

Welcome
Bienvenue
مرحبا بكم

MEHmed MEDITERRANEAN ENVIRONMENTAL
CHANGE MANAGEMENT
MASTER STUDY & ECOSYSTEM BUILDING

Kick off meeting 28/02/2019 · 01/03/2019

ERASMUS+ Programme – MEHMED - Project number 598826-EPP-1-2018-1-ES-EPPKA2-CBHE-JP

Background

The Mediterranean basin is famous for its natural diversity, but also an area with pressing environmental problems.

Apart from general issues such as waste management, water and air pollution and their effects on the population's health, these countries face severe challenges through desertification, deforestation and threats to biodiversity caused directly by environmental change and with severe implications for their economies, especially regarding agriculture and the tourism sector.

Change management will be crucial to seize socioeconomic opportunities linked to environmental change and minimize its risk

Climate change and interconnected risks to sustainable development in the Mediterranean

Wolfgang Cramer^{1*}, Joël Guiot², Marianela Fader³, Joaquim Garrabou^{4,5}, Jean-Pierre Gattuso^{6,7}, Ana Iglesias⁸, Manfred A. Lange⁹, Piero Lionello^{10,11}, Maria Carmen Llasat¹², Shlomit Paz¹³, Josep Peñuelas^{14,15}, Maria Snoussi¹⁶, Andrea Toreti¹⁷, Michael N. Tsimplis¹⁸ and Elena Xoplaki¹⁹

