



INTERNATIONAL WORKSHOP:

TRAINING IN LAND DEGRADATION AND REHABILITATION: CURRENT CHALLENGES AND NEW EDUCATIONAL RESOURCES

ABSTRACTS



26-27 October 2017,

Lisbon, Portugal

























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WORKSHOP ORGANIZATION

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1.Introduction: LANDCARE project

LANDCARE "Land Degradation and Rehabilitation in Mediterranean Environments" is an international project co-funded by the Erasmus+ Programme of the European Union (2015-2018). The overall objective of LANDCARE is to improve training capacities in relation to Land Degradation and Rehabilitation (LD&R) in Southern Europe. The partnership is composed by eight members, one academic and one professional partner from each participant country (Spain, Portugal, Greece and Italy).

Academic partners:

- 1-University of Santiago de Compostela (USC, Spain), Project Coordinator.
- 2-University of Lisbon (ULisboa, Portugal)
- 3-National and Kapodistrian University of Athens (NKUA, Greece)
- 4-National Research Council (CNR, Italy)

Professional partners

- 5-Forest Research Centre of Lourizan (CIF Lourizán, Xunta de Galicia, Spain)
- 6-West Systems SRL (WS Italy)
- 7- Empresa de Desenvolvimento e Infra-estruturas do Alqueva EDIA (Portugal)
- 8- Archipelagos Institute of Marine Conservation Archipelagos (Greece)

The project focuses in four topics reflecting the different partner's expertise: freshwater ecosystems, coastal areas, contaminated soils, and Wildfire areas, and two thematic strands transversal to all topics, namely Environmental education and Employability related with LD&R. LD&R is a field that requires training involving real study cases and hands-on experience. For this reason, the education path proposed in the project combines short-term international mobility through intensive courses with innovative online learning (PLEs, SPOCs) and international mobility to gain real-world experience through internships hosted by the professional partner participants. In parallel to the student's formation, an especial effort is dedicated to teaching staff training and to the exchange of best practices on land rehabilitation among participants.

More information about the project:

https://www.facebook.com/landcareproject/

http://landcare.es/

https://www.youtube.com/channel/UCprzqDSEKrGiYkyzTh7DZdQ/videos















2. WORKSHOP TRAINING IN LAND DEGRADATION AND REHABILITATION: CURRENT CHALLENGES AND NEW EDUCATIONAL RESOURCES

Improving training capacities in relation to Land Degradation an Rehabilitation (LD&R) in Southern Europe is an increasing need in order to fulfil the demands of an emerging labour market to contribute to the green economy, and finally to mitigate widespread land degradation. In this context, the International workshop "TRAINING IN LAND DEGRADATION AND REHABILITATION: CURRENT CHALLENGES AND NEW EDUCATIONAL RESOURCES", held in Lisbon, 26-27 October, 2017. This workshop intends to address current needs and recent tools in high education formation to foster the advancement of land rehabilitation across Southern Europe. In addition, this Workshop will host the Presentation of the first Network for education, training and transfer: land restoration and development, and the International Conference for Educators and Students Rehabilitation of Degraded Lands: Challenges for Education, Training and Employability (16-18 July 2018, Santiago de Compostela, Spain).

Thursday 26 OCTOBER 2017					
Time	Торіс	Speaker			
9:00-9:15	Opening and Welcome	Teresa Ferreira (Instituto Superior de Agronomia Univ Lisboa—ISA/ULisboa, Portugal)			
9:15-9:30	LANDCARE Project: Land Degradation and Rehabilitation in Mediterranean Environments	Agustin Merino (Univ Santiago de Compostela —USC, Spain)			
CHALLENGES IN LAND DEGRADATION AND REHABILITATION TRAINING					
9:30-9:50	Society of Ecological Restoration mission in	Jordi Cortina			
	Europe: Dissemination of Best practices	(Chair of Society for Ecological Restoration-Chapter Europe - SERE)			
9:50-10:10	Iberian Centre for River Restoration (CIREF) Mission in Iberian Peninsula: Articulating Knowledge Exchange and Training of Best Practices	Evelyn Garcia Burgos (Catalan Water Agency & CIREF, Spain)			
10:10-10:30	Ecological Rehabilitation in Portuguese continental waters: potential of demonstrative experiences for training	Rui Cortes (Tras-os-Montes University, Portugal)			
10:30-11:00	Coffee break				
11:00-11:20	What to do after fire? Key messages for post- fire restoration	Francisco Moreira (CEABN-InBio, ISA/ULisboa & CIBIO- InBIO, Univ Porto, Portugal)			
11:20-11:40	Rehabilitation of contaminated soils in Portugal and integration of study cases in educational projects	Manuela Abreu (Instituto Superior de Agronomia, University of Lisbon, ISA/ULisboa, Portugal)			
11:40-12:00	Fluvial Rehabilitation in Spain: demonstration of case studies in large rivers as a tool for knowledge transfer	Fernando Magdaleno Mas (Centre for Studies and Experimentation on Public Works– CEDEX, Ministry of Agriculture, Food and Environment, Spain)			
12:00-12:30	Debate - Chair by ULisboa & EDIA LANDCARE partners				
12:30-14:00	Lunch				

