in the cooperation between the EU and Mediterranean Partners Countries.

Opportunities to strengthen the positive outcomes of the ENPI CBC MED projects focusing on education, research, technological development and innovation have been found for **Bio-Xplore** and **NETKITE**.

Bio-Xplore: Novel methodology for the Identification of Valuable Natural Products Derived from Mediterranean Flora

<http://www.bio-xplore.org/>

COUNTRIES ALREADY INVOLVED

GREECE, ISRAEL, PALESTINE, SPAIN

SELECTED RESULTS ACHIEVED

- Training programmes and workshops allowed scientists and students to be trained in the methodologies and techniques for bio exploration. These students are continuing to carry out post graduate research in this sector.
- The student exchange programme led to further collaboration which is continuing beyond the project lifetime. To secure additional funding for this research, three joint grant proposals were submitted. One proposal has already been accepted for funding.
- The Bio-Xplore database represents a huge opportunity to develop new natural pharmaceutical and cosmetic products in bio-exploration centres, which proved successful and economically feasible.

LESSONS LEARNT

The joint set-up of research and innovation programmes combining transfer of knowledge, capacity-building, training of staff and students can lead to successful discoveries of valuable endemic flora, able to raise awareness of citizens, researchers, students, and stakeholders regarding the value of local resources.

As economic growth can be stimulated by more knowledge-intensive industries and higher technology exports, based on the technology developed by the Global Institute for Bio-Exploration (GIBEX - <http://www.gibex.org/>), the Bio-Xplore project can further enlarge the Mediterranean Hub of GIBEX (GIBEX-MED). GIBEX has been endorsed by the World Health Organization as a unique model for scientific collaborations and cross-border partnerships and its experience and network of partners can support the Bio-Xplore endeavour in the future. If mobility issues are duly considered and qualified mobility exchanges reinforced, this sector may offer concrete potential for biotechnology business opportunities in all Mediterranean countries.

HIGHLIGHTS FOR DECISION-MAKERS

- The discovery of a number of unknown biomaterials in the many plants studied may have a long-term impact on the development of new products for the pharmaceutical and cosmetic industry. It is reported that many plants with anti-microbial activities were identified and that this will stimulate stakeholders and allow for the development of new products. The project database is very extensive with a large number of leads that can be followed up.
- Bio-Xplore still has potential for supporting innovation as major driver for competitiveness and productivity gains. Identifying commercially valuable compounds in nature can in turn stimulate long-run endogenous economic growth. However, a skilled workforce is essential to boost the competitiveness of this industry either through innovation in operation processes and/or products. Innovation continuously requires learning new techniques and developing new skills.

NETKITE: Cross-border NETWORK to foster Knowledge intensive business Incubation and TEchnology transfer.

<http://www.netkite.eu/>

COUNTRIES ALREADY INVOLVED

ITALY, FRANCE, CYPRUS, JORDAN, PALESTINE, TUNISIA, EGYPT

SELECTED RESULTS ACHIEVED

- The NETKITE project has fostered an innovative web-community for the development of startups based on transfer of research and technological results achieved in the academic system. It proved the existence of high-quality educational institutions and well acknowledged research centres in the Mediterranean Partner Countries, which stand out for their scientific production and innovation capacity.
- The NETKITE Open Innovation Platform is a tool that can be used by any organisations: it is as an open service working in different countries where the network of research labs is included together with successful entrepreneurial stories. It needs to be promoted towards already existing (national and/or regional) networks in order to increase the number of users.

LESSONS LEARNT

Access to venture capital is still very low in the Mediterranean. Firms, in particular micro, small and medium-sized enterprises (MSMEs), face great difficulties in tapping external sources of funding to support their innovation investments. Further efforts are needed to develop the systemic dimension of innovation, improving the linkages between the various innovation players, notably the science system and higher education, the government, the private sector, and the not-for-profit sector. Despite the heterogeneous situation of each country in the Mediterranean, a knowledge-based development is expected to be built around innovations and technologies suitable to the Mediterranean context and compatible with strengths and vocations of its territories. Furthermore, mobility schemes should be reinforced.

