

From Reorienting Curricula to Developing Interdisciplinary Minors and MSc in Climate Change, Sustainable Agriculture and Food Security

Ministerial Conference on the Action Plan for Education for
Sustainable Development in the Mediterranean
Nicosia, Cyprus 8-9 December 2016

Vassilios Makrakis

Professor ICT in ESD

UNESCO Chair ICT in ESD

Dept. of Primary Education, University of Crete, Greece



Co-funded by the
Erasmus+ Programme
of the European Union



CCSAFS

Climate Change,
Sustainable Agriculture
& Food Security

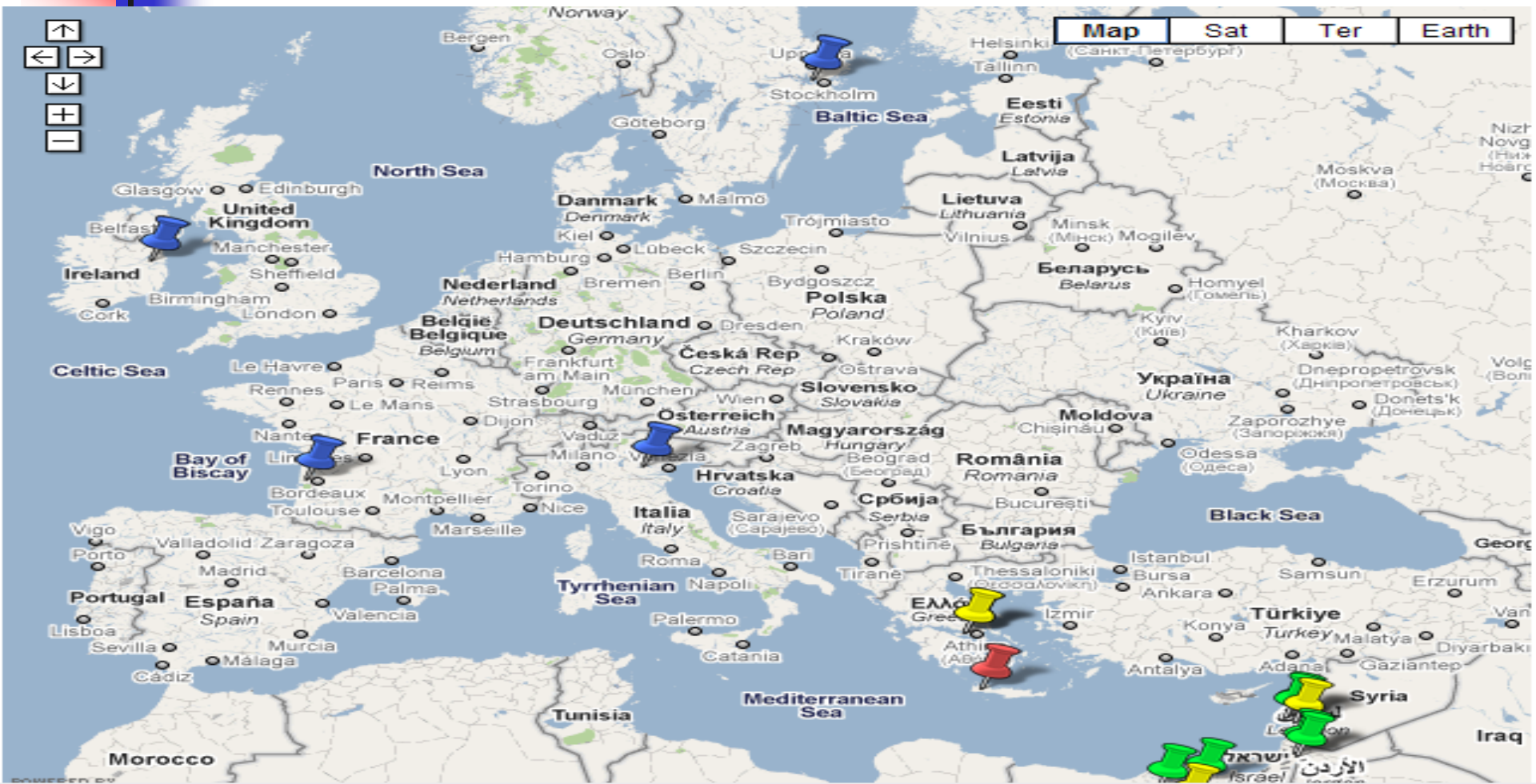


University of Crete



RUCAS

Reorient University
Curricula
to Address Sustainability





The project specific objectives were to:

- Support the development of ESD in the Higher Education sector in Egypt, Jordan and Lebanon.
- Build capacity amongst university staff to embed ESD in curricula and pedagogy.
- Review and revise undergraduate curricula to address ESD in line with Bologna and Lisbon processes.
- Assist the coordination and dissemination of ESD policy, research, curriculum reform and practice relating to ESD in the partner institutions that are expected to function as role models in the region.