Table 1. Training in Land Degradation and Rehabilitation: Current Challenges and New Educational Resources Workshop Program on the 26-27 October 2017













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Thursday 26 OCTOBER 2017					
Time	Торіс	Speaker			
LANDCARE PROJECT OUTPUTS: TRAINING RESOURCES IN LAND DEGRADATION AND REHABILITATION					
14:00-14:20	A flexible Personal Learning Environment to foster learner-centred pedagogical approaches in Land Rehabilitation	Vasileios Kotinas Univ of Athens, Greece)			
14:20-14:40	Online Learning Tools (SPOC & MOOC) encouraging interaction between learners, educators and the wider public	Grazia Masciandaro & Serena Doni (CNR, Univ of Pisa, Italy)			
14:40-15:00	The role of enterprises in the formation of skilled professionals for an emerging labour market in land rehabilitation	Giorgio Virgili (West Systems, Italy)			
15:00-15:20	Volunteering as a strategy to align youth formation with society and environment	Anastasia Miliou (Archipelagos, Greece)			
IMPACT OF LANDCARE ON BEST PRACTICES FOR LAND REHABILITATION					
15:20-16:00	International cross-sectoral cooperation impact on education: students experience in LANDCARE	Joint presentation by students participating in Intensive courses and internships of LANDCARE			
16:00-16:15	Network for education, training and transfer: land restoration and development	Jordi Cortina (SERE) & Agustin Merino (USC/Spain)			
16:15-16:20	Rehabilitation of Degraded Lands: Challenges for Education, Training and Employability International Conference for Educators and Students	Agustin Merino (USC/Spain)			
16:20-16:30	Closure of International Workshop				
16:30-17:00	Break				
17:00-18:30	LANDCARE Project Annual Meeting				

Friday 27 OCTOBER 2017—Field trip				
Hour	Торіс			
8:30-19:00	Field visit: Challenges for rehabilitation in the Setubal Peninsula - Southern Lisbon region (coastal areas, forests, wetlands)			













3. PRESENTATIONS ABSTRACTS

3.1.Project Presentation

Land Degradation and Rehabilitation in Mediterranean Environments

(Erasmus +. Key Action 2 – Strategic Partnerships (KA203). High Education (2015-1-ES01-KA203-016214). October 2015-September 2018)

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Context /background of Project

The Mediterranean region is vulnerable to land degradation, which affects important sectors of the economy (agriculture, fishing, tourism) and the supply of vital goods (water, food). Although "actions to restore ecosystems and biodiversity have significant potential to create new skills, jobs and business opportunities" ((ED 2011/2307(INI)), there is a considerable shortage of skilled workers in this field due to the lack of proper training. This is especially important in Southern Europe, where youth unemployment is extremely high.

Objective of the project

The overall objective of LANDCARE is to improve training capacities in relation to Land Degradation and Rehabilitation (LD&R) in Southern Europe, in order to fulfil the demands of an emerging labour market and contribute to the green economy.

LD&R is a field that requires training involving real study cases and hands-on experience. For this reason, the education path proposed in the project will combine short-term international mobility and innovative online learning (PLEs, SPOCs).

The project will try to recover unemployed skilled people who are useful to encourage employability in this sector. Employability skills will be enhanced by means of personalized training and hands-on practices. To increase the scope of this strategy, the project reinforces interactions between students, educators, researchers, companies/agencies/NGOs and decision-makers.

