TRAIN#ER COMMUNITY OF PRACTICE

Training Capacities on Ecological Restoration Workshop at the UNIVERSITY OF SOUTH BOHEMIA, ČESKÉ BUDĚJOVICE, CZECH REPUBLIC

SER EUROPE SOCIETY FOR ECOLOGICAL RESTORATION

Universitat d'Alacant
Universidad de Alicante

NINA

HOCHSCHULE ANHALT University of Applied Sciences

University of South Bohemia in České Budějovice
Faculty of Science

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TRAIN#ER Community of Practice: Training Capacities on Ecological Restoration Workshop at the University of South Bohemia, České Budějovice, Czech Republic, 2022/09/29-30. – February 2023

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INTRODUCTION

The objective of the workshop was to bring together experts from the academic and professional sectors on an international scale to a) identify the main problems of environmental management relevant to restoration ecology, and b) analyze current educational needs and available training opportunities on restoration ecology. The result of the workshop will serve as seminal work to identify the available training opportunities for the target groups, as well as to target and build a partnership between applicants and collaborators currently involved or useful in the design of training programs in restoration ecology.

The workshop aimed to identify the currently available offer of restoration ecology training at the small-scale partnership, national participating countries, and the EU level. A list of potential demonstration sites was identified to illustrate, according to context, desirable and undesirable restoration practices in future training programs. A resources matrix developed in Activity 1-Survey was used to give a general overview of the main topics and focus of restoration ecology training in the respective partner universities, identify strengths, and check which areas are common or missing. Current educational needs and training offers are planned to be further assessed at the national and EU scales.

As a part of the workshop, an in-person partners project monitoring meeting was planned.

KNOWLEDGE EXCHANGE WORKSHOP

Date: 29.-30. September 2022
Venue: Club of the University Library, University of South Bohemia, České Budějovice, Czech Republic

Participants:
- Personal attendance:
Klára Řehounková (USB, CZ)
Lenka Šebelíková (USB, CZ)
Klára Čámská (NCA, CZ)
Anita Kirmer (HSA, DE)
Markus Meyer (HSA, DE)
Vera Grünhage (HSA, DE)
Astrid Skrindo (NINA, NO)
Jordi Cortina (UA, ES)
Jordi Pietx (SERE)

- On-line participation:
Nils Borchard (DLG, DE)
Daniel Arizpe (CIEF, ES)
Robin Corrià (SERE)

- Volunteers (USB, CZ):
Kamila Vitovcová
Anna Müllerová
Miguel Ballesteros Jiménez

TRAIN#ER PARTNER'S MEETING

SER Europe is involved in several EU projects to promote high-quality ER, including TRAIN#ER.

A brief summary of the current state of the project was presented. The fulfilled activities contain Activity 1 – Survey (see Table 1), Activity 2 - Focus groups (see Table 2), and currently also Activity 3 - Knowledge Exchange Workshop. Among still not completed tasks, there are Activity 4 - Analysis, synthesis, and recommendation, and Activity 5 - Communication.

Table 1: Summary of general information on surveys in participating countries and at EU level.

SURVEY									
Partner	**Country**	**Platform**	**Duration (days)**	**Start date – End date**	**Main profile of the respondents**	**Way of dispersal (Mail, social media, etc.)**	**Number of invited participants**	**Number of participants completing the survey**	**Number of participants contributing to the pre-test**
SER Europe	EU	Survey Monkey	86	6/27/ 2022 - 9/20/ 2022	4	mail, social media	Mails: 60; SER Europe membership: 330; Twitter followers: 1300	146	5
Anhalt	Germany	ArcGIS online: Survey123	50	7/28/ 2022 - 9/15/ 2022	1	mail	200	74	6
NINA	Norway	surveyxact	180	6/20/ 2022 – 10/10/ 2022	2	mail	157	55	4
USB	Czechia	Google Forms	62	6/13/ 2022 - 8/13/ 2022	1	mail	125	43	2
UA	Spain	Encuesta.com	48	6/2/ 2022 – 7/20/ 2022	1	mail	208	70	12

Table 2: Summary of general information on focus groups in participating countries and at EU level.

