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Nature-Based Solutions Education Network (NBS EduWORLD)

Youth Inclusion Toolkit

Deliverable D3.2

Version 1.0



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Abstract	This document corresponds to NBS EduWORLD Deliverable D3.2 Youth Inclusion and Local Authorities Kit. It provides a suite of tools for local governments to engage with the youth in NBS work effectively and meaningfully, while also summarising the methodology used for the collection and testing of tools, as well as the production of case studies. The document also includes a section with recommendations for local governments to consider when engaging with youth for local decision-making activities. The overarching objective of this document is to support local governments to reach out to the youth for engaging them in a respectful and equal manner for collective decision -making and envisioning a resilient future with NBS.	
Keywords	Youth Inclusion, Nature-Based Solutions, Tools, Case Studies	
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Executive Summary

In the face of accelerating climate change and biodiversity loss, nature-based solutions (NbS) have emerged as powerful tools to build more sustainable, resilient, and equitable communities, while local governments are uniquely positioned to lead inclusive NbS transitions. This Toolkit is both a roadmap and a call to action: to meet youth where they are, to share power in a meaningful way, and to co-create greener, more just futures—together. It has been developed to support local governments by offering a practical and flexible framework for embedding meaningful youth engagement into NbS education and local decision-making processes. Co-created with young people, educators, and municipal stakeholders across Europe, the toolkit is grounded in a rich methodology that includes cocreation workshops, validated tools, case studies, survey and interview insights, as well as collaboration with other NbS projects. The result is a robust, evidence-based resource that reflects both the challenges and opportunities of engaging youth in local Nature-based Solutions. The toolkit is organized into action-oriented chapters that: 1) offer foundational guidance on youth inclusion principles and overcoming participation barriers; 2) present a diverse set of validated tools—from role play and hackathons to participatory mapping, citizen science, and youth councils; 3) highlight real-world case studies from municipalities applying these tools in practice; 4) provide targeted recommendations for fostering youth leadership, co-creation, and governance; 4) include resources for further learning and adapting to local context. By actively involving youth—through education, planning, and policy—municipalities have an opportunity to build trust, civic responsibility, and resilience in their communities.





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1. Introduction

Background information

<u>Nature-based solutions</u> are defined by the European Commission as cost-effective interventions inspired and supported by nature; NbS deliver environmental, social, and economic benefits while enhancing biodiversity and ecosystem services by bringing more nature into urban and rural spaces through locally adapted, resource-efficient approaches.

However, to fully realize their transformative potential, it is critical that young people—especially those from vulnerable and underrepresented groups—are included not just as beneficiaries, but as active partners in the design, planning and implementation of NbS. Enhancing youth participating in decision-making is essential, and local governments have a key role to play by creating inclusive, empowering pathways that ensure youth are not only heard, but actively shape and influence NbS strategies.

What is the purpose of this toolkit and who is the audience?

This flexible and adaptable toolkit supports regional governments, municipalities, and communities in involving youth in nature-based solutions (NbS) education and activities. Cocreated with young people, municipalities, and educators, it helps create spaces for authentic youth engagement—fostering ecological resilience, social connection, and a sense of agency. At a time when many young people face climate anxiety and ecological grief, the toolkit offers a pathway to empowerment, purpose, and resilience, positioning youth as co-creators of more inclusive, just, and regenerative futures. By embracing youth participation, local actors can tap into the creativity, energy, and fresh perspectives that young people bring to addressing today's climate and ecological challenges.

The NBS EduWORLD Youth Inclusion Toolkit is designed to:

- Provide tools and resources for local governments to foster inclusive NBS education.
- Offer guidance on how to overcome barriers to youth inclusion in NbS education.
- Facilitate the meaningful and active participation of young people as partners in shaping regenerative, nature-based futures.

This toolkit draws from real experiences and co-creation with youth, educators, and municipalities across the NBS EduWORLD project.

What do we mean by youth?

