



Deliverable D2.1

Outline for Nature-Based Therapists' training_v1

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DOCUMENT REVIEW

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ABBREVIATIONS

Abbreviation	Definition
APHTS	Asociación Panamericana de Horticultura Terapéutica y Social
D	Deliverable
DF	Demonstrator Fellows
ES	Experimental sites
FTHub	Forest Therapy Hub
NA	NATURELAB Approach
NT	NATURELAB Therapist
NBS	Nature-Based Solutions
NBT	Nature-Based Therapies
NCA	Nature Connection Activities
WP	Work Package

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Executive Summary

Delivery 2.1 purpose is to provide comprehensive guidelines for training and capacity building of NATURELAB Therapists (NTs) in the NATURELAB project.

The "Outline for Nature-Based Therapists' Training_v1" serves to establish a structured framework addressing legal requirements, safety protocols, cultural sensitivity, and logistical considerations across 15 Experimental Sites (ES). By utilizing insights gathered from a questionnaire distributed to all ES coordinators, this training outline aims to facilitate the successful implementation of the NATURELAB Approach (NA) A. The document emphasizes the importance of ethical practices, participants well-being, and the overall success of NA within diverse natural environments.

DRAFT

1. Introduction

The contents of this document have been formulated within the framework of the NATURELAB project (Nature-Based Interventions for improving Health and Well-Being), funded by the European Union's Horizon Europe Research and Innovation program under Grant Agreement number 101083857, along with support from the UK Research and Innovation Grant Award No.10067111.

The NATURELAB initiative seeks to elevate the recognition, promotion, and utilization of green and blue spaces as integral care providers. It delves into the exploration of NBT to ascertain their benefits in promoting well-being, supporting health prevention, rehabilitation, and ultimately contributing to the development of more resilient and sustainable communities. Unlike a mere suggestion to spend time in nature, NBT acknowledges the necessity of scientifically validated programs addressing specific needs of individuals and fostering a meaningful connection with the natural environment in order to achieve integrative (mental and physical) well-being as well as strengthening interpersonal and community ties.

Operating across five countries in Europe and Latin America, namely: Portugal, Greece, The Netherlands, Germany, and Peru, the project unfolds its activities in diverse geographic contexts, climates, and cultural backgrounds. The focal point involves the execution of research across 15 ES situated in those locations. These ES serve as testing grounds for evaluating both the site itself and the NA, along with various components of an assessment model to produce a portfolio characterizing the health potential of nature spaces and Nature-Based Solutions (NBS). Additionally, the project seeks to establish guidelines for the implementation of Healing Gardens, therapeutic programs, and assessment models. Once validated, these outcomes will be replicated across the four Demonstrator Fellows Sites (DF) located in Greece and Peru. The collaborative efforts of the NATURELAB project underscore its commitment to advancing research and practices that positively impact health and well-being through innovative and scientifically grounded Nature-Based Therapies.

The following document, "Outline for Nature-Based Therapists' Training_v1" (Deliverable D2.1), is an essential component within the comprehensive framework of the NATURELAB project. Aligned with the objectives of Work Package 2 (WP2) - Design, Implementation, and Validation of NBT, D2.1 serves as the initial version of the guidelines intended to structure the training of NTs.

The NA can be defined as an evidence-based approach grounded in the principles of nature-based therapies, particularly Therapeutic Horticulture, Horticultural Therapy, Forest Bathing and Forest Therapy. It is tailored to enhance well-being, reduce stress and anxiety, and to support recovery from various diseases. This approach is rooted in the findings that nature-based therapies offer a

wide range of benefits for diverse populations, including those with diverse physical, mental and social vulnerabilities like mental health conditions, stress-related issues, the elderly, children, among other specific groups, and the general population. NA focuses on harnessing the powerful restorative potential of natural environments to meet specific needs and contexts.

The NT is a trained professional specializing in facilitating the NA. They implement tools and techniques to promote the restorative benefits of nature for the individuals they work with.