FOCUS GROUP								
Partner	**Country**	**Date**	**Duration**	**Start time – End time**	**Moderators**	**Number of participants**	**Location**	**Occasion**
SER Europe	EU	6/20/2022	2 h	15:00 - 17:00	Jordi Pietx, Robin Corrià	14	On-line / MS Teams	Special dedicated event

Anhalt	Germany	6/23/2022	1.5 h	15:30 - 17:00	Anita Kirmer, Markus Meyer	9	Campus Bernburg, Innovations-werkstatt	Bernburg Innovation Days: Digitalization and Sustainability in Agriculture
NINA	Norway	9/26/2022	2 h	12:30 - 14:30	Dagmar Hagen, Astrid Brekke Skrindo	7	On-line/MS Teams	Special dedicated event
USB	Czechia	5/10/2022	1.5 h	12:15 - 13:45	Klára Řehounková, Anna Müllerová	11	Prague, WakeUp Café	Excursion for practitioners: Ecological restoration: What do we already know and what not yet?
UA	Spain	6/29/2022	2.25h	12:00 - 14:15	Iker Jimeno, Jordi Cortina	15	Valencia (Spain), private hall	Ad hoc (no special occasion)

STATE OF THE ART OF ER KNOWLEDGE AND VET IN ER: SURVEY AND FOCUS GROUP RESULTS

Representatives of the four participating countries, and SER Europe, gave a summary of the results of the surveys and focus group activities at the national, and EU levels, respectively (see Annex I):
VET in ecological restoration in the Czech Republic (Lenka Šebelíková)
VET in ecological restoration in Germany (Vera Grünhage)
VET in ecological restoration in Norway (Astrid Skrindo)
VET in ecological restoration in Spain (Jordi Cortina)
VET in ecological restoration at the EU level and project communication (Jordi Pietx)

The results of the Focus groups in each of the participating countries, and at the EU level, can be found in separate reports. The results of the survey will be summarized in a joint manuscript (led by Vera Grünhage, HSA). In the next sections, the common approach to proceed with the data is discussed.

SUM-UP AND COMPILATION OF RESULTS COMMON AND DIFFERENTIAL TRENDS, IDENTIFICATION OF KEY RECOMMENDATION ASPECTS

A common approach to how to proceed with the national data obtained from the survey was discussed. **Data from all countries will be jointly analyzed and summarized**, and compared with EU data (obtained in the SERE survey). The partners come across a problem with the coding of answers to open questions. A common approach how to unify categories for these answers was discussed and must be developed. It must be noted that each country represents a different sector (e.g. the forestry sector in Spain, or the agricultural sector in Germany). The procedure of selecting contacts for the invitation to the survey was quite orthodox: define profiles in advance by a number of experts with different approaches and invite a large number of representatives of each profile (details can be found in the manuscript). However, we are aware that such an approach can generate a bias to a certain extent.

Gender:
- look at the proportion of males/females in invitations and at the proportion of males/females in answers (not possible for SERE because it was an open survey without invitations)
- need to consult a social scientist: is it OK to deduce the gender out of (last) name to obtain the proportion of males/females in invitations?

Main field of work:
- related with the main topics of the particular partner institution;
- large potential of the "OTHER" category - go deeper and critically review the results to allocate some categories into broader alternatives (define the categories and unify the way how to assign the answers to them)
- some of the categories could be merged (e.g. Renewable energy and Infrastructure development)

Involvement in restoration activities:
- generally, most of the respondents are actively involved in ER projects

Knowledge production/transfer:
- might be related to the sector

Knowledge from previous studies:
- might be related to age
- many respondents need new knowledge very often

Barriers:
- lack of time + missing materials – difficult to find
- focus should be on creating open materials (oriented to practitioners)
- by the end of the project we should be able to recommend the platform where to find the materials in each country
- native language important (translation of materials, visual materials, also short versions which are not time-consuming)

Certification:
- find out the number of professional certifications related to ER in Europe
- some feedback from certification - are there any benefits (e.g. improvement of employability)?