NETKITE promoted open innovation to create spin-off companies for the local economy and new pathways for introducing and managing innovation into mature productive sectors, creating new professional positions.

HIGHLIGHTS FOR DECISION-MAKERS

- As stated in the new 2014-2020 JOP, *"It is understood that the Programme can already rely upon well-educated labour forces and a tradition of scientific research that represents a potential competitive advantage upon which the area should build."* The open innovation platform created by NETKITE has not to be duplicated. Instead, it should be more intensively used to allow new startups create their cross-border network. This network will facilitate the creation and consolidation of micro and small creative enterprises, assisting their start-up phase and supporting, locally and transnationally, the consolidation of new businesses.
- A valuable option for regional follow-up, can be the combination of the NETKITE platform with initiatives involving mobility programmes that exist and can be better promoted through embassies, relevant national authorities, civil society organisations, universities and schools. In particular, all the initiatives that promote Euro-Mediterranean exchange schemes with a special focus on vocational training should be considered (see EuroMed+ *"Euro-Mediterranean exchanges in the vocational education training field"*: <http://www.euromed.fr>).

PROMOTION OF SOCIAL INCLUSION AND FIGHT AGAINST POVERTY

KEY CHALLENGES

- There is a growing portion of population at risk of poverty in the Programme area.
- Unemployment rate is rising steadily, especially among youth.
- Market rigidities, skill mismatches are among the main drivers of youth unemployment.
- Access to services is limited, especially in rural areas.
- A rising portion of young people is entering the NEETs (young people Not in Employment, Education and Training) category.
- European systems of welfare are in crisis, exacerbated by the economic situation.
- In the MPCs, 'income support' measures are often used and implemented through food and fuel subsidies, rather than social protection schemes.

The concept of social exclusion is the effect of a range of difficulties that act as barriers to life opportunities and happens when someone is left out of mainstream society, deprived from fully participating in society. The conditions that prevent people from fully participating in society may include economic poverty, poor health, disabilities, poor education or skills and discriminatory or inequitable treatment. As Sen (2000) and Silver (2007) defined it, social exclusion is *"a multi-dimensional process of progressive social rupture, detaching groups and individuals from social relations and institutions and preventing them from full participation in the normal, normatively prescribed activities of the society in which they live"*.

Women are often more disadvantaged with limited access to education, healthcare and considerable restrictions on their personal mobility. Poverty is concentrated among vulnerable groups which are the last ones to benefit from growth (illiterate, rural dwellers, large families with many dependants) and, therefore poverty is impacted only by rapid economic growth (World Bank estimations). The World Bank notes that the Mediterranean area is experiencing a steady increase in inequality - with serious implications for poverty reduction - which *"is mainly due to asymmetry of poverty changes, with respect to positive and negative growth in that recessions have a larger effect on poverty than economic booms. This is explained by changes in distribution detrimental to the poor during the recessions. Inequality continues to increase even after periods of turmoil – due to unequal distribution of gains from growth."*

Additional options to strengthen some positive outcomes of the ENPI CBC MED projects focusing on social inclusion and poverty alleviation have been found for the following projects: **EGREJOB** and **SIDIG-MED**.

