PREPARATION AND MANAGEMENT OF THE MSc PROGRAME IN ENVIRONMENTAL SECURITY

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Abstract

Europe is facing an accelerated climate change as the result of global warming and population departure, and consequently rural areas are abandoned due to the increasing floods, forest fires, lack of water, land slide, etc, and it is highlighted the need to find ways to support management of such hazards by providing adequate training provision on environmental security and management. One facility for understanding and training appropriate personnel to mitigate threats to the environment is higher education, so in this way, authors proposed an MSc Program related to Environmental Security and Management. This program endeavors to prepare students for the regional and global postgraduate job market. This paper intends to explain and analyze the phases of preparation of documentation for accreditation and project management. Some aspects related to teaching strategies, such as a Virtual Learning Platform that contains learning materials in a digital format including text, audio-material, images and video-material, use of tester workshops organized in participating countries, tools for interaction with the student etc. will be discussed. Finally, the paper is intended as an aid to practitioners who voice the need for such training in an area that affects the environment in Europe. A training program, innovative and with a wider participation that opens to graduates from Business and Planning faculties who intend to work in infrastructure projects, graduates of environmental faculties who intend to specialise in environment disasters management is proposed by the present paper.

Keywords: Learning Management System, Virtual Learning Environment, Technical Education, Master Degree Management, Erasmus Program.

1 BACKGROUND

The European Constitution, signed in October 2004, encourages peace, security, and a sustainable economy, not only for Europe but also the world: "The Union shall work for sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and with a high level of protection and improvement of the quality of the environment… It shall contribute to peace, security, [and] the sustainable development of the Earth" (Title I, article I-3). The EU's recently adopted security.

Strategy states that "Security is a precondition of development. Conflict not only destroys infrastructure, including social infrastructure; it also encourages criminality, deters investment and makes normal economic activity impossible. A number of countries and regions are caught in a cycle of conflict, insecurity and poverty. Competition for natural resources—notably water—which will be aggravated by global warming over the next decades, is likely to create further turbulence and migratory movements in various regions". Based on this statement EU has to promote environmental security throughout Europe, including its direct neighbours based on a robust integrated learning programme.

EU Policy on Climate change (WHO/Europe, Parma Italy, 2010) for member states envisage to strengthen health, social and environment systems and services to improve their capacity to prevent, prepare for and cope with climate change. Within this context the consortium of this project evaluated EU' HE offer of environmental security to identify if the next generation of environmental scientists and managers are offer a solid and well prepared curricula. A survey of existing curricula at educational institutions in partner institutions was conducted and followed by a thorough analysis. This survey covered the ways how the practice is organized for students. This and all other data was discussed in the preparatory phase of the project idea. The proposed project draw lessons from this evaluation identified educational practices that need to change to embrace environmental security as a subject, gaps in education from employers and professionals perspective. Based on this a MSc programme of modules will be accredited jointly or dually at partner institutions and the overall MSc will be jointly piloted by the consortium leader, Buckinghamshire New University with the intention to offer environmental security and management within a transdisciplinary context with enterprises support and endorsement; and that opportunities, such as internships and other methods of applied learning, are included in the curriculum as a result of the partnership with stakeholders. All partners will participate in the piloting of the MSc on Environmental Security and Management and will also include accredited modules in their accredited MSc programs offer with the intention of joint delivery.

Figure 1; Volcanoes in Canary island (Santamarta JC, 2009)

The MSc Program in Environmental Security is a second cycle program of higher education that follows a first degree or an equivalent level of learning leading to Masters level offered by a higher education institution. The target groups are Graduates of Business and Planning faculties who intend to work in the infrastructure projects, graduates of environmental faculties who intend to specialise in environment disasters management, fire fighters who intend to specialise in wildfire prevention, graduates who intend to set up firms specialised in equipment production.

2   INVESTIGATION OF THE FIELD (STATE OF THE ART) AND INNOVATIVE CHARACTER

The goal of environmental security is to protect people from the immediate and long term ravages of nature, human-induced threats to nature, and deterioration of then natural environment (Barbu et al., 2007). It encompasses concerns about the negative impact of human activities on the environment, direct and indirect effects of environmental scarcity and degradation, and the insecurity individuals and groups experience due to environmental change such as water scarcity, air pollution, and global warming. The field of environmental security gained little attention following its emergence in the mid-1970s. The largest knowledge gap is in how to approach complex environmental problems. 21st century environmental challenges requires that university graduates possess a broad range of skills that cannot be delivered by traditional university curricula based on the concept of the environment as

a subject of 'hard' natural science. Many learning programs in Europe see the role of environmental education as a means to provide a platform for sound scientific research rather than to introduce decision-making concepts and tools.