Key Outputs (October 2010- September 2013):

- Reorientation of 250 university courses from six academic disciplines: educational sciences, technical sciences, health sciences, applied sciences, business/economic sciences and social sciences infusing ESD concepts, principles and methodologies.
- Training of more than 100 university teaching staff. Production of training materials and methodologies for reorienting university curricula to address sustainability.
- Establishment of a teleconference training center in each of the six partner universities in Egypt, Jordan and Lebanon equipped with state-of-the art equipment.



Europe

University of Crete (Coordinator)
Frederick University
Leuphana

Egypt

Aswan University
Heliopolis University
Port Said University
Suez Canal University

Jordan

American University of Madaba
Hashemite University
Jerash University
University of Jordan

Lebanon

Lebanese American University
Notre Dame University

NGOs

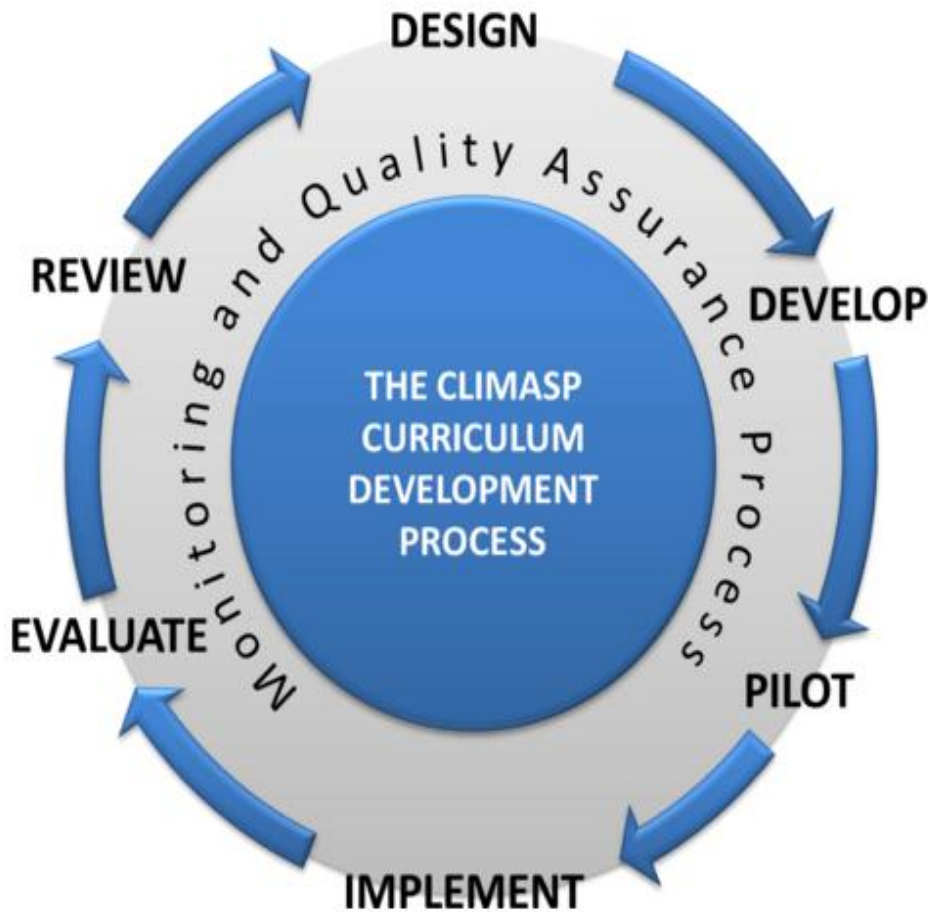
Jordan Environment Society
Egyptian Business Women Association
Education for Employment Foundation

Objectives

The wider CLIMASP objective is to transform current unsustainable practices that prevent interdisciplinary collaboration and promote sustainable leadership in the partners' countries universities and its graduates. The specific objectives are to:

- Develop capacity-building programmes to train university teaching staff and key administrators for interdisciplinary collaboration and building partnerships with local/regional and national partners.
- Involve university staff and other key stakeholders (e.g., students, professionals) in the development of an undergraduate interdisciplinary programme in CLIMAtE change and Sustainability Policy (CLIMASP) in each partner country university.
- Integrate and implement the CLIMASP programme as an integral part to existing undergraduate academic degrees in disciplines such as education sciences, applied sciences, technical sciences, economics/business sciences, and social sciences; and
- Monitor, evaluate and review the CLIMASP programme in each partner country institution.

Results described following the methodology phases



- December 2013-
November 2016



CLIMASP Outcomes

1. Developed guidelines for strengthening stakeholders' inputs in the CLIMASP curriculum development and implementation.
2. Organised and carried out nine national and two regional training workshops for preparing 120 teaching staff in the CLIMASP curriculum development and implementation.
3. Developed the CLIMASP online platform to provide continuous training support and resources.



cont.