PLANNING ON FINAL PROJECT ACTIVITY "ANALYSIS, SYNTHESIS AND RECOMMENDATIONS": PARTNERS TASK AND ANHALT LEAD ROLE

Manuscript:
Focus: Key topics for publications
Restoration Ecology knowledge
Data: surveys (focus groups) - go through the responses of the focus groups to check the recommendations
Match:

1. status – available knowledge, skills, responsibility and autonomy
2. demand – find ways for implementation

barriers: EQF: VET, further education
delivery: format ((in)formal), language, type
-> demonstration sites, best/bad practice examples
Methods:

- multivariate statistics
- 1 country set (- countrywise; sectors) vs. Europe
- homogenization of raw data
- sample size correction
- multiple choice options?

Discussion: - transfer across countries, sectors & (bridge) institutions

- harmonization in Europe?

Work plan and schedule (see Table 3)**:**
Start date: 01/11/2022, end date: 10/02/2023

Table 3: Work plan and schedule of the key tasks within the Analysis, Synthesis and Recommendations activity.

TASKS	DUE DATE
Survey and focus group analysis results related to knowledge gaps and training needs in ER methods, identifying: • needs of the private and the public sector, • needs of different professional groups, • needs of different educational levels, • common and country-specific needs.	NOV 2022
Search in curricula of other universities to find lectures related to ER	JAN 2023
Cross-national analysis of the needs of different target groups, identifying **similarities and differences**. Identification of the most pressing **sectoral needs in ER training**, and set up a **resource matrix** showing **available knowledge and training opportunities** within the project consortium and beyond. Assessment of our target groups' awareness of the **benefits of ecological restoration** in solving pressing problems of our time (biodiversity loss, pollinator crisis, climate change).	DEC 2022/ JAN 2023
Developing a **joint definition of recommendations for ER training** tailored to different stakeholder groups and labour market needs, summarized in an **online guideline.**	DEC 2022
Joint manuscript about key findings, submitted to a broad-scope open access journal.	JAN/FEB 2023

Journal selection:

- People and Nature (Wiley, IF 7.5)?
- Ecology and Society (Resilience Alliance, IF 4.5)? - probably the best option
- Environmental Education Research (Taylor, IF 3.5)?
- Ambio - A Journal of Environment and Society (Springer, IF 6.9)?
- Other? (Ecosystems and People, Restoration Ecology)

DESIGN AND STRUCTURE OF A COMMUNITY OF PRACTICE ON VOCATIONAL TRAINING AND EDUCATION IN ECOLOGICAL RESTORATION: NEXT STEPS TOWARDS THE CoP

As part of the workshop, a community of practice (CoP) was planned to be designed and outlined for future implementation to generate the synthesis, analysis, and recommendations resulting from the TRAIN#ER project. A CoP is a group of people who "share a concern or a passion for something they do and learn how to do it better as they interact regularly" (McDonald and Cater-Steel, 2016). At the workshop, the project partners designed and analyzed the potential to start a CoP as a follow-up of the project and a means of a regular exchange on VET strategies and tools in ecological restoration.
The CoP (Fig. 1) has been initiated within the TRAIN#ER project and was further extended in the TEAM#UP project proposal (Erasmus+: Partnership for Excellence - Centres of Vocational Excellence; ERASMUS-EDU-2022-PEX-COVE). The CoP is developed and driven by VET schools, higher education and research organizations, and sector partners (i.e. professional organizations and companies).

Higher education and research organizations provide state-of-the-art of knowledge and skills on ER in different fields (agriculture, forestry, infrastructure and compensation, etc.):

Anhalt University of Applied Sciences (HSA, DE)
University of South Bohemia (USB, CZ)
Norwegian Institute for Nature Research (NINA, NO)
University of Alicante (UA, ES)

VET schools play a major role in scoping educational needs and co-designing potential educational modules:

Fachschule für Landwirtschaft Haldensleben (HDL, DE)
Vyšší odborná škola a Střední zemědělská škola Benešov (BENES, CZ)
Norges grønne fagskole – Vea (VEA, NO)
Instituto de Enseñanza Secundaria "El Palmeral" (IES, ES)