The study of environmental security and management requires the study of causal relations between environmental problems and social aspects. SEMP will dynamically link people from different disciplines and from outside academia to improve students' experience which will enable them to learn to deal with multi disciplinary decision making solution. This allows for students not to be just inserted into one system or discipline, but simultaneously into a process of learning about the relation between education, political, social, ecological and economic environment. The distributed learning platform resultant of SEMP encourages shared knowledge, student citizenship and global perspectives while strengthening the overall curriculum and fostering systems thinking. Through involvement of stakeholders this project has an innovative character in allowing them to contribute with their experience on marketing, business, historical, social, and communication resulting in increased overall curriculum quality and informed involvement in environmental security issues.

In assessing the ability of practitioners and organizations to meet emerging threats, it was important to understand that environmental security challenges are dynamic and require engagement, proactive in thought and action to empower practitioners with event pre-empting knowledge to identify where the threats may affect livelihood, businesses and environment in ways which may not have been fully anticipated. Experience accumulated by consortium members on locations in Bosnia Herzegovina and in Spain and Romania found that knowledge on environmental security within the context of civil society is scarce at practitioner level. A normal degree or MSc course on environment management does not prepare practitioners on how to deal with minefields, dumped chemicals, land slide, wildfire etc.

This project considers a framework for the establishment of learning outcomes and assessment tools for each module based on the following set of four goals:

1. To generate new knowledge about natural hazards

2. To spur greater civic engagement and social responsibility

3. To promote deeper knowledge of, debate about, and practice of security

4. To cultivate intercultural competencies (adapted after McTighe Musil, 2006) that will enable civic engagement and intercultural competencies.

Figure 2; Rockslide in settlement, El Hierro island, Spain (Santamarta JC, 2009)

3 INNOVATIVE METHODOLOGY AND BENEFITS

A new core of modules for a integrated master program on environmental security and management targeting field staff that have a good education and expertise in disparate environmental security disciplines is something that hasn't been developed yet across Europe.

There is valuable experience and educational provision in the eastern European countries that are part of this project and the transfer of advance practice is not unidirectional.

The impact and benefits of SEMP are expected that students and practitioners will:

- Benefit from innovative and more effective teaching and learning techniques in risk assessment and data interpretation fields that exist in partner institutions, and be able to apply these in their work and study.

- Have the opportunity to take an active part in the project on an European level, to travel, to begin to learn a foreign language, to experience different cultures and to see opportunities for work or further study in other parts of Europe.

- Learn how to deal with the specific problems and challenges of intercultural communication, which will expand their horizons.

- Set up lines of communication with counterparts in partner institutions, which will be extended beyond the end of the project and may result in continuing relationships.

- Learn analytical skills required to be more competitive in an expanding European market.

- Have the benefit of a sustainable resource in LVE platform, which will also offer extended opportunities for cooperation with European partners as and when it needs updating.

- Benefit from a wider pool of ideas from which to open the doors to increased possibilities for their learners.

- Get motivation to learn by using attractive ways of education and have the possibility to learn in an attractive and enjoyable way.

- Be encouraged to get interested in lifelong learning.

- Increase awareness of the varied European ways of education.

- Get an opportunity for personal self-education and improve their knowledge on specific subjects.

The participating organizations will:

- Improve their know-how about creativity and innovation from a wider pool of ideas.

- Have the written support of the VLE as an international reference for each partner organization.

- Acquire a wider network, consisting of organizations/institutions, tutors across Europe, with whom to continue to exchange ideas after the end of the project.

- Will benefit from ongoing improved communication between educational organizations at European level and will become more aware of further possibilities of sharing good practice across the European educational market.

- Gain experience in intercultural creative thinking and communication.

- Get an in-depth understanding of the partner countries' educational culture in terms of preparing learners in formal and informal education.

- Form a stable partnership based on effective cooperation, which will be part of medium or long-term cooperation between European partners.

- Gain experience in European cooperation, incl. participation in joint bid and report writing, organizing it.

- Get knowledge on education methods used by institutions from different European countries.

- Exchange innovative practices in education and try to apply new ways of education in the partner's country.

- Involve new learners in the institution activities.

- Acquire experience in organizing international meetings.
- Have the possibility to work on an European level.

4   METHODOLOGY AND INNOVATIONS

The curriculum program consider by this project for the MSc modules is:

- Open (deliverable in a modular way) and complementary to similar programs in EU that fit the European Qualification Framework.
- Fits Bologna principles, with a special emphasis made on the "competence approach" and "credit-module structure" to allow for students' and staff exchange and for placement of graduates.
- Intended for treating issues of social importance in the area of business based on the principles of natural disasters preventive actions and sustainable development.
- Implies English as the working language in order to enhance students' and teachers' mobility and feasibility of its incorporation into the European Higher Education Area.

The modules Curriculum contents development is based on a logical chronology as follows:

- Modules list of competences;
- Pedagogical model of delivery;
- Modules development;
- Modules validation and accreditation;
- Develop a Virtual Learning Platform; Modules assessment against European Standards;
- Modules testing, updating and review.

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