This deliverable is pivotal in shaping the methodologies and approaches that NTs will employ in implementing NA. As a foundational element, the "Outline for Nature-Based Therapists' Training_v1" sets the stage for developing the expertise and skills crucial for improving the physical and mental health conditions of participants across 15 ES in different geographical locations.

Much like the goals of the project, which emphasize the utilization of green and blue spaces for health and well-being, D2.1 plays a vital role in establishing a standardized training framework for NTs. It seeks to ensure that they are equipped with the necessary knowledge and capabilities to conduct the NA. The development of this training outline emphasizes the commitment of the NATURELAB project to promote evidence-based practices in the field of nature-based therapies, contributing to resilient and sustainable communities. The nature of this deliverable encourages ongoing refinement based on feedback, evaluation, and the evolving needs of both NTs and participants.

2. Structure of "Outline for Nature-Based Therapists' Training"

2.1 INTRODUCTION

In introducing a comprehensive training program for NTs, the project aligns with the European Union's commitment to integrative healthcare approaches. In this section, we focus on presenting the program's structure and goals. We aim to present an understanding of the NA, including its structure, and clarify the expectations of both participants and facilitators.

The outline for NTs' training program within the context of the NATURELAB project is designed to comprehensively prepare individuals through progressive learning approach, ensuring both foundational knowledge and specialized skills relevant to their respective areas.

2.1.1 Training Objectives

- **Understanding Principles:** NTs will gain a deep understanding of the fundamental principles underpinning nature-based therapy, including its theoretical foundations and evidence-based practices.

- **Skill Acquisition:** NTs will acquire practical skills essential for the effective application of NA in natural settings.
- **Real-world Application:** Emphasis will be placed on the practical application of acquired knowledge and skills. NTs will engage in hands-on exercises ensuring they are well-prepared for diverse therapeutic environments.
- **Roadmap Development:** Each NT will leave this section with a clear roadmap, outlining the specific skills they will develop and the knowledge they will gain over the course. This roadmap serves not only as a guide for individual growth but also as a collective commitment to align personal achievements with the overall objectives and expected outcomes of the NATURELAB project.

The overarching objectives aim to empower NTs with the confidence and competence to contribute significantly to the program. As the training progresses, the integration of theory and practice will lay a solid foundation for each participant to evolve into a proficient NT.

2.2 COMPREHENSIVE FRAMEWORK FOR NA: INTEGRATING EVIDENCE, PRACTICE, AND DIVERSE PERSPECTIVES

To create a comprehensive training program for NTs within the NATURELAB project, incorporating the latest developments and evidence in NBT is crucial. Here's a synthesis of the key themes to consider:

2.2.1 State of the Art in Nature-Based Therapies and Training Programs:

The NBT field is evolving with a range of approaches, with Therapeutic Horticulture, Horticultural Therapy, Forest Bathing and Forest Therapy taking the lead in pioneering interventions. Training programs are increasingly incorporating mindfulness practices and nature connection activities (NCA).

2.2.2 Evidence and Benefits of Nature's Impact on Health and well-being

A growing body of research underscores the benefits of nature, highlighting its role in reducing stress and boosting immune activity (Stier-Jarmer M. et al, 2021; Rajoo K.S., Karam D.S., Abdullah M.Z.,2020). These therapeutic potentials extend to various health issues like depression, anxiety, and stress, often attributed to our disconnection from nature (Yeon PS et al, 2021; Kotera Y., Richardson M., Sheffield D, 2020). This evidence base is critical for integrating NBT into public health systems and therapeutic practices.

Core concepts in NBT training include understanding *biophilia*, the natural human connection to nature (Wilson, 1984), and the *attention restoration theory*, which explains how nature helps repair the mind. The training also covers ethical practices while implementing NA in natural settings and integrating nature into clinical and non-clinical practices to support mental health and well-being.

From enhancing mental and physical health, NTs will gain a deep understanding of the benefits that nature has on overall human well-being. NTs will learn to apply the NA and will learn how to harness nature's mechanisms to address mental health issues, stress, and challenges in the target population.

