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Defining the baseline



Restoration Academy

Empowering Youth Participation in Nature Restoration

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Partner Organisations

Nuorten Akatemia, Finland
KMOP - Education and Innovation Hub, Greece
RE-PEAT, Netherlands
Strom Života, Slovakia
Luontoliitto ry, Finland



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Introduction

The Project

The Restoration Academy project addresses the pressing need for global ecosystem restoration in the face of extensive environmental degradation. With 75% of the planet's land significantly altered and 1 million species at risk of extinction, the project aligns with the UN Decade on Ecosystem Restoration (2021-2030) and EU biodiversity goals. It aims to empower European youth to actively engage in nature protection and restoration, contributing to climate change mitigation, adaptation, and halting biodiversity loss.

The project addresses primary needs by providing tools for youth organisations to focus on nature restoration. The project's restoration work contributes to the improvement of threatened habitats and species' vitality and the project as a whole pioneers youth engagement in nature restoration, addressing critical gaps and fostering a transnational approach to environmental education and ecosystem sustainability.

The main project results include reports and brochures on nature-based environmental education, a tool pack, and an operations model for youth participation in restoration, along with demonstration and animation videos. Finally, a training model with webinars will facilitate knowledge transfer.



Project Partners

Youth Academy – Project Coordinator



Youth Academy is a non-profit organization founded in 1994 by Finnish youth and sport organizations to support and strengthen young people's involvement in society. It promotes youth participation and youth inclusion in both formal and non-formal education. The strong expertise of Youth Academy is rooted in long-standing experience in executing workshops to bring young people together with organizations and experts to discuss current topics and find solutions to societal problems. Youth Academy's projects are firmly based on the needs and trends of today's society. Topics include e.g. social accessibility, working with youth in challenging situations (Mahis), climate change, sports, intellectual property rights, sexual health, youth unemployment and personal economy.

KMOP Education and Innovation Hub



KMOP EIH offers educational opportunities to help people develop and enhance their personal and professional competencies through fostering individual and collective reflection and learning that leads to improved ways of working, achieving goals, and innovating. On the mission to promote social progress through education, KMOP EIH has developed a range of educational programmes for individuals and businesses, helping them to safely navigate their social ecosystem towards a more inclusive and sustainable future. This way, KMOP EIH contributes to building equitable societies and promotes individual well-being.

KMOP EIH provides vocational training, continuous education, and lifelong learning that promote human talent, enhance active participation in democratic societies, and increase theoretical and practical skills.

RE-PEAT



RE-PEAT is a youth-led collective with a vision of an interconnected world in which all peatland creatures and communities are supported culturally and ecologically. They work to increase intergenerational dialogue, open up mindsets, challenge harmful power dynamics and produce on-the-ground impact.





Their main activities include hosting educational events and workshops, creating restoration camps and practical resources, and supporting youth, artists and marginalised communities with tools to meaningfully engage with a variety of peatland-related issues.

Strom Života

Strom života is a non-governmental, non-profit organization active in the field of environmental and outdoor education in Slovakia already for 40 years. The main target group of the organization are children in kindergartens, elementary school children and youth in general. The organization provides services for these groups by creating a variety of programs focused on environmental education at all levels, including preservation events, publishing activities, environmental competitions and many others. The mission of Strom života is to provide the schools with high-quality teaching materials and programs necessary for the successful integration of cross-subject environmental topics into general education. Besides this, Strom Zivota also carries out other projects in the field of sustainability and environmental education for the public and the municipalities. In our projects, we provide the service of measuring the indicators of sustainable development and provide related consulting services.

Luontoliitto ry

The Finnish Nature Association – Luontoliitto ry in Finnish – is a nationwide environmental non-governmental nature and environmental protection organization (ENGO) for children and the youth. NL works in forests, wild animals, water systems, climate and energy issues, and environmental education in Finland. Most of the members are between 5 and 29 years of age.

Nature League is one of the few national environmental NGOs in Finland and the only one mainly emphasizing youth environmental work. We are both politically and religiously independent and the youth organization of the Finnish Association for Nature Conservation, the biggest national ENGO in Finland.



Main aim of this transnational report

This transnational report on Nature-Based Environmental Education (NBEE) serves as a comprehensive resource aimed at informing and guiding youth workers and organisations. Compiled in English, the report puts together insights from desk research, country-specific investigations, and survey outcomes across partner countries—Greece, Finland, The Netherlands, and Slovakia. It will be especially useful to youth workers or any professionals interested in using nature restoration as a means for Nature-based environmental education.

The primary objective is to illuminate the gaps and challenges prevalent in NBEE within project countries and the broader European Union context. Furthermore, the report delves into the expressed needs of young people concerning NBEE. Through detailed analyses of each partner country, accompanied by survey results and subsequent synthetical analysis, the document not only offers a nuanced understanding of the local landscapes but also provides a holistic perspective, outlining a fact sheet for each country. Ultimately, this transnational report aims to facilitate informed decision-making, fostering effective strategies and interventions in youth-led environmental education initiatives.





Who will find this useful?

This transnational report on Nature-Based Environmental Education (NBEE) is specifically crafted for a diverse audience, catering primarily to youth workers and youth organisations engaged in environmental education initiatives. The insights derived from desk research, country-specific analyses, and surveys addressed to youth and professionals offer a targeted resource for those actively involved in shaping and implementing youth-oriented programmes. Youth workers, including educators, mentors, and facilitators, will find the report instrumental in understanding the specific challenges and gaps in NBEE within their respective countries.

Furthermore, the report is a valuable asset for youth organisations seeking to enhance their engagement strategies, as it not only pinpoints the distinct needs and preferences of young people related to NBEE but also offers a broader synthesis of findings across partner countries. Policymakers and educators at large, both within the participating nations and the European Union, will also benefit from the report. By providing a comprehensive view of the NBEE landscape, it empowers decision-makers to tailor policies and educational approaches that resonate with the current priorities and aspirations of young individuals. However, individuals with any background who are curious about the status of NBEE in the four partner countries will find this document enlightening. In essence, this transnational report is a dynamic tool for those committed to fostering effective, tailored, and impactful environmental education programmes for the youth of today.

Methodology

What has been done

Initially, KMOP as the research leader in the project, provided the partners with guidelines that covered the development and the steps to be followed for each separate piece of this rich output. The guidelines were presented and explained during the first official in-person meeting of the consortium and were put up for discussion and feedback from the partners. Throughout the research process, the partners combined qualitative and quantitative methods. More precisely, all partners conducted desk research in their respective national contexts and produced a national report and a fact sheet in relation to NBEE. The quantitative methods implemented include the online survey conducted by the project partners, which consists of both open and close-ended questions designed separately to be answered by youth and youth workers. Additionally, a survey with two target groups, namely youth and youth workers, was designed, translated into all four languages, and shared with the respective groups.

The present transnational report has been reviewed internally by KMOP staff members before moving on to the peer review process by the partners, which added significant value to the final product.

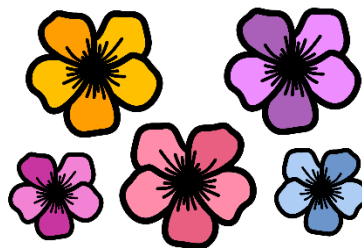
Desk research and fact sheets

Regarding the desk research part, KMOP was responsible for working on the study of the EU context regarding NBEE, which is featured in the report as an offset for more country-specific information that follows. As a next step, all partners carried out their country-based desk research, the outcome of which is a national report and a fact sheet, as already mentioned before. The aim of the latter is to present the information in a more concise and appealing way, also catering to different people's needs when it comes to written information. The duration of desk research lasted from the 24th of November, 2023, until the 20th of January, 2024, and it was based on online research of academic and governmental sources relevant to the topic.

Survey

The survey was conducted to create a baseline for the other activities and objectives of the project by first investigating the knowledge, gaps and the needs of young people and youth workers to understand and embrace nature-based environmental education and especially nature restoration as a means for it. The survey was designed first in English during a co-design workshop led by KMOP, during which the partners were split into two groups, one working on the survey for youth and another one for the youth workers. After having finalised the set of questions for both target groups, the survey was translated into the four partner languages and the dissemination phase began.

The survey was primarily targeted to youth workers interested in environmental education, and implementing restoration as a means for it, as well as youth interested in the theme. The survey was distributed among relevant groups, organisations, and institutions, such as student organisations, environmental and youth organisations, teachers, and youth councillors. The answers were collected over a period of roughly a month and a half, with some variations among the countries.





Limitations

Desk research

Each partner country faced slightly different challenges. Indicatively, limitations of this desk research include the lack of recent scientific research regarding environmental and nature education after early childhood education. Most studies focus on the pedagogy, status, and role of environmental and nature education in early childhood education, but studies focusing on youth are limited, and there appears to be a lack of knowledge in that context. Furthermore, the ambiguity within the research and national frameworks about the definition of NBEE means that key information was gathered through the context and the terms might present certain variations. One common aspect was the lack of sources that are apt for youth.

Survey

Once again, the limitations might vary based on the country setting and particular linguistic particularities. For example, in Greece, the survey participants are overwhelmingly from big urban centers, especially Athens, which restricts the insights to specific backgrounds and realities. In the Netherlands, one of the main limitations of the study is the disproportionate number of respondents from Wageningen University & Research, which means that the data is likely to be heavily skewed towards more ecologically-minded people with greater experience and knowledge about nature restoration due to this being an agricultural university. For the Slovak partner, the original draft of the survey in English needed some linguistic adjustments to fit the national context and the cultural identity and background of the participants.

PART A – Desk research on NBEE

EU Context

Definition of terms

Environmental education is a relatively recent field of study which has been closely connected to the development of human psychology, sociology and how humans learn (Fang et al., 2023). The UNESCO-UNEP International Congress on Environmental Education and Training held in 1987 in Moscow defined Environmental Education (EE) as “*a permanent process in which individuals and communities acquire awareness of their environment and learn the knowledge, values, abilities, experience, and determination to act, individually and collectively, to solve present and future environmental problems*” (Vasconcelos et al., 2022:10). As an interdisciplinary practice, environmental education is not bound to a particular subject, discipline or domain of knowledge (Brügger et al., 2011). One distinguishing criterion for environmental education is that “*the process of education is as important as the content*” (St.Clair, 2003:71). The process of environmental education employs a variety of pedagogical methods including guided inquiry, place-based learning, experiential, and cooperative pedagogies in an effort to create awareness about the processes and properties of natural ecosystems (Stern et al., 2014).

There are various ways to perceive EE as a whole but in the current report, in order to facilitate the readers, the distinction between Classroom Education and Outdoor Education (Fang et al., 2023) will be adopted, mostly because our primary focus is the relationship and existing situation of EE in relation to youth in EU countries. Our focus will be placed exclusively on Outdoor Education as a broader category, examined primarily in an EU context. This is because research has shown that environmental knowledge, this is because research has shown that environmental knowledge acquired in a classroom setting is a substantial starting point of environmental education but has limited effect on actual ecological behaviour (Otto et al., 2017).



Therefore, there has been a need for a more holistic approach to environmental education, especially at a young age, given the pressing need to counter the detrimental impact of human behaviour on nature (IPCC, 2014). Nature-based Environmental Education (NBEE) has been established as an appropriate method in order for the aforementioned holistic approach to be implemented thanks to its hands-on character. NBEE has been defined as the “*acquisition of knowledge, skills, values, attitudes, and behaviours in realms including, but not limited to, academic achievement, personal development, and environmental stewardship*” (Jordan et al., 2019). The element that differentiates NBEE is nature connectedness, meaning the direct contact with nature which provides children with a large set of benefits and at the same time it has a positive impact on nature (Collado et al., 2020). The benefits of nature connectedness and NBEE as a whole are being further explained and analysed later in this report. At this point, it is important to underline that there has not been enough empirical evidence so far to unequivocally prove the causal relationship between NBEE and environmental behaviour (Collado et al., 2020). However, the ones that have been carried out have generated results in favour of direct contact with nature as a more beneficial learning process with an experiential added value (Collado et al., 2020; Braun et al., 2017; Lekies et al., 2015).

Given that the scope of the current report is the reality around NBEE within the EU, it is natural to take into account the European Commission’s and other entities’ discourse and stance around the topic. Here it is noticeable that there is a slight difference in the terminology used, meaning that sources related to the European Institutions employ the term Nature-based Solutions Education (NBS education). The European Commission defines nature-based solutions as “*Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource efficient and systemic interventions.*” Nature-based solutions must therefore benefit biodiversity and support the delivery of a range of ecosystem services (European Commission, 2016). The need expressed by European youth towards sustainability education and the gaps that have been spotted on national level in member countries as revealed by a UNESCO (2021) study has led to a growing emphasis on NBS education by the European Commission.

According to NetworkNature, a project funded by the European Commission under the Horizon 2020 programme, the main objective of NBS education is a whole school approach. To be more specific, some examples of how NBS education can be put into practice include experiential learning, schools as living labs, youth-led initiatives, and hands-on outdoor learning activities (2023). Although both terms are equally valid and they are being used within the same context, NBEE will be used throughout the rest of this report. This is a choice made to facilitate common understanding, keeping in mind that there might be differences in the translation of the terms used in each national partner language.





Benefits of NBEE

Although initially most academic research papers have started talking about the benefits of NBEE much more hesitantly, due to lack of experiments and field research, recently there is increasing evidence that NBEE is indeed highly effective among children (Jordan et al., 2019; Kuo et al., 2019). To outline the aspects that the rest of this section is examining, in this part the benefits of NBEE on personal development/wellbeing and academic achievement are being showcased. After this, a discussion takes place to consider the benefits that may apply specifically to young adults between 18 and 30 years old. Given that the research has focused to a large extent on school age children, it is important to slightly shift the focus and bring youth, more broadly speaking, at the forefront.

Nowadays research has proven that NBEE outperforms traditional instruction and contributes to a more holistic approach to character development as well as reaching a wider range of learners in a more inclusive way (Kuo et al., 2019; Van den Bogerd et al., 2020). When referring to learning in a school-like setting, the benefits of NBEE on a personal level have been found to include a prolonged attention span that applies both to children and adults (Faber Taylor et al., 2009). Additionally, a known benefit of nature is stress relief and lower cortisol levels, that have been reported for learners who have been exposed to at least some vegetation in their learning environments (Dettweiler et al., 2017). This way learning becomes much more enjoyable and therefore leads to higher motivation and engagement levels, another reported benefit of NBEE. The important factor that should be kept in mind here is the intrinsic motivation, coming from within to be put simply, that is associated with being in nature and results in longer lasting interest (Fägerstam et al., 2012; Hobbs, 2015). On top of that, learning experiences in nature have been associated with skills like critical thinking and problem-solving which fall into the category of personal development as they are life skills that are not only related to academic performance (Williams et al., 2013). When it comes to learners' well-being, we cannot fail to mention the positive impact of NBEE on physical health, regarding which, it is important to note that it has been examined mostly among young children (Gray et al., 2015). Evidence shows that the longer children have the possibility to stay in contact with nature and engage in physical activity at a young age, the more probable it is that they keep doing the same later on in life (Pagels et al., 2014).



Moving onto more academic skills and benefits, NBEE can have a positive impact on learners' self-discipline, not only for neurotypical children but also for children with attention deficit hyperactivity disorder (ADHD) (Sahoo et al., 2014) and learning difficulties (Ho et al., 2017). Furthermore, NBEE has been shown to provide learners with a more supportive learning environment which in its turn boosts learning in a more efficient way compared to traditional education (Kuo et al., 2019). To be more specific, greenery turns the learning experience calmer and establishes a safer learning context. Building closer and more genuine relationships but also developing autonomy can be fostered by being in a natural setting. Various forms of play, if we are talking about children, or activities in general, freely developed, allow character expression and creativity to flow, resulting in deeper connection to others (White, 2012; Chawla et al., 2014; Warber et al., 2015; Maynard et al., 2013). Overall, forms of more cooperative learning environments can promote student engagement and higher academic performance (Patrick et al., 2007; McCormick et al., 2015).

When attempting to synthesise a set of benefits of NBEE that applies more distinctly to youth in general, the possible outcome appears to be a compilation of previous elements with a few additional ones. Naturally, stress relief and intrinsic motivation are retained as well as longer lasting interest in the activities. Another important element that applies to youth work is the establishing of deeper group relationships by finding oneself on equal terms around others, therefore reducing or eliminating socioeconomic gaps. Indeed, learning in greener surroundings has been consistently tied to the bridging of sociocultural differences and even interpersonal barriers that might arise in indoor, classroom-like settings (White, 2012; Cooley et al., 2014; Warber et al., 2015). Additionally, employing NBEE in youth work (the same being for education in general) from as early on as possible can result in environmental stewardship, an emotional connection to nature, that fosters pro-environmental behaviour and attitudes in the long term. Finally, thinking about how important environmental action and education around it has been recently for young people, not only in the EU but also worldwide, youth work should set the example of delivering its learning and training goals using NBEE as much as possible.