Number and profile of participants

The consortium consists of 8 partners from Spain, Greece, Portugal and Italy. The four academic partners comprise educators/researchers with recognized expertise in LD&R and project management. The also show university entrepreneurship abilities. The four professional partners include SMEs, an NGO and decision-makers. The professional partners will complement the training and will also increase the scope of the project outcomes. The coordinator (USC) is the



















academic partner with the strongest virtual learning, employment and Quality Assurance structures.

Description of activities

The main activities proposed focus on training both staff (from academic and professional partners) and students (HEI, company staff and selected unemployed people). The teacher training will include a) intensive training in innovative online learning tools (PLE, SPOCs) and b) short-term joint events to reinforce training capacities in LD&R.

The student training will be based on two types of blended mobility. The concepts of LD&R will be taught by means of an intensive study programme, involving mobility and flexible online training (PLE, SPOC). Practical experience and employment skills will be provided by means of an internship programme combined with solid online and personalised training on employment and entrepreneurship. The learners will be HEI students, staff of companies involved in LD&R and selected unemployed people.

Certain teaching outputs of the project will have a strong multiplier effects: the development of blended mobility to enhance the employability in the "Green Economy", the publication of the first handbook linking Land Restoration and employability opportunities and the launch of a peer teaching network. The main multiplier social effect is the enhancing the green economy to generate job and development.

Methods to be used in carrying out the project

The project is divided in four main logistical phases:

1. Stock-taking of good practice and analysis of available materials and resources for LD&R training.

2. Collection and production of materials and study cases for the interactive courses.

3. Implementation of a pilot project. The trainees will travel from the home institutions to attend training sessions and will also use the online learning tools.

4. Dissemination/multiplier events towards outcomes, at three levels: a) dissemination of good practice by all participants, b) interactive courses and an electronic platform involving universities, social media and alumni and c) launch of a LD&R network with peer teachers and experts.

Short description of the results and envisaged impact

The envisaged impacts at individual levels include access to innovative methods and techniques of LD&R, improvement of language and digital skills and increased employability of the workforce. At organizational levels, the companies/agencies/NGO will benefit from access to knowledge and special facilities and a greater supply of skilled workers. University structures related to online learning and employment will also be reinforced. Decision-makers will be helped to solve certain environmental cross-border challenges.

Sustainability

The project outcomes will be maintained after the project as a result of the effects on the institutions (staff training, reinforcement of QA schemes and virtual and employment structures). It is also support environmental policies, such "Our life insurance" (ED 2011/2307(INI)) or the "Green Employment Initiative".















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3.2. Challenges in land degradation and rehabilitation training

Society of Ecological Restoration mission in Europe: Dissemination of Best practices

Jordi Cortina Segarra

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The Society for Ecological Restoration (SER) defines ecological restoration as the assisted recovery of degraded, damaged or destroyed ecosystems. Ecological restoration seeks to protect biodiversity and increase the provision of ecosystem services, contributing to human well-being. This is particularly true in highly humanized areas, as the European continent, where ecological restoration must necessarily integrate socio-economic and cultural dimensions. Ecological restoration involves multiple actors. Collaboration between them, and knowledge generation and exchange is essential to promote restoration programs at all governance levels, and ensure high quality restoration. SER was born in 1986 to promote ecological restoration as a means of sustaining the diversity of life on Earth and re-establishing an ecologically healthy relationship between nature and culture. It comprises 14 regional chapters, including SER Europe (SERE). SERE is organized as a network of networks, linked to national associations and platforms, and European-level organizations sharing the same aims. SERE tools to disseminate good practices in ecological restoration and promote their implementation in Europe include the organization of biannual Conferences and specialized courses, the coordination of scientific and technical publications, and raising awareness and informing policy makers. SERE also provides support to initiatives developed by third organizations, and contributes to the diffusion and improvement of SER International Standards for the Practice of Ecological Restoration and the Certified Ecological Restoration Practitioner Program.