EGREJOB: Euro-Mediterranean GREen JOBs

<http://www.egrejob.eu/>

COUNTRIES ALREADY INVOLVED

ITALY, LEBANON, SPAIN, TUNISIA

SELECTED RESULTS ACHIEVED

- The most comprehensive result reached by EGREJOB is the signature of the Green Job Chart. 26 organisations have already signed the Chart, which is now open to any organization willing to join. Being the first declaration of intents conceived and formalized at Euro-Mediterranean level on Green Jobs, the Charter has an unquestionable institutional relevance and it represents a fundamental step towards project's sustainability.
- 150 "green collars" were trained as regards the skills needed in the green economy sector. More than 100 local meetings involving thousands of participants acted as multipliers.
- The report on "Skills for a green economy in Euro-Mediterranean countries fostering inclusive and decent green jobs" dated from June 2016, drafted by the International Training Centre of the International Labour Organization (ITC-ILO), provides relevant information and in-depth surveys on the green economy potential conducted in the EGREJOB participating regions. This quality report could be used beyond the project.
- Seven territorial analysis coordinated by the International Training Centre of the ILO were issued to better understand the potential of job creation related to the green economy.

LESSONS LEARNT

According to the International Labour Organization (ILO), evidence of past crises indicates that, even after economic growth returns, employment only recovers to pre-crisis levels with a lag of four to five years. When jobs are not available, demand for social protection increases significantly and prolonged employment crises carry major risks for social and political stability. "Green jobs" can be a decisive contribution to job creation, especially for young people. The crises and political uncertainty hit them more than any other age group. In fact, young people have the highest at risk-of-poverty rate and, particularly vulnerable among youth, are the so-called NEETS, young people who are 'Not in Employment, Education and Training'.

Among other priorities, a special attention should be paid by public institutions to developing effective and targeted education and skills policies to support employability for existing labour market conditions as well as jobs for the future, including green jobs and new technology services. Capacity-building actions are key to provide stakeholders with new opportunities to understand green jobs concepts, approaches, existing tools and best practices.

HIGHLIGHTS FOR DECISION-MAKERS

- Generating job opportunities for the younger is of uttermost importance, and it can be achieved by expanding aid to youth entrepreneurship but also by supporting social and solidarity economy (e.g. child and elder care are important labour-intensive sectors that could absorb young workers, etc.). Moreover, the green economy can provide a wide range of opportunities. The United Nations Environment Programme (UNEP) and other partners launched the Green Economy initiative to communicate a global plan for a green industrial revolution supported

by strong empirical evidence of the potential for income generation, decent work and poverty reduction.

- EGREJOB main aim was to create dedicated training paths for young people in green jobs and complete a skill certification scheme at Euro-Mediterranean level. Over 100 young people were trained in relevant areas considering market needs related to green jobs. As for the trainings, the project was a success. However, the partnership did not manage to create a Euro-Mediterranean certification for these trainings. It was probably too ambitious but can still represent a valuable opportunity for the future.

- A dedicated web portal could promote the potential of green jobs in the sectors addressed by the EGREJOB project: ecosystems and environmental infrastructures; clean and efficient technologies; renewable energy; biodiversity products and services; chemical waste management and mitigation technologies; “green cities” – ecologically friendly buildings, construction and transport systems.

SIDIG-MED: Social and Intercultural Dialogue through Governance for Local development: Mediterranean Urban and Peri-urban Agriculture

COUNTRIES ALREADY INVOLVED

JORDAN, ITALY, SPAIN, TUNISIA

SELECTED RESULTS ACHIEVED

- New concepts on urban gardening were introduced targeting people at risk of social exclusion. Local communities learned new methods to produce food without chemicals, using natural extract and biological methods to control insects. The project introduced new skills for women like milk processing, wool making, planting home garden, solar drying, composting unit and many other techniques for sustainable production. Terraces building, rainfall harvesting practices, soil bed preparation, intercropping and mud building are also part of the new skills acquired.

- Thousands of citizens (through associations, local committees, schools, and single citizens) were involved in the participatory process to define the governance model of urban agriculture. As a result, 4 committees were established for each city district (i.e. Roma, Barcelona, Tal Al-Rumman, Mahdia) where the pilot actions were implemented, in order to follow and monitor all activities.