Current situation in the EU

An important question that unavoidably stems from the overall discussion around environmental education involves the EU's initiatives in this field and how actively the European Institutions have been promoting it. In fact, the European Union, recognising the urgency and necessity of prioritising environmental education, has been supporting green and sustainable education to prepare learners for a more sustainable future, with a focus on pro-environmental initiatives. Some of the EU's actions currently ongoing that are worth mentioning include the Education for Climate Coalition ([Education for Climate Coalition, n.d.](#)), involving students, teachers, and organisations working on climate and sustainability. In a continuing effort to stir the member countries towards green education, in June 2022, the Council of the European Union adopted a [Recommendation on learning for the green transition and sustainable development](#), emphasising the integration of sustainability into education and training (Council of the European Union, 2022). To complement the European Commission's engagement in the implementation of the Recommendation, a [European competence framework on sustainability \('GreenComp'\)](#) came into being (European Commission, n.d.). On top of that, in relation to young people that oftentimes are eager to contribute through practical actions in combating climate change, the EU is funding educational activities through the [2021-2027 Erasmus+ programme](#) that focuses on green education and sustainability, supporting projects, research, and teacher academies in this area. Even more closely related to the goal of environmental education is [the LIFE Programme](#) (European Commission, n.d.). The EU's LIFE Programme provides funding for projects related to environmental and climate action. Many LIFE projects include educational components aimed at raising awareness and building capacity for environmental issues.

Finally, another important step taken by the EU is the European Commission's [Nature Restoration Law](#) that was adopted by the Parliament in July 2023 (European Commission, n.d.). The initiative is part of the European Green Deal and aligns with the EU Biodiversity Strategies for 2030 and 2020. It represents a comprehensive effort to address the pressing environmental challenges facing Europe. As indicated in Restoration Academy's project proposal, Europe faces an alarming natural decline, with over 80% of habitats in poor condition. The restoration targets encompass various ecosystems, including wetlands, forests, grasslands, rivers, heath & scrub, rocky habitats, and dunes. Notably, one-third of bee and butterfly species are declining. The European Commission's Nature Restoration Law proposal is a continent-wide initiative aimed at restoring ecosystems, combating

biodiversity loss, and addressing climate change. It forms a crucial part of the EU Biodiversity Strategy. Most importantly, EU countries are required to submit National Restoration Plans, monitor progress, and report on their efforts. The European Environment Agency provides technical reports, and the Commission reports to Parliament and the Council.

Of course, the aforementioned initiatives and directives are focused on setting the scene through some centralised guidelines but in some cases remain mostly theoretical or less known by the general public. Moreover, although the Council Recommendation on learning for the green transition and sustainable development, urges Member States to prioritise green transition education and provide climate crisis and sustainability learning opportunities, not all member countries have advanced at the same pace.





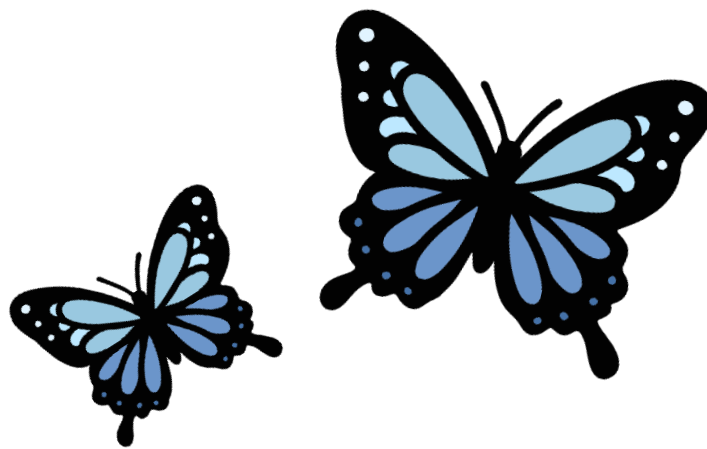
Nature Restoration

The EU has been actively promoting the importance of nature restoration as proven by the EU Law we discussed above. Delving deeper into the essence of nature restoration, according to the European Commission it is defined as a “process to support the recovery of degraded, damaged or destroyed ecosystems and bring more nature and biodiversity back everywhere, from agricultural and forest land to marine environment and urban spaces” (European Commission, n.d.).

It is often hard to pinpoint precisely the measures that fall into the category of nature restoration so in order to have a clearer view some example that the Commission itself is using are: enhancing degraded soil and agricultural land with natural features like hedgerows and trees, restoring monoculture forest plantations with mixed native woodland, greening up cities, buildings and infrastructure, replanting seagrasses on the seabed, reversing human-induced pressures such as pollution and excessive use of pesticides. The gains are significant and touch upon various levels while economic activities do not cease existing. On the contrary, research carried out by the Commission in the framework of the Restoration Law shows that “every euro spent on restoration delivers a return on investment between €8 and €38 depending on the ecosystem in benefits from the many services healthy ecosystems provide” (European Commission, n.d.).

WWF has also been a strong advocate of nature restoration as a concept and the EU Law proposal more specifically. The factsheets produced and released by it highlight the paramount importance of restoring nature and the effects it has firstly on our health, as nature can provide assistance on various fronts, such as physical, mental, and social well-being. Ample evidence supports the positive effects of spending time in quality natural settings on human health. Therefore, reviving natural ecosystems can establish a healthy living environment, delivering essential services that benefit human health. Simultaneously, nature restoration can yield many benefits as it can stimulate job creation and economic growth in areas affected by environmental degradation. In places like post-industrial regions, this restoration has revitalised local economies by generating employment and promoting tourism, which not only boosts the region socially but also provides residents with a healthier living environment. Tourism, a vital industry in the EU, is susceptible to causing environmental harm if not managed responsibly. However, there are methods to merge responsible, sustainable tourism with nature restoration efforts, offering significant socio-economic advantages. Finally, and most importantly, there is an established

correlation between nature restoration and climate benefits. This is because forests, the largest carbon stores on land, are under threat due to deforestation, contributing to 11% of global greenhouse gas emissions. In Europe, although forest areas are growing, their health is declining, reducing carbon absorption. Diverse, natural forests are more resilient and store more carbon therefore, combining passive restoration (letting forests mature without logging) and active restoration (removing non-native species, promoting deadwood and veteran trees) is a win-win strategy for biodiversity, carbon storage, and climate resilience. At the same time, peatlands are considered very large terrestrial carbon store and proper planning about how to manage them effectively could contribute significantly to the reduction of GHG emissions.



National Contexts

Finland

Environmental education in Finland is often connected to circular economy and sometimes also climate education, and includes social, cultural, and environmental aspects and themes, that relate to nature and environment.

The legislation regarding education in Finland is prepared by the Ministry of Education and Culture, and the national core curricula are drawn by the Finnish National Agency for Education working under the Ministry. The foundations of curricula and degrees provide a basis for addressing environmental matters in education, and environmental and climate education are promoted throughout early childhood education, general education, as well as vocational and higher education (Ministry of Education and Culture 2024).

Different organisations also play an important role in Finland's promotion of environmental education. Foundation for Environmental Education (FEE) Finland and the Finnish Association of Nature and Environmental Schools are focused on developing and improving the status of environmental education, whereas nature education and for example, restoration activities, are organised by various environmental organisations (ENGO's), such as the Finnish Nature Association (Luontoliitto), the Finnish Association for Nature Conservation and WWF Finland.

Greece

The research conducted in Greece, acknowledging the limitations of time imposed, has shown that the most widely used term pertaining to educational activities in or about nature is "Environmental Education" or "Education for Sustainable Development," with the respective addition of the specifications "formal" or "non-formal" in order to clarify the setting of these activities or learning processes.

Regarding formal settings, the most prominent example is that the Greek Ministry of Education, Religious Affairs and Sports has officially incorporated EE into the school's curriculum based on Law 1892/ 31.7.90 by which, according to paragraph 13 of Article 111, EE is an essential and constituent element of the Analytical Programmes in Secondary Education. More precisely, the Law states that: "Environmental Education is part of the programmes of Secondary Education schools and that the purpose of Environmental Education is to make students aware of the relationship between humans and their natural



and social environment, to become aware of the problems associated with it and to be active through special programmes with the aim to contribute towards a general effort to face them" (Government Gazette, 1990). As far as non-formal EE is concerned, among the main focal points and administrators are the 53 Environmental Education Centers (EEC)¹ that are active around the country, which are in close collaboration with local schools by providing additional training to teachers and EE materials to students (INEDIVIM, n.d.; Filippou, 2020, p. 49). In addition, environmental NGOs play an equally important role in the non-formal EE field along with the more recently established social cooperative enterprises, like the "Forest Group," that lead activities in nature for students and families (Forest Group, n.d.).

The Netherlands

Throughout the Netherlands there are actors in both the private and public sector promoting NBEE, and many schools now include some kind of environmental education in their curriculum. As noted by Judith van de Wetering et al, "the idea that education can be a vehicle to spread knowledge and help protect the natural environment has gained prominence since the 1960s" (Judith van de Wetering, 2022). However, the implementation of NBEE at the primary and secondary levels in the Netherlands is still limited and varies according to the capacities of individual municipalities, schools, teachers and extracurricular activities (Coöperatie Leren voor Morgen, 2022). One study found that 80% of secondary school teachers wished that more attention was given to sustainability in their lessons. Furthermore, in the same study, it was found that - compared to 2015 - there has been little growth in the participation in official school-wide sustainability initiatives, such as UNESCO schools and Eco-Schools (Coöperatie Leren voor Morgen, 2022).

Currently, NME is not a compulsory subject in the national school curriculum. Instead, the association of Municipalities for Sustainable Development (GDO) is responsible for running local NME centres throughout the country that are aimed at increasing the NME in local schools. In 2022, there were 140 of these NME centres (SME, 2022). Half of these are run by the local municipality and the other half are run through foundations that are normally subsidised by the municipality (SME, 2022). According to SME, more than 1,000 employees

¹ The Centres for Environmental Education (EEC) is a network of decentralised sustainable public educational structures of the Ministry of Education and Culture, with the aim of promoting environmental education and its support at local, national and international level. The programmes of the EEC are daily or multi-day and are implemented throughout the school year for the school groups of Primary and Secondary Education. Applications for participation are submitted by the responsible teachers to the Head of School Activities of their Directorate, mostly during the month of October (INEDIVIM, n.d.).



are employed in this programme and around 2500 volunteers help bring more sustainability to young people.

Slovakia

Several national and departmental documents and strategies in Slovakia generally support Environmental Education (EE). These include the Strategies of the Ministry of Environment of the Slovak Republic, the Ministry of Education, Science, Research and Sport of the Slovak Republic, and the Ministry of Environment of the Slovak Republic. While these documents lay the groundwork for the continuation and enhancement of EE in the country, a specific focus on Nature-Based Environmental Education (NBEE) initiatives is notably absent, except in the Departmental Conception of EE.

NBEE is not significantly integrated into Slovakia's national education framework, particularly for older youth, such as high school students. The majority of EE initiatives target elementary school students. Our internal review of programmes offered by various EE organisations and centres in Slovakia revealed that only a smaller portion of these programmes cater to high school-aged young people. Recent quantitative research has indicated that EE in elementary schools in Slovakia "is not systematically defined, and often depends on the voluntary efforts and enthusiasm of teachers" (Piscová, Lehotayová, & Hreško, 2023, s. 1). A recent report on the current status of EE in formal education in Slovakia, collaboratively written by two policy institutes at the Ministry of Environment and the Ministry of Education (Institute for Environmental Policy; Institute for Educational Policy, 2021), outlines challenges for EE in formal education. It underscores the need for a further country-wide survey on EE and recommends the preparation of a national strategy for EE in formal education. The report also aligns with some findings of Piscová, Lehotayová, and Hreško, particularly regarding the role of EE school coordinators, a role that is not sufficiently supported. This report acknowledges some benefits of NBEE methods, the lack of infrastructure for EE centres in Slovakia, and calls for improvements in professional teacher training at the university level, such as introducing basic environmental knowledge for all future teachers (Institute for Environmental Policy; Institute for Educational Policy, 2021).

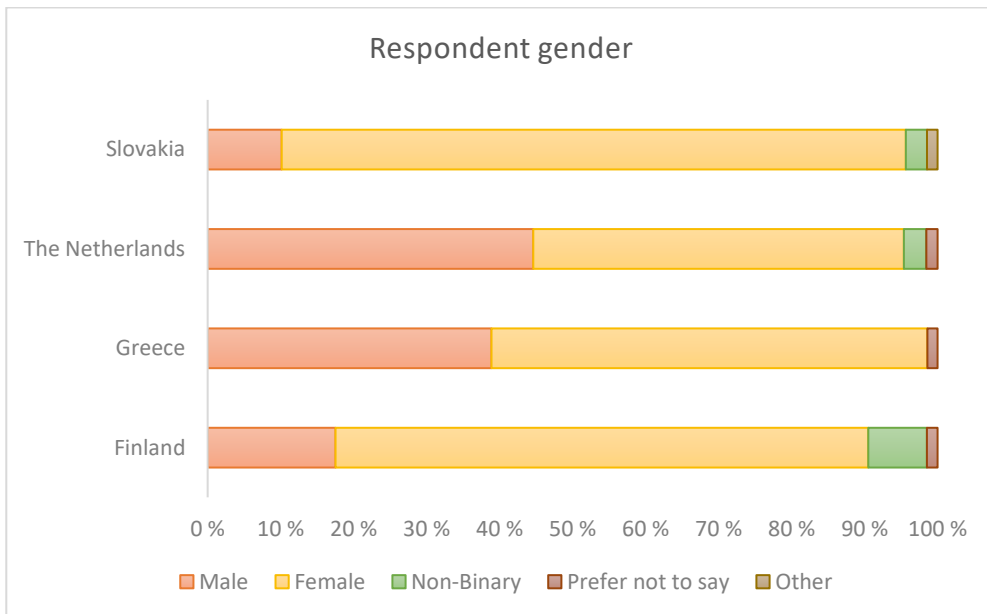
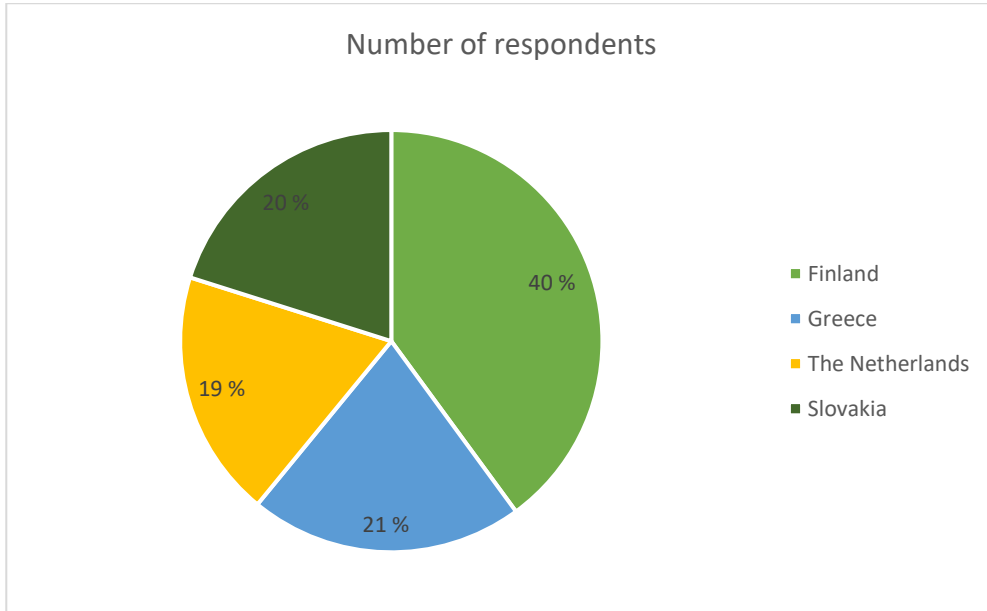


