Israel Ministry of Foreign Affairs

Israel Office

The Centre for the Study of European Politics and Society

The Konrad-Adenauer-Stiftung, the Centre for the Study of European Politics and Society at Ben-Gurion University of the Negev in cooperation with the Israeli Ministry of Foreign Affairs are holding a series of round tables on the theme:

Israel and the European Union: Towards an Ever Closer Partnership

Workshop on Climate Change Brussels, April 1 – 2, 2008

In the frame of the round tables series which aims to examine the current status of the relations between Israel and the European Union and to explore areas in which a closer cooperation is necessary and beneficial for both sides, BGU, KAS and MFA organized a workshop on "Climate Change" that took place in the European Office of the Konrad-Adenauer-Stiftung in Brussels.
The fist part of the workshop was devoted to the broader perspective of the relations, whereas the following sessions focused specifically on climate change as a topic of common interest.

1. Political Aspects

- From the EU point of view there is only one framework to work with: the ENP.
- Israel already has, without any doubt, a special status - historic, geographic, and economic links which distinguish it from its neighbors. The quality of contacts between Israeli and European officials has been and is still improving. We have already had two meetings of the reflection groups and are about to organize the third one. It is at the discussions stage in the commissions and this is a long process.
- The ENP approach has been welcomed by Israeli officials. However, they were frustrated by the fact that actions which were implemented in the framework of the ENP were politicized by some of the neighboring states.

- The reflection groups work in a dual approach - top down and bottom up. Bottom up: meetings between heads of states - governments and top down: foreign ministries, deepening relations, meetings between high officials, working groups of the council on terrorism, peace process and more.
- Israel is optimistic and has a high degree of expectations but it is still suspicious regarding these relations. Some people on the Israeli side have the feeling that it has reached a kind of glass ceiling. While everyone appreciates the economic and technological gap between Israel and its neighbors, at the end of the day it is allowed to work only in the framework of the ENP.
- A new model for Israeli European relations: The EIP model - based on the AA, AP etc., will fall within the legal category of association. The key article already exists in different treaties and agreements. Since EU membership is restricted only to European states, this model will refer to the Mediterranean model.
- Flexible partnership between EU and Mediterranean countries includes the four freedoms (goods, services, capital and labor). These are already on the table under the AP.
- There is a need for some minor institutions which will administer this Israeli-European partnership and the ENP allows it. We need a different type of institution from those of the Barcelona Process.

  The current council of ministers is not enough, since they should meet more than once a year. A joint monitoring committee is needed.

- If Israel wants stronger relations with the EU, it will have to adapt parts of the "Acquis Communautaires". The idea is to give the partner proposals of different legislation and the possibility to express his opinion.

2. Existing Climate Change Research Cooperation

- Research on Climate Change in the context of Israeli-EU relations:

1. *TECHNEAU,* an integrated project funded by the European Commission, challenges the ability of traditional systems and technology solutions for drinking water supply to cope with present and future global threats and opportunities. This will be initiated through rethinking of current water supply options and by providing researched and demonstrated new and improved technologies for the whole water supply chain
2. *PRUDENCE* - Prediction of Regional Scenarios and Uncertainties for Defining European Climate Change Risks and Effects.
3. *CIRCE - Climate Change and Impact Research: The Mediterranean Environment.* The CIRCE Integrated Project, funded under the European Commission's Sixth Framework Programme, aims to address impacts and possible adaptation actions of climate change in the Mediterranean region that includes Europe, North Africa and the Middle East.