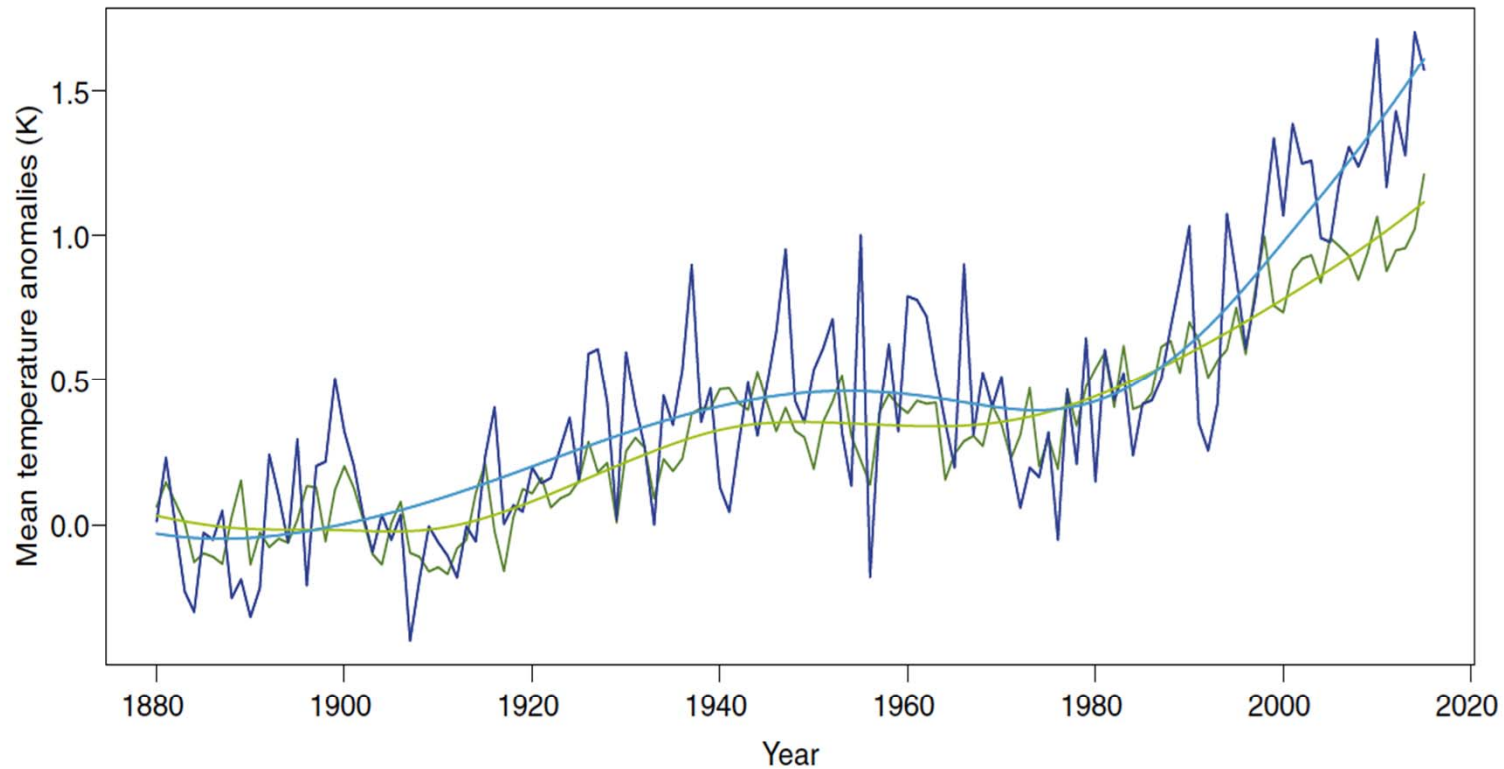


Fig. 1 | Historic warming of the atmosphere globally and in the Mediterranean Basin. Annual mean air temperature anomalies are shown with respect to the period 1880–1899, with the Mediterranean Basin (blue) and the globe (green) presented with (light curves) and without (dark curves) smoothing. Data from <http://berkeleyearth.org/>

Climate change and interconnected risks to sustainable development in the Mediterranean

Wolfgang Cramer^{1*}, Joël Guiot¹, Marianela Fader¹, Joaquim Garrabou^{1,5}, Jean-Pierre Gattuso^{6,7}, Ana Iglesias⁸, Manfred A. Lange⁹, Piero Lionello^{10,11}, Maria Carmen Llasat¹², Shlomit Paz¹³, Josep Peñuelas^{14,15}, Maria Snoussi¹⁶, Andrea Toreti¹⁷, Michael N. Tsimplis¹⁸ and Elena Xoplaki¹⁹