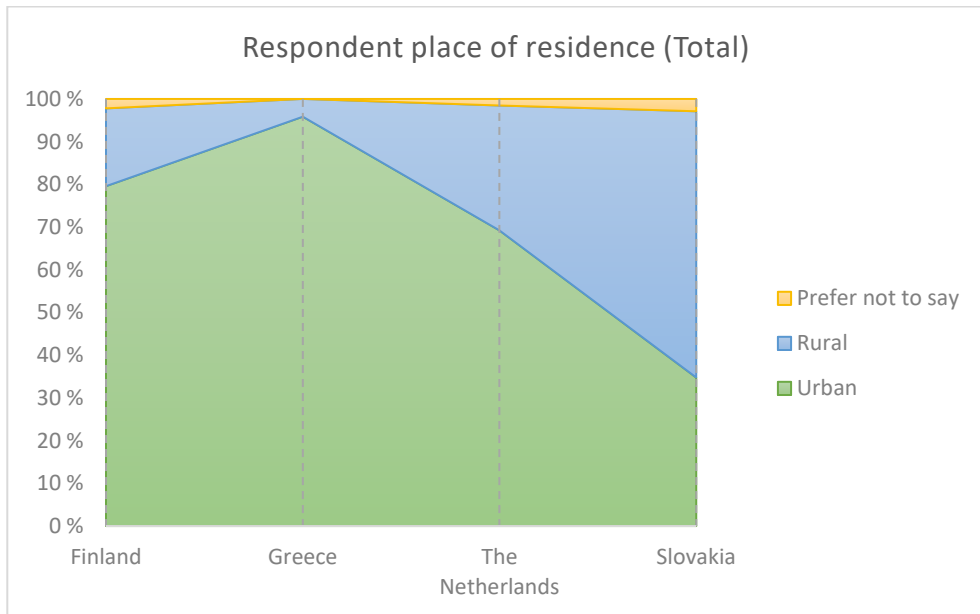
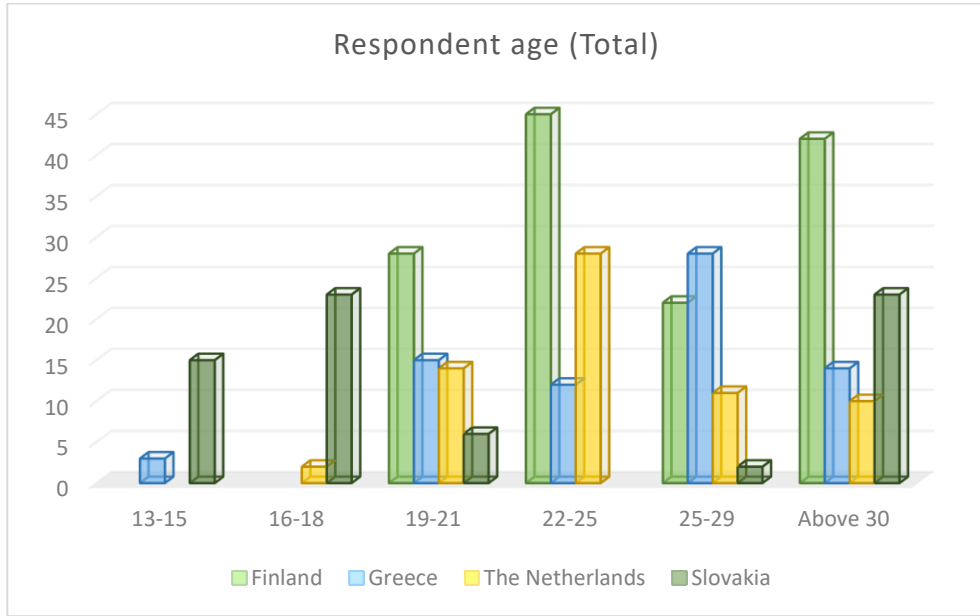
Survey Results

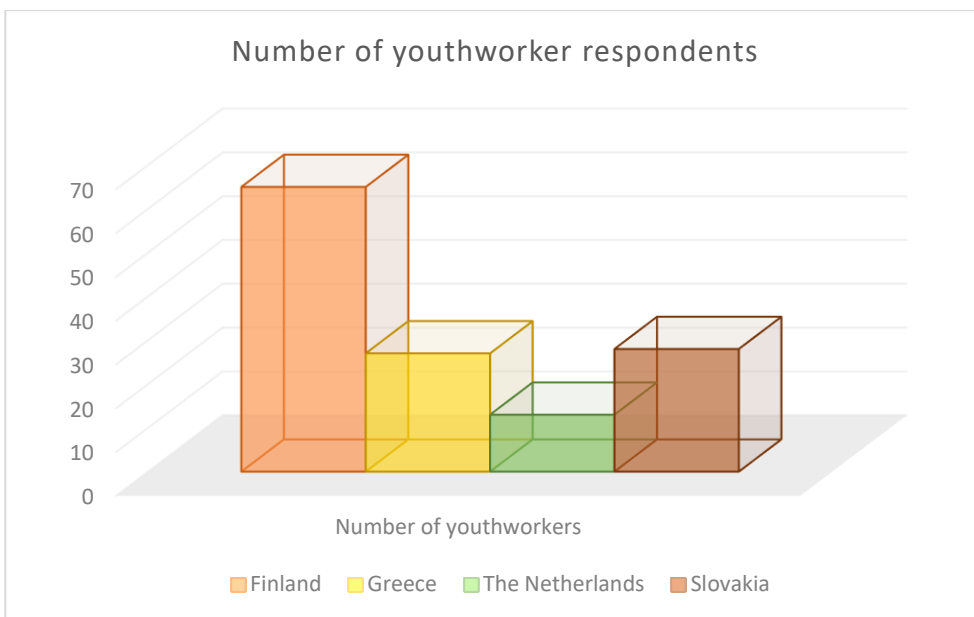
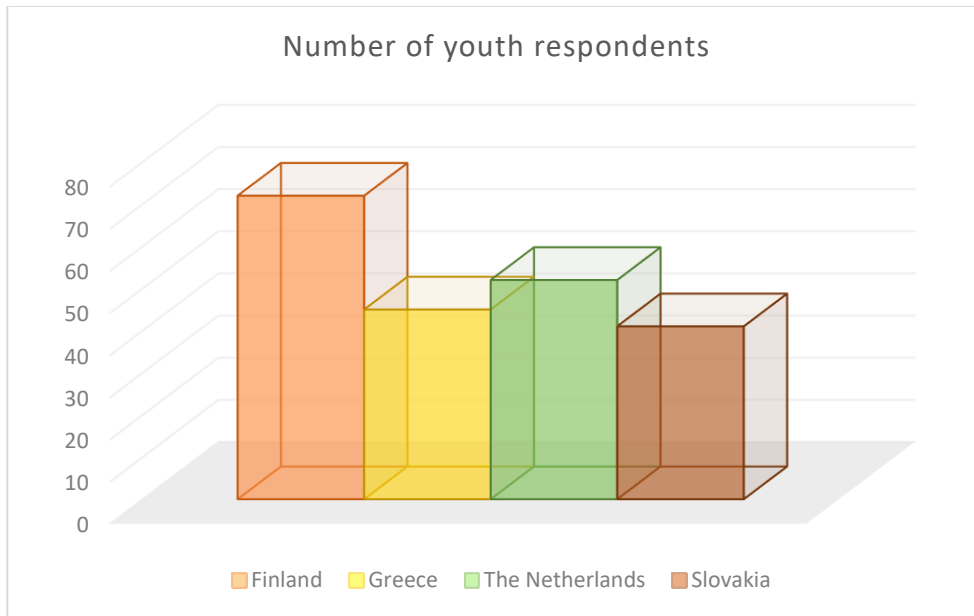
Limitations

One common limitation across surveyed countries is the use of the term "youth worker," which, while convenient for analysis, may not accurately represent the diverse roles and qualifications of individuals working with youth in each respective country. In Finland and the Netherlands, the term refers to a specific profession, whereas in reality, it encompasses a broader range of adults, including instructors and teachers. Moreover, in Greece, the focus on respondents primarily from urban areas like Athens unintentionally neglects perspectives from rural regions. Additionally, in Slovakia, the process of translating survey questions may have introduced minor gaps in understanding.

Graphs: Demographics



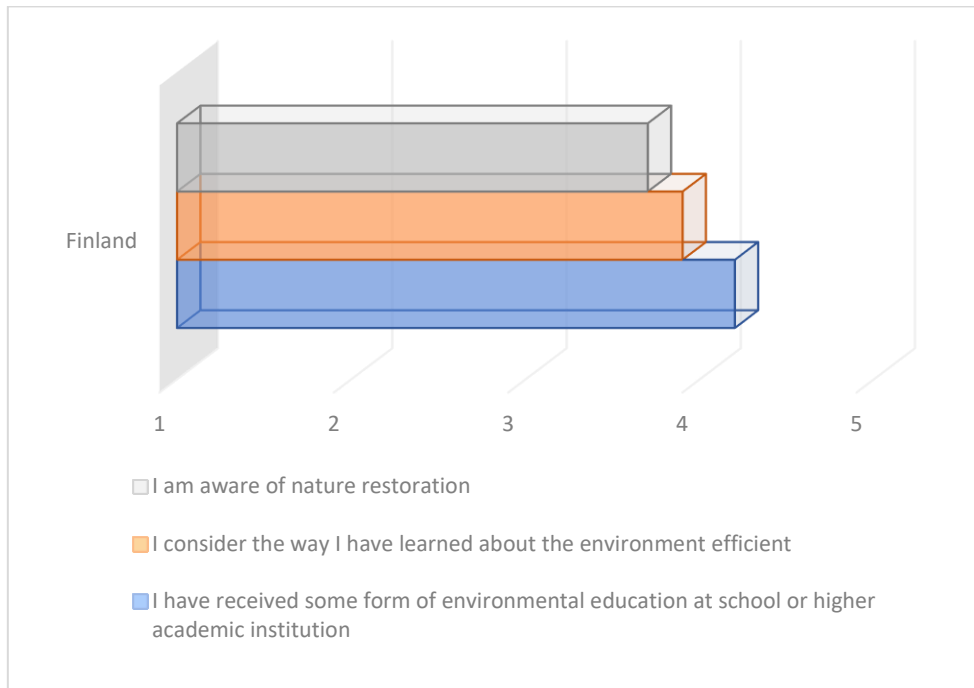




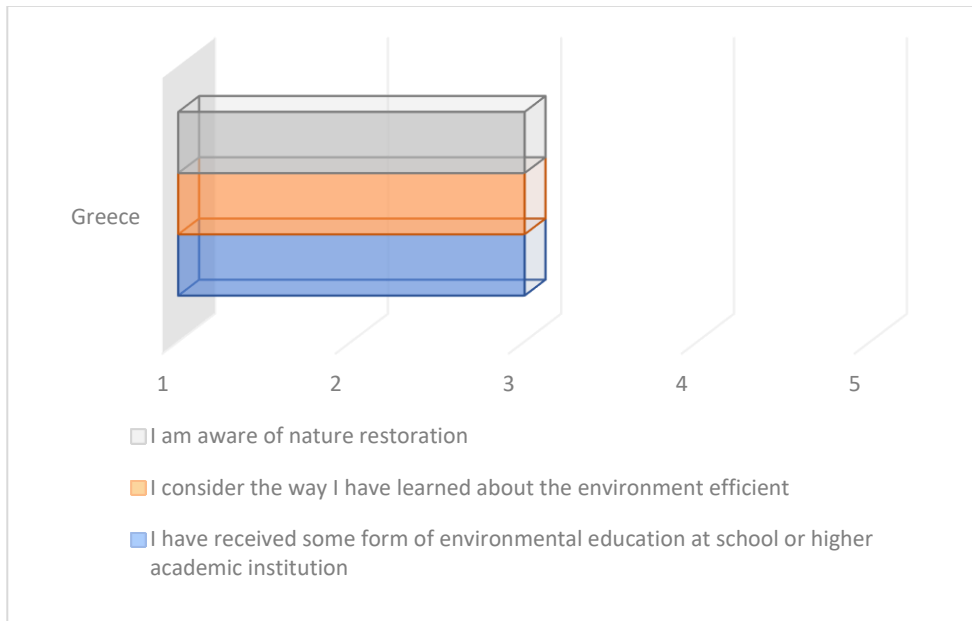
Overall, it is evident that the majority of the sample is female and lives in urban areas while the reason why Finland appears to have double the number of participants is because there were two Finnish organisations involved in the survey.

Graphs: Youth

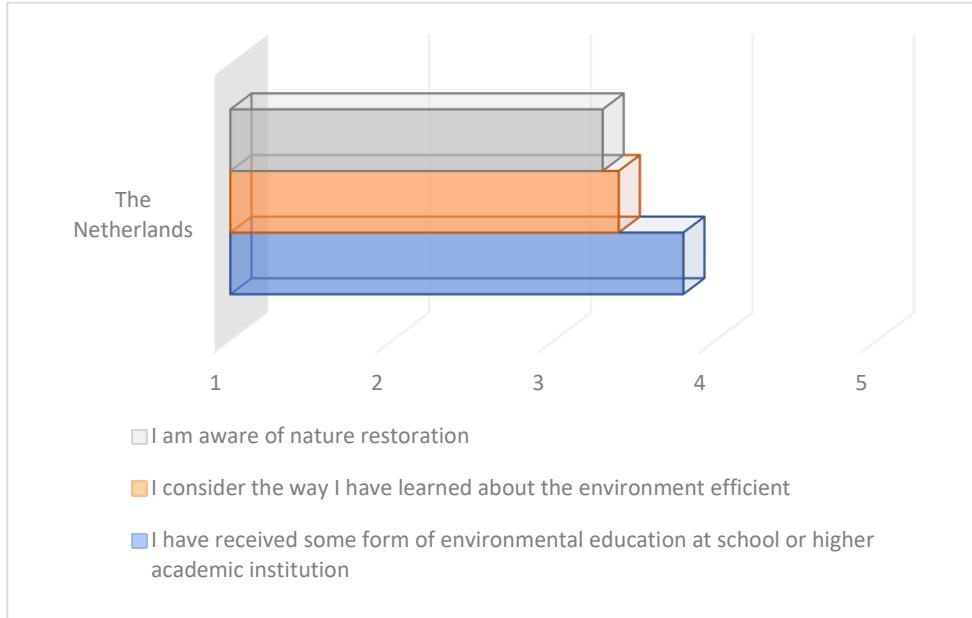
The scale 1 to 5 corresponds to “Strongly Disagree” up until “Strongly Agree”.



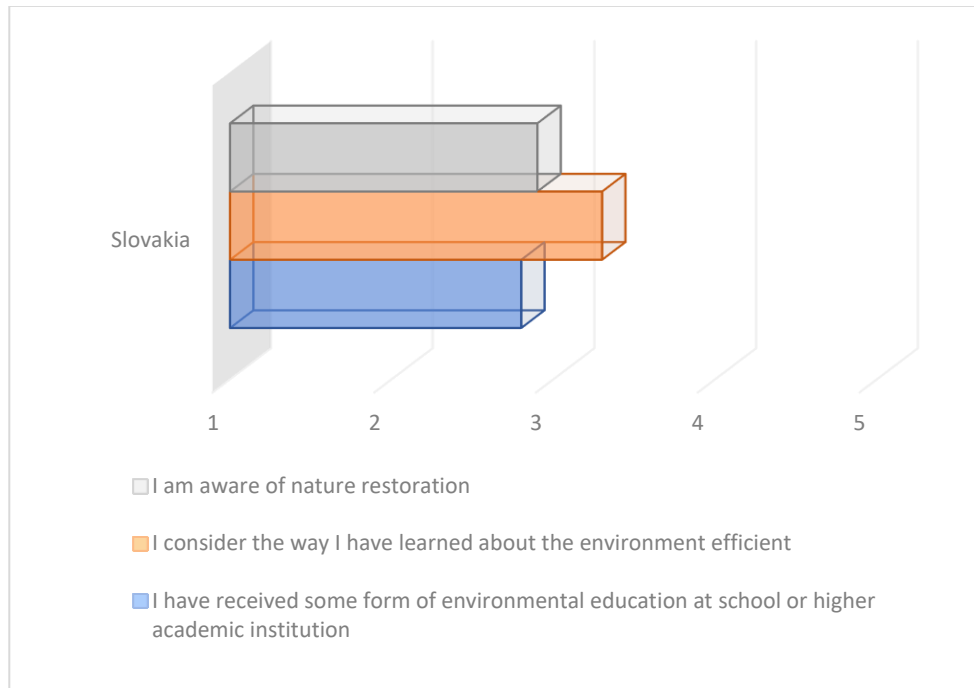
The majority of Finnish youth respondents had received some kind of environmental education at educational institutions. There were mentions about, for example, forest trips, litter prevention/awareness campaigns and theme days in kindergartens and elementary schools. Some mentioned the amount of environmental education increased in middle school and even more in high school. Voluntary work, practical activities and trips to nature were described as examples of effective ways of learning, as well as university teaching. Also, 16.7 % of the respondents strongly agreed and close to half (47.2 %) agreed on being aware of nature restoration.