"Youth" does not have a universally fixed definition—it is a socially defined stage of life representing the transition from childhood to adulthood, often associated with growing independence and civic involvement. Definitions vary across institutions: the European Union typically uses ages between 15 to 29¹ for statistical purposes, <u>Erasmus+</u> defines youth as individuals between the ages of 13 and 30, and the Council of Europe refers to those aged 18

¹ Council of Europe, Williamson, and Lavchyan, 'Youth Policy Essentials'.





to 30². The United Nations considers youth to be individuals between 15 and 24 years old, while also recognizing that cultural and contextual factors strongly influence how youth is understood in different regions.

In the context of this Toolkit, we define youth as individuals aged 16 to 30. This age range was selected based on the co-creative process and the lived experiences shared by local demonstrators, referred to as: "Tier-1" (Paris, Offaly County, and Almada) "Tier-2" (Genova, Belgrade and Moldova) and "Tier-3" (Ege University Türkiye, Hungarian NBS Hub, Patras, Lykovrisi-Pefki, Zaragoza and Bucharest University, Romania) during the development of this toolkit.

Why is youth inclusion crucial within NBS education?

True inclusion goes beyond ticking boxes—it means working with youth, not for them—through open dialogue, empathy, reciprocity and flexibility. It is important that the power is shared. While not every need can be met, fostering responsive, inclusive environments helps break down barriers and supports meaningful engagement.

In the context of NBS and ecology, young people have a vital role to play. Their futures will be directly shaped by the decisions and actions taken today, and their needs, ideas, fears, and hopes must be part of the conversation. There are many reasons why meaningful youth participation in NBS education and governance are essential for driving effective, just, and regenerative change³:

- Right to Participate⁴: Youth have the recognized right to shape decisions that impact their future—especially in the face of climate and biodiversity crises. Their voices must be heard *and* meaningfully included in NBS strategies and education.
- Valuable Ideas and Skills: Young people know their communities best. Their experiences, creativity, and digital fluency make them essential co-creators of relevant and innovative NBS.
- Intergenerational Dialogue: Young people can act as powerful connectors across generations. Youth can bridge generational divides and foster collaboration and understanding—especially in communities facing ecological or social change.
- Towards a Resilient Future: Lasting transition requires more than technical fixes.
 Empowering youth with education, green jobs, and agency builds stronger, more resilient communities for the future and to help to move towards a nature-positive economy.

The envisioning exercise (see Chapter 4) conducted with youth during the third NBS EduCommunity Workshop (see chapter 2) not only underscored the importance of embedding

⁴ European Commission. Directorate General for Regional and Urban Policy., Youth for a Just Transition.



² Council of Europe, Williamson, and Lavchyan.

³ Council of Europe, 'Council Conclusions on Strengthening the Multi-Level Governance: Promoting the Participation of Young People in Political and Other Decision-Making Processes at Local, Regional, National, and European Levels.'



youth participation in NBS education but also explored future scenarios where young people play a central role in driving social-ecological transformation. Below is an example of a vision co-created by youth, alongside educators and NBS experts, during the workshop.

"Nature would become at the forefront of social concerns and biodiversity conservation would be fully supported by the population at large, and not a marginal issue. A closer connection and fuller understanding of the importance of nature and of our role as humans belonging also in nature would be better achieved. The present is better than past. There is more hope. Youth are recognized as change-makers and have the full empowerment to do so."

Local governments further explored the potential for youth involvement in NbS during an online workshop (see Section 2). Local governments discussed their experience with regards to including youth in NBS education. Results of these discussions can be seen in Annexes 5-7. At the end of the session, representatives came together to reflect and agreed on a set of key messages (see image below).

Youth needs to learn imagine real alternative and positive pathways

To provide young people with the oportunity to learn and lead innovative practices that address environmental challenges

Young people experience constrains (money, time, etc) and lack of power (to be heard) and need the support of local governments

Youth can create Pathway to reconnect with nature towards a more sustainable future Lets find a common language between the generations (young and older)!

Youth can have "fresh" insights on topics that sometimes are given for granted

Understanding the Youth Perspective

We must avoid the mistake of assuming what youth's opinions and needs are based solely on observed actions and attitudes. To engage young people effectively in Nature-Based Solutions (NBS), it is crucial to understand their perspectives as well astheir hopes, fears, and motivations in a world shaped by climate uncertainty.

