

EU Green Week Online Workshop Summary

Engaging Stakeholders with Nature-based Solutions: Skills for Resilient Sustainable Communities

June 6, 2023



The Nature-Based Solutions (NBS) Education Network (NBS EduWORLD) represented by PPMI and Trinity College Dublin hosted an online interactive workshop for the EU Green Week on June 6th, 2023. It brought together stakeholders to discuss **how policymakers and practitioners can support education on and mainstreaming of NBS**. The two-part event opened with diverse NBS examples and closed with breakout group discussions. The presentations showcased the breadth and scope of NBS to bring those less familiar with the concept up to speed and introduce examples of how policymakers and practitioners could be involved in supporting skill-building for more resilient and sustainable communities. The discussions aimed to generate ideas on how the participants can get involved locally with regard to **NBS skill-building for sustainable, resilient, and socially fair communities**.

NBS EduWORLD is a 3-year Horizon Europe project at the crossroads between nature-based solutions and education and its overall objective is to nurture an NBS-literate society and support a just transition to a sustainable future. There are 16 project partners that bring together researchers, educators, NBS practitioners, and sports community members with a common goal of creating, engaging and providing locally relevant educational materials centring on the environmental, social and professional merits of NBS. The project aims to create a community that facilitates synergies between NBS professionals and education providers.

AGENDA

- Welcome and introduction to the NBS EduWORLD project by moderator **Dimitra Xidou** (Trinity College Dublin).
 - Speaker presentations:
 - **Ricardo Cilia** (IRIDRA)
 - **Thalia Tsaknia** (Elinogeremaniki Agogi)
 - **Silvia Pirini** (Resilient City for Resilient Citizens)
 - **John McNally** (Offaly County Council)
 - Breakout room discussions
 - Closing remarks by co-organisier **Iselin Berg Mulvik** (PPMI)
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Introduction to the workshop

The European Commission defines NBS as solutions that are **inspired and supported by nature, which are cost-effective, simultaneously providing environmental, social and economic benefits**. They 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 systematic interventions. Nature-based solutions must therefore **benefit biodiversity and support the delivery of a range of ecosystem services**.

To illustrate the scope of NBS education, three demonstrators were briefly presented: one in Paris, France, which develops school gardens and biodiversity monitoring through citizen science in an urban ecosystem; one in Almada, Portugal, focusing on informal educational activities around the restoration of coastal ecosystems and dunes; and one in Ireland, supporting the transition to a sustainable economy through upskilling programs, moving away from the peat cutting, and burning industry. The latter was later presented during the talk given by John McNally.

Key takeaways and lessons learnt

- Stakeholder engagement and co-creation workshops, such as those presented by landscape architect Ricardo Cilia, can really help NBS to be more durable and effective over time with the community being more invested in their support. This also raises awareness of the opportunities that NBS offer.
- NBS can address a variety of social and environmental challenges, and schools are a great institution and arena for working with NBS, as highlighted both by science educator and researcher Thalia Tsaknia and teacher Sylvia Pirini in their presentations.
- Work is still needed by policymakers locally, nationally, and regionally to bring NBS into the curriculum and education agenda, as discussed by climate action coordinator John McNally. Policymakers will need to step up to address this opportunity to work with existing policies in the green transition area where there are already a lot of interesting projects relating to NBS in progress.
- As remarked by workshop participants, fostering cultural and intergenerational exchange, especially because senior members hold a deeper historical knowledge of their community, can be a great way to support NBS education.
- Also pointed out in the discussion was the idea that since NBS education often relies on volunteering, it is highly important to recognise such labour and time as a valuable and appreciated contribution.
- Participants of the event are encouraged to follow the work of the NBS EduWORLD project on their LinkedIn and Facebook pages.



Speaker presentations

Ricardo Cilia, a landscape architect, graduated in 2017 with a thesis on ecosystem services as a multidisciplinary approach to the landscape. He is now an experienced professional and territorial assessment expert for climate change adaptation and mitigation solutions, working on potential project design and implementation, citizen engagement and dissemination at **IRIDRA**. Through research, design, and constructive supervision of sustainable drainage systems and NBS he contributes to several projects. Ricardo presented on the work of IRIDRA, and its experience of integrating community engagement into NBS design, enhancing project outcomes and community empowerment. The company researches and consults on engineering and development, and is made of a multidisciplinary team of chemists, biologists, agronomists and landscape artists. It specialises in constructed wetlands, natural water management systems, green infrastructures, drainage systems, and NBS.