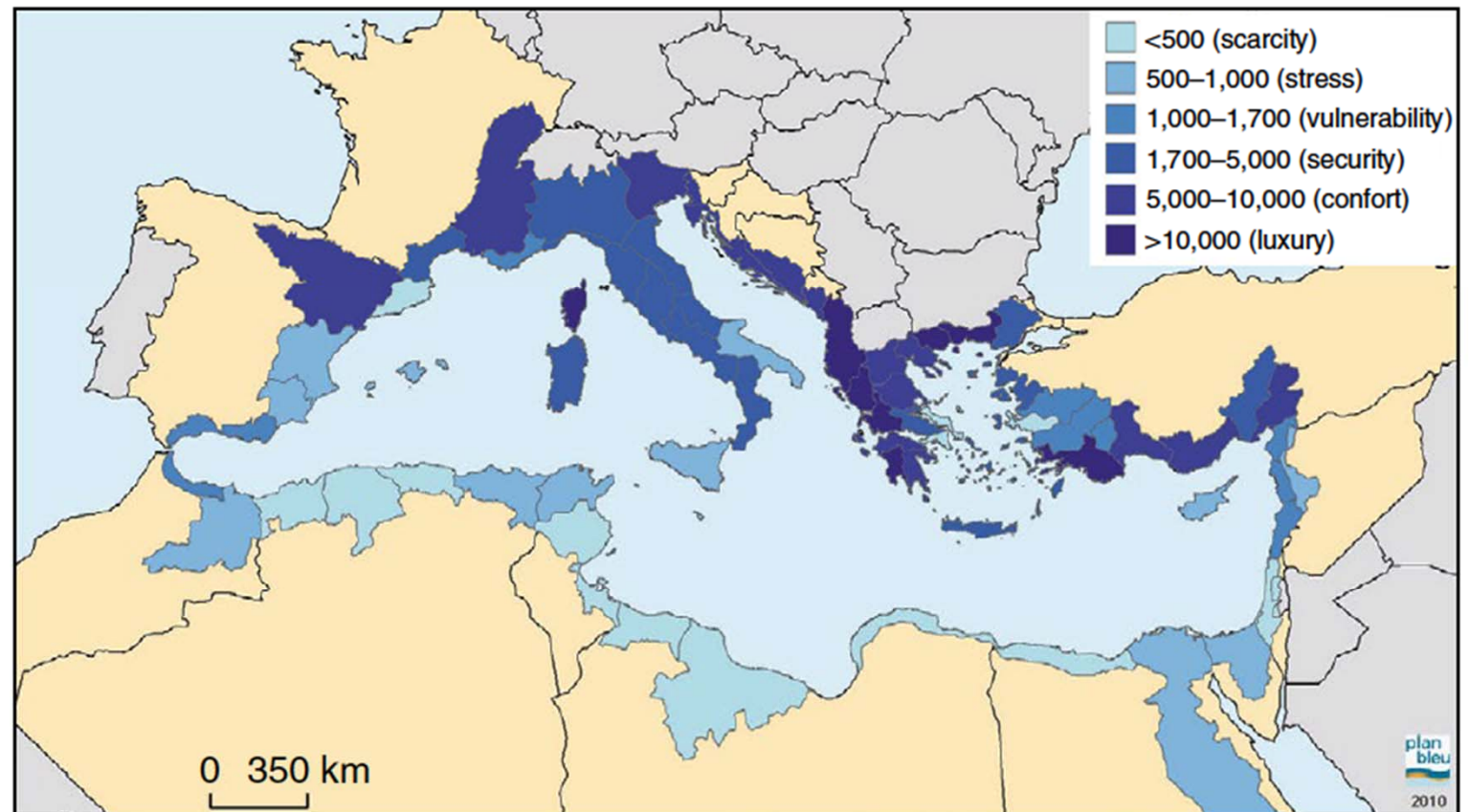


Fig. 3 | Annual natural renewable water resources in the main Mediterranean watersheds. Resources are expressed as per-capita levels of shortage for human use (in $\text{m}^3 \text{yr}^{-1}$; see legend). Map reproduced with permission from ref. ¹⁴⁶, Plan Bleu.



Partners



Algeria:



Morocco:



Tunisia:



France:



UNIVERSITE MOHAMED EL BACHIR EL IBRAHIMI
BOUJDI BOU ARREDDJ

Italy:



Catalonia/Spain:



Application Form
Selection: 2018
KA2

- Cooperation for innovation and the exchange of good practices
- Capacity Building in the field of Higher Education

Coordinator



MehMed Partners

UdG (ES) and UniSS (IT): +10 years imparting the European Master in Environmental Change

UBBA (AL): graduate students can study water & air pollution treatment

U. Constantine 3 (AL): degree in environmental engineering and another in eco-management and sustainable development

UMAB (AL): programme in Climate Change Adaption

IMT (AL): consulting firm specialised in Clean Energy, Climate Change, Environment and SustainableDevelopment

U. Paris-Sorbonne (FR): Biogeography, GIS and Environmental Change.

UAE (MA): investigates the dynamic of natural environments, territorial and natural disaster management, aquatic ecosystems and biodiversity

UMP (MA): active in environmental engineering, wastewater & solid waste treatment, as well as desalination

USMBA (MA): research in climatology, hydrological hazards and Desertification

ANPR (TN): collaborative research projects between academia & socioeconomic entities in the environmental field

UM (TN): degree in environmental protection, as well as in water treatment

Outline

- Duration – Period
 - **36 M**
- Aims and Objectives
- Development: Phases and Work Packages
- Project Management
- Budget – Overview and Management
- Academic Goals and Innovative Character





Aims

- Innovation and **internationalisation of the academic offer of HEIs** in Algeria, Morocco and Tunisia, in accordance with current EU practices and emerging global educational standards in order to facilitate the international recognition of degrees
- Enabling the **coordination of research efforts** in a field of global importance as is **environmental change**.
- Improving the **professional profile and employability** (domestic and international) of MENA HEIs students after following an excellent Master degree tailored on the EU standards, but also thanks to mobility measures during their studies.
- Exploring potential future cooperation activities between all partners of the consortium, such as the development of a joint Erasmus Mundus Master's Programme.