Numerous youth declarations and manifestos have been published globally and across Europe. Some examples include the Global Youth Statement on NBS, the Manifesto for Young People by Young People!, the Youth4Climate Manifesto and Wildlife, Wales, and the World: A youth manifesto, to name just a few. With due consideration for local contexts, a common thread can be identified in the recurring demand for meaningful inclusion in decision-making processes. Young people emphasize the need for accessible platforms that amplify their voices and integrate their contributions into policy development, enabling them to co-design solutions. This sentiment was echoed by Marina Melanidis, Founder & Global Ambassador of Youth4Nature, who, in an interview for this project, stressed the importance of agency, decision-making power, and respect. She also warned against superficial approaches, as





"poorly done participation can actually be worse than no participation at all. It can feel tokenizing, extractive, and disrespectful. So, it's not just about being included — it's about how we're included". Youth are the only ones who can fully explain their own needs and desires, making it critical to engage them in open, equal conversations with a focus on long-term involvement.

Key Principles and Strategies for Youth Inclusion

Youth participation has gained more acceptance in recent years among practitioners, advocates, and researchers. However, despite this progress, tokenism remains a persistent challenge, as it undermines the credibility of youth inclusion efforts and discourages meaningful engagement. Too often, children and young people are consulted, but their perspectives seldom shape actual decisions. The policy process frequently leaves insufficient time to involve them effectively. In addition, there is a lack of capacity building and resources sharing for all youth to be part of consultation processes, especially those from vulnerable and underrepresented backgrounds.

That's why youth-friendly communication strategies should be employed to meet young people where they are—through accessible language, digital platforms, and participatory formats that resonate with their stage of life. Moreover, providing clear, consistent and safe opportunities for young people —where they feel respected, valued, and free from judgment or harm— and empowering them with the knowledge, resources, and confidence to participate effectively is essential. Studies have shown that when young people feel genuinely heard and valued, they not only contribute unique insights but also develop critical decision-making skills, socio emotional skills, self-efficacy, and a deeper sense of civic responsibility⁵. To achieve real influence, it is crucial to move beyond tokenistic approaches and prioritize meaningful youth inclusion in NBS.

Insights from the Youth Inclusion Survey I

As part of this toolkit, a short online survey was conducted (see methodology), gathering responses from 32 young people aged 16–35 on youth inclusion and Nature-Based Solutions (NBS). Results show a relatively high level of engagement in municipal initiatives (see *Annex 1*). However, many of those not participating cited a lack of accessible opportunities—possibly linked to how municipalities communicate (see *Annex 2*). Despite some engagement, most youth still do not feel truly included (see *Annex 3*).

Overcoming barriers to youth inclusion especially in vulnerable groups

For inclusion in education, identifying the key barriers that hinder the process is essential. Many young people, filled with talent, creativity, ambition and passion, are waiting to be empowered into action but face obstacles in different ways. At the same time, it is important to

⁵ Bulling et al., 'DELIBERATION MODELS FEATURING YOUTH PARTICIPATION'.





recognize the complex diversity within the youth population and recognize their varied needs, interests and experiences. Diversity is a source of enrichment that brings a wealth of perspectives that enhance and deepen the process of inclusion. Special attention should be given to engaging marginalized and vulnerable youth, including those from low-income backgrounds, migrant and refugee youth, youth with disabilities, those who identify as LGBTQ+, young women and girls, and youth from rural or remote areas, as their voices are often not heard. In that sense, to overcome barriers that prevent participation in NBS such as lack of resources, discrimination, and social stigma, it becomes crucial to build trust and engagement through flexible and inclusive participation models.

Insights from Youth Inclusion survey II

When asked how local actors could better reach them, participants pointed to social media, schools, community centers, and youth organizations. Responders proposed 20 concrete ideas for youth engagement in NBS (see Annex 4).

2. Methodology

The development of this Toolkit is based on a multi-method approach integrating both empirical insights and desk research. The methodology draws from key findings within the work of the project and its partners with youth and living labs, with a particular focus on youth engagement in Nature-Based Solutions (NBS) education. In addition, we incorporated some key aspects for youth inclusion that could also be relevant for local governments when planning NBS Education activities. To ensure the toolkit is practical, evidence-based, and reflective of youth perspectives, we utilized the following methods:

Insights from other project partner's work with youth in NBS EduWORLD

As a case study, we incorporated lessons from youth centres in Türkiye, specifically focusing on young refugee migrants, to understand the challenges and opportunities for engaging marginalized youth in NBS education.