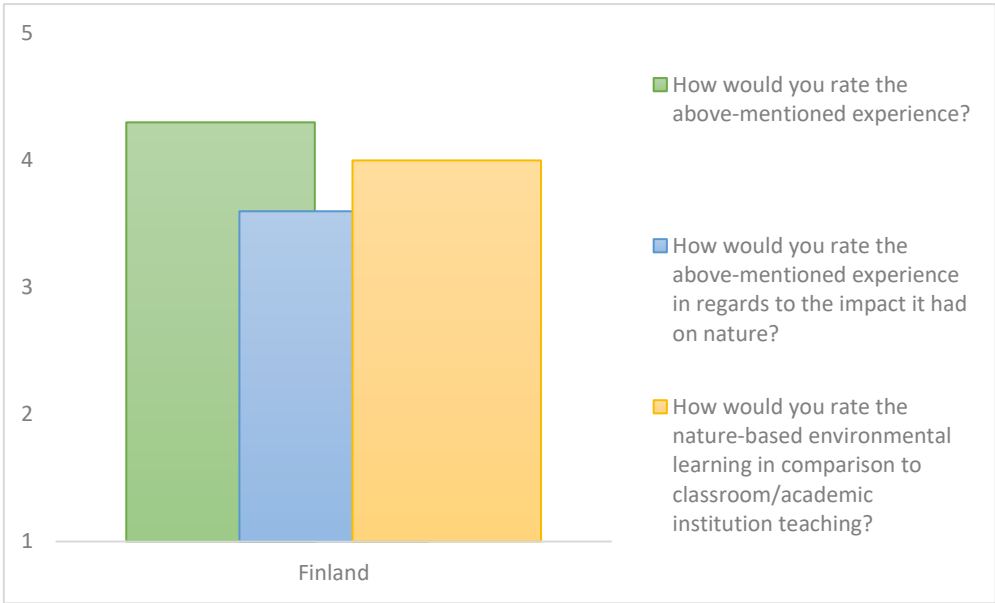
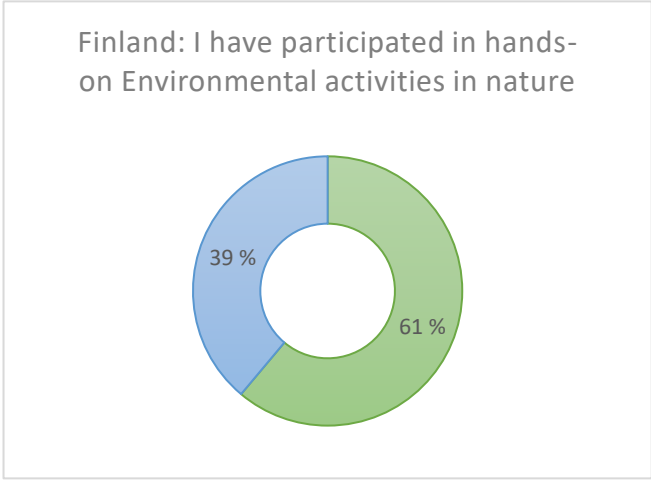
The respondents mentioned that the formal education framework is not developed enough, so they underlined their personal research online or the non-formal education activities they had participated in when discussing the effectiveness of learning. The answers to the follow-up question, "If you are aware of nature restoration, in what context?" included tree planting, recycling, regenerative agriculture, and legislative-collective but also individual contexts. At the same time, the EU Nature Restoration Law was also mentioned.



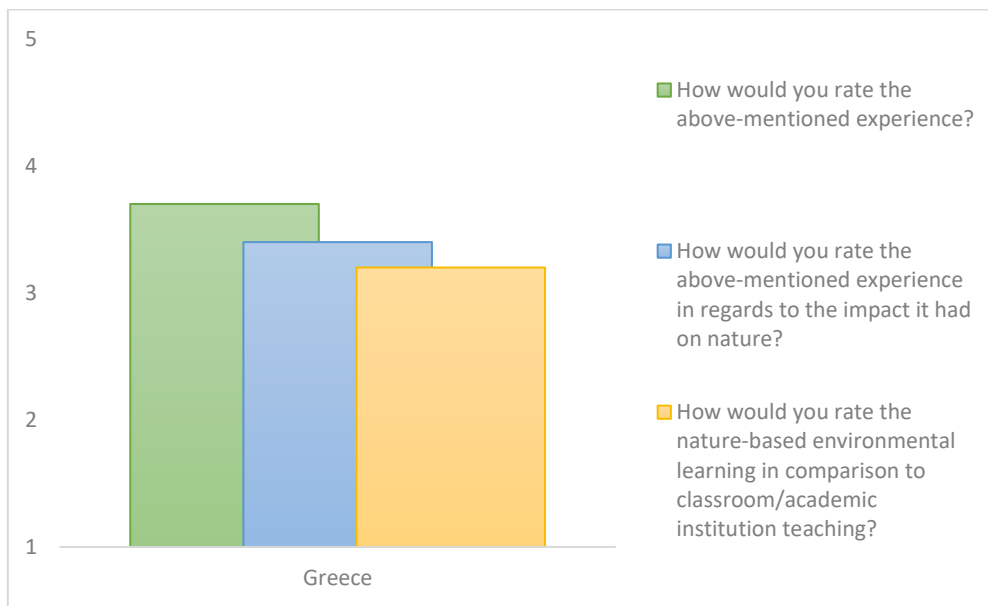
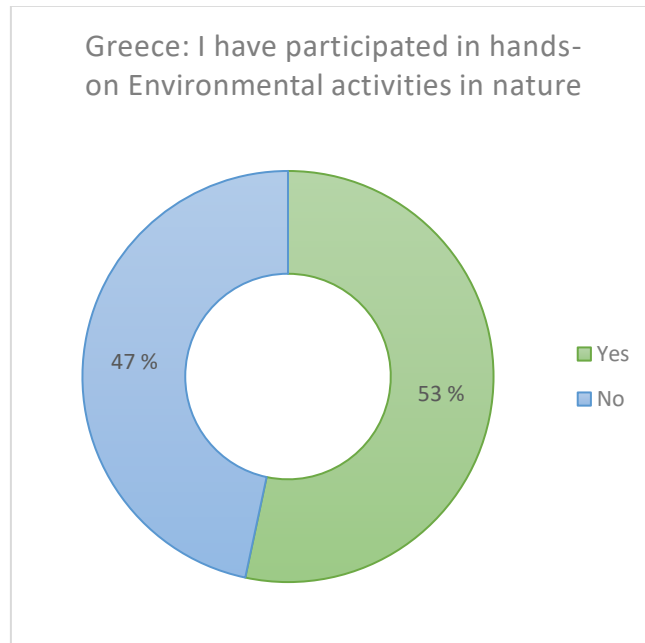
In contrast to the voting, many respondents emphasised that their learning was not very effective. Some mentioned that it could have been made more practical. Another comment was about the lack of urgency in this education. Respondents referred to becoming aware about nature restoration through various ways including: regenerative soil restoration projects, tree planting schemes (reforestation was mentioned quite a few times), carbon offsetting initiatives, spending time in nature when younger, learning more on the internet and through organisations, urban/rural planning projects, air pollution and the speed of deforestation, information boards about wildfires in the dunes, through family-friendly nature restoration camps.



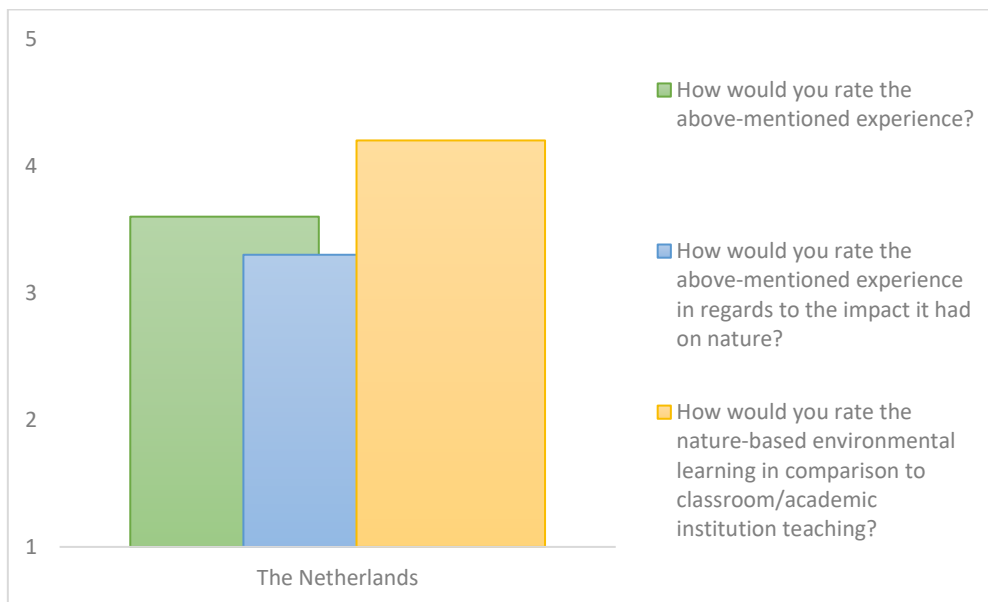
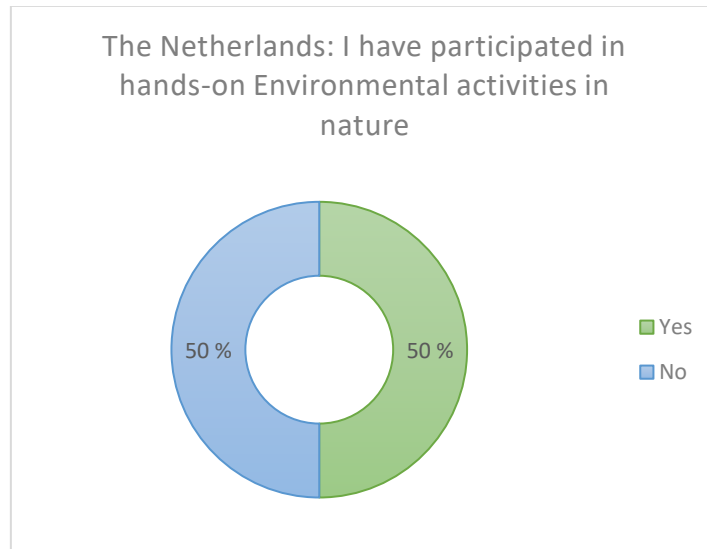
Within the sample, the number of young people who responded that they have not received some form of EE is higher than those who did. Among the additional information to the question on the effectiveness of learning, participants have mentioned that too much focus was given on theory and facts, and they would appreciate more practically oriented information or activities. The knowledge about nature restoration seems to be rather limited. Among examples in the follow-up question, several participants mentioned waste sorting and recycling, following environmental organisations online or individual environmentalists. No specific activity focused specifically on nature restoration was mentioned.



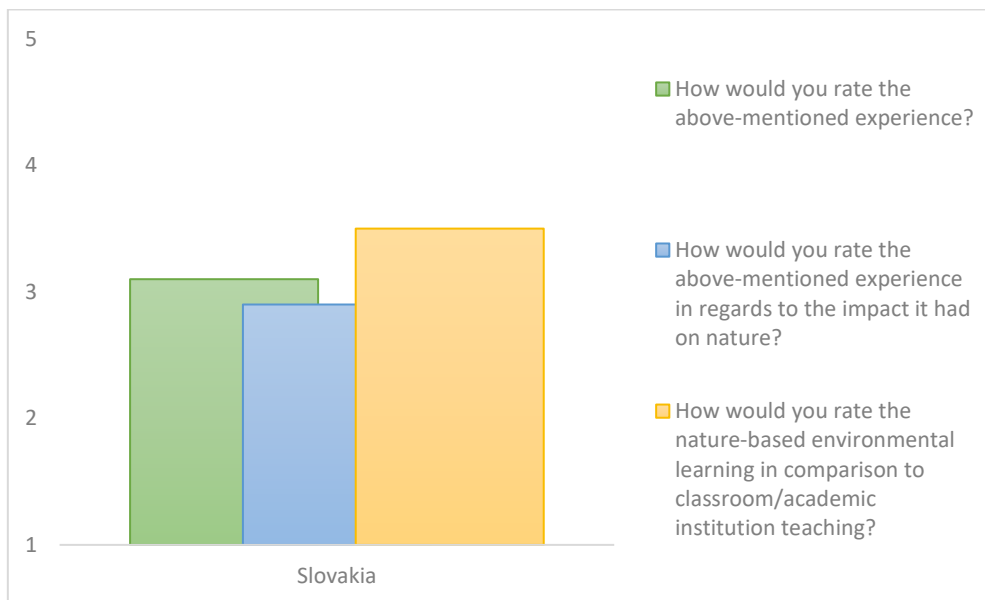
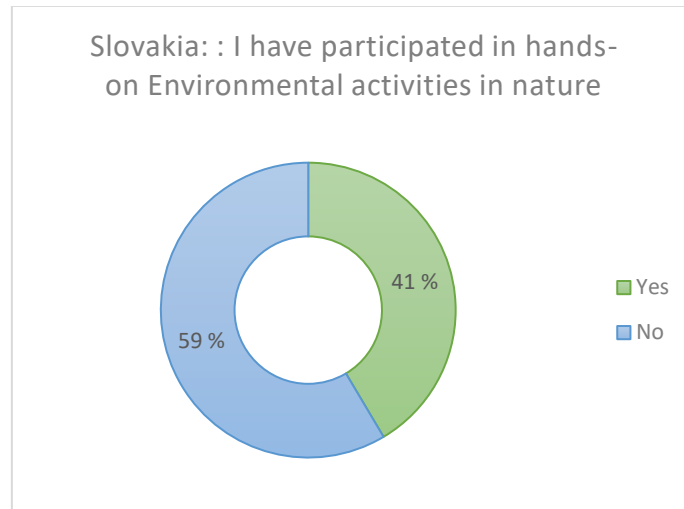
Many respondents emphasised nature-based environmental activities are well-educational, mind-broadening, communal, and more fun than in a class or lecture room. The experiences were considered to have had some local impact, such as finding more comfort in nearby nature, but not much on a larger scale, like on national or global levels.



The examples of activities mainly included reforestation, tree-planting, and beach or landscape clean-ups. Then, there were individual answers, including political advocacy, rewilding, workshop participation, youth exchange, water pH recording, and environmental excursions to learn about the natural landscape, recycling, and composting. Regarding the impact of the activities, answers were ranging from neutral to positive. The assessment of NBEE compared to traditional teaching is rather moderate with the majority being neutral but with 22% disagreeing.

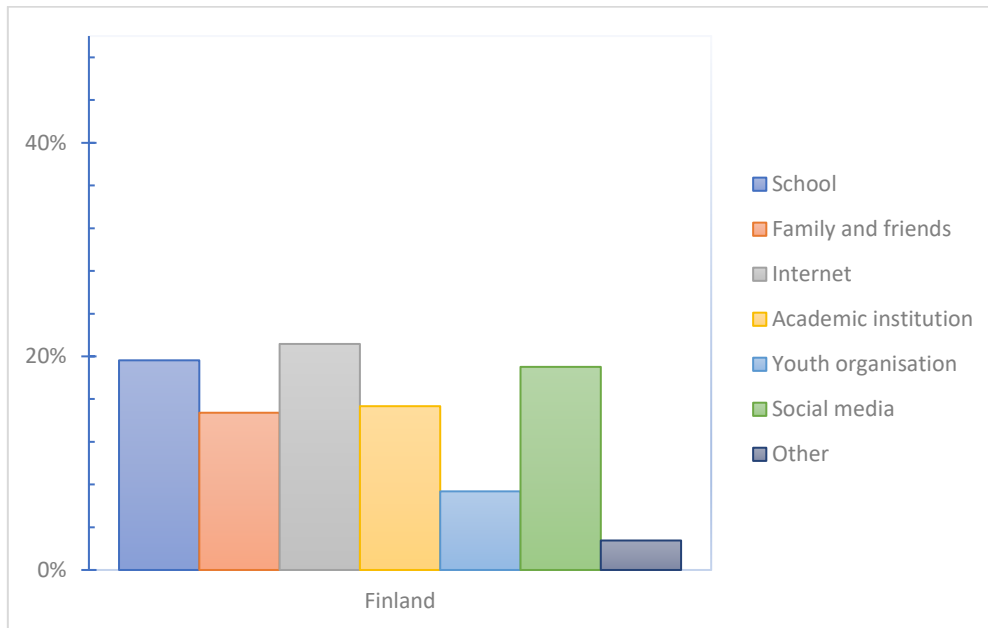


Participation in nature-based environmental activities included a wide range of interpretations including: political activism (climate march, eating vegetarian, action camps) outdoor activities (excursions, camps, tree planting days, helping in organic farms and CSAs, volunteering at a forest). Many participants described a positive impression that this experience left for them. Some noted that outdoor activities were much more memorable and effective than in class. There was a big difference between the personal satisfaction of participants when it came to nature-based environmental activities and the impact that they felt it had on nature.

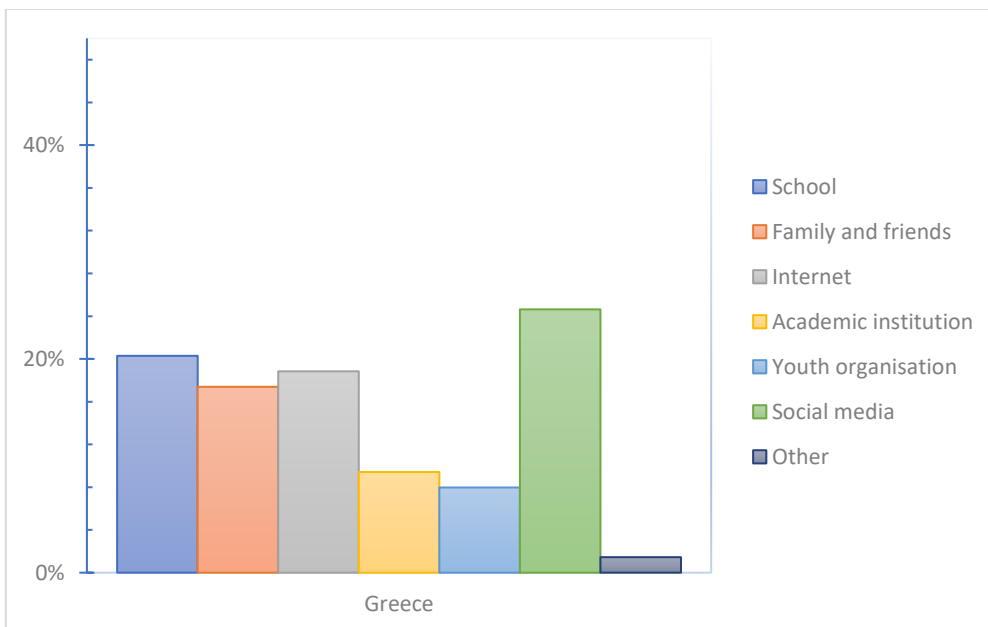


Regarding examples of these activities, most of the participants mentioned collecting trash in green areas and clean-ups. Others mentioned planting trees or flowers and building a garden on the school’s property. One participant explained that activities took part only on their school grounds, therefore the impact will be limited to their school and not further outside. Another explained there was some impact, but it could be bigger if she devoted more time to it, focused on it long-term, tried to involve more people, and spread the word.