Overall objective

To develop and implement the **Mediterranean Environmental Change Management Master Study Programme in 8 MENA HEIs** under an innovative approach and holistic perspective on the complex challenges that environmental change is posing for the countries situated in the Mediterranean Basin.

Specific objectives

- 1) To develop and **implement the curriculum of the Environmental Change Management in the Mediterranean master's degree** in Algerian, Moroccan and Tunisian universities through a Bologna educational approach;
- 2) To develop a **practical, competence-based methodology** that facilitates graduate students' access to the labour market and promotes the creation of businesses, thus responding to concrete needs of the national economies and reinforcing current Algerian, Moroccan and Tunisian HEI policies and strategic development plans;
 - 1) To create **sustainable means for safeguarding and managing environmental change** and develop scientific strategies for environmental programmes to assure the knowledge value chain concepts of the master programme;

Specific objectives

- 4) Increase the **mobility** of graduate students and university teachers;
- 4) Promote **e-learning strategies** through a blended learning approach;
- 4) **Strengthen the relations between Algerian, Moroccan, Tunisian and European HEIs** and ensure institutionalisation and internationalisation of the research fields related to environmental change through an inter-university association
- 4) Foster the **training of academic teachers** in the field of environmental change management in order to ensure the education quality and improve researchers' scientific profile

MehMed Phases

Preparation

Development
&
Accreditation

Implementation
(development II)

Future
cooperation

Work Packages

WP1 - PREPARATION

WP2 – DEVELOPMENT

WP3 – DEVELOPMENT II

WP4 – QUALITY PLAN

**WP5 – DISSEMINATION
& EXPLOITATION**

WP6 – MANGEMENT

WP1: Preparation

- **Leader:** UMP but all participate
- **Milestones**
 - _ Knowledge base including research and analysis results (y1)
 - _ Definition of local emphases of teacher training methodology (y1)
- **Indicators**
 - _ Knowledge base including all analysis reports created by project (m3 - y1)
 - _ Reports on local challenges issued for all 3 PCs by (m3 - y1)
 - _ Definition of local emphases by (m5 - y1)
 - _ Manual on defined teacher training methodology + training material issued by (m6 - y1)

WP1: Preparation

- **Leader: OIJDA** but all participate

Task 1.1. Research and Analysis

1.1.1. Exchange of experience as basis for research activities

All EU and PC HEIs will discuss their experience on the environmental change management studies in their countries, especially in their HEIs, during the Kick-Off Meeting. The main aspects of these studies will be explored:

- Modules: curriculum architecture
- Learning outcomes, in particular transversal skills
- Teaching methods
- Target students
- Statistics: number of students, working places of students
- Duration
- Internship module (yes/no)
- Target public and private stakeholders to improve employability of students

WP2: Development I

- **Leader: GIRONA** but all participate
- **Milestones**
 - _ Curriculum development completed (m9 - y1)
 - _ Student and staff mobility planned (m9 - y1)
 - _ Official accreditation of the master achieved (m12 - y1)
 - _ Teacher training implemented (m12 - y1)
- **Indicators**
 - _ 4 modules developed (m9 - y1): fundamental; elective (local emphases), placement; subsequent module for master's thesis
 - _ Manuals and educational (including e-learning) material (m9 - y1)
 - _ Agreements + schedule for mobility measures (m9 - y1)
 - _ Entire curriculum accredited in all 3 countries (m12 - y1)
 - _ 2 PC teachers from each university trained at EU HEIs + 4 EU teachers implementing teacher training in PCs (m12 - y1)