LESSONS LEARNT

The combination of urban and agriculture development can pave the way for social inclusion provided that there is a strong co operation between local administrations, exchanging experiences and best practices and finding new solutions to common challenges. This is where the Programme can make a difference. Indeed, institutions, policies and norms are important factors that can influence the state of social exclusion risk, represented by people belonging to certain categories (being unemployed, being uneducated, being disabled, etc.). A strong link with local and national initiatives shall be granted to maximize impact and sustainability of establish actions. SIDIG-MED managed to establish effective synergies with other EU-funded projects with similar objectives, such as Gardenizser and Transmango, through events coordinated with concerned organisations and institutions (i.e., in the specific case of Italy, ISPRA and Coldiretti). These results may contribute to the sustainability of the project after its end and fuel

the future actions. Additional obstacles are the limited knowledge of farming by the beneficiaries which are often unemployed persons previously working in sectors such as metallurgy and construction. A special attention shall be paid to the demand for secure tenancy of the land by the farmers and the possible lack of structured farmers' markets.

HIGHLIGHTS FOR DECISION-MAKERS

- According to FAO, a paradigm shift in both urban and agriculture development, planning and policy formulation is required to ensure access to urban food security, improved environmental management and enhanced rural-urban linkages. Although recognized as a major lever of eco-innovation for metropolis' sustainability and competitiveness, metropolitan and peri-urban agriculture still suffers from a mainstreaming gap, remaining overlooked by policy-makers, academic research and the public. As a result, the environmental price of food is a major burden for cities. Projects like SIDIG-MED can decisively improve the overall situation.
- Replicating projects like SIDIG-MED not only contributes to food security, but it can also guarantee an income for marginalized citizens by regenerating urban areas for productive and sustainable use. It may foster self-esteem and social integration of specific marginalized groups. Better visibility should be given at Mediterranean level to these practices.

ENVIRONMENTAL PROTECTION, CLIMATE CHANGE ADAPTATION AND MITIGATION

WATER MANAGEMENT

KEY CHALLENGES

- Many local authorities in the Mediterranean have weak planning, managerial and operational capacities with respect to water management.
- Weak multi-level governance and law enforcement still affect the effectiveness of water policies.
- Over 20 million inhabitants still have no access to adequate water services.
- The final draft of the Strategy for Water in the Mediterranean has not yet been approved, due to political reasons.

Water availability in the Mediterranean basin is limited – mainly dependent on runoff from mountain areas – and, therefore, the region is one of the most vulnerable to the “water crisis”. Resources are unevenly distributed across countries: nearly two-thirds (1.2% of the world’s renewable water resources, i.e. approximately 550km³ per year) are concentrated in the Northern rim countries, while most countries on the Southern and Eastern shores of the Mediterranean are in “water stress”⁸, with less than 1,000 m³/capita/year. Some of these countries (Malta, Jordan, Palestine, Israel, Tunisia and Algeria, with a total population of around 80 million people) are in ‘structural shortage’ with less than 500 m³/capita/year. Another challenge for the sector is represented by the lack of efficient water management systems. Setting proper fiscal and pricing systems and encourage investment in water-demand management could help improving overall efficiency. In this respect, cooperation among cities of the Programme area to find managerial solutions or exchange experiences on technical aspects would benefit the whole Mediterranean area⁹. Nevertheless, as the Union for the Mediterranean (UfM) is already working in this direction and city-to-city cooperation is among its main lines of action, it is important to coordinate with UfM to understand their actual and future interventions in this specific field.

Additional options to strengthen the positive outcomes of the ENPI CBC MED projects have been found for **AQUAKNIGHT**.

⁸The Falkenmark water stress indicator is based on the calculation of water resources per capita per year, in Water Demand Management: The Mediterranean Experience, TECHNICAL FOCUS PAPER 1, Blue Plan and Global Water Partnership, 2012.

⁹It is important to recall that the trend in both Southern and Northern Mediterranean countries is that water supply and sanitation is managed closer to its delivery locations. The central government generally has a predominant role in resource management while local authorities have gradually gained some control over services management (water and sanitation).

