



Thinking Ahead
for the Mediterranean



MEDPRO - Prospective Analysis for the Mediterranean Region

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Minutes of the Second Scientific Workshop

Milan, 02 – 03 November

On the 2nd and 3rd of November, Fondazione Eni Enrico Mattei (FEEM) hosted the Second Scientific Workshop of MEDPRO. WP and task leaders presented their work progress, methodology, research hypotheses, highlighting current trends and future prospects while initiating the discussion on scenarios. The expected timelines for the completion of the work were also discussed. The exchanges underlined the need for coordination between various aspects of the project, especially on data coordination between the WPs.

Session 1:

**Introductory remarks, Dr. Rym
Ayadi (Centre for European
Policy Studies, CEPS)**

Dr. Rym Ayadi first updated partners on administrative matters and then recalled the project's overarching objectives. MEDPRO's aim is to put forward a number of alternative scenarios that can be expected to arise in the South Mediterranean region by 2030 in order to provide the foundations for future policy on social and economic sustainable development, while paying attention where necessary to the role of the EU.



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To facilitate the development of these alternative views, the proposed conceptual framework builds on the dynamics of four pillars (social, economic, political and human capital) and one building ground (resources) characterizing each society:

- Political capital, and geopolitical challenges analyzed in WP2,
- The interacting human and social capital analyzed in WP3 and 7,
- Economic capital covered in WP5 and 6, and;
- Environment and energy resources covered in WP4a and b.

To meet MEDPRO's objective, the research will comprise of three phases. First, current policies and trends will be reviewed in each research field drawing on a comprehensive set of both qualitative and quantitative sources. Second, qualitative and quantitative foresight analyses will be developed, exploiting existing projections and developing new ones. Stakeholder engagement workshops in cooperation with regional experts will be held to ensure accuracy of the scenarios and confront alternative views. Thirdly, policy responses will be formulated and results disseminated.

The so-called "Sessa framework" stems from the junction of the two dimensions of wealth and cooperation with the EU, leading to the following four contrasted scenarios:

- Global EU-MED upside scenario
- Global EU-MED divergent scenario, in which MED11 countries fail to meet the wealth challenge and disregard cooperation with the EU
- Global EU-MED downside scenario, in which MED11 countries become wealthier but do not cooperate more with the EU
- Global "trends" scenario, in which current policies are pursued in the future



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Each work package will come up with a set of contrasted futures using the Sessa framework from a partial equilibrium perspective, based on the assessment of the likely evolution of the driving forces. These partial views will then be integrated into a general framework through the GEM-E3 model, which will ensure consistency across the research fields.

Data coordination, Dr. Emrah
Arbak (CEPS)

In the MEDPRO project, there are two key data needs: the task level needs and the inputs for the GEM-E3 model. The data coordination has thus two objectives: the first is to facilitate data sharing between researchers by matching the needs with availability; the second is to coordinate the compilation of the GEM-E3 “core database” as necessary.

For the purpose of data sharing between WPs, local sources and task leaders are expected to collect the needed data. These databases are then shared through the data coordinators (CDs) for each WP and the Central Data Coordinator (CDC), Willem Pieter De Groen (CEPS). It is important to highlight that these coordinators do not have necessarily a collection role; they mainly facilitate the sharing of data between tasks, work packages and local sources. The CDC will also be responsible for coordinating the collection, merging and publishing of the core database necessary to run the GEM-E3 model and to produce the MEDPRO more comprehensive database.

Quantitative scenarios, Dr. Stella
Tsani (Institute of Communica-
tion and Computer Systems,
National Technical University of
Athens, ICCS/NTUA)

Dr. Stella Tsani (ICCS/NTUA) gave an update on the compilation of the economic and structural database, highlighting some obstacles in terms of data availability and further data requirements for the general equilibrium modeling exercise at country and work package level.

Overall, the compilation of the economic and structural database is nearly complete. The database includes detailed data on development, infrastructure, finance, environment, energy and agricultural indicators. In constructing these databases, priority was given to official international and national sources. To ensure reliability, consistency checks have also been performed.



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One of the most crucial steps in running the GEM-E3 model is the compilation of the necessary core database. Prof. Capros' team will send WP leaders a revised list of the necessary inputs. WP leaders are expected to fill-in this table providing with the relevant contacts and sources for the data collection. The list will also include data requests for projections of the exogenous inputs for the GEM-E3 model. The construction of these projections will have to be backed either by quantitative techniques, i.e. partial equilibrium analysis, or by qualitative methods. In addition to the compulsory data to run the GEM-E3 model, WPs may also provide with additional data to refine the analysis.