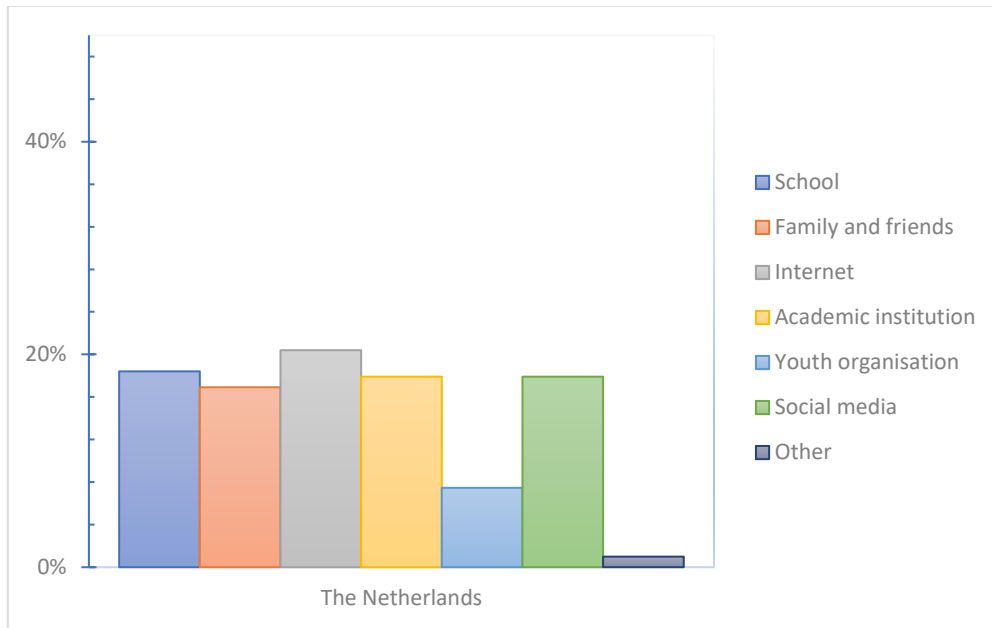
I have received information or education about the environment from:



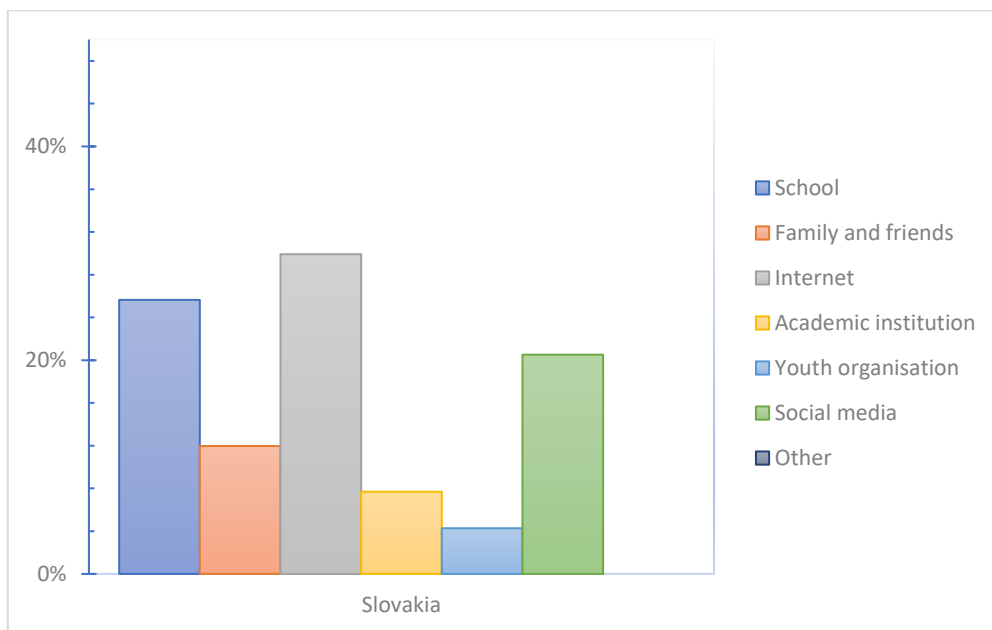
Almost all expressed having received information or education about the environment from the Internet, many also from school, and from social media.



To this multiple-choice question, Greek respondents voted social media as their primary source of getting information or education about the environment. Social media are followed by school and the internet in general.

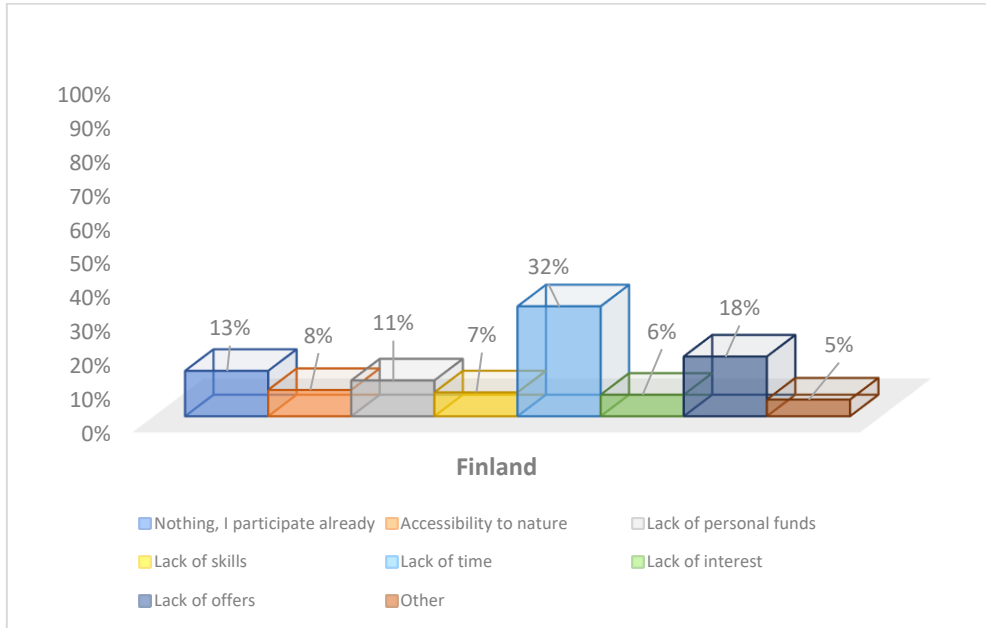


Most of the information about the environment received by the respondents came from the Internet, School, Academic Context, social media.

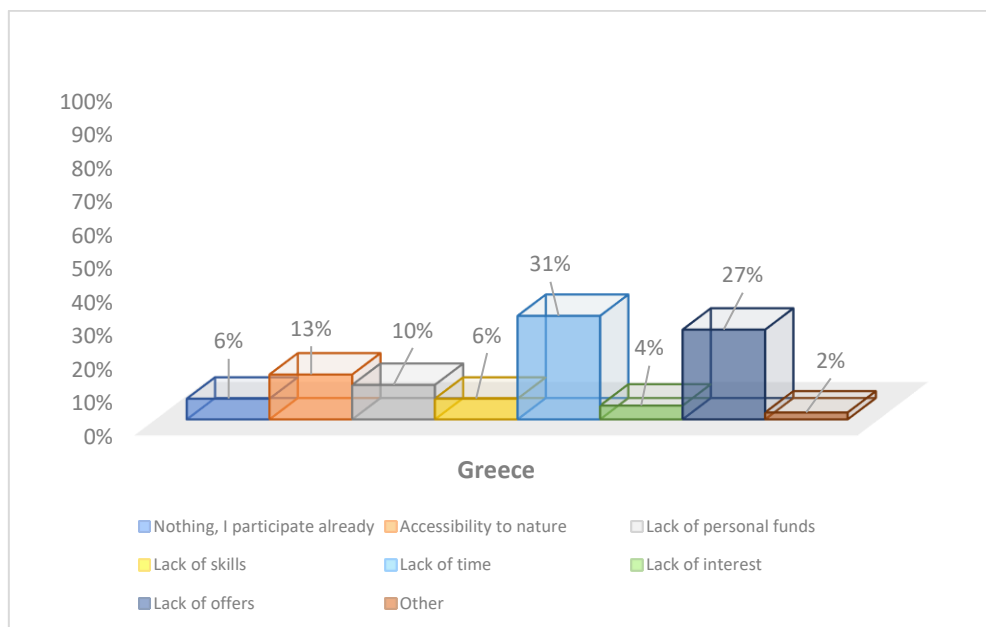


The results to this question show a big impact of the internet and social media on receiving information or education about the environment. School is plays an important role as well.

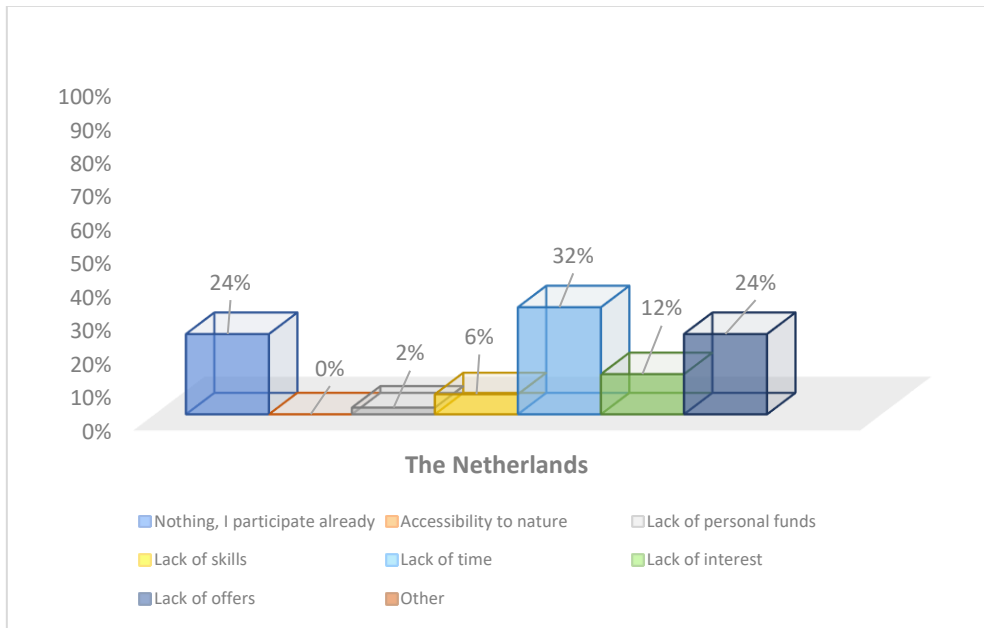
What keeps you from participating in such activities?



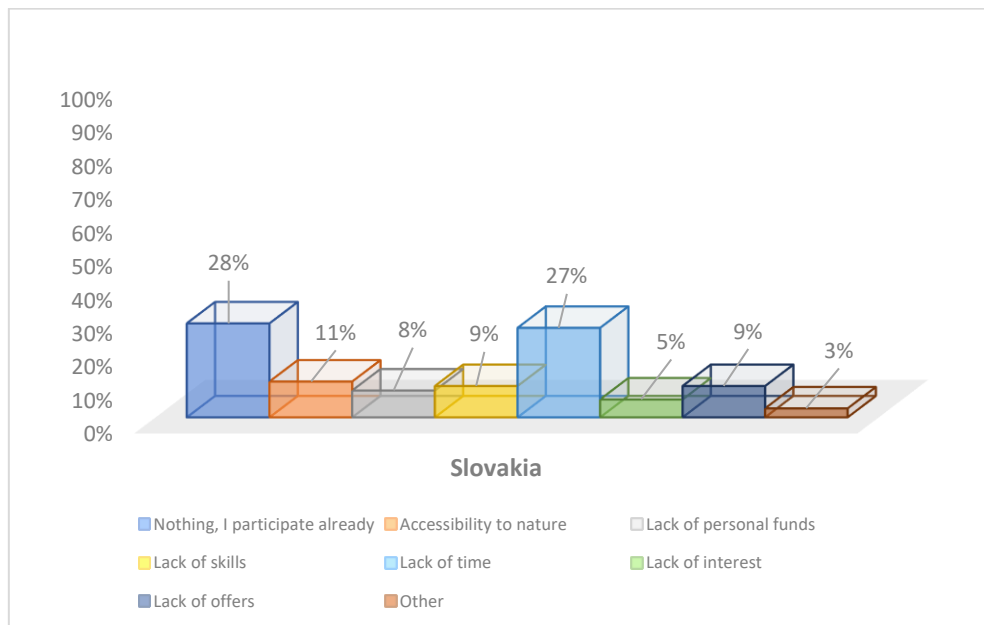
Close to two thirds expressed lack of time keeps them from participating in nature-based environmental learning. Other notable barriers were lack of offers, lack of personal funds, accessibility to nature, lack of skills, and lack of interest. Some one third of the respondents (34.7 %) said they already take part in such activities.



The main reasons why the Greek respondents do not participate in nature restoration activities are lack of time, lack of offers and accessibility to nature.



The biggest challenges that people have in The Netherlands when it comes to nature-based environmental learning is a lack of time, and a lack of accessibility while a significant number did not feel that they face any challenges.



In Slovakia the main reasons for the lack of participation in nature-based environmental activities including nature restoration are lack of time while most respondents do not face any challenges.

Graphs: Youth workers



The skills Finnish respondents felt they were lacking are networking skills and knowledge of potential partners, training, peer support, and practical skills. Some expressed specific interest in low-threshold ways of restoring nature. Additionally, there is a need to improve skills related to logistics (incl. accommodation, food, and travel), group management, taking diversity into account (e.g., anti-racist skills), and organising accessible and safe activities.



Greek respondents stated that the skills they felt they lacked were networking (3 times), deeper knowledge (1 time), and communication (1 time).

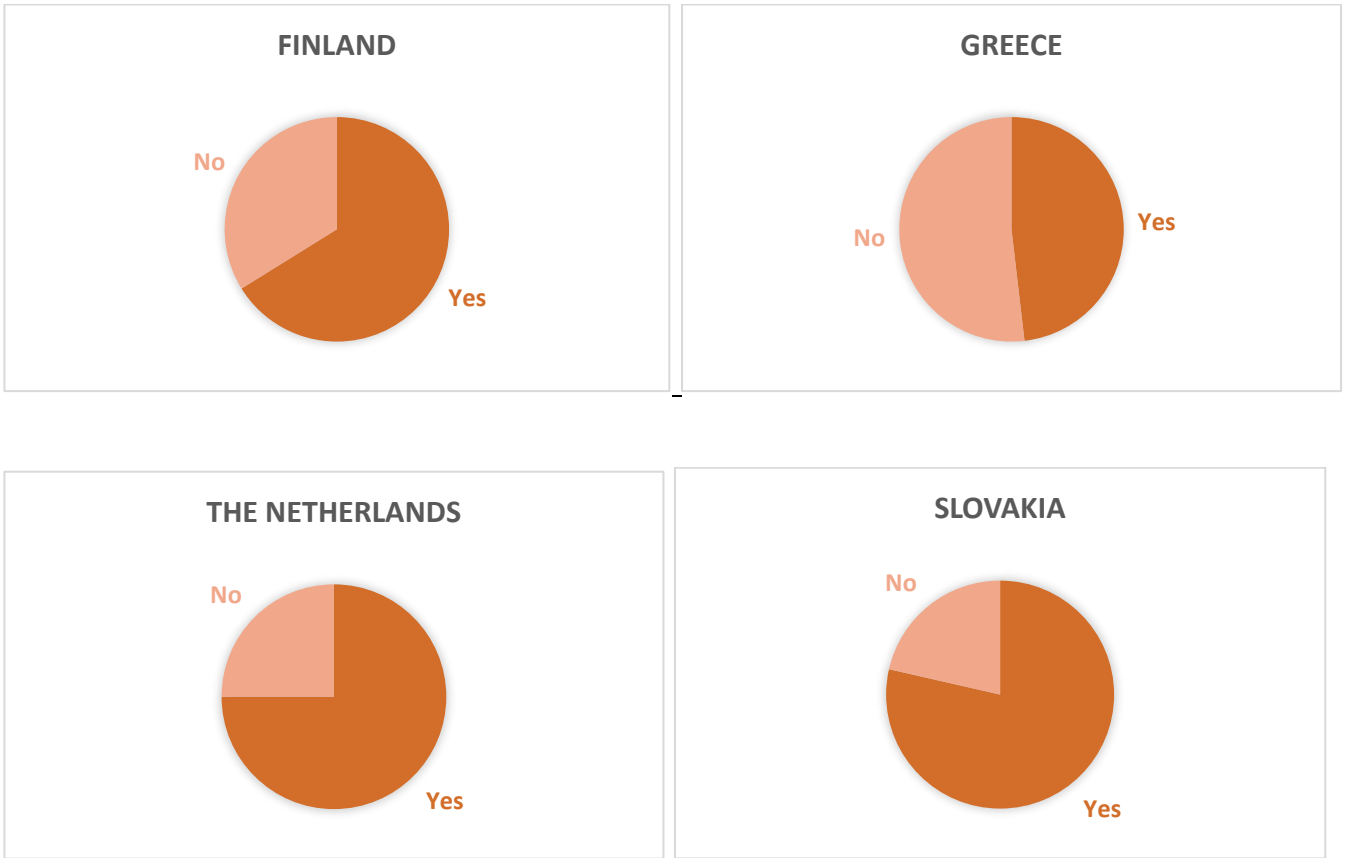


Most youth workers (49%) felt like they had the adequate skills to deliver their activities, indicating this by strongly disagreeing to the first statement. Participants indicated they felt they lacked (youth and class) management skills, group communication skills and time-management/organisational skills.