In preparing an infrastructure adaptation project that used NBS with a local urban water system management company in North Italy, IRIDRA aimed to engage the local community. They went to local schools to teach children what these systems are and how they work, introducing a game to simulate how the system works in a playful way. In another example, instead of creating an infrastructure project that the locals would never even see, they sought a regeneration output for the community. They presented the course of the project to the community, conducting interviews to listen to their concerns and give an opportunity for feedback regarding urban regeneration.

Ricardo also presented several examples of projects that included co-designing NBS with the local communities. In a project called Startpark, the design process was gamified and included NBS cards with explanations of how they work, and what problems they tackle, including trade-offs and costs. The game not only included park elements but also cards to make participants think about how to develop the whole vision of the park. With the help of facilitators, the community were able to develop different project ideas for the park, one of which is now under construction. Another green space design and construction project involved co-design and co-creation events. One event included a dinner, during which maps of the neighbourhood were used as table covers, and in between meals participants could add elements to the neighbourhood maps to codesign them. Local community members were also invited to co-create urban gardens and to “conquer” a place to feel ownership over it by building elements to add to them.

Involving the community improves their design process because it gives feedback and ideas to work on and foster cities and acceptance – people create the places that they want, which encourages the feeling of belonging, and they become more willing to steward the place. It also creates networks across communities, which helps to push for these solutions in the future.



Thalia Tsaknia is a **science educator and researcher** with over 15 years of experience in designing and implementing STEAM and environmental education programs and activities. She is the author of environmental books used in **the school of Elinogeremaniki Agogi**. Thalia also represents one of the NBS EduWORLD project partners. Her current work focuses on integrating NBS within the school context, following a whole school approach and the Green Comp and Teachers' Professional development. Thalia presented schools as innovation hubs for the green transition, specifically sharing the many years of experience of Elinogeremaniki Agogi. Being innovative means being open by involving local communities in the teaching and learning process, as well as functioning as an incubator for the exploration of ideas and inventions. Thalia spoke of guiding points on how to achieve a self-sustaining innovative open culture in schools that benefit the broader community whilst avoiding simply creating interesting but isolated pockets of experimentation.



NBS are a very important part of this change, as they can stimulate real scientific work inspired by local needs and problems, as well as contribute substantially to the European Union Green Deal. A whole institution approach provides a framework for reorienting and redesigning education considering the emerging global sustainability challenges, in which all educational processes that influence learning are addressed. This process employs the Living Lab methodology that puts people in charge of the innovation process. Synergies and mutual learning can be a reality when students explore issues that are relevant not only to themselves but also to others, whereby community partners can offer insights but can also benefit from students' attention, research and creativity. The teaching and learning must be interdisciplinary and transformative for realizing this learning. By establishing the school as a living lab with the local community, the students also can become more rooted in their own habitat and gain a sense of place and connectedness.

Thalia presented specific examples of innovation in school. For example, with the support of a local NGO and local authorities, students, parents and staff can grow their own food in the community or school garden, with some of it used in the school canteen. Students also participate in the design of the schoolyard, in the selection of the trees according to their characteristics and their planting, where each class adopts a tree. Moreover, school buildings are embedded with photovoltaics that act as a site of learning and generate renewable energy. Thalia also discussed the importance of redesigning curriculums, and suggested the use of the Green Comp, the European Sustainability Competence Framework, which has been designed to support education and training programs for lifelong learning. All educators, whatever the discipline or sector of education, should be considered sustainability educators responsible for supporting and preparing learners for the green transition.

Silvia Pirini, a **mathematics, and physics teacher** since 2005, and teacher trainer since 2017. She calls herself a Teacher in Progress: in continuous updating and experimentation. Her interests are STEM, new technologies and student-centred methodologies that she studies with great interest and experiments on together with her students and colleagues. She is also a winner of European Schoolnet Academy's NBS Education Competition 2023: 'Practical examples of how to integrate NBS in teaching'.