3. **Developed, validated and accredited 300 interdisciplinary course syllabi and course modules related to CLIMASP across the 10 partner universities.**
4. **Developed a Euro-Arab Centre for Interdisciplinary Studies with an ICT Laboratory in each of the 10 partner Universities to institutionalise and support the CLIMASP programme.**
5. **Carried out formative and summative assessments of the CLIMASP pilot and full implementation, involving more than 100 teaching staff, 120 courses and 3000 undergraduate students.**
6. **Introduced the Euro-Arabpass Diploma in the CLIMASP undergraduate program adapted from Europass.**
7. **Developed an Minor in each partner university in the field of climate change and sustainability policy.**

The Structure of the CLIMASP

Minor



The interdisciplinary CLIMASP courses consist of core courses, elective courses, and the required capstone course in the three concentration areas, namely:

- 1. Climate Change, Environment and Society
- 2. Climate Change, Economics and Public Policy
- 3. Climate Change, Science and Technology

An Example: American University of Madaba, Jordan

I. CORE COURSES (All three are mandatory courses)

CLIMASP Orientations	Course ID	Course title	CH	Department	Faculty
Climate Change, Environment and Society	900171	Science and Society	3	Basic Sciences & Humanities	Science
Climate Change, Economics and Public Policy	900115	Social Ethics	3	-	Languages and Communication
Climate Change, Science and Technology	900170	Energy and the Environment	3	Basic Sciences & Humanities	Science

II. CAPSTONE COURSE (one mandatory course according to student's major)

Course ID	Course title	CH	Department	Faculty
505492	Graduation Project	5	Risk management	Business and Finance
303461	Internship in Food Science	5	Nutrition & Dietetics	Health Sciences
201473	Research project	5	Biology&Biotechnology	Science

CONCENTRATION AREA 1: Climate Change, Environment and Society

Course ID	Course title	CH	Department	Faculty
900112	Civic Education	3	B.Sciences&Humanities	Science
303465	Special Topics in Food Sciences	3	Nutrition & Dietetics	Health Science

CONCENTRATION AREA 2: Climate Change, Economics and Public Policy

Course ID	Course title	CH	Department	Faculty
900150	Introduction to Economics	3	-	Business & Finance
505101	Principles of Risk management	3	Risk management	Business & Finance
505321	Corporate Environmental management	3	Risk management	Business & Finance
505322	Project Risk Management	3	Risk Management	Business & Finance
505332	Disaster and Emergency Management	3	Risk management	Business & Finance
505431	Applications of Risk Management	3	Risk Management	Business & Finance

CONCENTRATION AREA 3: Climate Change, Science and Technology

Course ID	Course title	CH	Department	Faculty
900116	Bio ethics	3	B.Sciences&Humanities	Science
201323	Applied Plant Biology	3	Biology&Biotechnology	Science
304231/201331	(Basic) Microbiology	3	Med. Labs, Biology & Biotechnology	Health Sciences/Science
201415,201416	Ecology, Ecology lab	4	Biology&Biotechnology	Science
201417	Applied Ecology	3	Biology&Biotechnology	Science
201472	Selected Topics in Environmental Biology	3	Biology&Biotechnology	Science
303240	Food Science	3	Nutrition & Dietetics	Health Sciences
303341	Food Hygiene	3	Nutrition & Dietetics	Health Sciences
303455	Nutrition Education	3	Nutrition & Dietetics	Health Sciences
303441	Food Systems Management	3	Nutrition & Dietetics	Health Sciences

* 3 Credit hours are equivalent to 5 ECTS



Co-funded by the
Erasmus+ Programme
of the European Union



CCSAFS

Climate Change,
Sustainable Agriculture
& Food Security



University of Crete

Climate projections for the Middle East and North African (MENA) region indicate warmer and drier conditions with increased frequency of natural disasters. Food insecurity and climate change are the two major challenges in the region. Agriculture is one of the most vulnerable economic sectors to climate change, mainly due to the limited availability of water and land resources in the two target MENA countries (Egypt and Jordan). Together with increasing urbanization (Egypt will be doubled by 2030) and forced migration in Jordan, puts additional challenges, not only for supporting the livelihood of rural populations, but also to maintain a tolerable level of food security.



Aims (October 2016-September 2019)

- The wider objectives of the project is to respond to the needs identified through the development of an inter/multidisciplinary MSc programme in Climate Change, Agricultural Development and Food Security that will help promote the Sustainable Development Goals, especially SDG 2, by providing students with the skills and tools for developing agricultural practices, policies and measures to address the challenge that climate change poses for agriculture and food security in the two target countries and in the MENA region, in general.



Key Specific Objectives

- Carry out capacity building for the involved staff from the partner institutions.
- Develop a platform for blended learning supplemented by laboratories to support the MSc. Programme.
- Develop Centers of Excellence in CCSAFS in each partner country university.
- Accredite and implement the MSc. programme CCSAFS under the guidance of the Higher Education Accreditation Commissions.



THANKS A LOT