4. *MedCLIVAR Mediterranean CLImate VARiability and Predictability*: MedCLIVAR is an international programme which aims to coordinate and promote the study of the Mediterranean climate. Its scientific priorities are: description of climate past evolution, assessment of climate variability at different space and time scales, understanding the mechanisms responsible for it, identifying trends and providing climate prediction in relation to future emission scenarios.
5. *EUCAARI - European Integration on Aerosol Cloud Climate Air Quality Interaction.* It brings together the leading European research groups, state-of-the-art infrastructure and key players from third countries to investigate the role of aerosol on climate and air quality.
6. *FLASH*: Improved understanding of the meteorological causes of flash floods in the Mediterranean area and Europe. Improved forecasts and warnings of flash floods across the Mediterranean area.
7. *ECOOP - European Coastal Sea Operational Observing and Forecasting System:* The goal of ECOOP is to build up a sustainable pan-European capacity in providing timely, quality-assured marine services (including data, information products, knowledge and scientific advice) in European coastal-shelf seas.
8. *SESAME*: aims to assess and predict changes in the Southern European Seas (Mediterranean and Black Sea) ecosystems and in their ability to provide key goods and services with high societal importance, such as tourism, fisheries, ecosystem biodiversity and mitigation of climate change through carbon sequestration in water and sediments.
9. *EU-MED Connect: This* project is a pioneering initiative to establish and operate an IP-based network in the Mediterranean region. The EU-MED CONNECT network is linked to the pan-European GÉANT2 network .
10. *GLOWA Jordan River Project (GLOWA JR):* The GLOWA is an interdisciplinary and international research project providing scientific support for sustainable water management in the Jordan River region .

- Israel is involved in numerous EU research projects related to Climate Change and the EU would benefit greatly from including more Israeli researchers in future projects. Israeli scientists have a lot to contribute to EU research and policy: basic research and applied research related to adaptation and mitigation.
- The main difficulties in Climate Predictions are: A lack of national program plan for Global Warming, super-computing power and facilities, availability of data (meteorology, hydrology, land-cover, soil data etc.), international cooperation including our neighbors, and policy makers' involvement.
- There is no specific policy regarding European and Israeli cooperation in the topic of Climate Change. It happens naturally - each scholar seeks his partners. The Europeans have funds which are essential for competitive research in Climate Change.

3. Health Impacts

- Climate Change is predicted to influence extreme natural events and disasters. How do these events impact on human health?
- Floods: The greatest increase occurred in the last decade in which the greatest number of people was affected. There was undocumented impact of disease due to vector or environmental changes and the problem of malnutrition.
- Floods are the most destructive and wide ranging of disasters, they cause significant agricultural and property loss. In addition, in the last 30 years 1,864 windstorms killed 293,758 persons and affected more than 557 million people.
- The known health impact of disasters are:
  1. Direct impact of heat and cold: Incidence of cardiovascular disease deaths
  2. Food and water-borne diseases: Incidence of diarrhea episodes
  3. Vector-borne diseases: Incidence of malaria and dengue cases and change in vector patterns.
  4. Malnutrition: Prevalence of non-availability of recommended daily calorie intake.

4. Biodiversity

- Why care about biodiversity (besides the obligations of the Rio Convention)?
  1. We consume oxygen and produce carbon dioxide
  2. Plants consume carbon dioxide and produce oxygen
  3. We are more active than plants!
  4. We destroy natural ecosystems and replace them with artificial ones that, sooner or later, collapse (desertification)

- Impacts of climate change:
  1. Physical changes (mainly temperature and water movement) affect marine biodiversity structure and function
  2. Biodiversity provides goods and services whose loss is unbearable for our species (we need other species: we are part of nature!!!!)
  3. Biodiversity changes might not be evident to us, but their effects have a bearing on our well being

- The Mediterranean: In a period of global change, small basins respond more quickly than the world's ocean to the drivers of modification. The Mediterranean is a perfect "laboratory" to test the effects of global change on marine biodiversity.

- Failure in the forming of deep Mediterranean waters near the surface might lead to permanent stratification. Lack of proper cooling of Northern Gulfs might cause problems for the endemic Boreal faunas and floras. They cannot go north; they cannot go deeper, at least in the Northern

Adriatic. Species that were typical of the summers of 25 years ago are now present all year round.

- Seasonality is changing: summers are longer and more intense, winters are milder. The summer thermo cline is deeper. Northern waters are not as cold as they were before. Tropical species colonize the basin, southern species widen their distribution northwards and Boreal species are in peril and some might already be extinct.

- Israel is the source of novelties in Mediterranean biota. The Mediterranean is a replica of the world ocean while Israel is "the tropics" and the Northern shores are "the Poles". What will happen in the future to the world ocean is happening in the Mediterranean now.