Sector partners ensure employability as potential future employers:

Saxony-Anhalt Cultural Landscape Foundation (SKL, DE)
DLG – German Agricultural Society (DLG, DE)
PRO-BIO Association of Organic Farmers (PROBIO, CZ)
Hæhre Entreprenør AS (HÆHRE, NO)
AGRESTA S. COOP (AGRESTA, ES)
Consellería de Educación, Cultura y Deporte (CIDA, ES)

The European Chapter of the Society for Ecological Restoration (SERE) mission is to foster the exchange of knowledge and expertise among ER practitioners and scientists.

Other involved organizations:

Ministerium für Wissenschaft und Wirtschaft des Landes Sachsen-Anhlat (DE)
Naturgarten e.V. – Verein für naturnahe Garten- und Landschaftsgestaltung (DE)
Nature Conservation Agency of the Czech Republic (CZ)
Senter for Opplæring I Anleggsgartnerfaget (NO)
MILJODIREKTORATET – Norwegian Environment Agency (NO)
Fundación Global Nature (ES)
Centre per a la Investigació i l'Experimentació Forestal (ES)
The Provincial Consortium for the Fire Prevention, Fire Fighting and Rescue Service of Alicante (ES)

The original CoP as it is described above has the potential to further grow (see Fig. 1). The list can be further completed with *Focus groups participants*:

Salzlandsparkasse (DE)
Wimex Group, Agricultural holding (DE)
LLG Sachsen-Anhalt - State Institute for Agriculture and Horticulture (DE)
LLG, Technical school for agriculture (DE)
DVL-Landesverband Sachsen (DE)
IFAB, consultancy for agriculture and ecology (DE)
Prague Municipality (CZ)
Ministry of the Environment of the Czech Republic (CZ)
REZATE Architecture studio (CZ)
Association of Private Farming (CZ)
Czech Ornithological Society (CZ)
Czech Union for Nature Conservation Šumava (CZ)
Land Trust Hády (CZ)
Faculty of Environmental Sciences, Czech University of Life Sciences Prague (CZ)
The Norwegian Nature Inspectorate (NO)
Trondheim Municipality (NO)
Skanska (NO)

Fundación Centro de Estudios Ambientales del Mediterráneo (ES)
EcoDrone Works (ES)
University of Alicante (ES)
WWF-Spain (ES)
VAERSA (ES)
Acció Ecologista AGRO (ES)
Colla Ecologista l'Arrel (ES)
Centro de Investigaciones sobre Desertificación (ES)
El Pinoso City Hall - Dept. of Environmental Management (ES)
Valencia City Hall -Servicio Devesa-Albufera (ES)
Land Studios Consulting S.L. (ES)
Regional Government of Valencia - Forest Planning and Management Service (ES)

As the consortium partners will disseminate the results of the project, the involvement of other organizations (e.g. survey participants) is expected. Thus, the CoP can evolve further into a permanent structure on knowledge and promotion of VET in ecological restoration, being of interest to a wide range of target groups.