It is natural that the WPs will consider differing sets of variables as exogenous or endogenous. For example, while labor participation is considered as an exogenous variable in WP3 (Demography), it is clearly endogenously determined in WP7 (Education and Human Capital). The scenarios developed by each WP are only determined inputs to the GEM-E3 model, which will be used to remove any inconsistencies, to the extent possible, between different WPs.

Qualitative scenario building, Dr.
Carlo Sessa (Istituto di Studi per
l'Integrazione dei Sistemi, ISIS)

Dr. Sessa presented two tables aimed at illustrating the qualitative scenario building exercise. The first table, which was already sent in June 2010, illustrates for each forward-looking issue an exemplary scenario for the OECD countries and allows space for the EU-27/MED11 for the four scenarios. The second table, which is also an example, attempts to provide clarification by identifying the drivers that lead to the realization of different consequences, i.e. "states of the world". These outcomes will then be used to generate the qualitative scenarios. In addition, the drivers identified in the second table may also be used as inputs into the quantitative scenario building.



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In practical terms, the non existence of a Euro-Mediterranean region translates into the necessity to take into account not only the EU but also other geopolitical actors, as well as particular national policies in the foresight exercise. Both factors might exert an influence on the driving forces conducing to changes in the states of the world. For example, the increased involvement of other geopolitical actors in the region such as Asian and Gulf countries might lead to a divergent scenario in which MED countries increase wealth but might weaken the cooperation with the EU. There are also areas in which Euro-Mediterranean cooperation does not exist. If we take the example of social policies, drivers conducive to changes in the states of the world will more likely be influenced by particular national policies. The integration of these two sets of factors will result into questioning how MED11 countries can reach sustainable development through cooperation with the EU.

Session 2:

WP2 Geopolitics and governance,
Silvia Colombo (Istituto Affari
Internazionali, IAI)

Silvia Colombo presented the conceptual framework of WP2 embedded in MEDPRO's first published technical report.* As well as revising the current conditions and trends, the report also identified tentative scenarios, along with the results of questionnaires envisaged for the fieldwork.

The WP2 conceptual framework draws a critical distinction between state sustainability and stability. South Mediterranean states have enjoyed in the last decades a situation of relative stability through numerous skillfully arranged reforms. However, it is argued that in the future, unless major changes in governance are implemented, states will become unsustainable due to worsening socio-economic conditions and increased domestic unrest.

* The report is available at <http://www.medpro-foresight.eu/content/southern-mediterranean-between-changes-and-challenges-its-sustainability>.



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Three tentative scenarios emerge from this exercise:

- A state unsustainability scenario, which foresees the persistence of authoritarianism, insufficient investments in education, job creation, the radicalization of regional conflicts and the lack of integration of the Southern Mediterranean countries into multilateral frameworks of cooperation with the EU;
- A state sustainability scenario with the successful advancement of the negotiation process in the Arab-Israeli conflict; the emergence of inclusive and sustainable development strategies (including the emergence of a credible and structured opposition); and,
- A polarized regional development scenario in which development prospects are divergent and fragmented, with some countries enjoying stability.

The likelihood of occurrence and plausibility of these scenarios will be determined through interviews to be undertaken in Egypt, Israel, Lebanon, Morocco, Palestine, Syria and Tunisia. The fieldwork will consist in a series of questions directed to a wide-ranging selection of experts, journalists, scholars, officials, and so forth.

Session 3:

WP3-7 Demography, education and social protection, Dr. George Groenewold (Netherlands Interdisciplinary Demographic Institute, NIDI)

The objective of WP3 is to produce country level demographic projections in each of the four scenarios of the Sessa framework. Based on assumptions on income, labour force participation, educational attainment, and health status, prospects on population growth, dependency ratios and other demographic characteristics will be developed. As noted by Dr. Groenewold, this will require a close coordination with other WPs. To ensure consistency of views, the demographic projections already developed for the countries in the region by international bodies and/or national authorities will be compared with the baseline scenario in the context of MEDPRO, although they cannot be used as the underlying assumptions are not clearly specified.



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As for the work progress, local data compiled by the country experts will be submitted to the Dr. Groenewold by the end of 2010. By March 2011, the country sections on demography will be drafted, following the indicated outline already sent by WP3 leader and uploaded in the partners' area of the MEDPRO website with a view to harmonize reporting per country. By mid-June 2011, the four draft scenario projections will be produced for each country, which will be the subject of a workshop in June 2011. Final projections will be delivered by September 2011.