NTs in the NATURELAB training program will delve into scientific research on how nature immersion can significantly restore human well-being but will also include case studies and evocative personal narratives from experienced facilitators.

A landmark study by Bratman et al. (2012) in the journal *Science Advances* found that spending time in natural environments significantly reduced neural activity in a brain region linked to risk for mental illness, highlighting nature's role in mitigating stress and anxiety. Kaplan's Attention Restoration Theory shows that exposure to natural settings replenishes depleted cognitive resources, fostering mental clarity and focus (Kaplan, R., & Kaplan, S. (1989)).

NTs will not only grasp these foundational concepts but will also be equipped with practical skills to implement NA to diverse groups. The program emphasizes a person-centered approach, enabling future NTs to thoughtfully implement NA that resonate with specific needs and challenges of their target population. From urban dwellers or even residents of rural areas who suffer from nature disconnection and its consequences for physical and mental health, the training will cover the spectrum where nature can positively impact human health.

In essence, this section of the training will address how nature operates in restoring well-being and positively impacts overall health, with a strong emphasis on evidence-based practices and experiential learning. NTs will understand the science behind nature's health benefits and will be able to apply these principles in the ES.

2.3 CONNECTION WITH NATURE

The primary objective is to provide NTs with the knowledge and skills required to facilitate meaningful connections between the target population and nature, recognizing the therapeutic potential that nature provides.

2.3.1 Development of a personal relationship with the natural environment

The challenges inherent in determining the mechanisms and pathways through which natural environments impact human well-being are complex and multidimensional. Various pathways emerge, such as mood enhancement, stress reduction, promotion of physical activity, and fostering social cohesion, among others. Additionally, there are diverse mechanisms, including air quality, temperature, monoterpenes, negative ions, soundscapes, and visual landscapes, contributing to understanding how the connection with nature influences people's health and well-being (Li Q et al., 2007; Tsao TM et al., 2022).

Research highlights the importance of these elements. The sounds of nature, for example, have been shown to reduce cortisol levels, as found in a study published in Scientific Reports by Gould van Praag et al. (2017), indicating a decrease in stress. It was also nature's mechanism that mostly impacted well-being as shown by A Multi-Country Study Assessing the Mechanisms of Natural Elements and Sociodemographics behind the Impact of Forest Bathing on Well-Being led by FTHub (Subirana Malaret et al., 2023). Similarly, the visual appeal of natural landscapes has been linked to reduced recovery times in hospital patients, as observed in a classic study by Ulrich (1984) in Science.

Understanding how natural environments affect human well-being involves addressing a complex network of factors, including cultural context, geographical environment, economic development level, and climatic factors.

These aspects shape how individuals and communities interact with nature and perceive its benefits. Therefore, the strategies to enhance well-being through nature must take into account these diverse conditions and needs.

In the NATURELAB training program, NTs will learn to offer NA to various communities, ensuring that nature-based interventions are not only effective but also resonate deeply with the individuals they aim to serve.

2.3.2 Activities to reconnect with nature

In the heart of the NATURELAB training program lies a focus on experiential learning, where NT engages intimately with nature. Guided by experienced mentors, they will be immersed in reflective practices and diverse nature-based activities (active and passive), deepening their understanding and bond with the environment.

In this context, NCA are designed to amplify the therapeutic impact of nature by crafting meaningful moments. Each participant engages with the environment uniquely, and every activity

serves as a suggestion for individualized participation. NTs will acquire the skills to implement NA in the target population. They will be able to incorporate a range of activities into their therapeutic toolkit, to facilitate transformative nature connection experiences as a crucial relationship for improved well-being.

The effectiveness of such activities is backed by research. For example, a study in Environmental Science & Technology showed that even brief interactions with nature can significantly improve mood and cognitive function (Bratman, G. N., Hamilton, J. P., & Daily, G. C. (2012)). Another research by Mayer et al. (2009) in the *Journal of Environmental Psychology* demonstrated that nature walks fostered improved emotional well-being compared to urban walks.

Effective communication styles and understanding the impact of their guidance as NTs are critical in creating an environment conducive to exploration and discovery. These skills are not just about facilitating activities but also transformative experiences that forge a deep and lasting connection with nature.