We also engaged with schools as a Living Labs approach to explore how they can serve as experimental spaces for youth-led NBS initiatives.

These examples are included as a case study and a tool, respectively, for youth inclusion. Through this toolkit, the examples could be adapted to suit the needs of local governments to engage with youth of 22-30 years of age.

Co-creation of the toolkit with youth, a leading youth organisation and local governments

An online workshop with Tier-1, Tier-2, and Tier-3 partners of the NBS EduWORLD project was held to explore the perspectives of local governments regarding youth engagement and inclusion in NBS education. The discussion focused on key challenges municipalities face in involving youth in the design of NBS activities, the potential of young people to support NBS





mainstreaming and literacy, and strategies for ensuring meaningful, long-term youth participation.

This <u>NBS EduCommunity workshop</u> took place on 18 February 2025 and gathered educators, NBS experts, local authorities and around 50 young people aged 16-35. The group discussed innovative approaches to youth participation, giving and receiving detailed feedback in breakout sessions on different methods of youth participation like hackathons, roleplay games, youth councils, board games, and <u>BioBlitz</u>.

At an in-person workshop at the Robert Bosch College, Freiburg, a two-year international boarding school, where students from around the world live and learn together, focusing on sustainability and intercultural understanding, 20 students aged 16-20 years old gathered to explore creative ways to involve youth in decision-making. The group also conducted tests to validate preliminary tools. During the workshop, the youth participants provided structured feedback and analysed 4 tools (inc. In tool descriptions), including providing suggestions for improvement

An online survey (see Annexes 1, 2 and 3) on youth inclusion was conducted to assess youth needs and preferences for engaging with local governments on NBS education. The survey consisted of 12 questions aimed at assessing the level of youth engagement in nature-based solutions (NBS) education, the role of local municipalities in facilitating youth inclusion, and the challenges, barriers, and recommendations identified by young people to enhance their involvement in NBS education. The online survey was conducted between 1 and 31 October 2024. Distributed to Tier-1, Tier-2, and Tier-3 partners of the NBS EduWORLD project, shared during the ESCT conference in Aalborg in October 2024, and promoted through the project's social media channels, we received a total of 32 valid responses from participants across nine European countries. While 12 respondents were from Türkiye—introducing some geographic bias—the insights are complemented by findings from workshops, school activities, and an interview with a youth activist, which ultimately contributed to a more balanced perspective.

One interview involved discussions with a member of a leading youth organisation, <u>Youth4Nature</u>, to understand the needs, barriers and challenges as well as opportunities for youth in engaging with the local municipalities.

Co-Development of Tools and Case Studies with other NBS projects

- We engaged with the projects (<u>Desirmed</u> and <u>NBRACER</u>) as well as experts to develop and refine tools for youth inclusion. Their insights informed the design of tools for local governments.
- Case studies were primarily collected by online interviews or in written form based on a set of guiding questions.
- Preliminary versions of the toolkit, including proposed tools and case studies, were tested and discussed in workshops:
- The NBS EduWORLD EduCommunity workshop, where around 50 participants provided feedback.





 A workshop with 10 NBRACER project partners, offering additional expert perspectives.

The NBS EduWORLD Advisory Board meeting presented an opportunity for members—including some youth representatives—to share their experiences working with young people and provide feedback on the tools presented to enhance youth inclusion. The NBS EduWORLD Tier-2 and Tier-3 workshop provided space for participants to discuss barriers and opportunities for youth inclusion, as well as the relevance of selected tools to their local contexts and ways to make them more youth-inclusive **desk research and comparative analysis:**

- We reviewed several existing toolkits and frameworks (see Section 8) on youth engagement, NBS education, and municipal activities for youth engagement. This helped us structure the toolkit effectively and integrate best practices.
- A structured analysis was conducted to identify key components such as checklists, tips, and case studies, ensuring accessibility and usability for local governments.