AQUAKNIGHT: AQUA KNOWLEDGE and Innovation transfer for water saving in the Mediterranean basin

<http://www.gisig.eu/aquaknight/best-practices/>

COUNTRIES ALREADY INVOLVED

CYPRUS, EGYPT, GREECE, JORDAN, ITALY, TUNISIA

SELECTED RESULTS ACHIEVED

- Water losses recovered are: Limassol: 49%, District Metered Area (DMA) with 106 users covered; Genoa: 75%, DMA with 85 users covered; Aqaba: 76%, DMA with 325 users covered; Alexandria: no leaks found, DMA with 6,720 users covered; Tunis 4%, DMA with 6,830 users covered.
- 10 training courses implemented (88 persons trained) and 2 exchange visits for water operators organized in Italy and Cyprus to showcase the best available technologies and methodologies for non-revenue water management.
- Manual of best practices for reducing commercial losses. The manual contains relevant information to support water utilities in the management of their water system, by providing a summary of good practices for evaluation and reduction of apparent/commercial losses.

LESSONS LEARNT

Both FAO and Plan Bleu stress that improving irrigation efficiency is key to effective water-demand management, since the main quantitative opportunity for savings concerns the agricultural sector. Some progress has already been achieved in almost all countries of the Programme area with respect to overall water-use efficiency (domestic and irrigation), but many challenges remain.

AQUAKNIGHT fostered the active involvement of water operators that intend to sustain its results in the long run and build on the experience to reduce Non-Revenue Water and implement Water Demand Management. Additionally, the participation of national bodies such as SONEDE (Tunisia) helped to increase project visibility. Also, technology providers can strive to sustain the project results since it offers opportunities for expanding collaboration actors of the Mediterranean area.

HIGHLIGHTS FOR DECISION-MAKERS

- AQUAKNIGHT has identified the sustainability parameters as regards market, financial, management and innovation. Moreover, short and long-term sustainability goals as well as recommendations for the future are also available.
- International financing institutions such as the European Investment Bank, the World Bank, the EC, the African Development Bank, etc. were informed about the project and synergies with other relevant initiatives are expected. The institutional sustainability of AQUAKNIGHT should be secured through the participation in the project of national institutions as associates. Replicating the training courses implemented can strengthen this component.
- The project dissemination focused on informing national bodies so that they can promote future activities. In some areas like Tunis, the water management network requires significant improvement. Overall, Tunisia is water short, and supplies are highly variable from year to year due to low precipitations in recent years. Along with training courses for public officers in water management, additional resources should be committed to identify specific interventions

needed to recover water losses.

WASTE MANAGEMENT

KEY CHALLENGES

- Implementing effective waste management is more challenging in areas where institutional capacities are weak.
- Uneven level of development between the Northern and Southern shores of the Mediterranean in terms of applied technologies, infrastructure and management systems.
- Municipal waste generation in the MPCs is still increasing.
- Waste products are not sufficiently valorised as economic resources both by the public and businesses to the extent that they could and should be.
- Intentional oil pollution (caused by ships) occurs in the Mediterranean.

Municipal solid waste generation in Europe has experienced a constant increase from 1995 to 2002, and has then slowed down (with economic growth rate much higher than that of municipal waste generation, the latter registering an average increase of 0.2 %) and stabilised at about 520 kg/capita/year after 2002 and further reducing at 500 kg/capita/year (corresponding to 1.36 kg/capita/day) in 2011. EU Mediterranean Countries have room to further reduce waste generation to align with EU countries average (500 kg/capita/year); this particularly refers to countries such as Malta, Cyprus, Italy, and Spain. In Mediterranean Partner Countries, estimates indicate a significant increase in municipal waste generation rate from 1998 to 2010. However, statistics and data on quantities of solid waste in most Arab countries are not available. Moreover, different laws and regulations do not allow for a comprehensive analysis.