By the end of this training section, NTs will be equipped with a versatile toolkit and the know-how to facilitate profound nature connection experiences.

2.3.3 Roles and Responsibilities

The NT plays an essential role in implementing the NA in both clinical and non-clinical settings. Their responsibilities include implementing NA according to the needs of individuals or groups with whom they are already working, facilitating group sessions to strengthen community bonds, and collaborating with various professionals. Additionally, the NT is responsible for maintaining effective collaboration and open communication, not only with participants to ensure their understanding of the NA and the benefits of NBT but also with healthcare professionals, educators, and community leaders to seamlessly integrate the NA.

2.3.4 Participants: Understanding Influential Factors for Health and Well-being

Implementing NA to diverse groups, such as the elderly, mental health patients, individuals with obesity or diabetes, children, foster kids, socially isolated individuals, disabled persons, and the general public requires an understanding of the specific needs and challenges and how NA can be most effective for them.

NA ensures an evidence-based, practical, and adaptable approach and the development of skilled, knowledgeable, and ethical NTs.

2.4 SKILLS AND TECHNIQUES NA

NTs will acquire essential skills and techniques to effectively implement NA integrating principles from the NATURELAB Project.

2.4.1 Healthy Spaces Selection Skills

NT's will explore the foundational aspects of selecting therapeutic environments in natural settings. This encompasses a grasp of the principles of environmental psychology, biodiversity, sensory stimuli, and accessibility. Particular attention will be given to the distinctive qualities of forest environments in the context of NA.

They will develop the skills to recognize spaces within diverse natural settings that maximize the therapeutic benefits of nature-based activities.

2.4.2 Identification and application of specific techniques

NTs will develop a versatile set of tools to implement into various contexts and meet the unique needs of the target population across different environmental settings through sensory and mindful techniques.

2.4.3 Community Sharing

Developing competencies to effectively lead nature-based sessions in group settings involves fostering a supportive group dynamic, managing diverse participant experiences, and cultivating a shared sense of connection within the therapeutic environment.

NTs will learn to apply NA in a group context. This involves understanding the role of group dynamics in enhancing the therapeutic benefits of these nature-based practices that meet the collective needs of the group.

The exchange of experiences and personal reflections ensures that NTs not only grasp the theoretical aspects of NBT but also acquire practical skills to enhance their ability to implement NA. To share and integrate experiences, a certain degree of intimacy is required, defined as a close, relaxed, safe and open relationship between individuals. NTs will facilitate this process with techniques by cultivating a welcoming space where all experiences are embraced and not judged.

2.5 ASSESSMENT AND SESSION PLANNING

The 'Assessment and Session Planning' in the NATURELAB training program integrates both online and in-person components. It begins with an initial assessment to understand individual or group needs by gathering detailed information about the participants' physical, mental, and emotional health, as well as their previous experiences with nature.

It's important to note that the assessment within the NATURELAB program is not intended to replace or replicate a medical anamnesis conducted by healthcare professionals. Rather, it aims to gain insights into participants' general well-being, aligning with the program's focus on holistic experiences with nature. Trained facilitators, possessing expertise in nature-based interventions and well-being, conduct these assessments. While not healthcare professionals, these facilitators are equipped to recognize when participants may benefit from additional support and can guide them to seek appropriate professional assistance.

The NATURELAB team prioritizes ethical considerations and participant well-being, and all personnel involved in assessments adhere to established guidelines to ensure a safe and supportive environment for the participants.

2.5.1 Assessment of individual and group needs

This step focuses on identifying specific health and well-being goals for each participant or group. Online tools facilitate the collection of data on participants' backgrounds, preferences, and any special considerations.

2.5.2 General Safety and logistical considerations

This section of the training will emphasize safety protocols and considerations associated with activities in natural environments. It includes comprehensive risk assessments to ensure the safety of both NTs and participants during NA sessions, according to each ES .