Iberian Centre for River Restoration (CIREF) Mission in Iberian Peninsula: Articulating Knowledge Exchange and Training of Best Practices

Evelyn Garcia Burgos

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At least one third of aquatic ecosystems in the Iberian Peninsule are in bad state for its structure and water quality and more than 60% of wetlands and thousands of km of floodplains have disappeared. Conservation and, if necessary, restoration of aquatic ecosystems is one of the main environmental challenges. It's quite a new field with few knowledge, experience and lack of monitoring supervising the measures and its impact in the ecosystem. In this context, the Iberian Centre for River Restoration (CIREF) was founded in 2008 to join Spanish and Portuguese scientists, managers, different professionals and members of other associations following the model of other European centres. The main objectives and activities through these past years are basically: 1) Encourage participation, as well as support and advice, in public and private activities and initiatives aimed at protecting, conserving and restoring river areas; 2) Establish, maintain relationships and obtain adequate representation in public and private bodies and institutions that affect the Center's field of action, collaborating with them as far as is beneficial to river systems through workshops, conferences and specific assessment on projects with affections on aquatic ecosystems; 3)Promote and design technical materials and educational resources for use in secondary schools, universities or others to disseminate knowledge about the ecology and restoration of rivers; 4) Disseminate and defend the values of river ecosystems, collaborate in the fight against their degradation by contamination, dredging, channeling, regulation, reservoirs and occupation of its shores and floodplains. The collaboration with other associations as AEMS-Rios con vida and other to organize educational journeys as World Fish Migration Days has been strategic actions; 5) Promote internationally projects or other cooperative activities for sustainable development compatible with the conservation and restoration of river ecosystems. The LIFE NGO with Wetlands International (WI) and European River Restoration Centre (ECRR) and River Res Action group are examples of successful European collaboration; 6) Promote the exchange of information between the different professionals who develop river restoration projects or who participate at a conceptual level in their development, in order to improve their technical level. In this sense one of the main activities has been the on-line courses between 2011 and 2015 training up to 100 students and professionals.











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Ecological Rehabilitation in Portuguese continental waters: potential of demonstrative experiences for training

Rui Cortes

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Modifications observed on the hydraulic regime of river systems in Portugal caused by engineering works led to growing awareness of their impacts. Besides, the need to harmonize and integrate both the hydraulic and the ecological/environmental components has been an important issue everywhere. In this presentation we show some multidisciplinary interventions carried out, in the last two decades, related to the ecological impacts of realignment and construction works implemented in different catchments. Such mitigation or restoration procedures have generally as a priority the erosion control using soil engineering techniques. But together with the stabilization of the river banks those techniques are appropriate to promote the dissipation of energy, to improve the structure of riparian vegetation, the control of invasive species. In general, the main concept is to increase the physical heterogeneity as the main toll to support a higher biodiversity, especially of target fish populations, but we should also consider the definition of the appropriate flow regimes. The case studies included in this presentation involve ecosystems impacted by different types of disturbance, from river regulation, to channelization or gravel extraction. We want also to reflect about the handicaps related to these actions, namely their local character or the need in obtaining post-appraisal information in order to accommodate new interventions/ corrections.















What to do after fire? Key messages for post-fire restoration

Francisco Moreira

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Every year, around 45,000 wildfires occur in Europe, burning an area of ca. 0.5 million hectares. The post-fire management of burned areas has been given much less attention than fire suppression and prevention in Europe. However, important questions raise public concern and require scientifically based knowledge: how can we accurately evaluate fire damage? What are the most suitable short-term intervention techniques to minimize soil erosion and water runoff? How should burned trees be managed? How to restore burned areas, and what is the best approach to long-term planning for their rehabilitation? Wildfires can also be regarded as an opportunity to plan and establish less flammable and more resilient forests and landscapes. So, what information is available on these topics? In this presentation, six key messages that administrations and stakeholders should be aware of will be presented, namely: (1) not all burned areas require restoration; (2) Forest planning should include the identification of areas vulnerable to fire; (3) It is not necessary to cut all burned trees after fire; (4) Emergency actions to mitigate soil erosion and water runoff hazards should be implemented only in high risk areas; (5) Reforestation is not necessarily the best post-fire response, and it should include a careful selection of species and techniques; (6) Large fires constitute opportunities for planning landscapes that are more resistant and resilient to fire. These messages should be clearly included in training programs for graduate students and in knowledge transfer initiatives to forest managers.