With the exception of Malta, Cyprus and Greece, which still rely on landfills, EUMCs handle municipal waste with a quite varied mix of technologies. Anyhow, EUMCs still have to reduce the use of landfill with respect to other European countries. MPCs need to significantly improve their performance in the management of waste, as they suffer from low collection coverage and unsound disposal. The need of consistency in quality and quantity of the different waste management options suggest that integrated waste management systems should be organised on large scale, such as regional basis. It is well accepted that the optimal size where to implement an integrated waste management system scheme should be an area containing no less than 500,000 inhabitants. In many cases, this does not correspond to the scale on which waste management is administrated (small islands, for instance). The main limiting factor resides in the difficulty in achieving efficient cooperation among different local authorities.

Additional options to strengthen the positive outcomes of the projects funded in this sector have been found for the **GMI** project.

GMI: The Green MED Initiative

<http://gmiproject.eu/>

COUNTRIES ALREADY INVOLVED

EGYPT, FRANCE, ITALY, LEBANON, SPAIN, TUNISIA

SELECTED RESULTS ACHIEVED

- More than one million empties were returned, resulting in more than 27 tons of empties collected and recycled. A reduction of 164 tons in CO2 emissions was achieved.
- 162 Reverse Vending Machines (RVMs) installed for recycling plastic empties and 33 Memoranda of Understanding were signed among public and private entities.
- 63 schools and 5 universities were actively involved in the project, with more than 100,000 students participating in the recycling activities.

LESSONS LEARNT

With respect to waste other than municipal (e.g. industrial and agricultural; mining and quarrying; healthcare, etc.), public institutional actors are mainly involved in the definition of waste management standards, as well as related enforcement, monitoring and inspection activities. Their actions as regards municipal waste shall be further supported with innovative initiatives able to involve key stakeholders and commit them as much as possible.

The “Green Med Initiative” has been widely recognized as a valuable option to support recycling in the Mediterranean. The RVMs offer a modern and automated deposit system for collecting, sorting, and handling the return of used beverage containers for recycling or reuse. However, it remains a challenge to prove that the efforts carried out so far can lead to a greater institutional participation and an effective use of the RVMs in the future. In fact, out of the 162 RVMs installed and despite all agreements signed, only 27 are currently working.

A re-launched institutional commitment shall guarantee a proper support to the network created, especially in Lebanon and Egypt.

HIGHLIGHTS FOR DECISION-MAKERS

- GMI succeeded in implementing an innovative Mediterranean-wide practice for recycling, supported by awareness and incentive based campaigns and by involving the public & private sectors in the implementation and collection. Moreover, educational institutions fully ensured their commitment by involving students and staff. New awareness campaigns should be launched using the available materials and reaching out new schools.
- 162 RVMs are available in 5 Mediterranean countries, but only 27 are currently operational. New public initiatives are expected shortly in Egypt. The ownership of both educational programmes and RVMs management was transferred to the schools, and the schools are now supposed to take the lead - in partnership with competent authorities - towards subcontracting for recycling, and reward program. This process is proving to be very challenging.

SOLAR ENERGY

KEY CHALLENGES

- Renewable energies (REs) account for a limited share of the region's primary energy supply.
- Solar electricity in most markets is not yet able to compete without specific incentives.
- The development of interconnected grids remains a big challenge.
- There is poor knowledge of renewable energy sources and their potential by the private sector and the general public, especially in the MPCs.
- The average energy consumption of the building sector has increased by around 1% per year since 1990.
- Few countries so far have elaborated comprehensive policy frameworks for encouraging the development of renewable energy.

A development and growth model based exclusively on fossil fuels is considered unsustainable: as a matter of fact, non-renewable stocks, scarcity risks and volatile prices, combined with impacts on climate through greenhouse gas (GHG) emissions, are pushing governments to move away from fossil fuels.