2.6 FACILITATION OF GROUP DYNAMIC IN NATURAL SETTINGS

NTs will develop essential skills for effectively facilitating group sessions in natural environments, ensuring a safe and supportive context for NA sessions.

2.6.1 Skills for working with groups in outdoor environments

NTs will acquire specialized skills adapted to facilitating group sessions in outdoor environments and adjusting NA sessions to the characteristics of each setting. This includes understanding the

unique challenges and opportunities presented by natural environments, maintaining group cohesion in open spaces, and ensuring harmonious interaction between participants and the natural environment.

Developing a nuanced understanding of **characteristics of different natural environments**, such as forests, meadows, bodies of water and plant species will help tailor activities to take advantage of the unique sensory elements that each environment has to offer. NTs will build **effective communication strategies** through developing clear and concise communication methods that take into account potential difficulties such as noise and distance, including non-verbal communication techniques to ensure that instructions are conveyed effectively and to foster a sense of connection within the group. Additionally, they will implement strategies to ensure that all participants, regardless of group size, are fully engaged through and included in the process.

Observational skills will be a cornerstone of outdoor group facilitation, as NTs learn to keenly observe group dynamics, individual reactions, and the influence of the natural environment on participants. Through the training they will enhance their observational awareness, gaining a deeper understanding of the group's energy and dynamics. This heightened observational ability enables them to adapt activities in real-time based on their observations, creating a dynamic and responsive experience that is finely attuned to the group.

2.6.2 Specific tools

Understanding group dynamics in natural settings is crucial for effective outcomes. NTs will explore the interaction between group dynamics and the natural environment, recognizing the significant impact the outdoors can have. For example, the calming influence of a forest or a garden can create a more relaxed and open atmosphere, enhancing trust and collaboration among participants.

It is important to be able to **address conflicts proactively**. Therefore, it is necessary to be familiar with preventive strategies and effective resolution techniques to minimize them. This involves fostering open communication, establishing clear expectations, and cultivating mutual respect.

Addressing potential disruptions and conflicts requires understanding the unique dynamics of each group and the impact of the natural environment on interpersonal relationships. NA will provide NTs with strategies to maintain a positive and supportive group environment, ensuring that the NA promotes integrative healing and growth.

2.6.3 Ensuring participant's safety and well-being

Safety and the well-being of participants in outdoor therapeutic sessions require a proactive approach focused on the assessment and mitigation of specific risks in natural environments, such as poisonous plants, animals or insects. This process involves considering **physical, physiological, and mental factors**, identifying potential triggers, and ensuring adequate preparation to create a safe environment that enables both physically and mentally safe transformative moments in nature.

The NATURELAB training will equip NTs with the basic skills and knowledge to anticipate, mitigate, and prevent risks, as well as to address potential triggers during outdoor therapeutic experiences. This includes gathering relevant information, clear communication with participants, and proper preparation for emergency situations. NTs will be trained to address concerns, encourage dialogue, and use resources that enhance their understanding of risk mitigation.

2.7 ASSESSMENT AND EVALUATION

The assessment and appraisal within the NATURELAB training program are integral components designed to ensure competence and continuous improvement of NTs. The assessment process involves a multifaceted approach that combines regular reviews, practical supervision, and specific feedback to guide individual growth.

The training team will conduct follow-ups to monitor sessions. During these meetings, NTs will receive guidance on conducting effective supervision and practical follow-ups in their future role to enhance their skills and understanding of the NA, cultivating a targeted and supportive approach to individual development. This feedback cycle is designed to be constructive, facilitating a continuous learning journey for each person.

Practical follow-up sessions will be an integral part of the assessment process. NTs will apply their learnings in real-world scenarios, and the training team will assess their application of the NA.

2.8 ETHICAL CONSIDERATIONS

Ethical considerations in the NATURELAB training program are paramount, guided by the Ethical Committee of the NATURELAB project. Adhering to their directives, NTs will be educated on ethical guidelines, including confidentiality, respect for diversity, and informed consent. Dedicated training in ethical decision-making ensures them to navigate complex situations responsibly. Ongoing

reflection promotes a continuous commitment to upholding ethical principles throughout their practice.