Rehabilitation of contaminated soils in Portugal and integration of study cases in educational projects

Manuela Abreu

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Soil is an interactive and multi-phase bioreactor in the atmosphere, hydrosphere, biosphere, lithosphere interface whose behaviour depends on its constitution and organization. Soil quality degradation is, generally, a result of the Human activities like industry, agriculture and mining activity. Soil degradation processes can be quite fast, while the processes of formation or recovery/remediation are always extremely slow. Soil contamination by organic compounds and chemical elements (metals/metalloids) is one of the factors of soil degradation. The rehabilitation of contaminated soils is a fundamental issue to the ecosystems recovery and for biodiversity. Several approaches can be used to recover contaminated/degraded land, particularly soils from mine areas. Current engineering type remediation techniques of mine areas tend to be very expensive, and mostly ecologically unfriendly. Phytoremediation are less expensive, non-invasive and more publicly acceptable technologies for remediation of contaminated soils. Phytostabilization, one of the phytoremediation approaches, uses plants and their associated rhizospheric microorganisms to immobilize contaminants in soil. This technique can also use several abundant wastes (inexpensive natural and/or industrial, and agro-forestry by-products) in a circular economy to make tailored Technosols for soil properties improvement including metals/metalloids bioavalability decrease, reducing or eliminating the risk to both human health and environment. Several examples of study cases on mine soils phytostabilization will be presented. In the Lousal abandoned mine area will be implemented next year a project for phytostabilization of contaminated soils that is also orientated for educational purposes complementing the existing educational project in Lousal "Centro de Ciência Viva" and the Museological Relousal Project.

















Fluvial Rehabilitation in Spain: demonstration of case studies in large rivers as a tool for knowledge transfer

Fernando Magdaleno Mas

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Restoration and rehabilitation of degraded rivers are increasingly developed today as part of river management. Progressive transformation of our rivers, motivated by multiple anthropogenic pressures, and recent shifts in legal, scientific, technical and social paradigms have endorsed a complete modification of managerial approaches to river systems. The inherent complexity of the spatial and temporal dynamics of rivers require actions which may contribute to providing rivers with multi-fold functions and environmental services as part of a strategy of true harmonization between river exploitation and conservation.

In Spain, rivers have historically suffered large flow regulation, and huge ecogeomorphic alterations due to the occupation of floodplains and river banks. Nonetheless, over the last decade, a range of relevant restoration experiences has been developed in rivers of different typology and features. This presentation is structured around two blocks, one dedicated to review current strategies in river restoration in Spain, and a second focused on the presentation of case studies and demonstrative examples. Restoration initiatives are listed according to their major foundation: flow patterns, geomorphic processes, river habitats, and social issues.

On the basis of the examples presented, some of the main outcomes of the presentation are: i. the urgent necessity to understand how river restoration may contribute to the multiple legal requirements of the EU: ii. the importance of implementing restoration actions which have a wide array of outcomes, in accordance with planning and management goals; iii. the interest of providing robust participatory processes which ensure an optimized cooperation between authorities and stakeholders, and of transferring knowledge on best practices on (urban and non-urban) river management to students; iv. the relevance of adopting river restoration as part of wider land&water&biodiversity strategies; v. the significance of combining river restoration with improved land planning.



















3.3.Landcare Project Outputs: Training Resources in Land Degradation and Rehabilitation

A flexible Personal Learning Environment to foster learner-centred pedagogical approaches in Land Rehabilitation

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Land degradation is a process that causes undesirable change to the land and biophysical environment The Mediterranean countries are severely affected by land degradation, which has a huge impact on their economy and supply of goods. Actions for the Restoration of ecosystems and biodiversity are essential, but require resources, research on restoration methods and properly trained people. LD&R education requires learning through real cases, constant updating of knowledge and technologies, but only a few European Universities offer high quality study programs on this field. To solve this problem Landcare Project focuses on improving teaching and training capacities, in LD&R, in Southern Europe, to fulfil the demand of an emerging labour market through the enhancement of people's employability skills and to contribute to the economy of the region. This requires training of teachers, staff and students, which is a main priority, and can be achieved by combining traditional education methods, sharing of expertise, innovative online learning, short-term international mobility, enhancements of employability skills through blended mobility and synergies between students, educators, researchers, university structures, companies/agencies/NGOs and decision-makers. The key component of the training is the Online platform, which is developed in stages (2015-2018), includes all the teaching material (handbooks, multimedia, exercises etc) divided in thematic categories and presented in an interactive way. The online platform is also a place of communication and exchange of good practices between teachers, staff, students and any person with interest in LD&R. The online learning environment is tested during the 3 Intensive Programmes, making improvements where needed, and the final version will be publicly available in the end of the Project in 2018. Any person that is interested in LD&R, will be able, to use this online learning environment, to have a proper training on LD&R, improve their employability skills on this field, and build a stronger professional profile on an emerging labour market.



