Country fiches on demography, education and social protection in MED11 countries by Dr. Samir Abdullah (MAS); Dr. Emrah Arbak (CEPS); Dr. Abdelmajid Ben Khelifa (ITCEQ); Dr. Najib Bousléma (ITCEQ); Dr. Hammad Kassal (IMRI)

The WP7 leader, Dr. Alia El Mahdi, could not attend the conference due to personal reasons; a note on the work progress under each task will be sent by her to Dr. Rym Ayadi by mid-December.

As decided in the WP3-7 implementation meeting in Cairo in June 2010*, the country experts presented the current developments and future prospects on demography education and social protection in MED11 countries.

Despite differing economic characteristics, Morocco, Algeria, Tunisia and Libya share a number of communalities as far as demography, education, and social protection are concerned. In all the four countries, the demographic transition has taken place, which translates into present pressures on labour markets and future challenges to the financial sustainability of social protection schemes. As regards to education, the four countries have successfully coped with high illiteracy, urging authorities to expand schooling, while compromising on quality. For Egypt and Syria, high fertility rates exert significant pressures on labor markets. Lebanon's social protection scheme, in turn, is threatened by a population growth that is below the replacement level.

Turkey presents an interesting model for the future of some of the countries in the region. Increasing life expectancies, populist policies, and an increasing demand for social protection services have come to threaten the country's financing

* The report of the Cairo meeting is available at : <http://www.medpro-foresight.eu/content/medpro-cairo-meeting>



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of social protection schemes in the future. As in most of the MED11 countries, Turkey's old age dependency ratio will increase only after 2030, which presents a window of opportunity to curb the country's current deficits to reasonable levels. In education, Turkey has devised a nation-wide and continuous selection system to allocate students into schools with differing resources. Although the system is a reliable way of allocating outcomes, it has led to wide variance in quality, inequality, student immobility, and "teaching to the test". All of these factors undermine a successful entry into the labor force, which is one of the main contributors to youth unemployment—a common problem in the region. As Turkey's economy becomes increasingly skills-driven, as in an upside scenario, there will be an increased need for quality human capital. Whether the country will be able to meet this demand depends crucially in finding solutions for these problems.

Israel has radically different characteristics than the other MED11 countries, although a careful examination highlights a clear polarization in the society, which is also observed in some of the Southern Mediterranean countries. While the total fertility rate is low on average, it is very high for Israeli-Arabs and Ultra Orthodox's, i.e. 4 and 6 children per women, respectively. The performances of the students in different cultural and socio-economic groups are also widely dispersed. Based on available data, Ultra Orthodox and Arab-Israeli students, which account for an increasing proportion of all students, are relatively unsuccessful in international tests on mathematics and science achievement, such as Trends in International Mathematics and Science Study (TIMSS) and OECD's Programme for International Student Assessment (PISA). Social protection schemes are challenged by the low levels of labor force participation rates of the Ultra Orthodox and Arab-Israelis, which represent a substantial transfer to these groups. Apart from highlighting a significant variation in demographic, educational and social tendencies, these characteristics also show the growing importance and impact of religion on the country's prospects on human, social, economic, and political wealth, which is also a shared challenge in most of the region.



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Session 4:

WP5 progress, Dr. Luc de Wulf
(Center for Social and Economic
Research, CASE)

WP5 is devoted to the analysis of economic integration, trade, investment and sectoral studies. It builds on five research tasks:

- Macroeconomic and fiscal determinants of long term growth in the MED11;
- Trade and investment integration within the region and the rest of the world;
- Integration with the EU through a case study of the Turkey EU customs union;
- Study of sectors of special importance for the MED11; and,
- Study of privatization and private sector development.

Dr. Luc De Wulf (CASE) gave an update of the work in progress and recalled partner's responsibilities as well as expected deadlines for completion of the research tasks. The progress note is accessible on MEDPRO Partners' area.

The tourism industry in the
MED11: Main results and tenta-
tive scenarios for 2030, Prof.
Robert Lanquar (CASE)

The MED11 region is an important tourist destination accounting for 32% of worldwide tourist arrivals. The industry has grown dramatically as international tourist arrivals have more than quadrupled in the last two decades. About 13.58% of the active workforce is employed in tourism-related activities. A large proportion of this growth is due to the increasing importance of "cheap-fare tourism".