5. Renewable Energies

- Renewable Energies require an integrated and multi-disciplinary approach RES sector: strong expansion, important area for research and industrial development: Bioenergy, Geothermal, Solar energy, Wind energy, and Small hydro.
- The main projects and on-going activities of the CREAR centre of the University of Firenze focus on upgraded conventional cycles, biomass use and solar energy.
- *BISC: Building Integrate Spherical Concentrator.* This project involves the study design and building up of solar concentrators suitable for hybrid production of thermal and electrical power from solar energy. This project has been developed under a grant from the Italian Dept. Intern. Coop-Environment Ministry for Italy and Israel co-operation. The objective of the project is to design a production and experimental validation of a device suitable for thermal and electrical power production using concentration of solar rays and to create a Technical Economic evaluation of the concentrator. The two-year project was completed by December 2007. The project is a result of cooperation of CREAR, SHAP and Tel Aviv University.
- Another project is the UPP-Sol – Urban Photovoltaic Poligeneration with Solar Energy. This project involves the building and demonstrative installation of solar concentrators for combined production of heat and electric power. The concentrator can be easily integrated in house roofs and the heat produced can also be useful for cooling systems. The project is also a result of cooperation between European Universities (Italy, Spain, and Germany) and an Israeli institution (Tel Aviv University).
- Solar Cooling Project: The project aims at realizing two or more plants in Mediterranean countries for tourist resorts and rural areas, based on solar collectors, diathermy oil and ammonia absorption chillers.
- In order to develop the future EU/Italy and Israel cooperation there should be:

1. Further support of existing projects as spin-off for future cooperation.
2. Work on Solar Equipment: PV concentration, cooling and thermal use of Solar Energy, investigation of other Solar Conversion technologies and High Temperature Projects.
3. Setting-up of an Agency to collect interesting ideas among research subjects, in both countries, starting from existing links.
4. System efficiency improvements

6. The Economics of Climate Change

- *Economic Costs of Climate Change:* Damage Costs (*valuation*) Adaptation Costs and Prevention (mitigation) Costs – including the use of decentralized market instruments.

- Climate Change includes Adaptation.
  1. *Adaptation*: responses (technological advances and capacity building) to climate-related processes and disasters that are *not* prevented by mitigation efforts;
  2. *Resilience*: characteristics needed in individuals and communities to prepare for change and disasters, to reduce suffering and to rebound in positive ways.

- *Computable General Equilibrium (CGE) models*: CGE models are crucial to fully understand how national or regional economies could be affected in the future by global temperature increase and climate change. Such models are able to capture most of economic interrelations among productive sectors, households and countries; showing beyond *direct effects*, also *indirect effects* due to *exogenous impacts* like global warming.

Priorities of Action and Fields of future Cooperation

- Adaptation is important for preventing economic and social damages on a large scale, developing modern technologies, exporting know-how and goods to countries at risk and enhancing environmental good practice.
- In the IPCC 4AR Report it is mentioned that Climate Change in countries bordering the Mediterranean Sea is becoming a major problem in terms of development policies, quality of life and environmental protection. Its effects can be felt in terms of temperature, precipitation or sea level, either through mean trends or extreme events patterns (heat waves)**.** IPCC stressed the need to promptly conduct impact studies and implement *"proactive climate change risk management adaptation plans."*
- Israel can serve as a climate change laboratory due to the larger change in temperature.

- Adaptation to climate change in Israel: Adaptation should result in damage mitigation and, when possible, maximize benefits. Israel maintains a long tradition of applied research in water management, agriculture, soil management and forestation under semi-arid conditions. Still, there is a need to understand future impacts and implications of climate change in Israel.
- Israel is a center of excellence on adaptation to climate change. It has available research capacities: re-use irrigation with marginal water, drought-resistant crops, forestation and soil preservation. It knows how to deal with water saving in the urban, agricultural, and industrial sectors. It has technologies like drip irrigation, leakage prevention and more.
- The Palestinians, on the other hand, are not willing to take part. Israelis make efforts to protect the environment process while the Palestinians pollute. The Europeans can help with this.
- Climate Change and Agriculture: The potential threats to agriculture are: decrease or increase of rain quantity, decrease or increase of temperatures, ecological changes, plant and animal protection and diversity, CO_2 level and fixation and economic impacts.