Online Learning Tools (SPOC & MOOC) encouraging interaction between learners, educators and the wider public

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The overall objective of the LANDCARE project is to improve teaching and training capacities in relation to Land Degradation and Rehabilitation in Southern Europe to fulfill the demand of an emerging labor market and to contribute to the economy of the region. Among the different topics in which the project is organized, CNR-ISE is involved in "Soil Contamination and Decontamination", with particular attention to the development of innovative strategies to recover contaminated soils and sediments. In particular, the teaching theoretical and practical activities have been oriented towards the knowledge of soil properties, pollutants behavior and bioavailability affecting the choice of the decontamination technology, and the importance of bioremediation treatment. During the development of the Landcare project, CNR-ISE and other partners education paths developed a blended learning approach, combining Intensive face-toface pilot courses (classroom lessons, laboratory and field work experiences), with e-learning tools (MOOC and SPOC). In particular, the Chamilo virtual platform, an open-source to upload texts, exercises, videos, etc..., has been used to develop an innovative learning way based on active and interactive approaches, independent and collaborative assessments, and learning beyond the classroom walls. All the outputs coming from the teachers and students during the Landcare project (handbook, formative videos, presentations, exercises, tests, etc.) have been used to generate SPOC and MOOC e-learning tools which complement and/or reinforce the personal core of the knowledge.

















The role of enterprises in the formation of skilled professionals for an emerging labour market in land rehabilitation

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The emerging labour market in land rehabilitation global market requires to provide valuable products, solutions and services to customers locally, nationally, internationally and worldwide. To address this market, SMEs must properly invest on the formation of skilled professional in order to guarantee the quality, safety, health and credibility of the services and products. The requirements on training and formation and a summary of some experiences will be presented.

















Volunteering as a strategy to align youth formation with society and environment

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The design and implementation of targeted research and conservation projects for young graduates and undergraduate students through targeted internship and research volunteering, can result to win-win scenarios, providing both a great support to the implementation of these projects, as well as an invaluable learning experience for the participants who are in the start of their career. These targeted internships offered by Archipelagos Institute, address to a wide range of backgrounds, through an intergrated multidisciplinary approach. In this manner students and graduates of environmental, marine, biological and other related sciences, carry out research on numerous related projects (marine mammal research, ornithological research, marine conservation, GIS, herpetology, environmental management, terrestrial mammals, taxononomy, botany, microplastic research, invasive species monitoring, fisheries, aquaculture and many more), while they closely cooperate with students/graduates of other disciplines e.g. environmental law, media and communication, graphic design, environmental education, environmental photography and filmmaking, journalism, social media communications and other. While working closely with young people of similar career stages, the participants of such voluntary projects, realize the need for cooperation and team work, when the expected outcome is more than a scientific result but one that can positively affect and influence the natural environment and very importantly the local communities that live in the same region.

















3.4.Impact of LANDCARE on best practices for Land Rehabilitation

International cross-sectoral cooperation impact on education: students experience in LANDCARE

Joint presentation by students participating in Intensive courses and internships of LANDCARE: Madalena Dias Ferreira (ISA/ULisboa, MSc in Forestry Engineering and Natural Resources) João Barata (ISA/Ulisboa, Bachelor in Biology) Marta Carril (University of Santiago de Compostela, MSc in Outdoor Educational Activities) Ana Silva (ISA/Ulisboa, MSc in Forestry Engineering and Natural Resources)

In this presentation we will talk about the experiences we had on the LANDCARE Course, in both the first and second editions, from a student's perspective. Although we all had the same starting point of a general, semi practical course about land rehabilitation and it's challenges in Lugo, Spain (first edition, 2016) or in Naxos, Greece (second edition, 2017), our experiences were very different. After this primary approach, each one of us chose a different professional partner of LANDCARE to do an internship and to put the knowledge we gained during the course in practice. João went to the first edition in Lugo, and did his internship in Archipelagos - Institute of Marine Conservation, in Samos island, Greece, where he participated in a survey about the population of chameleons, and in the rehabilitation of burned areas. Madalena also went to the first edition, and finished the program with a thesis about wildfires and natural regeneration. Ana went to the second edition in Naxos and her internship was in CIFL - Centro de Investigación Forestal de Lourizán, where she assessed the after fire conditions and evolution of the ecosystem rehabilitation after one year with different post fire treatments. Marta also went to the second edition and is still doing her internship in EDIA - Empresa de Desenvolvimento e Infraestruturas do Alqueva, where she is developing educational materials for the public awareness. This experience also contributed to expand our network and points of view through contact with people from different countries, namely, Spain, Greece and Italy.