GHG emissions due to CO₂ connected with energy use are over 70% in the Mediterranean (accounting for around 7% of the world's total CO₂ emissions). If today energy demand is higher in the EUMCs (more than two-thirds), the trend is going to reverse in 2030 driven by population growth, combined with a rapid urbanization rate and important socio-economic development needs in the MPCs.

The countries across the Mediterranean region have different legal and regulatory frameworks relating to renewable energy. The EUMCs are committed to quite stringent policy objectives through the European Union: the 2009 Directive on renewable energy has set targets for all Member States, such that the EU will reach a 20% share of energy from renewable sources by 2020 and a 10% share of renewable energy specifically in the transport sector.

At Euro-Mediterranean level, the Union for the Mediterranean has launched a Solar Plan in 2008, which has two complementary targets: developing 20 GW of new renewable energy production capacities, and achieving significant energy savings around the Mediterranean by 2020, thus addressing both supply and demand. Several South Mediterranean countries have defined their own renewable energy plans with a view to achieving energy diversification. Algeria, Israel and Tunisia issued legislation and created agencies focused on energy efficiency as early as in the mid-80s. However, failures to implement financial incentives for renewable energies and disproportionately high subsidies to fossil fuels have so far been the main obstacles to create an internal market for renewable energies in MPCs. Some promising results able to support additional positive changes in this sector have been found for the **MED-DESIRE** project.

MED-DESIRE: MEDiterranean DEvelopment of Support schemes for solar Initiatives and Renewable Energies

www.med-desire.eu

COUNTRIES ALREADY INVOLVED

EGYPT, ITALY, LEBANON, SPAIN, TUNISIA

SELECTED RESULTS ACHIEVED

- Funding mechanisms dedicated to medium-size photovoltaic installations in Tunisia, to solar water heaters in the domestic sector in Egypt and to a technology-neutral incentive in Lebanon.
- 3 solar ordinances were designed for municipalities in Tunisia (Hammam-Sousse), Lebanon (Tyre) and Egypt (through the New Urban Communities Authority - NUCA).
- Training activities to ensure the quality of components and installations according to certifications and standard rules reached 300 participants.
- Studies on "Distributed Renewable Energy Generation and Energy Efficiency in Mediterranean Countries: Opportunities and Barriers", "Guidelines to improve public-private partnerships in innovative solar energy and energy efficiency", "RES and EE Sustainable trends and scenarios: key elements to stimulate market development and effective investment strategies in Mediterranean Countries".

LESSONS LEARNT

Solar energy, i.e. solar photovoltaic (PV), concentrating solar power (CSP) and solar heating, is exhibiting the fastest growth of any energy technology in the last ten years, although from a very low basis. Due to a drop in costs, it is expected to reach competitiveness on a large scale in less than ten years, but today solar electricity in most markets is not yet able to compete without specific incentives.

The buildings sector represents approximately one third of total energy consumption in MPCs and 40% of the European Union's total energy consumption. In this respect, Europe has issued an ad hoc Directive on the Energy Performance of Buildings and MPCs have recently adopted regulations in this area (Algeria, Egypt, Turkey, Tunisia, Jordan, Palestine, Syria and Lebanon), to set parameters for energy efficiency in new buildings and have launched pilot projects.

HIGHLIGHTS FOR DECISION-MAKERS

- The cross-border cooperation within the project has been very intense with regard to the joint elaboration of new financial support mechanisms and proposals for solar ordinances, as well as to the transfer of know-how and the development of new skills in the field of solar components and quality systems to comply with common standards. Ordinances adopted in pilot municipalities need to be monitored in the long run to collect data on their impact.
- The project created better conditions for the diffusion of distributed solar energy technologies and energy efficiency practices. At country level, there are new projects that might be considered for increasing synergies and complementarities needed for multilevel governance (i.e. "Creating a Strategy and Paving the way for the Deployment of Distributed Renewable Energy Technologies in Egypt" funded by the Mediterranean Investment Facility - MIF Egypt).