- Future plans regarding climate changes focus on the following topics:
  1. Rain, soil and atmosphere (increased irrigation efficiency, soil and water preservation and CO_2 fixation).
  2. Livestock production
  3. Plant crop production
  4. Extensive agriculture and open spaces
  5. Climate monitoring and statistical analysis (climate monitoring, statistical analysis).
  6. Other aspects like post harvest adaptation, biotic stress changes and economic considerations.

- The EU Emissions Trading Scheme: What lessons can be learned? EU ETS is the “EU political compromise” for the way forward on climate policy:
  1. Effectiveness: absolute caps are compatible with Kyoto ceilings
  2. Efficiency: (“least cost”, “dynamic efficiency”)
  3. Compatibility with internal market (“one EU carbon price = same marginal costs”)
  4. Failure of other instruments in the EU (eco-tax; negotiated agreements; regulation)
  5. Tendency towards targets rather than detailed implementation (e.g. ambient standards)
  6. Global pollution is best abated globally
  7. Lack of transparency regarding distribution effects
  8. (Conditional) support through industry and NGOs?

- Principal merits from EU perspective:
  1. Capping of emissions in a highly decentralised political system is no small achievement (“effectiveness”)
  2. Disclosure of “emissions” and introduction of carbon management is a necessity when carbon has a price

3. The prospect for cost-effectiveness ("efficiency")
4. Showing that emissions can be reduced in principle without bringing down economy ("EU leadership by demonstration")
5. Shaping international structures "First Mover & Linking Directive" ("enhance EU role internationally").

- Costs of decentralisation became visible:
  1. Distortions in internal market (allocation can involve high values)
  2. In many cases, lack of incentives in low-carbon technologies (perverse effects) as result of accommodating incumbents
  3. Complexity, administrative burdens, transaction costs
  4. Novel feature of new entrants/closure/transfer rules which were previously unknown.
  5. "Expected" shortage in power sector in most but not all countries depending on industry pressure (allocation as means to compensate industrial sector)
  6. Development of national benchmarks (emissions factor and activity rate)
  7. Major distorting factor is 1998 EU-15 Burden-Sharing Agreement

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The KAS-BGU-MFA Round Table
Israel and the European Union: Towards an Ever Closer Partnership

Recommendations

Prof. Riccardo Valentini, University of Tuscia

Research themes for EU-Israel cooperation on terrestrial ecosystem

- *Understanding the role of Mediterranean ecosystems in the global carbon cycle – Expanding terrestrial carbon observations (i.e. CarboEurope) and Analyzing the impacts of climate change on terrestrial carbon vulnerability particularly the role of water regime changes.*
- Israel participates with national funding to the European network for carbon fluxes.
- The effect of water regimes on carbon emission and sequestration is of paramount importance in Mediterranean region. Promoting research initiatives to address with new physiological and biological tools the likely changes and impacts on the functions of terrestrial ecosystems particularly in respect of alteration of water regime is needed.
- *Exploit biomass production in arid areas by use of recycled water and Improve research on lingo-cellulosic biofuels (2nd generation). Israel – EU cooperation has to provide a world class example for biomass production in arid areas.* The recent worldwide food crisis and the increase of prices of food commodities partly related to the growing demand of biofuels push necessarily biomass production in marginal lands or land which are not conflicting with human food demands. Israel ongoing research through bi-lateral agreements has demonstrated the capability of producing high rates of biomass even in desert regions by the use of recycled and saline water. Further expansion of research in this direction become of strategic importance in the future to alleviate pressure on productive land.
- A necessary further step is to support research for 2nd generation biofuels, derived by lingo-cellulosic products which are more easily and sustainably produced in marginal and arid lands.

Implementation:

- The ongoing 7th framework for research funding should include a specific topic regarding the EU-Israel cooperation on specific themes,

considering this topic as a strategic contribution for the whole Mediterranean region.

- As first step a Concerted Action research instrument can be proposed to consolidate the ongoing bi-lateral EU-Israel projects in the field of Global Change and Environment. The Concerted Action can have the objective to enhance the exchange of information and scientists across EU and Israel, to synthesize the most outstanding results and to propose a research agenda for future topic calls.
- The EuroMediterranean Center for Climate Simulation (CMCC), established in Italy, with a specific aim to address the Mediterranean basin, can be a strategic opportunity for the EU-Israel science cooperation.