WP3: Development II

- **Leader: CONSTANTINE 3** but all participate
- **Milestones**
 - _ Implementation of the first edition of the master (y3)
 - _ Implementation of student mobility (y3)
 - _ Results analysed and methodology revised for the 2nd edition (y3)
- **Indicators**
 - _ 4 modules implemented by (m6 - y3)
 - _ 4 students from each PC HEI (31 total) participated in mobility by (m6 - y3)
 - _ Monitoring reports on surveys after each semester by (m6, m12 - y2, and m6 - y3)
 - _ Final report on implementation results at each PC HEI issued by (m9 - y3)
 - _ Revised methodology for second master edition by (m12 - y3):
 - _ 4 modules + teaching material Accreditation obtained (m12 - y3)

WP4: Quality Plan

- **Leader: SOUSSE** but all participate
- **Milestones**
 - _ Monitoring and evaluation activities defined
 - _ Quality Plan Committee appointed
 - _ Technical and financial monitoring activities scheduled and implemented
 - _ External evaluation
- **Indicators**
 - _ Monitoring and evaluation plan issued by (m1- y1)
 - _ 4 appointed Quality Plan Committee members in each PC HEI by (m1 - y2)
 - _ Technical and financial reports issued by m3, 6, 9, 12 of each year
 - _ Quality assurance reports issued by m6 and m12 of each year
 - _ External evaluation reports issued by m12 of each year



WP5: Dissemination & Exploitation

- **Leader: WUSMED** but all participate
- **Milestones**
 - _ Dissemination plan defined, campaign launched and activities and events scheduled
 - _ Financial plan for sustainability developed
 - _ Inter-university association established
- **Indicators**
 - _ Dissemination plan issued (m1 - y1)
 - _ Campaign launched (m2 - y1) and carried out throughout entire project duration;
 - _ 4 local events (1 in each PC) (m2 and 12 - y1; m1 and m12 - y3)
 - _ Financial sustainability plan finalised by m12(y3)
 - _ Association established in (m1- y1)

WP5: Management

- **Leader: GIRONA** but all participate
- **Milestones**
 - _ Creation of management structures
 - _ 7 international meetings and monthly virtual SC meetings
 - _ SC reports issued
- **Indicators**
 - _ 13 SC members (m1 – y1)
 - _ 6 WP Leaders (m1 – y1)
 - _ Technical implementation teams per task (m1 – y1)
 - _ Technical Office Coordinator and Project Manager (m1 – y1)
 - _ Minutes of international m1,6 (y1); m1,6 (y2) ; m1,6,12 (y3)
 - _ Virtual SC meetings
 - _ SC reports issued by m3, 6, 9, 12 of each year
 - _ EACEA reports

WP5: Management

- **Leader: GIRONA** but all participate

Activity 6.4. Management of project progress

6.4.1. Meetings of the Steering Committee

6.4.1.1. Biannual International Meetings of the Steering Committee:

1st Kick-off Meeting in Girona, Spain (M1)

2nd Steering Committee Meeting in Tunisia on the curriculum development in Tunisia (M6)

3rd Steering Committee Meeting on the initial implementation of the master in France (M12)

4th Steering Committee Meeting in Algeria to review the master's implementation (M18)