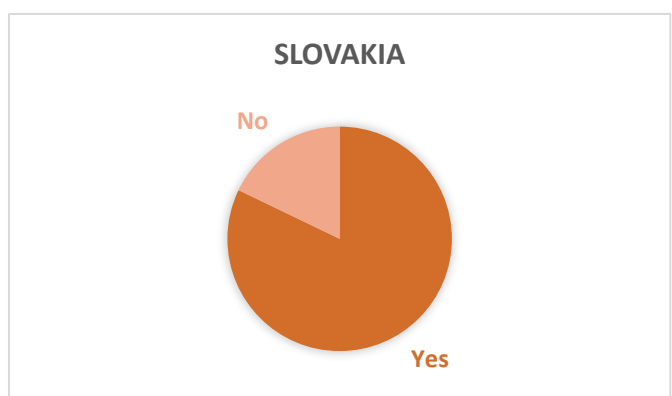
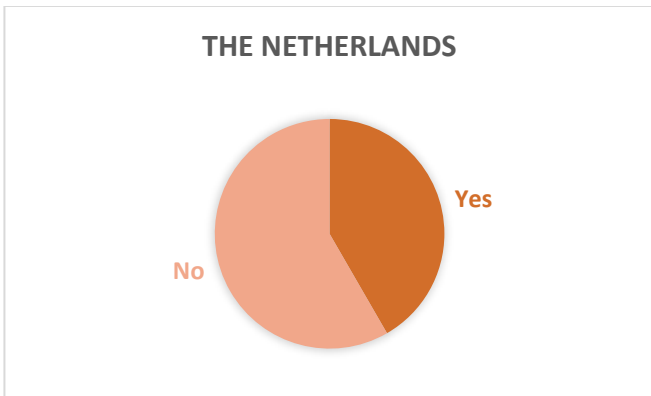
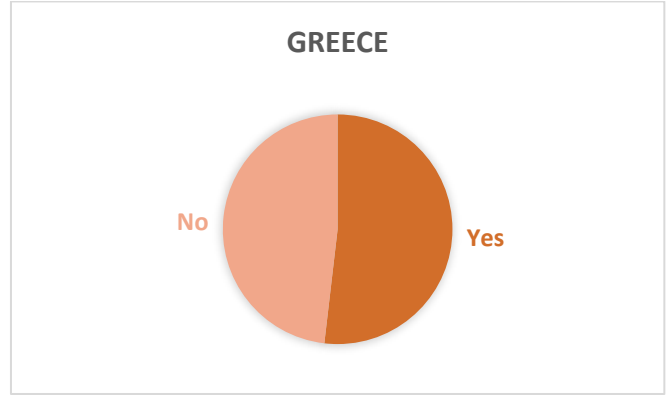
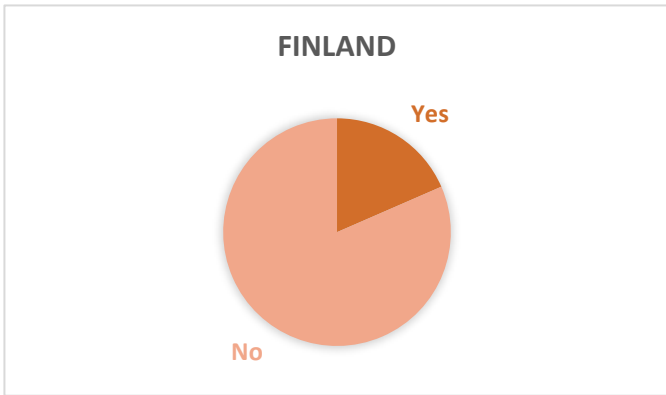


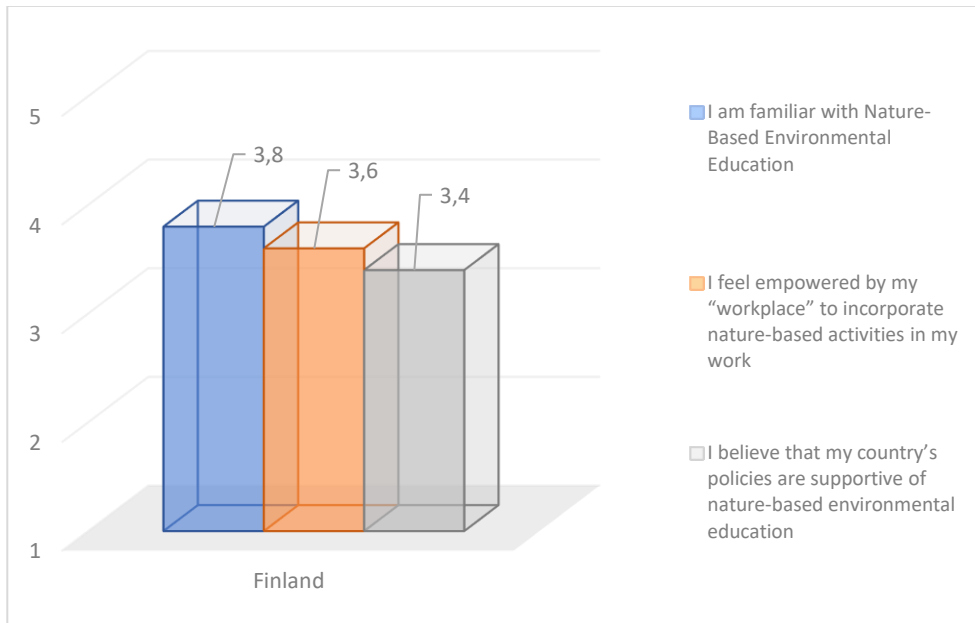
Almost 40 % of survey participants gave a neutral answer and combined 35 % disagreeing with the statement indicate that most participants consider their skills rather sufficient.

I have led some type of nature-based environmental activity

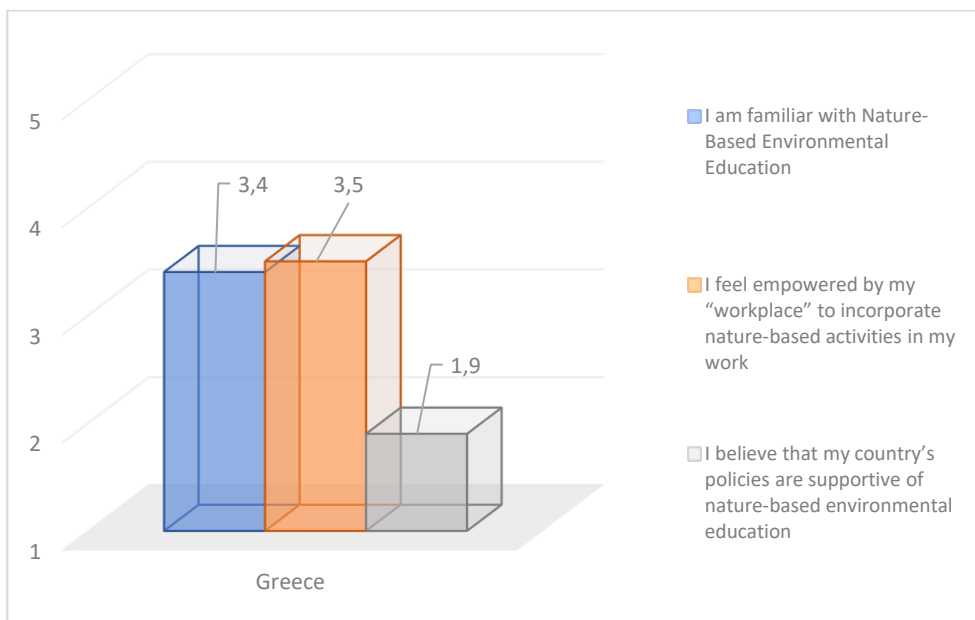


I have led some type of nature restoration activity

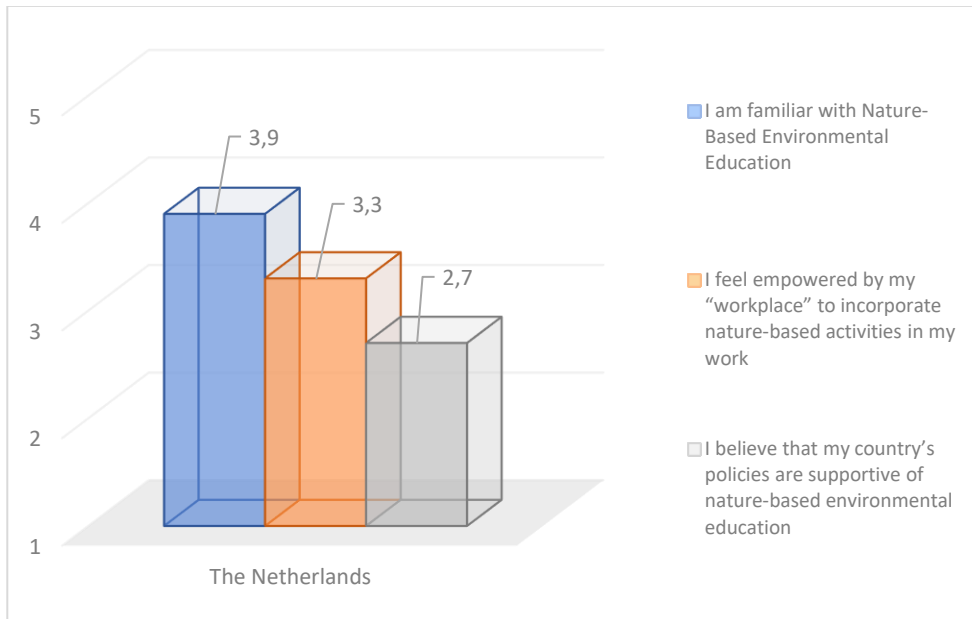




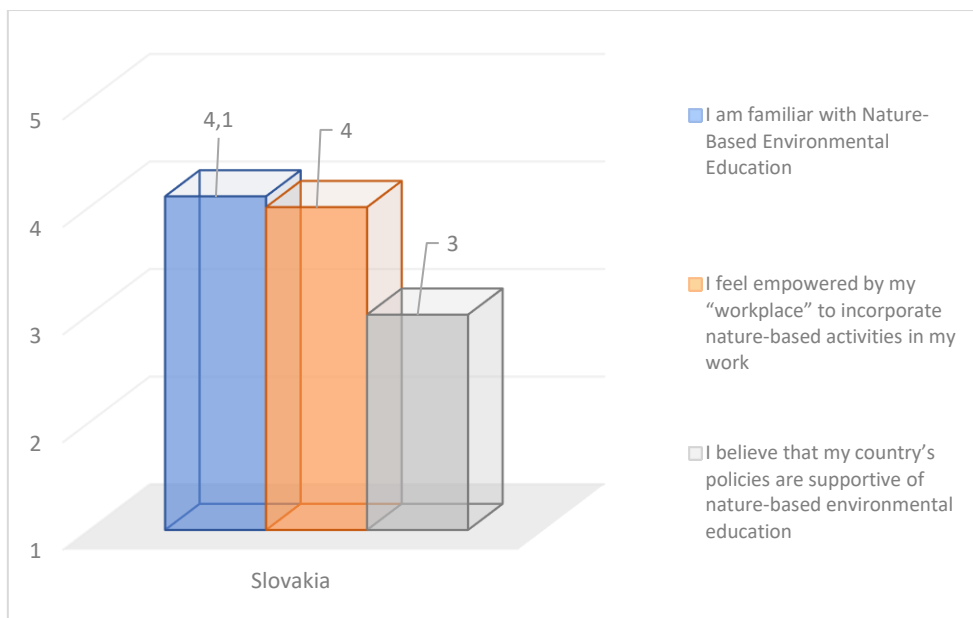
Regarding NBEE, there were mentions of nature clubs, trips to nature, camps in nature, formal and non-formal outdoor teaching and learning lessons, especially in nearby nature, and voluntary work activities in nature. Approximately two thirds in total strongly agreed (29.2 %) or agreed (32.3 %) on the statement, i.e. they felt empowered. Most respondents were neutral and either agreed or strongly agreed with the fact that national policies are supportive of NBEE.



Greek results indicate a rather adequate level of familiarity with NBEE and a rather supportive environment in youth workers workplace by their superiors. However, the respondents' evaluation of the country's policies regarding NBEE is fairly low.



Over half (58.3%) of youth workers agreed, and a quarter (25%) strongly agreed that they were familiar with nature-based environmental education. The Dutch respondents overall felt empowered by their workplace to implement NBEE but were rather critical when it comes to the evaluation of the support provided by their government to NBEE.



Awareness around NBEE is high among the Slovak respondents while most of them feel empowered by their workplace. Regarding national policies, the State Education Programme in particular, reactions moderate and rather neutral on average.

Discussion

Survey results

The findings from the surveys conducted in Finland, Greece, The Netherlands, and Slovakia provide valuable insights into the perceptions, experiences, and challenges related to environmental education (EE) and nature-based activities among **young people** across these countries.

In Finland, the results highlight a positive attitude towards environmental education, particularly among university students studying nature-related subjects. While formal education at universities received high satisfaction rates, there were doubts about the comprehensiveness of environmental education in schools. Nature-based environmental education was preferred over classroom learning, with many participants engaging in local-level activities like trash pick-ups. Awareness of nature restoration was moderate, but confidence in participating in restoration activities was relatively high.

In Greece, the survey revealed mixed opinions on the effectiveness of environmental education, with many participants highlighting shortcomings in formal education systems. Despite moderate awareness of nature restoration, there was less confidence in participants' skills to engage in restoration activities. However, positive experiences were reported among those who participated in nature-based environmental activities, emphasising the value of hands-on learning. The survey underscores the importance of addressing barriers to participation and enhancing educational resources to foster a greater sense of empowerment among individuals.

In The Netherlands, participants, primarily university students studying nature-related subjects, expressed high satisfaction with environmental education received through university courses. However, some dissatisfaction was noted, suggesting a need for more practical approaches and relational learning. Awareness of nature restoration varied among respondents, with broad engagement in nature-based activities observed. While participants were generally pleased with their experiences, there was uncertainty about the impact of these activities on nature.

In Slovakia, the survey highlighted complex attitudes towards environmental education and nature restoration among young people. While many reported receiving environmental education, a significant proportion expressed ambivalence towards their experiences. The reliance on the internet and social media for environmental information raised questions



about the depth and accuracy of knowledge. Despite challenges, participants engaged in various environmental activities, though practical restoration efforts were less prominent. The findings underscore the need for ongoing evaluation and adaptation of environmental initiatives to effectively engage youth and address emerging challenges.

Overall, the surveys provide valuable insights for designing effective environmental education and nature-based activities across these countries, emphasising the importance of addressing barriers to participation, enhancing educational resources, and fostering a greater sense of empowerment among young people to contribute to environmental conservation efforts.

The survey findings from all four countries provide valuable insights into the landscape of nature-based environmental education (NBEE) and engagement among youth workers, highlighting common trends, challenges, and areas for improvement across different contexts.

Additionally, in all four countries, a majority of **youth workers** reported some level of familiarity with NBEE, with varying degrees of involvement in leading nature-based activities. Trash clean-ups and waste management initiatives emerged as common examples of such activities, underscoring the importance of practical, hands-on experiences in environmental education.