Prof. Francesco Martelli, C.R.E.A.R, University of Florence

Remarks and Comments:

1. Investigation on the real mechanism of climate change:

- Study and development of adequate models to simulate and predict the effect of human activities on the Clime and on the biodiversity.
- This activity seems to be more scientific based and requires a real strong international cooperation to collect the maximum amount of data in different countries and environmental configurations (latitude, solar irradiation, desert, marine cost, etc.)
- In this respect Israel seems to be well located as laboratory for test of simulations because of its special configuration with quite different environmental situations reproduced small scale. The possibility to design appropriate models (at the moment far away to be reliable) to detect the impact of technologies and human activity on Environment, should provide a common ground of interaction with EU countries, in particular with the regions faced on Mediterranean sea, where several common interest exist and climatic situation as well.
- Unfortunately some different basic, let say philosophical, ideological or political positions exist which can act against the integration of different subjects. In this sense the economical models which can be built strongly interact with the forecast of global model and could be affected from their basic postulate which can differ from country to country. These aspects should be treated with great care and sense of equilibrium from the decision makers.

***2. Resources Management*:**

- Considering Israel's peculiar situation in terms of resources as water, land and energy, the report on their management strategy and the models developed to support political decisions in control of efficient resources utilization and their environmental impact, appears as possible interest for European Countries as an interesting focus of comparison and discussion.
- On the one hand, technologies which are being developed and applied in Israel under severe environment conditions could be profitable to EU Countries which can benefit the Israeli experience. This can lead to mutual benefit both economically and in terms of scientifically

exchange. On the other hand, economic models developed in such environment could be compared with different social, political and environmental situation leading to assessment of these models and to their adaptation in different local situation in order to provide a preliminary, not conclusive, instrument to support decision makers.

- This point has to be approached carefully considering the set of arbitrariness and reliability included in the models, in order to generate a significant amount of debate able to reduce the uncertainty and adapt them to the different social and political local situation.

3. *Energy needs impact:*

- There are at the moment several possibilities which already exist to improve the scientifically and technologically cooperation between Israel and the EU and primary with the Mediterranean countries, with the European support but not only. In Italy we had some examples of how it has been possible to develop cooperation programmes based on national support.
- The demand for energy and its impact on Climate are well recognized; as it shows in my previous points, there is still a long way in order to reach a settled convincement on the mechanism of the use of energy and its impact.
- Despite these uncertainties regarding the connection between Energy and Environment, I believe to minimize the effect Energy consumption on gas release in atmosphere, and to allow a more secure fuel supply and free from geopolitical constrains.
- Therefore, Renewable Energies appear to maintain a central role in this strategy, and referring to the geographical and industrial position of Israel, their development and testing are suitable. I must report I was mainly focused on the use of Solar Energy through concentration equipment to produce electricity directly (Photovoltaic systems) with thermal fall out and or to provide cooling. All these application have been thought in small scale in the logic of distributed generation, and/or isolated services.
- The preliminary experiences in both areas (PV, thermal and Cooling) focused on Mediterranean countries has been positive and is usefully going on. The experience on geographical conditions, latitude, solar radiation, environment and management settling enables the forecast of interesting precedent which indicate the ability to move towards industrialization and commercial development.
- The key point is the possibility to test prototype and demonstrate their potential capability for a market with similar environmental conditions. This process requires further support to lead to more realistic scenario evaluation, but the preliminary steps appear to be encouraging. In my experience solar energy can provide suitable support to the human needs if it maintain a relatively small scale and focus in the problem of reliability, technological and manufacturing efficiency, efficient management and monitoring. Except the concept for new and advanced PV cells, the other aspects related to direct conversion of solar energy are more relevant on the side of technology and control then on theoretical and conceptual scheme. In other words, it requires more and more field experience to transit to industrial side. The same concepts can be extended to the use of Solar Energy for cooling or thermal use.

Maybe some more work has to be done on the side of the chillers faced with a thermal input not always controllable as we would like.