INTEGRATED COASTAL ZONE MANAGEMENT

KEY CHALLENGES

- National sectoral jurisdictions and decision-making framework are fragmented, with a multiplicity of actors.
- The Protocol on Integrated Coastal Zone Management (ICZM), entered into force in 2011, but it has been ratified by a limited number of countries.
- The complex interactions among the different competing uses and sectors of coastal lands and sea would require applying an integrated planning, inspired by the principle of ecosystem. However, the approach to ICZM is still sectoral.
- Uncontrolled tourism development and urban sprawl impact severely coastal environment; unplanned tourism, maritime transport and overfishing represent other potential threats to the marine environment.
- Despite efforts already undertaken, marine litter - mainly a by-product of land-based actions such as urbanization and increased industrial activity - still represents a serious issue for Mediterranean coastal areas.
- Some of the poorest regions of the Mediterranean are increasingly dependent on natural resources and local ecosystem services and the loss of terrestrial or marine biodiversity could pose a serious risk for their economic growth and particularly for the long-term sustainability of local communities.

One third of the total population of the Programme area lives in a narrow strip of coastal land which is less than 12% of the available surface. According to Plan Bleu/UNEP, 69% of the Mediterranean coastal cities of more than 10,000 inhabitants are connected to waste water treatment plants, while 40% of the cities with a population between 2,000 to 10,000 inhabitants are not connected to any waste water treatment plants.

Overfishing is another major problem. However, the prevalence of artisanal fisheries and small-scale operators (over 85% of the Mediterranean fishing fleet is involved in small-scale fisheries), who rely on less impacting fishing methods and equipment compared to industrial large-scale fisheries, represents an important advantage in terms of sustainability.

Additional options to contribute to some of the challenges described above have been found as regards the **MESP** project.

MESP: Managing the Environmental Sustainability of Ports for a durable development

<http://www.mesp.org/>

COUNTRIES ALREADY INVOLVED

ITALY, JORDAN, LEBANON, SPAIN, TUNISIA

SELECTED RESULTS ACHIEVED

- MESP prevented and reduced risk factors for the safeguard of the natural environment and the improvement of urban life quality in port areas of the four harbors (Aqaba, La Spezia, Patras and Tripoli). The reduction of pollution sources, in ports and nearby areas for air, noise and water sectors had direct (positive) effects on more than 260,000 citizens living in port nearby areas together with 1,700,000 tourists and more than 4,000 harbor workers. Moreover, MESP staff trained more than 370 people on port environmental pollution abatement.
- The equipment purchased through MESP project is currently being used in environmental engineering laboratory classes, or environment classes, where students will be trained on the use of equipment, testing procedures and field measurements. The data collected by MESP will be made available to students along with detailed analysis.

LESSONS LEARNT

The concentration of population and of economic activities in coastal zones, the associated urban sprawl and uncontrolled expansion of both residential and service-built areas, ways and nodes of communication, the proliferation of marinas and tourist infrastructures as well as industry installations, impact on local environment cause fragmentation, degradation and loss of habitats and landscapes.

With reference to the local impact on the territories, some partners faced barriers on working and collaborating with local public administrations.

Specifically, the Greek partner faced difficulties in getting permission from the Patras Port Authority for the implementation of measures and pilot actions. Moreover, the Port Authority of Tripoli (OEPT) faced strong delays in activities due to the long bureaucracy authorization process by the national Ministry of Finance.

HIGHLIGHTS FOR DECISION-MAKERS

- Simulation of the actual state of environment in the vicinity of the ports could be realized using different software developed within the MESP project: this would allow the prediction of noise levels depending on different parameters and activities carried in the port and in its vicinity. A limited set of common parallel activities can be extended to a wider number of ports to create a Mediterranean network.
- Students can be further involved in the data analysis and promote advocacy campaigns to increase local authorities' awareness and coordinate actions at local and international level.