3. List of Tools for Youth Inclusion by Local Authorities local authorities

Tool	Description		Education category	Mode
Hackathons	Intensive, time-bound challenges where youth co-create solutions for realworld NBS problems.		Informal / Non-formal	Online
Citizen Science	Youth contribute to research by collecting biodiversity, climate, or ecosystem data.	Makes it possible for the youth to engage in monitoring activities and learn about the importance of biodiversity	Formal / Informal	Offline / Online
BioBlitz	Events where youth identify as many species as possible in a set area.	literacy by species	Informal	Offline
Youth Engagement Surveys		Provides valuable insights at low barrier	Non-formal / Informal	Online and Offline





Tool	Description		Education category	Mode
		engagement level from the youth		
Role Play Games	youth take on different roles (e.g. farmer, policymaker).	Allows participants to step in others' shoes promoting empathy and deep understanding of the perspectives	Informal / Experiential	Offline
Youth Council	decision-making groups in local		Formal / Non- formal	Offline and Online
Participatory youth budget	allocation of public or project funds.	1 3 3	Formal / Non- formal	Offline and Online
Board games	tools simulating NBS and sustainability	Helps simulate real world scenarios while providing tools for solving complex challenges		Offline
Scenario Planning	plan for different	3 ,	Formal / Non- formal	Offline and Online
Visioning Exercise	where youth imagine	Inspires proactive thinking and the engagement of radical imagination.	Informal / Non-formal	Offline and Online
Participatory Mapping	of local assets,		Formal / Non- formal	Offline and Online
Refugee Engagement	inclusion practices for		Non-formal	Offline and Online





Tool	Description		Education category	Mode
spaces		and environmental	Informal	Offline

Applying the tools to engage vulnerable youth groups

Engaging youth voices in decision making processes at the local level is so much more than *nice to have;* it should be considered a *must have.* Since the youth today will be the ones dealing with the consequences of climate change and biodiversity loss, it is pertinent to get their buy-in on major decisions. This goes especially for vulnerable youth groups (e.g. young people with disabilities, low socio-economic status, trans and queer people, migrant background) who are more likely to suffer while being rather disadvantaged in representation at the local levels. Therefore, the tools provided in this toolkit should be utilised in such a way by the local authorities that embodies inclusiveness and promotes diversity of youth voices according to their specific context.

To make the tools more inclusive, it is essential to actively involve young people—especially those from vulnerable or underrepresented groups—and consider their specific needs and barriers. Opportunities should be accessible, welcoming, and flexible, with space for reflection and feedback. An agile approach allows young participants to share input during and after activities, helping shape more meaningful experiences.

Safeguarding and the creation of "safe spaces" are also crucial to protect the wellbeing of all youth, particularly those who are underage or at risk.

In addition to understanding their needs, it is important to identify and address barriers that young people from disadvantaged backgrounds may face. These can include practical challenges in both on-site and online engagement, as well as "soft" barriers such as language, digital skills, learning differences, and perceived exclusion. Flexibility and adaptability are key to ensuring all young people feel able to take part.

It also helps to ensure diversity among the professionals and local authorities working with youth. Representation can foster trust, reduce feelings of tokenism, and inspire meaningful participation.

Tools should be used not just to include vulnerable youth as a formality, but to actively enrich the process by bringing diverse voices to the table. Their inclusion should be embedded in all aspects of NbS planning and implementation—not just framed as a diversity issue, but as a vital part of achieving better outcomes for people and nature.





4. From Ideas to Action with practical tools

4.1. Hackathons

What if...digital tools, such as hackathons, are widely used to simulate real world issues and encourage youth to problem solve?

Purpose:

Hackathons provide a fun and interactive format to bring together youth and NBS experts in a gamification approach to local NBS cases. Hackathons also foster debates of ideas and key competences such as teamwork, online skills and creativity. Format and duration are also flexible. Indeed, hackathons can be run on a diversity of platforms (e.g., Gather)eg: Gathertown) depending on the age and computer skills of the youth. Depending on the aim and exercises of your hackathon, duration can fluctuate from some hours to several days. This tool develops both online skills as well as scientific and social sciences knowledge when applied to NBS. When used by local and regional governments, it can also be a strategic method to engage young people in the reflection and designing of NBS in their local territory, neighbourhood and city, connecting them with NBS practitioners and the local community to shape more resilient and sustainable places to live.