- On other side, during the arguments which were raised at the workshop, I realized that the possibility to obtain biomass productions in quasi desert area could offer some chances to the utilization of technology for energy conversion just assessed or in progress in European countries.
- Integrated projects are able to test and assess the reliability of entire chain, from biomass production, harvesting , bio fuel production , energy conversion system (I.C.Engines, Gas Turbine , or other), cogeneration or tri generation, and electrical energy storage and/or management integrated with other discontinuous forms of energy supply(solar or wind). New ideas could arise in the form of the possible hybrid and integrated energy system.
- I believe that a small scale project can be developed in these both areas, taking into account that the focus has to be well defined in terms of market and regional needs. Decision makers need to select several projects (but not too many) to invest the financial resources available , only as a basis of realistic, small scale, plants with potentiality to develop to few industrial products, through a competitions process in terms efficiency, cost and field experience reliability.
- *Our Research Centre is active in several of the Research and Demonstration area we addressed, and will be available to export European and national project experience in this cooperation field.*

Prof. Colin Price, Tel Aviv University

- The main recommendation for enhancing the collaboration between Israeli and EU scientists in the field of Climate Change is to involve more Israeli scientists in collaborative research projects across Europe
- There are two barriers Israeli scientists face when collaborating with EU scientist in research projects. The first is related to the European connections and networking between Israeli scientists and their European colleagues. The second is the paperwork and bureaucratic process of submitting proposals and fulfilling all the EU requirements.
- There are therefore two recommendations that can be made to ease this process:
    1. To help improve the networking of Israeli scientist within Europe. This could include travel support for Israeli scientists to European meetings and conferences; better dissemination of ongoing EU projects to Israeli researchers, and future projects looking for partners. In addition, the dissemination of a data base of Israeli scientists, their fields of study/interest among European universities and research institutes may enhance the exposure of Israeli research to European scientists. Organizing workshops in Israel or Europe to enhance networking in areas of Climate Change research would definitely benefit both sides.
    2. To try and overcome the barrier which is related to the high competition between European researchers for funding, and the importance of being able to follow all the paperwork, instructions, requirements, etc. for submitting proposals to the EU. The language is also often a problem, often limiting the

competitiveness of Israeli scientists in Europe. Establishing a mechanism to help Israeli scientists deal with all this bureaucracy, the language, the submission of proposals, etc. would allow more Israeli scientists to submit proposals successfully. Workshops explaining in detail what is needed for a successful European proposal may help increase the success of Israeli researchers in Europe.

Prof. Moti Shechter, University of Haifa

- Further awareness is essential in the relations of EU and Israel and inroads must be made to politicians, decision-makers and maybe also with elite agenda-setting, influential groups, who - I presume - exert more impact than their proportional share in the population, on decision making processes (e.g., newspaper editors, writers and reporters in the environmental fields, and so on). In spite of the growing recognition of the importance of climate change on future life, and possibly even the very existence of humankind and life-support ecosystems, many of these individuals still lack basic understanding of the processes and the options, the risks and the prospects faced by society, upon which they are often called to pass judgment and make decisions.
  Although I do not wish by any means to belittle the role of, and vital need for, future basic and applied research in this area, and support for scientific efforts in general, much more must be done in order for these policy makers to better understand the processes underlying climate change and the consequences of different lines of action. I firmly believe that without the active and sustained support of public-opinion makers and policy makers, not much will be achieved in terms of sustainable growth policies.
- However, this understanding should not come about merely because of a growing (however fleeting) public pressures. We, educators and researchers should work ceaselessly so that these policy makers become totally and truly committed, out of deep understanding of what lies ahead. This can grow out only from a thorough process of "education" and deep conviction.
- This can be achieved through joining forces with scientists and stake-holders in shaping a long-term, well-thought and designed, and well-integrated educational and knowledge dissemination project. Such multi-discipline could involve a *series* of carefully built symposia, simulation exercises, analyses of consensus-building public opinion and initiating grass-root NGO's collaborating among themselves towards a common goal, etc. Clearly, such an endeavor calls for the involvement of social scientists, educators, policy analysts, etc.
- Furthermore, this effort can be couched in a multinational framework, in order to not only benefit from the experience of others, but also promote so-much needed cooperation among nations in saving our planet.