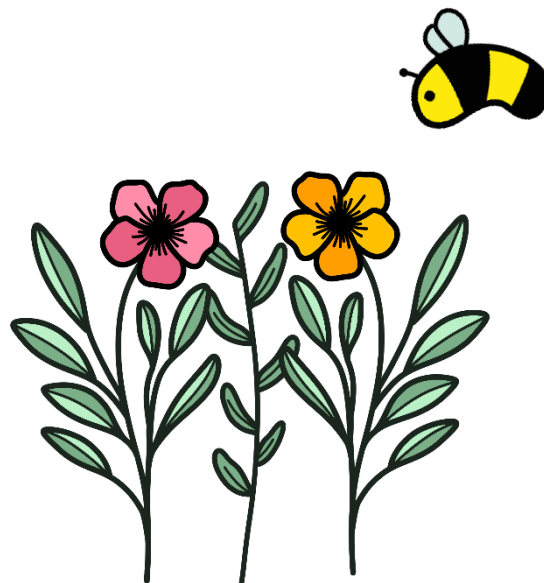
Despite the widespread engagement in NBEE, challenges were evident across the board. Common barriers included difficulties in planning impactful learning activities, limited accessibility to nature, time constraints, and administrative/legal restrictions. These challenges highlight the need for targeted interventions and support mechanisms to overcome logistical constraints and facilitate greater engagement in NBEE initiatives.

Skills and knowledge gaps were also identified among participants, particularly in areas related to organisational aspects and practical implementation. This underscores the importance of capacity-building initiatives to enhance the effectiveness and sustainability of NBEE efforts.

Despite these challenges, the majority of participants felt empowered by their workplaces to incorporate nature-based activities into their work, suggesting a supportive organisational culture. However, the discrepancy between feeling empowered and facing practical challenges indicates a need for greater alignment between organisational support and resource availability.

Perceptions of the impact of NBEE activities on target groups varied among participants, with some expressing doubts about the effectiveness of current initiatives. This suggests a need for greater clarity and alignment of goals and outcomes in NBEE efforts to maximise their impact and effectiveness.

Overall, the findings highlight the importance of ongoing evaluation and adaptation of NBEE initiatives to address emerging challenges and opportunities, foster a culture of environmental stewardship, and empower youth workers to lead meaningful and impactful environmental education efforts in their communities. By leveraging the insights gained from this survey, stakeholders can work towards building a more sustainable and environmentally conscious future for all.





Conclusions

The conclusions drawn from the transnational examination of NBEE policies reveal distinct approaches among the surveyed countries. Finland prioritises experiential learning and ecological awareness within its definition of nature education. Similarly, Greece integrates environmental education into secondary school programs, aiming to foster awareness and proactive engagement with environmental issues. However, in the Netherlands, the term "nature and environmental education" lacks clarity in its interpretation and application. In Dutch "Youth Worker" would be translated to "Jeugdwerker", which is a specific profession and not an umbrella term for people working with youth. However, for simplicity, a variety of adults including "youth workers, instructors, teachers and other people working with youth" will be references as youth workers in this analysis. Slovakia, although emphasising practical learning in natural settings, lacks explicit guidelines for Nature-Based Environmental Education (NBEE).

As for the status of NBEE in the countries examined, different support structures and organisational frameworks are surveyed. In Finland, volunteer-based third-sector organisations, including environmental NGOs, primarily deliver informal NBEE education. Additionally, municipalities may offer regional NBEE activities, often financially supported by the government through state subsidies. In Greece, environmental education is formally incorporated in the Secondary Education Analytical Programmes. Non-formal environmental education is facilitated by 53 Environmental Education Centers (EEC) nationwide, collaborating closely with local schools to provide teacher training and educational materials. In the Netherlands, NME is not mandatory in the national school curriculum. Instead, local NME centers, managed by the Association of Municipalities for Sustainable Development (GDO), oversee NME initiatives across the country. Slovakia's Departmental Conception for Environmental Education, Training, and Awareness prioritises field activities and collaborations but lacks specific guidance for NBEE. This indicates a foundational support for environmental education but a notable gap in detailed guidance and integration for NBEE, particularly for older student groups like high school students.

Finally, across the surveyed countries, challenges persist in the integration of Nature-Based Environmental Education (NBEE) into educational frameworks, each with its unique set of obstacles. In Finland, while Nature Education is provided, there is often a discrepancy between theory and practice, highlighting the need for greater emphasis on practical, nature-based learning approaches within national core curricula. In Greece, practical difficulties, such as funding shortages and inadequate infrastructure, hinder the implementation of NBEE, compounded by traditional teaching methods and teacher concerns about safety and legal responsibilities. The Netherlands faces accessibility challenges, particularly in urban areas, where finding suitable outdoor environments for educational activities proves difficult, necessitating greater organisation and resources from school staff. Similarly, in Slovakia, the absence of a specific focus on NBEE within the national educational framework, coupled with the lack of defined skills and competencies for educators, poses significant hurdles, exacerbated by the dearth of detailed guidance for effective collaboration with EE centers and NGOs. These challenges underscore the importance of addressing structural and systemic barriers to enhance the integration of NBEE and foster meaningful environmental learning experiences for students.



EU-level Recommendations

1. Common Policy Framework and Funding:

- Establish a common EU policy for NBEE to underscore its importance and provide clear guidelines for implementation.
- Allocate long-term funding to support national and international NBEE initiatives, ensuring sustained investment in environmental education programs.

2. Educational Resources and Platforms:

- Create centralised online platforms offering educational resources, best practices, and case studies on NBEE and nature restoration.
- Encourage the establishment of a European network of Environmental Education Centers to facilitate knowledge exchange among member states.

3. Raising Awareness and Incentives:

- Implement EU-wide public awareness campaigns to emphasise the significance of environmental education and nature restoration, especially within educational systems.
- Incentivise the integration of green infrastructure in schools through funding and recognition for initiatives such as school gardens and biodiversity-friendly campuses.

4. EU-wide Framework and Collaboration:

- Develop an EU-wide framework and standards for NBEE to ensure consistency and quality across member states.
- Offer specific funding and grants to support NBEE initiatives, particularly those involving youth, in alignment with the Nature Restoration Law.
- Facilitate cross-country collaboration and exchange programs in NBEE for youth to share best practices and experiences.
- Promote research and development in NBEE to enhance teaching methodologies and develop new resources.
- Encourage youth participation in NBEE at the EU level, empowering young people to engage in policy-making and environmental advocacy efforts.

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Annexes

Country Fact Sheet: Finland

<p>Introduction</p>	<p>How is Nature-Based Environmental Education (NBEE) defined in your national framework?</p> <p><i>Environmental Education</i> (EE) in Finland is widely seen as means to promote sustainable development. <i>Nature-Based Environmental Education</i> (NBEE) as a term is not, however, prominently used in this field. Approaches referring to educational practices taking place outdoors in nature are more commonly described as <i>nature education</i> and this term corresponds closely to NBEE. The term nature education was defined as the “form of environmental education, that is experiential, supports an individual’s environmental sensitivity and nature connection, and promotes ecological awareness” in a terminology book regarding environmental education funded by the Ministry of the Environment (Nikodin et al., 2013). Furthermore, it is mainly implemented through activities in nature, and always includes values that support environmental responsibility. The concept of NBEE is thus grasped in this definition, although the term is not systematically established and is commonly referred to as environmental education as a wider conception.</p>
<p>Current State of NBEE</p>	<p>What is the status of NBEE in Finland? Are there any existing policies or official initiatives supporting NBEE?</p> <p>Informal NBEE education is mostly provided by volunteer-based third-sector organizations, such as environmental NGOs. Apart from these NBEE might be provided regionally also by municipalities. The NBEE (and nature restoration) activities organized by NGOs are generally supported financially by the government. NGOs in Finland can apply for state subsidies for their general purpose or for specific projects. These subsidies are issued by the ministry of their field and by regional authorities. NBEE providers also apply for private allowances.</p>

**Challenges
in NBEE**

Regarding nature restoration specifically, there is a governmental initiative called Helmi Habitats Programme (Helmi Habitats Programme 2024) that especially considers nature restoration activities. The program aims to strengthen Finland’s biodiversity and safeguard the vital ecosystem services that nature provides for us. Helmi Habitat Program also financially supports nature restoration activities done by NGO’s.

How is NBEE integrated into the national education framework?

The core values and broad key competences of national education frameworks in Finland include promoting sustainable development and environmental awareness, but the term nature-based environmental education is not mentioned as such in either the national core curriculum for basic education, general upper secondary education nor vocational education and training. However, especially in the case of biology for basic and upper secondary education there are mentions of using working in nature, exploratory, experimental, and field methods as ways of teaching.

What are the key challenges faced by Finland in implementing NBEE?

Formal education in Finland considers only a little if nature education is implemented in a nature-based way, even though sustainability education and nature awareness are cross-cutting themes in the core curricula. Thus, Nature Education is given overall, but the emphasis is many times on theory rather than practice. Youth are mainly taken to nature on special occasions only. Even though teachers in Finland have the freedom of choice in their teaching methods, many don’t have the resources (time, knowledge or motivation) to conduct Nature Education in a nature-based way more than is mandatory. So, there is a need for the overall integration of NBEE into national core curricula.

When talking about third sector organisations giving informal Nature Education, the employees and volunteers are many times driven by the motivation to take youth outside to learn. However, they are usually limited by other resources such as finance and the limited availability of volunteers. Finland has a lot of remote areas and small towns, so regionally

	<p>there are areas that lack activity providers. There are only a few NGOs in the field that functions somewhat nationwide.</p> <p>Are there any financial or resource-related challenges in promoting NBEE?</p> <p>The finance is insufficient to provide NBEE to all Finnish youth. The resource-related problems in formal education relate to teachers lacking time, and in informal education, they relate to the challenges of volunteer-based activities.</p>
<p>Gaps in NBEE</p>	<p>What are the main existing gaps in the current NBEE programmes in Finland?</p> <p>Since there are no specific programmes on NBEE, the question is answered above (challenges).</p>
<p>Required Skills for NBEE and training programmes</p>	<p>What skills and competencies are essential for educators and youth workers in NBEE?</p> <p>The skills and competencies youth workers need to do NBEE activities do not differ much from the skills usually needed in their jobs and are most defined by the youth group in question. However, youth workers might need some extra courage to take youth outside and get used to the outdoor conditions. The expertise needed in the activity, such as nature restoration, can be acquired by consulting an expert in the field.</p> <p>Are there specific training programmes or certifications available for NBEE professionals in Finland?</p> <p>There are no training programmes or certifications that would carry the term nature-based environmental education. However, some programmes and certifications are closely related to the field. It is possible to study, for example, a special vocational degree in environmental education with an emphasis on outdoor learning or a Bachelor of Humanities in Community Educator studies with the possibility to specialize in environmental or adventure and outdoor education. Also, university studies in fields such as biology, environmental and related studies, as well as educational sciences, offer courses on environmental education.</p>

Additional information relevant to the topic	<p>There has been a conversation about the efficiency of man-made restoration work from the perspective of the restored ecosystems. The physical demandingness of restoration work differs a lot by ecosystem, whether the habitat being restored is a peatland, stream water, or an open habitat, etc. Thus, man-made restoration works are not always seen as efficient when, many times, the same work can be done by machines with better environmental results. However, the emphasis of the restoration work done as means of NBEE can be other: social and educational.</p>
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Country Fact Sheet: Greece

Introduction

How is Nature-Based Environmental Education (NBEE) defined in your national framework?

The Greek Ministry of Education and Religious Affairs defines Environmental Education as a broader category, while Nature-Based Environmental Education or non-formal EE is not explicitly defined.

Law 1892/90 paragraph 13 of Article 111 of the Ministry states that "Environmental Education is part of the programs of Secondary Education schools and that the purpose of Environmental Education is to make students aware of the relationship between humans and their natural and social environment, to become aware of the problems associated with it and to be active through special programmes to contribute towards a general effort to face them" (Government Gazette, 1990).

Current State of NBEE

What is the status of NBEE in Greece? Are there any existing policies or official initiatives supporting NBEE?

Regarding formal settings, the most prominent example is the educational system monitored by the Ministry of Education, Religious Affairs and Sports, which has officially incorporated EE based on Law 1892/ 31.7.90 by which, according to paragraph 13 of Article 111, EE is an essential and constituent element of the Analytical Programmes in Secondary Education. As far as non-formal EE is concerned, among the main focal points and administrators are the 53 Environmental Education Centers (EEC) that are active around the country, which are in close collaboration with local schools by providing additional training to teachers and EE materials to students (INEDIVIM, n.d.; Faraggitakis, 2010; Filippou, 2020, p. 49). Naturally, environmental NGOs play an equally important role in the non-formal EE field along with the more recently established social cooperative enterprises, like the "Forest Group," that lead activities in nature for students and families (Forest Group, n.d.).

Challenges in NBEE

What are the key challenges faced by Greece in implementing NBEE?

Key challenges are mainly practical difficulties, like the lack of funding, materials, infrastructure, and motivation for students and teachers in schools. However, they are also connected to educational and cultural traditions in Greece as well as the training teachers undergo. On the one hand, the teaching methods in Greece are still quite traditional and teacher-centered (Katsouli & Ersof, 2019, p. 73). On the other, there is particular anxiety and insecurity expressed by teachers regarding safety and legal responsibility when nature-based EE is addressed (Katsouli & Ersof, 2019, p. 51; Marasli, 2015, p.41; Dimitriou & Zachariadou, 2005, p.130). Based on a survey conducted with 150 formal educators and trainers from Greece and abroad, the main challenges that were mentioned included lack of cooperation, reluctant students, lack of time for a meeting between teachers, financial problems, and administrative problems (Katsouli & Ersof, 2019, p. 97). At the same time, the Greek teachers stressed the difficulties that misinformed or uninformed parents caused about EE programmes and their goals.

Equally important is the lack of time, given that after primary school, EE programs are organised voluntarily outside school hours.

According to the youth workers' responses in the Restoration Academy survey, in Greece the main challenges are **lack of knowledge around NBEE, lack of equipment** that would allow NBEE and nature restoration activities as well as **accessibility to nature**. The last answer can be partially justified because most respondents live and work in the two biggest cities in Greece, which lack accessible green spaces in general.

Gaps in NBEE

What are the main existing gaps in the current NBEE programmes in Greece?

As to the gaps that these challenges create, as far as Greece is concerned, additional support is undoubtedly required on a material and personal level for the teaching staff. However, despite the challenges and gaps, the current effort undertaken should not be underestimated. In fact, at present, there is, first of all, the need for proper, centralized documentation

of implemented projects, which is inadequate and negatively affects the sustainability of the projects and the diffusion of their results (Malandrakis et al., 2020). What is more, in order to boost teachers' and students' motivation, Environmental Education Centres need to become more accessible, actively interacting with the schools of their region, and potentially updating some of their websites, which seem outdated.

These findings coincide with the responses submitted in the survey we conducted. The answers of the Greek youth workers who participated underline a significant gap in political will and support for NBEE activities, as 36% of them replied that they entirely disagree with the statement, "I believe that my country's policies support nature-based environmental education." In comparison, 40% answered that they disagreed, and no one agreed or fully agreed with the statement.

Required Skills for NBEE and training programmes

What skills and competencies are essential for educators and youth workers in NBEE?

In Greece, the educators involved in EE programmes initially spot the lack of knowledge and lack of training on environmental issues as their main personal restriction (Marasli, 2015, p.41). Except for that, research points out that an essential skill for teachers and educators in EE is flexibility since their role in non-formal settings becomes less rigid and pre-defined. In this case, the teacher "provides the stimuli to the students, coordinates the group, guides them in the discovery of the material, helps them in their visits, and takes care of the transmission of the material and the experience they gained, organising, e.g., presentations, discussions and announcements" (Katsouli & Ersof, 2019, p. 62). Teachers themselves also stress networking and school collaborations as important to practice, achieve and maintain (Katsouli & Ersof, 2019, p. 89; Xantinidou, 2017, p. 46).

Based on the survey conducted within the framework of the Restoration Academy project, the answers regarding the necessary skills for the implementation of NBEE activities offer some valuable insights. More specifically, around 30% of the youth workers who replied said that they

	<p>felt they lacked necessary skills, while the skills they listed as essential include communication, time management, and networking. studies, as well as educational sciences, offer courses on environmental education.</p>
<p>Additional information relevant to the topic</p>	<p>Although many crucial steps have been made since the 90s and the incorporation of EE in school curricula, Greece does not have a long-lasting tradition of formal EE in nature (Svoronou, 2011), and the same applies to Nature Restoration. The most relevant examples are activities implemented by the Scouts and other groups within the context of summer camps. Until now, the discussions around Nature Restoration have not been widespread in Greece. More environmental NGOs have initiated the conversations due to the debates and negotiations surrounding the recent European Nature Restoration Law, which started in June 2022. On a policy-making level, environmental NGOs, like WWF Greece, the Hellenic Ornithological Society, and the Society for the Environment and Cultural Heritage, have formally endorsed the Restoration Law through a letter submitted to the Deputy Minister for the Environment office (Nature Restoration at the heart of the crucial EU Environment Council meeting, 2022). However, research findings indicate that firstly, there is a limited number of restoration activities carried out in Greece, primarily by Forestry Offices and local authorities, which are not particularly recent and lack thorough documentation (Restoration activities, n.d.). Secondly, the online survey fulfilled within the framework of the Restoration Academy project shows that in many cases, both target groups, youth and youth workers, fail to correctly identify nature restoration activities and mistake them for still critical but simpler interventions like beach clean-ups.</p>
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Country Fact Sheet: The Netherlands

Introduction

How is Nature-Based Environmental Education (NBEE) defined in your national framework?

