Mediterranean Science, Policy, Research & Innovation Gateway

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The Mediterranean Science, Policy, Research and Innovation Gateway (MED-SPRING) is a Coordination Action financed by the INCO-Net instrument under the FP7 - Capacities Programme. The aim of the Project is to contribute to the quality of the Euro-Mediterranean research area, with a particular focus on the bi-regional Euro-Mediterranean S&T cooperation, research and innovation, policy dialogue and cooperation monitoring.

Welcome to the 12th MED-SPRING E-Newsletter!

Dear readers, welcome to the twelfth issue of the MED-SPRING E-Newsletter, which has the purpose of informing about our activities and involving researchers, stakeholders, policy makers and governmental officers in a renewed strategy for the Euro-Mediterranean partnership, with a particular focus on the Euro-Mediterranean Science and Technology Cooperation.

KEEP AN EYE ON: ***AGORA MED-SPRING***

Our recent activities

- ***Science Café on Climate Change***

According to the agreements of the 2016 MED-SPRING project Annual Meeting in Tunis, and within the framework of the 5th international symposium on "Environment and Sustainable Development", the Ministry of Higher Education, Scientific Research and Executive Training (MESRSFC) of Morocco organized a Science Café to discuss about Climate Change, on scientific and societal challenges. The event was held on Monday 10 October 2016 at the "Faculty of Sciences" in Rabat.

- ***Second training and capacity building on Innovation Systems***

MED-SPRING organized its "2nd Training on Innovation", hosted by the German Aerospace Centre (DLR) in Bonn, Germany, from 20 to 22 September 2016. Overall, this was the sixth and last workshop on Capacity Building of the MED-SPRING project.

- ***MED-SPRING 1st Euro-MedHackathon: Eco-Efficiency in the Agro-Food Chain***

The "1st Euro-Med Hackathon: Eco-Efficiency in the Agro-Food Chain" took place in Amman (Jordan) from 14th to 15th December 2016. The 2-day event was organized by MedSpring and STRD-II projects and was hosted by HCST, in collaboration with STRD-II programme, MH-ESR, and CIHEAM-IAMB.

Also in the pipeline!

- ***New round of loans for renewable energy projects in developing countries***

The International Renewable Energy Agency (IRENA) and the Abu Dhabi Fund for Development (ADFD) have officially opened a new round of USD 50 million in loans for renewable energy projects in developing countries. This is the fifth round of loans offered through the IRENA/ADFD Project Facility, which will allocate a total of $350 million of concessional loans over seven annual cycles to government-driven renewable energy projects in developing countries.

- ***The role of water in adaptation to climate change***

The MEP Water Group organised a public session dedicated to "The role of water in adaptation to climate change" on 6th of December 2016 from 17h30 to 19h30 at the European Parliament, Jozsef Antall Building, Room 2Q2. The session featured as keynote speaker, Mr. Jos Delbeke, Director-General of the European Commission's Directorate-General for Climate Action.

- ***Focus About OK-Net Arable project***

OK-Net Arable promotes exchange of knowledge among farmers, farm advisers and scientists with the aim to increase productivity and quality in organic arable cropping all over Europe. OK-Net Arable is coordinated by IFOAM EU and involves 17 partners from 13 countries all over Europe. The project is financed by Horizon 2020, the EU's main funding instrument for research and innovation.

Meet our Partners! The Conference of Peripheral Maritime Regions

The CPMR (Conference of Peripheral maritime regions of Europe) is part of the MedSpring project consortium. This network, representing 160 members' regions from the EU and beyond, plays a significant role in the project through its Inter-Mediterranean commission. It has contributed so far to the analysis of research and innovation systems in the countries of the Mediterranean partnership by collecting and analyzing a stock-taking exercise on regional bilateral cooperation agreements and projects between EU Med Regions and Mediterranean Partners Countries (MPCs). It is also in charge of some actions to disseminate the results of the project and takes part in the various networking and knowledge-sharing activities developed within MedSpring.

CPMR
CRPM
Conference of Peripheral Maritime Regions

In a nutshell, representing about 200 million people, the CPMR campaigns in favour of a more balanced development of the European territory. It operates both as a think tank and as a lobby for Regions. Through its extensive network of contacts within the EU institutions and national governments the CPMR has, since its creation in 1973, been targeting its action towards ensuring that the needs and interests of its member Regions are taken into account in respect of policies with a high territorial impact.

It focuses mainly on social, economic and territorial cohesion, maritime policies and blue growth, and accessibility. Global Agendas related topics such as energy and climate change, neighbourhood and development also represent important areas of activity for the association.

The CPMR is a unique organization, being sub-divided into six Geographical Commissions, corresponding to Europe's maritime basins, including the Baltic Sea, the North Sea, the Atlantic Arc, the Mediterranean, the Balkans and Black Sea and the Islands. Each Geographical Commission has its own organizational structure, so that it can promote its specific identity and cooperate on subjects of common interest, while contributing to the cohesion and unity of the Conference.

Learn more on the CPMR! Please visit `http:www.cpmr.org`, download the brochure at: `http://cpmr.org/wp-content/uploads/2015/10/cpmr_a5_brochure_2015_en_v2klow.pdf` and connect on Twitter at: `https://twitter.com/CPMR_Europe`.