2.9 CONTINUOUS IMPROVEMENT

The NA training program aims to stay at the forefront by implementing mechanisms for continuous improvement. This approach ensures that the training remains relevant, effective, and aligned with the latest research and practices. Through strategic updates to the training outline and fostering effective communication, we can enhance the learning experience for NTs, ensuring they are well-equipped to deliver NA impactfully. This commitment to excellence and adaptability is the cornerstone of our efforts to offer a dynamic and responsive training program. It aims to effectively address the NATURELAB project's core objectives of enhancing well-being, mitigating health issues, and fostering a deeper connection with nature.

2.9.1 Mechanisms for updating the training outline

- Establish a structured feedback system for participants and trainers to identify areas for improvement.
- Regularly review the latest research in NBS to integrate new evidence-based practices.
- Utilize online platforms for real-time updates and sharing of new insights among the training community.

2.9.2 Communication strategies to ensure effective interaction during NA training

- Implement a collaborative online forum for trainers and NTs to exchange experiences, challenges, and solutions.

3. Final Evaluation And Acknowledgement

The conclusion of the NATURELAB training program involves a comprehensive final evaluation. NTs will undergo an assessment of their knowledge, skills, and practical application of the NA. Successful completion will mark their readiness to ethically and effectively apply NA, contributing to the advancement of integrative well-being practices.

4. Appendices

As an appendix, following this section, we present the index for the 'Outline for Nature-Based Therapists' Training.' This comprehensive guide provides a detailed overview of the training modules, facilitating easy navigation for NTs as they progress through their training.

1. Introduction
 - a. Training objectives
2. Comprehensive framework for Nature-Based Therapy training: integrating evidence, practice, and diverse perspective
 - a. State of the art in Nature-Based Therapies and training programs
 - b. Evidence and benefits of nature's impact on health and well-being
3. Connection with nature
 - a. Development of a personal relationship with the natural environment
 - b. Activities to reconnect with nature
4. Skills and techniques of Nature-Based Therapies
 - a. Healthy spaces selection skills
 - b. Identification and application of specific techniques
 - c. Community sharing
5. Assessment and session planning
 - a. Assessment of Individual and group needs
 - b. General safety and logistical considerations
6. Facilitation of group dynamics in natural settings
 - a. Skills for working with groups in outdoor environments
 - b. Specific Tools
 - c. Ensuring participants safety and well-being
7. Assessment and evaluation
8. Ethical considerations
9. Continuous improvement
 - a. Mechanisms for updating the training outline
 - b. Communication strategies to ensure effective interaction during NA training
10. Final evaluation and acknowledgment

5. Final Remarks

In concluding this deliverable, "Outline for Nature-Based Therapists' Training_v1," it is evident that the NATURELAB project is dedicated to advancing the field of NBT with a clear emphasis on evidence-based practices. This document, crafted within the framework of the NATURELAB initiative, serves as a pivotal tool for the comprehensive training and capacity building of NTs.

The NA, rooted in principles such as Therapeutic Horticulture, Horticultural Therapy, Forest Bathing, and Forest Therapy, represents an evidence-based methodology intended for enhancing well-being, alleviating stress and anxiety, and supporting recovery from various conditions. The NT, as a trained professional specializing in implementing the NA, plays a crucial role in facilitating the restorative benefits of nature. The structured training outlined in this deliverable, encompassing various modules, ensures that NTs are equipped with the necessary skills and knowledge to implement NA effectively and rigorously.

Importantly, this deliverable also aligns with the broader goals of promoting resilient and sustainable communities through the utilization of green and blue spaces for health and well-being. The emphasis on ethical considerations, participant's well-being, and continuous improvement mechanisms reflects the commitment to maintaining the highest standards in the implementation of Nature-Based Therapies.

As the NATURELAB project unfolds its research activities across diverse geographic contexts and cultural backgrounds, the ongoing refinement of this training outline will be crucial. Feedback, evaluation, and evolving needs will inform future versions, ensuring the adaptability and effectiveness of the training framework.

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