Dr. Yeshayahu Bar-Or, Chief Scientist, Israel Ministry of Environmental Protection

- There is broad agreement that the Mediterranean basin is undergoing significant climate changes. The IPCC 2007 report forecasts trends of warming and drying in southern Europe to be "very likely".
- Several independent studies done in Israel show:

1. A clear trend of warming and higher incidence of extremely hot days.
2. A possible decrease in annual renewable water yields.
3. Changes in species composition affecting both marine and fresh water ecosystems.

- The Israel Ministry of Environmental Protection is expected to publish in 2008 a document summarizing the probable impacts of climate change on infrastructures, economic and societal-environmental systems in Israel, as studied over the last decade.
- On the other hand, Israel has been experiencing, for the last 80 years, successful development under semi-arid conditions. World records have been obtained in water efficient agriculture, water re-use, forestation even under desert conditions, extensive use of solar energy for heating etc.
- Israel can therefore serve as a center of excellence for the study of adaptation to climate change under future south European climate conditions. It is currently estimated by the DG Joint Research center, that 25% of European research budgets are used to generate data that already exists. Israeli-European cooperation on adaptation to climate change can yield significant savings in research and implementation.
- It is proposed to examine co-budgeting of a joint research facility that will concentrate on the following:
    1. Identifying probable impacts of climate change on south European countries.
    2. Identifying relevant Israeli know-how and expertise relating to these impacts, on a per-case (country, region) basis.
    3. Preparing comprehensive adaptation and preparedness programs, based on scientific knowledge and technological innovations successfully practiced in Israel.
- The Israel Ministry of Environmental Protection has commissioned a preliminary work to examine the feasibility of such an enterprise. The report is expected to be available by September 2008 and will help in furthering the proposed concept.

Mr. Mo Provizor, Chief Planner, Israeli Water Authority

- Impacts like more extreme rain events and longer dry period between them, temperature increase and longer periods of warmer days, change in the geographical distribution of precipitation and larger standard deviation of precipitation – directly influence also the water sector. How those phenomena are going to affect our region and in which frequency and in what intensity?
- There are two main approaches to deal with this topic:
    1. To assume that those incidents will actually take place in some probability in the future and then to check, by sensitivity

studies, the possible impacts on the planning and operating of the Israeli water sector and according to the results, to decide cleverly on the right action plan. We are familiar with an attitude like this one, in cases of uncertainty, and use it quite often.

2. To try and assess the likelihood of the materialization of those phenomena, in terms of probability, including their frequency and intensity and then to assimilate the findings in the planning process of the water sector.
   This approach can be adopted only if one has enough and substantial knowledge in the subject. Carrying out a more specific studies in different aspects of Climate Change, focusing on the eastern region of the Mediterranean Sea, will equip us with the tools to give a better quantitative expression to those phenomena and as a derivative, to improve our ability to deal with them.

- My operative recommendations for Israel to focus at the Reflection Groups are:
  1. To expand the cooperation between Israeli and European scientists on Climate Change topics, focusing on the eastern region of the Mediterranean Sea.
  2. To expand the European funding of Climate Change studies carried out by Israeli research institutes and scientists.
  3. To export findings concerning Climate Change, that were obtained by Israeli scientists, to European research institutes.
  4. To arrange additional periodic round table meetings with the same participants in order to keep track of new findings and progress in the field.

Summary of Workshop

The Climate Change workshop brought together 10-20 experts from different disciplines, to discuss ways to enhance the cooperation between Israel and the EU in this important area of research. The workshop covered political aspects of Israel-EU cooperation, and numerous topics related to Climate Change, from Climate modeling, to Health issues, Biodiversity, Renewable Energies, and Economics.

Existing EU-Israel collaborative research in Climate Change-related areas were presented, and future directions discussed. It was shown that Israel has a lot to contribute to Europe in many areas related to future climate change, such as agriculture, water resource management, renewable energies, basic climate research, natural disasters and more. Likewise, Europe and the EU should encourage involvement of Israeli researchers in EU programs and proposals. Improved networking between Israeli scientist and their European counterparts may be obtained through future workshops focusing on specific topics.