Focus on Water, Energy and Food Nexus in Egypt

PROF. DR. ABDELWAHAB KASSEM - EXECUTIVE DIRECTOR OF RENEWABLE ENERGY CENTER, ALEXANDRIA UNIVERSITY

Nexus is the inextricably interlink between energy, water and food. Water and energy are needed to produce food. Energy is required to pump water for irrigation, farm operations and other food processing chain. Water is needed for power generation. Energy is required to treat and transport water.

Water, Energy and food (WEF) Nexus is emerging as a critical issue facing the sustainable development of any country especially at the Egyptian desert. It could play crucial role as a new approach in the desert development plan of Egypt. WEF Nexus can lead to smarter, more resilient development solutions. The water, energy and food (WEF) nexus is a topic of growing interest in research and policy communities.

WEF Nexus in Egypt:

Although several attempts to adapt integrated food production systems has been tested by several food companies such as EL-Agiaby, Talat Mostafa and Sekam farms, the WEF Nexus approach has not yet received its merited consideration. Nonetheless, several activities were carried out to introduce the concept in Egypt. These activities are as follows:

1. In the third arab water forum organized in Cairo , 2014, WEF Nexus receives growing attention. A session organized by (CIHEAM) was held with the objectives to build a common understanding of the Nexus and to discuss current and future policies in Egypt and the Arab countries. The session included keynote remarks by Claudio Bogliotti (CIHEAM) and 4 presentations about the nexus.

2. In respond to the intensification issue of the Nile due to the construction of Ethiopian dam, a WEF Nexus educational program was developed to promote the mobility for academic staff and students to build a thematic network with strategic goals of enhanced cooperation in the NeXus-education and -research between project partners. The project partners are TU Munich, EuroTech partners from Switzerland and Denmark, NTUA Athens, the National Science Foundation Engineering Research Center ReNUWIt and the partner universities of the Nile Nexus area in Egypt (Cairo and Helwan University), Tanzania (Ardhi University) and Ethiopia (Addis Ababa University). The objective of the project is the Development of an English Master's degree program in the NeXus field at the TU Munchen.

3. A Three year Tempus project called Knowledge Triangle Platform for Water-Energy-Food Nexus (TriNex) was also initiated with several partners from Egypt and EU countries. The Knowledge-Triangle Platform for the Water-Energy-Food Nexus (TriNex) is a multidisciplinary project aimed at addressing the deep-rooted research and innovation vacuum in Egypt. With its emphasis on the importance of the Water-Energy-Food (WEF) Nexus as the launching pad for Egypt's development, it will provide a unique and vital boost to Egypt's ailing research establishment with particular focus on Egypt's looming security difficulties. Through the TriNex Project, a much needed injection of essential research and innovation will be provided to Egypt. The objectives of the TriNex are as follows:

   - Develop a national Water-Energy-Food strategy and collaboration platform
   - Training junior researchers on interdisciplinary water-energy-food research and offering PhD Summer Schools
   - Developing a web-based knowledge-sharing system

   The TriNex project partners are: Politechnico di Milano (Italy), Montpellier SupAgro (France), Rwth Aachen University (Germany), Graz University of Technology- TU Graz (Austria), and five Egyptian partners (Alexandria University, Cairo University, Heliopolis University for Sustainable Development, The American University in Cairo and Bibliotheca Alexandrina).

4. WEF Nexus activities at The renewable Energy center at Alexandria University (AU-REC): Since most of the ground water at the Egyptian desert is brackish water and it is the only source of water available at these locations, renewable energy (RE) can play an important role as a component of the WEF Nexus approach. A three Phases PV/ wind Hybrid RE system was developed at Wadi El-Natroon desert to drive a 40 Kw three phase irrigation water pump and a 100 m3 water desalination unit. The pumped brackish water is used for irrigation purpose. The desalinated water is used for human drinking and animals' use. A zero emission approach is also applied to recycle water and use animal and agricultural residuals as a source of energy.

An integrated food production system that include agricultural, poultry, fish and livestock production system will be developed as a Nexus show cases by upgrading the currently installed hybrid (PV/wind) system at Wadi El-Natroon desert to hybrid PV/wind/Biogas generator system. The animal manure and the agriculture residuals will be feed to anaerobic digester unit to produce Biogas for the gas generator. The brine from the existent RO desalination unite will be evaporated inside a greenhouse structure to produce salt and water which will be used in hydroponic system. To reach the zero emission system, the animal manure at the animal farm will be separated into two parts, solid and liquid. The solid will be fed to the gas generator to produce the biogas while the liquid parts will be biologically cleaned in bonds by growing aquatic plants and Algae. The biomass from algae and aquatic plant will be dried, milled and feed to the anaerobic digester while the cleaned water will be fed to a fish bond. Finally the water will be recycled from the fish bond to animal farm uses. The solid material from the anaerobic digester will be used as a fertilizer.

***Colophon**: This E-Newsletter has been developed within the framework of the MED-SPRING Project (FP7-INCO.Net 311780). For further information about the project please visit the official website: `http://www.medspring.eu`. Edited/Writen by MED-SPRING WP3 Team and MED-SPRING Coordination team. Images by CPMR, OKNet Arable and MED-SPRING.*