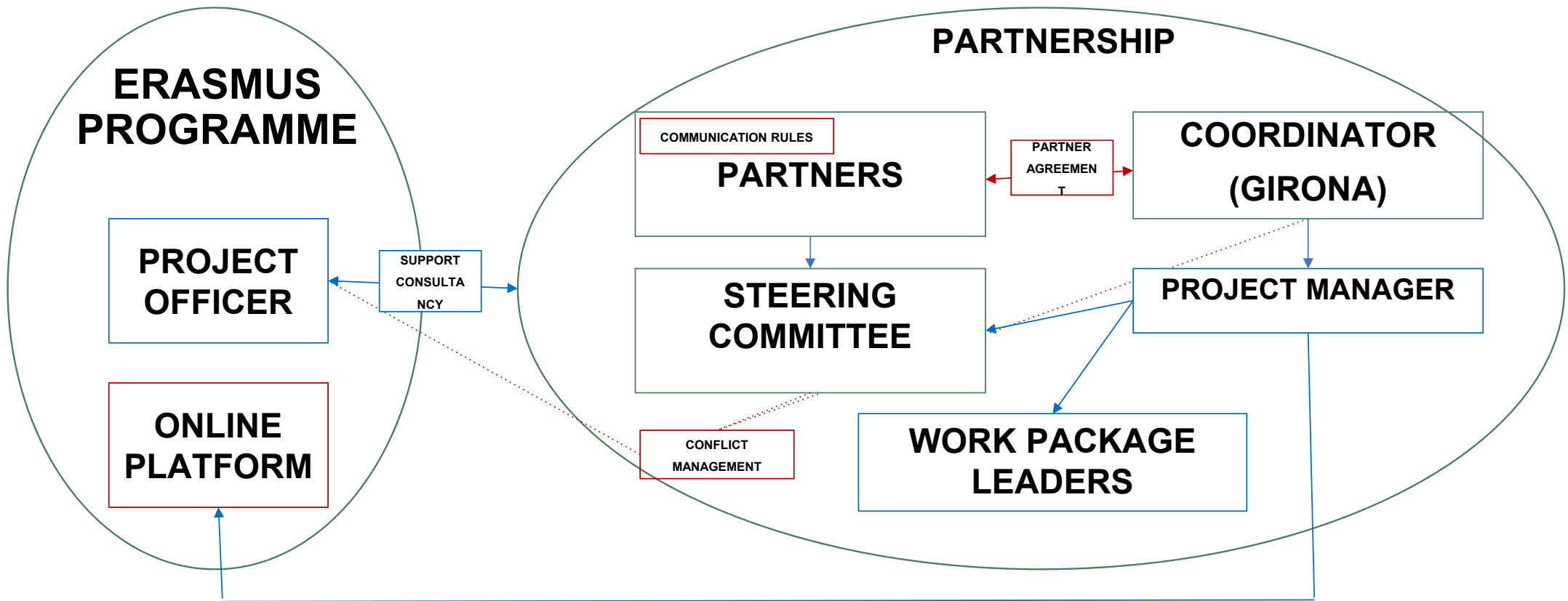
5th Steering Committee Meeting in Italy to review the master's implementation (M24)

6th Steering Committee Meeting in Morocco on implementation results (M30)

7th (Final) Steering Committee Meeting in Tunisia on project results (M36)

6.4.1.2. Monthly virtual meetings of the Steering Committee: for preparation, project planning, curriculum development, implementation, interim and final evaluation

WP5: Management



WP5: Management

COMMUNICATION RULES: to be introduced, discussed and agreed upon during the kick-off meeting. Permanent communication & reporting will be ensured by the following measures:

_ **Each Partner will appoint 1 contact person** in charge of the overall communication with the project team.

_ Operational long-distance communication within the partnership will mainly flow via **email**. All partners have to participate Actively in this process. One-way communication will be avoided. Emails should be answered within **48h** at the most.

_ Data & documents exchange will flow by means of cloud sharing: **Google Drive**.

once _ Apart from **7 international meetings**, the **Steering Committee will meet virtually via Skype a month** to prepare and discuss upcoming project activities, and evaluate progress and results.

CONFLICT MANAGEMENT:

In case of any conflict, the **Project Manager** will act as a mediator to solve the issue immediately, and if needed, the Steering Committee will meet to discuss the solution commonly.

Calendar

WORKPLAN for project year 1

Activities		Total duration (number of weeks)	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Ref.nr/ Sub-ref nr	Title													
1.	WP 1: Preparation													
1.1.	Research and Analysis	24	3= 3x	3= 3x	3= 3x	2= 2x	1= 1x							
1.2.	Define local emphasis	16		2= 2x	2= 2x	2= 2x	2= 2x							
2.	WP2: Development I													
2.1.	Develop academic content and structure	42				3= 3x	3= 3x	3= 3x	3= 3x	3= 3x	3= 3x	3= 3x		
2.2.	Development of teacher training methodology	16					2= 2x	2= 2x	2= 2x	2= 2x				
2.3.	Prepare student and staff mobility	18							3= 3x	3= 3x	3= 3x			
2.4.	Start of the Accreditation procedure	18								1= 3x	1= 3x	1= 3x	2x	2x
2.5.	Academic teacher training and mobility	30								3= 3x	3= 3x	3= 3x	3= 3x	3= 3x