Silvia presented her project called Resilient City for Resilient Citizens, which is a learning scenario developed to be used in the school where she teaches. Students are challenged to design sustainable buildings and green spaces for their city using NBS. This project-based learning scenario uses the 5E model (engage, explore, explain, elaborate, and evaluate), and includes using Google Earth to explore sustainable buildings all around the world, watching and discussing a video about how NBS can be used in designing buildings or green areas and playing a learning game. The teacher later divides students into groups in which they explore one NBS and present it to their fellow classmates. What follows is a 40–50-hour work experience, in which students must elaborate on a project about a building and a green area that uses NBS. Silvia proposes adding an extra E to the 5E model – expansion. During this phase, students can use artificial intelligence to imagine and draw futuristic cities and green areas. Finally, students use CAD software to design the project. Another E – exhibit – is added to the model, and students present their projects to the community and local stakeholders and receive an evaluation. Silvia stressed the importance of involving stakeholders, why and how they can be involved and when and where they can all work together, to find solutions together.

John McNally, climate action coordinator with Offaly County Council in Ireland.

John is a qualified engineer with over 25 years of experience, working on the climate action strategy for Offaly which is one of the most impacted areas of Ireland under the Just Transition. John is also a representative of one of the partners of the NBS EduWORLD project. John spoke of the socioeconomic benefits of NBS from the current policy context. Since the 1950s, the main industry in Offaly County has been peat extraction and burning it to generate either industrial or domestic-use energy. As an outcome of the EU and Irish policy to move to a carbon-neutral and green economy by 2050, this extraction has been stopped. The current Irish Climate Action Plan envisions a transition to a climate-resilient, biodiversity-rich and environmentally sustainable and climate-neutral economy, and that ties in NBS and the cessation of peat extraction.



Under the Just Transition Fund, there is €169,000,000 available to the Irish Midlands affected by the move to the green economy and the cessation of peat extraction. The three key priorities under the Just Transition are generating employment from the former peat communities, supporting the restoration and rehabilitation of degraded peatlands, and the regeneration and repurposing of industrial heritage assets and providing former peat communities with smart sustainable mobility options. This can empower regenerative tourism schemes, and sustainable tourism projects, creating a carbon-neutral destination, and generating jobs within the peat communities to develop a network of trails and provide emerging greenways.

John stressed that aside from the benefits of NBS implementation, perhaps even more critical are the benefits stemming from education through NBS: raising awareness and building skills for the future, for all citizens – from a young age to teenagers to adults to seniors.

Breakout room discussions

Two breakout rooms were created to discuss some potential challenges and opportunities to build NBS alliances in local communities. One room focused on socio-economic issues and health and well-being, and the other – on biodiversity and climate change. Participants first discussed the types of stakeholders they can collaborate with, how they can engage them through the planning, delivery and stewardship of NBS, and what NBS skills can tackle various issues and be encouraged through public policy.



Biodiversity and climate change breakout room discussion conclusions

- Potential stakeholders can include the private sector, other schools, research institutions, industries, environmental organizations, NGOs, and financial institutions, such as banks, policymakers, universities, and even other nations outside Europe.
- Some of the challenges to NBS implementation include lack of awareness and understanding, consistent wording, difficulties in engaging people, high costs, and a sense of disappointment.
- Skills that can help tackle biodiversity challenges in the community include interdisciplinarity, communication, ecological knowledge, data analysis and research, soil and bioengineering, selecting appropriate vegetation and land use management, understanding of ecosystem services, native or invasive species, as well as skills related to problem-solving and effective management.
- Skills relating to public policy include land use planning and management, climate change adaptation, green infrastructure design, food security and collaboration.

Socioeconomic issues and health and well-being breakout room discussion conclusions

- Potential ways to engage potential stakeholders include building skills, sharing knowledge about nature, and integrating other interests into the activity (e.g. language exchange). Connecting on a personal level may help. For example, in activities relating to gardens, participants can take the time to tell and share their favourite plants in relation to their contribution to NBS. Plants can be used to teach and learn, creating conditions for people to feel proud. Making activities fun is also key.
 - Opportunities in using NBS for education include bridging different cultures and fostering intergenerational exchange, especially since seniors may have a deeper historical knowledge of that community. A challenge may be recognising the voluntary nature of some of the work as someone's labour and time. Lack of budget and finances is also a barrier to NBS skills, as they compete with other priorities, especially in the context of the pandemic.
 - Skills that can help with the green transition necessitate not only professional engagement but also the power of emotional involvement and passion.
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