"My biggest takeaway was grasping the way people around the world think in the matter of Sustainable solutions, in my group we talked a lot, and I was able to learn lots of things from my colleagues."

Participant in NBS EduWORLD Hackathon 2024

- Tip 1: Organise a preliminary meeting with the education institutions (high schools, colleges) staff to suggest and include the hackathon exercise as part of the curriculum, targeting key responsible persons (teachers in the relevant disciplines, administrators, etc).
- Tip 2: After having agreed on the framework of the hackathon (duration, targeted classes, format, platform, available materials), prepare resources and documentation to be shared with young people to serve as the basis for their personal and group reflections.
- Tip 3: As an online tool, hackathon requires some specific materials and facilities, such
 as computers, Internet connection, etc. To ensure that every young person is included
 and can effectively take part in the hackathon, it is therefore important to organise the
 exercise in a place where all facilities are available (classrooms, municipal buildings,
 public and media libraries etc).





Expected Impacts and Benefits:

"I enjoyed working with Gather app. Interactive, fun, unusual (for me). I liked how the information was structured in Miro; I learned a lot of useful things for further work and study in the field. I was also very pleased to work in a team and feel the support from mentors. [....] I learned a lot about Nature-based Solutions and how we can maintain the existing nature to cope with the impact of climate change."

Participant in NBS EduWORLD Hackathon 2024

- Youth Benefits: Boosting Digital Skills: The platform enhances computer and technical abilities through interactive, gamified experiences. Understanding Ecological Issues: Youth engage with peers and experts on NBS, gaining insight into climate change, adaptation, and mitigation at the local level. Fostering Interdisciplinary Thinking: Participants explore how cross-sector collaboration is key to tackling climate challenges.
- Community Impact: Youth Inclusion in Decision-Making: Hackathons connect youth
 with local authorities, encouraging their involvement in shaping NBS for their
 communities. Youth participation spreads knowledge and acceptance of NBS within
 their circles and the wider community.

Challenges and Solutions:

- **Potential Challenge:** Poor Internet access or unsuitable technical materials could prevent effective participation. Applications/softwares without accessibility accommodations for disabilities, languages differences etc.
- Solution Insight: Secure a place of work where participants can benefit from all
 physical materials needed and avoid doing it at home, where equal working conditions
 among them are not provided. Ensure there are staff members/session leaders to
 provide extra support.

Examples:

The NBS EduWORLD Hackathon, held on March 21–22, 2024, showcased an inspiring blend of creativity, teamwork, and innovation. As a key activity of NBS EduWORLD, the event brought together around 50 international students from 18 countries, spanning academic levels from Bachelor's to PhD.

More than just an academic exercise, the Hackathon was a dynamic, idea-driven event where students from diverse disciplines—including science, architecture, economics, and political science—collaborated in a virtual setting to tackle real-world challenges using Nature-based Solutions (NbS).

Participants worked in small groups of 3–4, choosing one of three real-world case studies as their focus: the municipalities of Genoa and Belgrade, or the Biosphere Reserve area in Moldova. Their task was to apply NbS thinking to local challenges, drawing on their interdisciplinary knowledge and unique perspectives.





The most compelling project teams were awarded the opportunity to attend the 2024 **NetworkNature Annual Event** in Brussels on September 25. In addition, they were invited to share their insights during the **NBS EduCommunity workshops** in 2025, contributing further to the growing community of practice around NbS.

(Refer to the box below for more details on the student contributions and workshop outcomes.)

Insights from the third NBS EduCommunity Workshop (see Section 2) on the Hackathon:

Young people feeling more responsible for decisions – With more opportunities to participate, young people would feel a greater sense of responsibility for the decisions that shape their future

More connection and collaboration – Everything would be more interconnected, making communication and teamwork easier across different sectors and communities. The idea is to bring more minds together to discuss solutions

Youth perspective: Insights from the in-person workshop on Hackathons:

Pros:

- A great way to engage youth in problem solving in a team.
- Broader and efficient ideas and perspectives.
- Understanding the structure of problem solving.
- Big opportunity to learn time management and task diversification in a short period of time.