In the Netherlands, the term “natuur- en milieueducatie” (NME) is often used in official publications - translated to “nature and environmental education” in English. However, there is some ambiguity about what this entails, both in the academic literature and educational guidelines (Feenstra, 2018). Furthermore, NME is a broad term that does not put specific emphasis on the learning-through-doing process that we are aiming at through the Restoration Academy. Therefore, for the purpose of this research, NBEE will be defined as “an educational approach that engages children with the natural environment and natural elements as a pathway for learning.” (Nature-based learning in the early years, 2022).

Current State of NBEE

What is the status of NBEE in The Netherlands? Are there any existing policies or official initiatives supporting NBEE?

Currently, NME is not a compulsory subject in the national school curriculum. Instead, the association of Municipalities for Sustainable Development (GDO) is responsible for running local NME centers throughout the country. In 2022, there were 140 of these NME centres (SME, 2022).

To combat the lack of integration between these local NME initiatives, in 2021 the Dutch government set up an inter-ministry working group called Duurzame School (Ministerie van Onderwijs, Cultuur en Wetenschap, 2023). They are working to create an overarching strategy for sustainability in education, starting with primary, secondary, and intermediate vocational education, and produce a tailor-made support structure for each education sector up to and including 2030 (Ministerie van Onderwijs, Cultuur en Wetenschap, 2023).

There are a number of different in-school opportunities available to secondary level students. Some examples include the various nature-based courses offered by AeresMBO for those following the secondary

vocational track (MBO) at levels 2, 3 en 4. Another in-school opportunity for NBEE is through Yuverta. This chain of schools promotes itself as “the green lyceum”, as they offer nature education to students taking different study pathways, especially those doing the secondary level HAVO pathway.

Other semi-state initiatives include the work of SDG Netherlands, together with Leren voor Morgen (LvM), who have created lessons about sustainable development (SDG Nederland, 2023), and the work of Staatsbosbeheer, especially their partnership with Natuurcollege on the Natuurwijs project. The Gezond School (a semi-state initiative to promote a healthy lifestyle in schools) includes an option for a nature and environmental theme that schools can choose to develop. The Gezond School is open to secondary, secondary vocational and special education schools. Non-governmental NBEE programmes include the LvM’s yearly SustainaBul, the Eco-School programme, the Natuurcollege initiative, and other NGO-led activities like IVN Natuureducatie, Veldwerk Nederland, SME Nederland, Scouting Nederland, and Natuurmonumenten.

Results from the Dutch Restoration Academy survey showed that youth workers either 46% disagreed and 7.7% strongly disagreed that the Dutch government was supportive of nature-based education.

Challenges in NBEE

What are the key challenges faced by The Netherlands in implementing NBEE?

With approximately 90% of the inhabitants living in urban environments ("degree of urbanisation", 2022), one of the main challenges faced by the Netherlands in the implementation of NBEE is related to accessibility to nature. With most of the population living in urban regions, it can be difficult to find suitable outdoor environments for educational activities, especially in densely populated areas. This means that outdoor learning in nature requires greater organisation and resources from the school staff despite the fact that many teachers throughout the Netherlands are constrained by time and financial resources (Feenstra, 2018). This means that the additional activities of NBEE (including transport, logistics, budget,

and extra personnel) from normal in-class lessons pose a barrier to this kind of education.

This is exacerbated by a lack of governmental support for NBEE and a policy framework that does not take a systematic and national approach. Related to this, there is currently a lot of ambiguity about what NBEE entails in practice, which means that it is interpreted in many different ways on a local level. Some local municipalities do not even include nature and environmental education in their curriculum (Feenstra, 2018). Because of this lack of commitment from the government, educators are often not given the specialised training needed to effectively incorporate NBEE into their lessons.

When it comes to access to land, another issue is related to private ownership. 53.8% of the Dutch landscape is used either as farmland and/or greenhouses (World Bank, 2021). This puts further limitations on the public spaces that are accessible for student learning. It also means that restoration projects are often dependent on landowners and farmers, which could pose an issue for upscaling youth-led restoration. Furthermore, the price of land in the Netherlands is 85% higher than the European average, making it the most expensive land per hectare in Europe (Santiago M. Barroso Castillo, 2023). This means that changes in land-use are often viewed with a financial lens due to the pressure on landowners to profit from the land

According to the Dutch Restoration Academy survey, 46.2% of youth workers stated they were primarily challenged by the difficulties in planning impactful learning activities. While 38.5% felt their main challenges were the accessibility of nature and a lack of time.

Gaps in NBEE

What are the main existing gaps in the current NBEE programmes in The Netherlands?

Currently, NBEE and restoration initiatives in the Netherlands are carried out on a decentralised basis, varying according to municipal efforts and resources, school location, and individual teacher/youth worker initiative.

Required Skills for NBEE and training programmes

One of the biggest gaps seems to be a lack of integration at a national level and across disciplines (Coöperatie Leren voor Morgen, 2022).

This gap in governmental support for NBEE is particularly concerning for the schools with the least resources that often have the most marginalised communities. One initiative that is currently working to remedy this is the emerging educational care farms that offer outdoor learning for children who have temporarily dropped out of school (Esther J. Veen, 2021). However, more of these kinds of initiatives are urgently needed to make NBEE accessible for all.

What skills and competencies are essential for educators and youth workers in NBEE?

According to the Dutch Restoration Academy survey, the most important skills for leading this kind of activity are communication and creativity, which both scored 63.6%, in terms of importance.

Another challenge is a lack of knowledge of opportunities. To combat this, teachers and youth workers in the Netherlands should be upskilled with knowledge on which local restoration non-governmental initiatives are happening in their area, how these activities fit into their core curriculum objectives, and what benefits this kind of education can have for their students. They should also receive basic training in systems thinking, especially focused on the dynamic interaction between the climate and ecological crises and their relation to social justice locally and globally.

Examples of upskilling can be seen in the programme "Sustainable Education Learning Community" offered by Wageningen University & Research in 2023-2024. This programme was designed for school teachers and youth workers to develop new skills in leadership, pedagogy, and cross-curricular learning paths. Another example of nature training is the nature guide programmes offered by IVN Natuureducatie and the National Park of Veluwe.

Natuurmonumenten offers a youth training course "OERRR", which is designed for 0-12-year-old children to become nature protectors. They also work with the Nederlandse Jeugdbond voor Natuurstudie (NJN) and

	<p>Jongeren in de Natuur (JNM) who organise lots of nature camps and excursions. The young people also support the other OERRR activities.</p>
<p>Additional information relevant to the topic</p>	<p>Some of the best examples of NBEE in the Netherlands are extracurricular programmes run by non-governmental organisations like IVN Educatie. An example of a project that the IVN runs is the Tiny Forest initiative. This gets inner-city children planting trees to create tennis-court-sized native forests, where they can learn about insects, plants and small mammals.</p> <p>However, there is yet to be a nationwide legislation that ensures all young people are learning about climate and ecology in the classroom, not to mention in a more proactive outdoor fashion.</p> <p>In a Dutch government survey, 88% of participants thought that Nature is something that everyone should take care of. In contrast to this, only 16% of the people surveyed put nature and biodiversity in their top 5 topics that they believe should be focus points of the new ministry (Ministerie van Landbouw, Natuur en Voedselkwaliteit, 2022). This points to a disconnect between abstract knowledge and personal responsibility of action.</p>
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Country Fact Sheet: Slovakia

Introduction

How is Nature-Based Environmental Education (NBEE) defined in your national framework?

In Slovakia, Nature-Based Environmental Education (NBEE) is not explicitly defined within a national framework. The closest alignment is found in the Departmental Conception (Framework) for Environmental Education, Training, and Awareness until 2025, which emphasizes practical, active learning and experiential programmes in natural settings, yet lacks detailed NBEE guidelines or integration of restoration activities. Updated guidelines for Environmental Education (EE) in formal education, from 2017, advocate for practical field activities and collaboration with EE centres and NGOs but do not focus specifically on NBEE or provide detailed support for such collaborations. Although national documents support EE, they do not substantially incorporate NBEE, particularly for older students.

Skills and competencies for EE and NBEE educators remain undefined officially in Slovakia. However, initiatives by the Slovak Environment Agency are bridging this gap by developing national qualification standards and a certification system for EE providers, inspired by models in the Czech Republic. These efforts aim to clarify the role and skills required for environmental educators, though their continuation is uncertain due to political changes. Training programs, including lifelong education for teachers and specialized NGO programs, cover aspects of NBEE and aim to enhance outdoor learning for educators.

The national framework's definition of practical EE, closely related to NBEE, promotes an active, practice-based learning approach and experiential programs in natural environments. However, it stops short of providing further guidance on NBEE or including restoration activities in EE. The 2017 methodological guidelines for implementing EE as a cross-curricular theme in schools highlight the importance of field activities but lack a specific focus on NBEE or detailed guidance for collaboration with EE centers and NGOs, leaving a gap in institutional or financial support for such initiatives.

Current State of NBEE

What is the status of NBEE in Slovakia? Are there any existing policies or official initiatives supporting NBEE?

In Slovakia, NBEE lacks a clear definition within the national framework, aligning most closely with the Departmental Conception for Environmental Education, Training, and Awareness until 2025. This framework emphasizes practical learning in natural settings but does not provide specific guidelines for NBEE, including restoration activities. The 2017 guidelines for EE advocate for field activities and collaborations but fall short of focusing on NBEE or offering comprehensive support for these collaborations. This indicates a foundational support for EE but a significant gap in the integration and detailed guidance for NBEE, particularly affecting older student groups such as high school students.

Challenges in NBEE

What are the key challenges faced by Slovakia in implementing NBEE?

The challenges for implementing NBEE in Slovakia stem from the absence of a specific focus within the national educational framework and the lack of clearly defined skills and competencies for educators. Additionally, there is a lack of detailed guidance for effective collaboration with EE centres and NGOs. Efforts by the Slovak Environment Agency to develop qualification standards and a certification system for EE providers, inspired by the Czech Republic, are a step towards bridging this gap. However, these initiatives face uncertainty due to the changing political landscape, which may impact their sustainability and effectiveness.

The current NBEE programs in Slovakia are hindered by insufficient institutional or financial support for schools to engage in practical EE programs, especially those involving natural environments. This challenge underscores a broader issue within the educational system where NBEE is not fully integrated or supported, leading to missed opportunities for experiential learning that could enhance students' understanding and appreciation of the natural world.

The finance is insufficient to provide NBEE to all Finnish youth. The resource-related problems in formal education relate to teachers lacking

	<p>time, and in informal education, they relate to the challenges of volunteer-based activities.</p>
<p>Gaps in NBEE</p>	<p>What are the main existing gaps in the current NBEE programmes in Slovakia?</p> <p>In Slovakia, the current state of Nature-Based Environmental Education (NBEE) reveals significant gaps, including the lack of a unified, systematic framework for Environmental Education (EE), which hampers consistent implementation and standardization across the country. While there is some level of support for EE, a specific emphasis on NBEE is missing, with existing policies and strategic documents providing insufficient guidance, especially regarding NBEE and restoration activities. A notable reliance on the voluntary efforts of teachers for EE integration highlights a significant gap in institutional support and resources. Additionally, the availability of EE programs varies greatly across regions, with a distinct lack of initiatives aimed at high school students, most programs targeting younger age groups. The skills and competencies required for educators in NBEE are not formally established, with recent efforts to define these still in flux due to political uncertainties. There is also a recognized need for improved professional training for teachers and youth workers to include foundational environmental knowledge and expand upon traditional skills to encompass environmental aspects.</p>
<p>Required Skills for NBEE and training programmes</p>	<p>What skills and competencies are essential for educators and youth workers in NBEE?</p> <p>The skills and competencies essential for educators and youth workers in NBEE are not officially defined in Slovakia. However, initiatives are underway to establish national qualification standards and a certification system for EE providers, drawing inspiration from models in neighboring countries. Training programs are available, including lifelong education courses for teachers and specialized programs offered by NGOs, which cover aspects of NBEE and aim to improve outdoor learning experiences for educators. These efforts reflect a growing recognition of the importance</p>

	<p>of equipping educators with the necessary skills and knowledge to effectively deliver NBEE.</p>
<p>Additional information relevant to the topic</p>	<p>Efforts to enhance NBEE in Slovakia include initiatives by the Slovak Environment Agency and available training programs that incorporate NBEE elements. Despite these positive steps, the lack of a cohesive national framework and detailed guidelines for NBEE poses significant challenges. The uncertain political climate adds another layer of complexity, potentially affecting the continuity and impact of these initiatives. Addressing these challenges requires a concerted effort to embed NBEE more firmly within the national educational strategy, ensuring that both educators and students can fully benefit from the opportunities it offers</p>
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Survey Questions

Demographics

- ❖ In which country do you have the most experience, personal or professional? (+short explanation why only these options exist)
 - Greece
 - Slovakia
 - Finland
 - The Netherlands
- ❖ Place of residence
 - Urban
 - Rural
 - Prefer not to say
- ❖ Age
 - 13–15
 - 16–18
 - 19–21
 - 22–25
 - 25–29
 - Above 30
- ❖ What is your main occupation?
 - Student
 - University student
 - Employee
 - Full-time volunteer
 - Without paid occupation
 - Other
- ❖ Gender
 - Male
 - Female
 - Non binary
 - Other
 - Prefer not to say
- ❖ Do you identify as a youth or a youth worker?
 - Youth
 - Youth worker

YOUTH

Formal education experience

- ❖ I have received some form of environmental education at school or higher academic institution (e.g., university, college).

Strongly disagree – Disagree – Neutral – Agree – Strongly Agree (+ optional short answer)

- ❖ I have received information or education about the environment from
 - School
 - Family & friends
 - Internet
 - Academic institution
 - Youth organisation
 - Social media
 - Other (+short answer option)

Nature-based environmental education and/or nature restoration experience

- ❖ I consider the way I have learned about the environment efficient.
1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree (+ optional short answer)
- ❖ I am aware of nature restoration.
1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree
- ❖ If yes, in what context?
(short answer)
- ❖ I have participated in hands-on environmental activities in nature.
1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree
- ❖ If yes, what type of activity was it?
(optional short answer)

Evaluation of experience

- ❖ How would you rate the above-mentioned experience?
(1- poor, 2- sufficient, 3- rather satisfactory, 4- good, 5- very good)
- ❖ How would you rate the above-mentioned experience in regards to the impact it had on nature?
(1- poor, 2- sufficient, 3- rather satisfactory, 4- good, 5- very good)

❖ Did you face any challenges while participating in the activity?

- Yes
- No
- Do not know

If yes, what kind? **(short answer)**

❖ Do you have any recommendations on how it could have been improved? **(optional short answer)**

❖ How would you rate the nature-based environmental learning in comparison to classroom/academic institution teaching?

(1- poorer, 2- less sufficient, 3- rather the same, 4- better, 5- much better)

❖ What keeps you from participating in such activities? **(more than one answers possible)**

- Nothing, I participate already
- Accessibility to nature
- Lack of personal funds
- Lack of skills
- Lack of time
- Lack of interest
- Lack of offers
- Other + short answer

❖ Do you feel confident in your skills and knowledge to participate in a nature restoration activity?

[Definition of nature restoration: restoring degraded ecosystems as well as habitats and species to their initial state]

- Yes
- No
- Do not know

YOUTH WORKERS

Skills

- I am familiar with Nature-Based Environmental Education.
1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree
- I have led some type of nature-based environmental activity.
1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree
If yes, what kind? **(optional short answer)**
- I have led some type of nature restoration activity.
1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree
If yes, what kind? **(optional short answer)**
- If yes, which are the skills you had to use to deliver the activity?
 - Creativity
 - Group management
 - Time management
 - Adaptability
 - Communication
 - Networking
- I felt I was lacking skills in order to deliver the activity efficiently.
1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree
If yes, which ones? (optional short answer)
- I felt I was lacking knowledge in order to deliver the activity efficiently.
1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree

Challenges

- Which are the main challenges you were able to identify? **(more than one answers)**
 - Lack of knowledge on nature and nature-based learning
 - Difficulty in planning impactful learning activities
 - Difficulty in keeping the learners' attention
 - Accessibility to nature
 - Administrative/Legal restrictions
 - Lack of equipment
 - Lack of time
 - Group size
 - Personal limitations
 - Other (please specify)

- If you haven't led any such activity, could you imagine any potential challenges, having in mind the reality around environmental education in your country? **(more than one answers)**
 - Lack of knowledge on nature and nature-based learning
 - Difficulty in planning impactful learning activities
 - Difficulty in keeping the learners' attention
 - Accessibility to nature
 - Administrative/Legal restrictions
 - Lack of equipment
 - Lack of time
 - Group size
 - Personal limitations
 - Other (please specify)

- I feel empowered by my "workplace" to incorporate nature-based activities in my work.
1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree

Evaluation

- I think that the nature-based activity was impactful on my group
1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree
If yes, why? **(short answer)**
- I believe that my country's policies are supportive of nature-based environmental education.
1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree
- Which age group(s) do you think are more involved in nature-based environmental education?
 - Preschool
 - Primary school
 - High school
 - Higher education
 - Other
 - Do not know
- Do you have any good practices you came across through your own work and experience that you would like to share? **(short answer, link, photo)**



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