Network for education, training and transfer: land restoration and development

Jordi Cortina¹ and Agustin Merino²

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The overall objective of this network is to improve training capacities on land restoration in order to a) contribute to a sustainable environment management and meet international commitments on land restoration and b) to fulfil the demands of an emerging labour market with important implication for rural development (multiplicative effect on green economy). The network will enhance international innovative learning opportunities, for both teachers and students a) Exchanging technical expertise and good practices, b) Promoting collaborative projects on education, training and transfer, c) Disseminating courses and training activities, e) Establishing a virtual platform for training and demonstration plots, specialized education programs. The employability skills will be enhanced by means of collaborations with companies, national and international agencies (internships, training plots, courses), specific training on employability and entrepreneurship of students (collaboration between companies, NGO'S,...and specific units at the universities). To increase the scope of this strategy, the project reinforces the synergies between Universities (Teachers, students, and structures focused on innovative learning and employability), Vocational schools (Teachers, students, and structures focused on innovative learning and employability), Companies in the field of land management and ecological restoration, NGO's and Volunteer organizations, Research centers, Policy makers (national and regional departments for development). With respect to Management, this network will be promoted by the European Chapter of the Society for Ecological Restoration (SER) and coordinate efforts with nationals and international organizations (scientific, companies, NGO's...). It might be presided by decision-makers (European and National representatives). The network will be managed by a working group hosted in the SER, whose roles would be the following: a) Design and implement the dissemination strategy for relevant training events: webpage hosted in the SER and social networks (facebook,....) b) Promote the development of training materials and resources, c) Organize an annual "official" SER training school and give support to other initiatives, d) Report the working group in the regular conferences of the SER and e) Promote international collaborative projects (ITN, Erasmus +, COST actions,...).

















Rehabilitation of Degraded Lands: Challenges for Education, Training and Employability International Conference for Educators and Students

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The degradation of land affects the provision of important services (food, water quality and amount, biodiversity, wood, pest regulation, etc.) and human wellbeing, resulting in a strong effect on the economy (agriculture, fishing, tourism) and vital needs (food, water). For its impact on economy and environment, land rehabilitation is generating an emerging labour market (The EU Biodiversity strategy to 2020). Yet, despite this demand, there is a considerable shortage of skilled workers in this field.

The overall objective of the Conference is to improve teaching and training capacities in relation to Land Degradation and Rehabilitation in order to fulfil the demands of an emerging labour market and contribute to the green economy. Land Rehabilitation training requires constant updating of expertise and technologies, as well as study with real cases. In many cases, this only can be done by effective transfer from cutting-edge research and by knowledge exchange from cross-sector experiences. The current approaches to improve these capacities are focussed on education paths and models combining international cooperation, online learning and employability skills. Reinforcement the synergies between students, educators, researches, companies/agencies/NGOs and decision-makers is a key aspect to improve the teaching capacities.

The Conference will cover a variety of common environment threats, such as wildfires, contamination of soils and waters, degradation of wetland ecosystems, coastal degradation or over-exploitation of agriculture and forest resources. This Conference aims to bridge educational projects on land restoration around the World taking advantage from sharing different approaches and insights. The goal is to create an international forum to exchange experiences carried out in universities, research centres, companies and NGO's and innovative pilot-studies focusing on the learning and training on Land Degradation and Restoration to ensure the maintenance of ecological services. Students, trainers and teachers of universities and vocational studies, researchers, companies, stakeholders, NGO's, as well as policy makers, are welcome to take part in this Conference and share their knowledge.

The conference will be held in Santiago de Compostela (Faculty of Journalism), Spain, from 16-18 July 2018. It will include Regular conference sessions (Challenges for Education, Training and Employability); Students/Trainers Conference Session; and a Post conference-Training school. The participation of students will be promoted at all stages of the conference (organization, presentations, attendance to training School).

Important dates: Abstract submission 15th of May, 2018 Early bird registration: 15th of June, 2018

Information: http://www.landcare.es