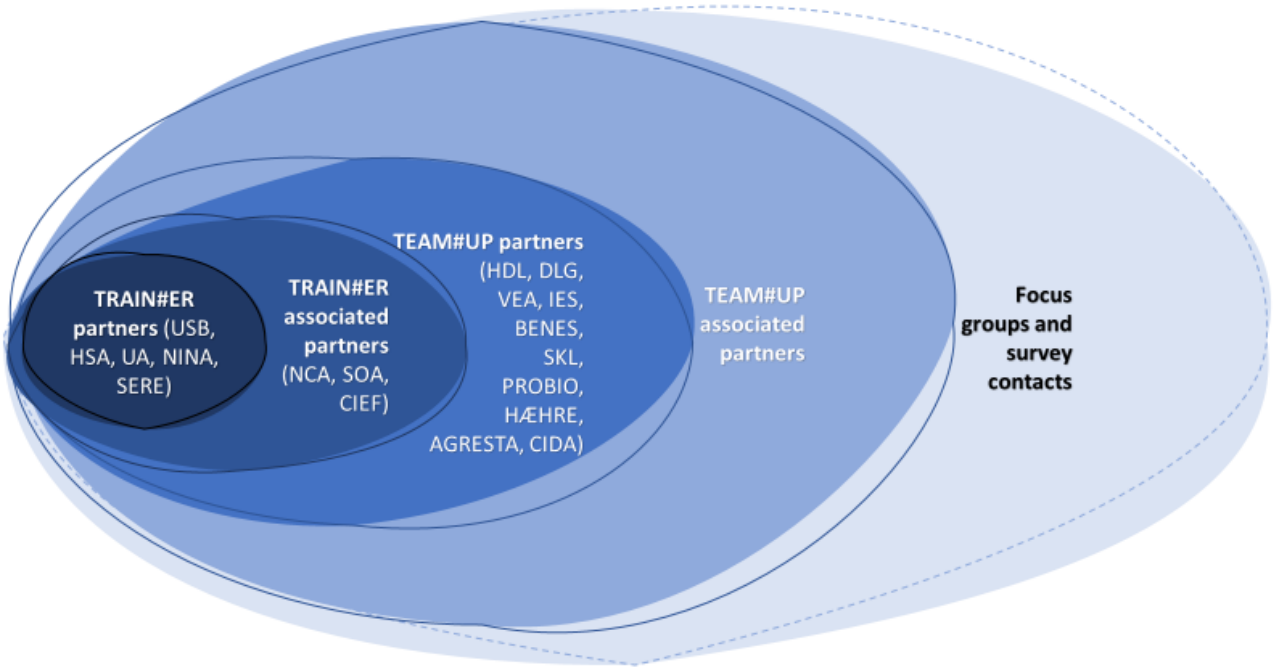

Fig.1. Scheme of the gradual involvement of partners into the CoP and its possible further enlargement

DISCUSSION ON A TENTATIVE MAP OF RELEVANT DEMONSTRATION SITES IN EUROPE FOR FIELD TRAINING IN ECOLOGICAL RESTORATION

Within the consortium, there was a discussion on the identification and characterization of suitable demonstration sites to be used in future ER training. Compiling an overview of missing examples, both regionally and thematically, will be carried out by January 2023.

Every project partner representing one country will add one example demonstration site to the SER project database (https://www.ser-rrc.org/project-database/) by January 2023. The database contains restoration projects from around the world and is intended to serve as a resource for practitioners, researchers,

educators, students, and the general public. The example entry of each participating country will include the keyword “demonstration” to show that these sites are available for excursion, teaching activity, etc. USB will create a template (see Annex II) to be used by other partners to ensure similar structure and information provided for each demonstration site.

Structure of the entry:

1. Target group: VET + further education
   - Orientation (agriculture, forestry, landscaping)
2. Background
3. Practical information: size, accessibility, guide (y/n), best season for visit, links for external materials (maps), regular field trips + contact person
4. Training value: restoration and management method; option for action (responsible person, person who established the project)
5. Lessons learned
6. Translation in national languages
7. Visual results

Preliminary suggestions for the demonstration sites:
Norway: Hjerkinn (large, very heterogeneous military area)
Germany: Strenzfeld campus (field margin restoration project)
Spain: Albatera (actions to combat desertification), Muela de Cortes (landscape management to reduce vulnerability to wildfire, restore grassland habitats, and improve habitats for large mammals)
Czech Republic: University campus in České Budějovice (urban restoration project)

SUMMARY OF THE WORKSHOP WITH INITIAL RECOMMENDATIONS BY PROJECT PARTICIPANTS

1. Stress focus on demonstration sites and examples of good/bad practice
2. Enhance the cooperation networks to get information outside the consortium, starting at the national or regional level
3. Dissemination of the results
4. Strengthen underrepresented groups - add YOUNG#ER as a target group
5. Create a platform to facilitate access to the materials; materials should be easily accessible and easy to use and interpret (visuals, pictograms, infographics, storymaps, etc.)
6. Improve the VET programs
7. Identify funding sources
8. Review recommendations TEAM#UP