Prospects for 2030 are driven by the evolution of four factors: the harmonization of norms and standards, the evolution of price elasticities of tourism demand and exchange rates, climate change acceleration, and the evolution of foreign direct investment (FDI). Three scenarios can be envisioned in line with the evolution of these factors:

- An upside scenario may arise if the EU and the developed countries continue to grow, the 1990s trends persist and if the MED11 countries align their standards with the EU practices. This scenario would translate into more than doubling of tourist arrivals over the next two decades and an employment share of tourism up to 18% of the workforce.



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- A polarization scenario might be witnessed, characterized by a higher number of tourist arrivals from emerging and Middle East North Africa (MENA) countries. This scenario is likely to arise if the Euro Mediterranean integration has limited success. In terms of employment, polarization would result in a 16% of the workforce being employed in the tourist industry.
- A low case scenario is likely to materialize if growth in the EU and developed countries stagnates, which would result in lower arrivals and the share of tourism in employment remaining around 14%.

Financial services and capital
markets progress, Dr. Rym Ayadi
(CEPS)

The objective of the WP on financial services and capital markets is to identify the preconditions for financial sector development in the MED11, while integrating current discussions about the potential of a Euro Mediterranean bank or a more elaborated role of the European Investment Bank (EIB). This exercise will lead to a number of stylized scenarios for financial sector development, taking into account growth, integration, best practices from the EU, and the impact of the financial crisis.

As regards the progress of work, the database on financial sector development indicators is close to completion. It contains, among others, indicators on monetary aggregates, remittances, FDI, specific banking sector indicators, profitability, and stability of the banking sector. The database will be published on the MEDPRO website in the members' area. For the purpose of the quantitative scenario building, Dr. Rym Ayadi and Prof. Capros team will discuss the possibility to go beyond the data required by the GEM-E3 framework in order to include additional indicators such as loans to the private sector, market capitalization and regulatory quality indexes.

Session 5:
WP4a objectives, Dr. Fabio Eboli
(Fondazione Eni Enrico Mattei,
FEEM)

WP4a has two main objectives. First, it aims to assess the impacts of climate change on the MED11. Second, it will determine the likelihood of the use of adaptation strategies focusing on water management, agriculture and coastal ecosystems. Given these aims, the evolution of water availability, crops' productivity and recreational value of coastal areas will be estimated under a number of scenarios. Inputs from other



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WPs, such as national income (WP5), demographic projections (WP3), and CO₂ intensity and fossil fuel prices (WP4b), will also be used. In turn, the results of WP4a will provide with inputs for other WPs, such as the task on tourism (WP5). Furthermore, Prof. Capros' team will attempt to integrate water availability in the GEM-E3 modeling exercise.

Assessment of economic and climate change pressures on water resources in the MED11, Dr. Nicola Lamaddalena (Mediterranean Agronomic Institute of Bari, MAIB)

Countries in the South Mediterranean face uneven water conditions. While Northern Mediterranean countries have moderate pressures on hydric resources, the Southern countries are challenged by depleting resources. According to the estimates of the Mediterranean Blue Plan*, water scarcity conditions by 2030 will call for a variety of management policies. This has important implications for agricultural practices as it accounts for more than 40% of total use of renewable water resources in the region.

The analysis of water resources management and adaptation strategies will involve three tasks:

- An analysis at the country level of economic and institutional factors driving water use in the MED11 and selected South EU countries focusing on agriculture;
- An assessment of the effects on water, agricultural policies and impacts of climate change on the socio economic and environmental conditions of the MED11;
- An assessment of climate change driven water scarcity impacts and agricultural productivity through changes in crop yields and land use at the country level. Yields of a series of crops will be calculated under various assumptions on water availability.

These tasks will produce prospects on water availability and best practices in optimizing water use.

* For further information see: <http://www.planbleu.org/indexUK.html>



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The recreational value of coastal areas in the MED11, Dr. Paulo Nunes (FEEM)

As highlighted above by Prof. Lanquar, tourism is an important source of income and employment in South Mediterranean countries. In the future, this economic relationship will be increasingly threatened by environmental pressures and changing coastal ecosystems. The objective of this research is to analyze and measure the role of biodiversity on both domestic and national tourists' decisions when choosing a coastal destination in the MED11. This will be done through the estimation of a demand function for coastal areas as a tourist destination, specifying the climate and biodiversity related variables as key determinants. The outcome of this exercise will result in a scenario analysis of tourist arrivals based on the Inter Governmental Panel on Climate Change (IPCC)* storylines and its forecasts on biodiversity changes.