Calendar

WORKPLAN for project year 1

6	WP6: Management													
6.1.	Creation of the management structures	4	2= 2x											
6.2.	Management plan	5	3= 2x											
6.3.	Financial and administrative management	24	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x
6.4.	Management of project progress	24	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x
	(6.4.1. Transnational Steering Committee meetings)	2	1=					1x						

Calendar

WORKPLAN for project year 2

6	WP6: Management													
6.3.	Financial and administrative management	24	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x
6.4.	Management of project progress	24	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x
	(6.4.1. Transnational Steering Committee meetings)	4	1= 1x					1= 1x						

Calendar

WORKPLAN for project year 3

5	WP5: Dissemination& Exploitation													
5.2.	Dissemination campaign	24	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x
5.3.	Local dissemination events	8	2= 2x											2= 2x
5.4.	Planning for sustainability	24							2= 2x	2= 2x	2= 2x	2= 2x	2= 2x	2= 2x
6	WP6: Management													
6.3.	Financial and administrative management	24	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x
6.4.	Management of project progress	24	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x	1= 1x
	(6.4.1. Transnational Steering Committee meetings)	3	1x					1=						1x



WORKING SESSION

01/03/2019

ACADEMIC GOALS OF THE MASTER'S PROGRAMME □ □ Work in groups March 1

- The **students will be prepared for careers in environmental work** and, if they choose, for a career in research and will obtain and improve their knowledge and competences through complex training in:
 - _ Current environmental conditions and legislative requirements
 - _ Laboratory & field techniques for monitoring, measurement and analysis
 - _ Interpretation and evaluation of scientific data
 - _ Systems design for environmental monitoring, analysis and assessment: cost-benefit, risks & life cycle analysis
 - _ Synthesis from disciplinary sources and communication of final results in management plans
 - _ Community service experience applicable to individuals, corporations, industries, schools, and government agencies which could provide needed scientific data and lend perspective to environmental problems
 - _ Specific skills, including transferable skills demanded by government agencies, consulting firms and industry such as planning & project management, communication, IT skills, etc.

- The **main learning objectives** for students within the MEHMED Project are to:
 - _ Promote the understanding of environmental systems, the relationship among science, environmental management and the human condition, and the effective management of that relationship.
 - _ Respond to local, regional, national and international needs for environmental professionals with advanced degrees.
 - _ Assist in the process of shifting toward more sustainable practices in our local community, state and throughout the world.
 - _ Encourage cross-disciplinary collaboration to find new and creative solutions to environmental problems.

INNOVATIVE CHARACTER OF THE MSC PROGRAMME □ □ Work in groups March 1

- _ **Collaboration** of various departments and scientific disciplines.
- _ Train students in the use of tools for managing **climate change policies** for institutions and companies.
- _ Clear **international** orientation
- _ **Inter-university research** collaboration
- _ **Student mobility** as an important tools for the internationalization of participating partner countries.
- _ Involvement of **public and private stakeholders** in the development of the curriculum to ensure the employability of alumni
- _ Application of interactive **distance and e-learning** tools
- _ Implementation of a methodology based on existing **problem-resolution schemes** in the field of environment, considering and simulating **concrete issues** faced in the area.
- _ **Group work** and tasks
- _ Explicit encouragement of **entrepreneurial culture** and education within the HEIs

A large, stylized green arrow pointing upwards and to the right, composed of several overlapping geometric shapes. It is superimposed over a background of a sunset sky and a silhouette of a wind farm on a hillside.

MEHmed MEDITERRANEAN ENVIRONMENTAL
CHANGE MANAGEMENT
MASTER STUDY & ECOSYSTEM BUILDING