Assessment of climate change adaptation strengths and weaknesses in the MED11 region, Dr. Daniel Osberghaus (Centre for European Economic Research, ZEW)

Mitigation and adaptation costs are one of the key costs of climate change. These costs will be inevitably borne by a number of MED11 countries, since climate change threatens the region's key economic activities, including agriculture and tourism. To some extent, MENA region as a whole enjoys cost advantages, due mainly to the region's substantial clean-energy potential. A theoretical approach will be used to assess adaptation strengths and weaknesses, supplemented with in-depth country case studies. The countries chosen preliminarily are Egypt, Tunisia and Turkey. Building on the results of the other tasks in WP4a, an analysis of adaptation options will be performed under each of the scenarios put forward for the project.

Session 6:
WP4b progress, Dr. Manfred Hafner (FEEM)

WP4b builds on four tasks:

- A critical assessment of oil and gas reserves, resources and infrastructure projects;
- An assessment of the potential contribution of the region to the mitigation of global warming through the use of renewable energy sources;
- The building of contrasted energy supply and demand scenarios and assessment of their socioeconomic impact; and,

* For further information see : <http://www.ipcc.ch/>



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- The exploration of different policy options for closer cooperation with the EU with a view to increase mutually beneficial energy exchanges.

Following progress in the first task, Dr. Hafner presented the existing conditions and the future prospects in line with current trends. According to this trend scenario, primary energy demand and CO₂ emissions in the region are expected to increase significantly over the next two decades, especially for natural gas. Currently, the South Mediterranean countries account for nearly one-fifth of the oil and gas imports of the EU-27, originating mostly from Libya and Algeria. The importance of these two countries in EU's energy supply is expected to rise, to which they currently respond by infrastructure investments. Other countries, such as Egypt, may also gain importance as major hydrocarbon exporter along with the discovery of the anticipated reserves. Several countries in the region, notably Turkey and Egypt, will reinforce their role as a transit country with the realization of a number of pipeline projects and the liquefied natural gas (LNG) facilities.

While these developments will support the exporting and transit countries' socioeconomic development, climate change pressures call for a more diversified energy mix and the development of renewable energy sources. Indeed, the region has a substantial solar energy potential. Several initiatives targeting sustainable energy consumption and production are being currently devised by the countries' authorities.* Proximity with the EU has led to a number of European initiatives such as Transgreen, Desertec and the Mediterranean Solar Plan. To maximize the benefits, the development of renewable energy sources must be supported by policies ensuring their commercial viability and investments in interconnections.

Energy demand side policies,
Dr. Frédéric Blanc (Forum Euro
Méditerranéen des Instituts de
Sciences Economiques, FEMISE)

The task led by Dr. Frédéric Blanc will analyze energy affordability and the options to phase out subsidies by considering the policies oriented towards the management of energy efficiency, such as requirements for housing insulation,

* Examples include but are not limited to the Plan Solaire Marocain and Plan Solaire Tunisien.



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and demand-side factors. In a first stage, building on actual trends, future energy needs will be evaluated, taking into account their impact on GHG emissions. In a second stage, financial and environmental consequences of a better demand side management will be evaluated. Finally, the implications of an increased use of renewable energy sources will be assessed. The outcome of this exercise will result in scenarios of more efficient energy use in the MED11 based on the foreseen evolutions of GDP, energy balances, primary energy use, renewable development plans and targets on energy efficiency. Scenarios will be discussed internally with WP4b members to ensure consistency.

The potential of a Euro-Mediterranean carbon market, presentation of preliminary research, Dr. Noriko Fujiwara (CEPS)

The greenhouse gas emissions in MED11 are currently growing at a slower pace than the rest of the world, implying that the region's share in global emissions is declining. Nevertheless, these trends are likely to reverse as other countries switch to cleaner technologies. Opportunities for clean energy investments exist mainly due to the region's substantial resource endowment, i.e. both in fossil fuels and the solar potential. These opportunities may become even more attractive with a more widespread application of the Clean Development Mechanism (CDM), which allows industrialized countries to meet part of their emission reduction targets by investing in clean-energy projects in developing countries. The creation of a Euro Mediterranean carbon market will favor the use of low cost mitigation technologies in these countries, fulfilling the financing needs for large infrastructure projects.

By undertaking a literature survey and conducting semi structured interviews with utility companies, organizations of energy companies and development finance institutions among others, the task will carry out:

- An overview of national conditions and commitments under the UN convention of climate change;
- Identify low cost mitigation potentials; and
- Address the capacity and infrastructure needs for the introduction of carbon markets.