Cons:

- Need for equally experienced teams.
- Need for a reward as some participants may not be motivated to do the activity otherwise.
- Prepare participants with stress management workshop beforehand.
- Need for proper organisation.
- Make topic interesting for all, using votes perhaps.
- Introduced in the school setting and not on a weekend.

Resources

NBS EduWORLD Hackathon





4.2. Citizen Science

What if... data collection and biodiversity monitoring weren't limited to experts, but also involved non-experts—especially youth—in a structured and meaningful way?

Purpose:

Citizen science—public participation in data collection—is a <u>powerful tool</u> for engaging youth in a more active NBS learning. Young people can gain a solid understanding of the different species, restoration work and data collection needs for biodiversity monitoring in hands-on involvement in real world projects on NBS. Citizen Science proves beneficial not only for building critical skills and expertise on the topic of NBS, but also for fostering a sense of environmental responsibility, meaning stewardship of NBS over the long term, demonstrating that the actions taken by youth can contribute to meaningful transformation of urban areas with more green spaces. Involving people in observing local species and ecosystems can provide detailed, real-time data that can guide green planning and restoration efforts. This knowledge helps identify where NBS, like green corridors or wetland restoration, are most needed and how effective they are over time.

Citizen science takes many forms, such as online platforms and long-term monitoring, inperson events like Bioblitz, and activities like participatory mapping. The tool presented here
focuses on long-term engagement through digital platforms and networks (e.g., iNaturalist)
enabling individuals—especially young people—to regularly observe and record biodiversity in
their surroundings. Other citizen science formats, like Bioblitz (see next tool 4.3) and
participatory mapping, are introduced below as complementary tools that offer time-bound,
place-based opportunities for community involvement.

- Tip 1: Set Up a Long-Term Biodiversity Monitoring Initiative. Instead of focusing
 on short-term events, create an ongoing digital project on platforms like iNaturalist,
 where youth can contribute observations at any time. Choose a local area with existing
 or potential nature-based solutions (NBS) and define a clear monitoring goal—such as
 tracking pollinators, tree health, or urban wildlife. This fosters continuous engagement
 and allows biodiversity data to grow over time.
- Tip 2: Collaborate with Experts and Data Partners. Partner with universities, biodiversity experts, environmental NGOs, or municipal departments. They can help design the monitoring framework, provide feedback on observations, and ensure data quality. They may also host virtual trainings or support forums where youth can ask questions and deepen their knowledge of species identification and ecological processes.
- Tip 3: Provide Accessible Tools and Guidance. Create or link to easy-to-follow guides on how to use the citizen science platform (like uploading photos, tagging species, or using geolocation features). Encourage participants to explore biodiversity using tools they already have—like smartphones—and promote the use of accessible features, including audio uploads (e.g., bird calls) to engage users with different abilities.





- Tip 4: Promote the Initiative and Build a Digital Community. Publicize the initiative through schools, youth centres, libraries, social media, and the city's website. Share project goals and updates regularly to keep momentum. Encourage participants to follow and comment on each other's posts, creating a sense of community and peer learning. Consider highlighting "observation of the month" or creating challenges to keep engagement high.
- Tip 5: Encourage Reflection and Ownership. Support youth in understanding how
 their contributions help monitor and improve urban NBS. Facilitate online discussion
 spaces or workshops where they can analyse trends in the data and propose ideas for
 enhancing green spaces. This reflection helps build environmental literacy, long-term
 stewardship, and a deeper personal connection to their local ecosystems.

Expected Impacts and Benefits:

- Youth Benefits: Skill-building and empowerment: Participants gain leadership, scientific literacy, observation skills, and confidence in engaging with real-world environmental issues. Sense of belonging and agency: Youth feel they are contributing meaningfully to their community and the global climate movement, fostering deeper civic engagement. Analytical thinking enhancement: Increasing the possibility of developing skills for future green jobs.
- **Community Impact**: Increased environmental awareness and education: Residents gain a better understanding of the biodiversity around them, building a culture of care and curiosity about the local environment.

"I never asked myself where snails lived or if they prefer grass or dead leaves, how do they even survive in our cities?"

— Teen participant, Vigie-Nature École, in a citizen science event organized by the Muséum national d'histoire naturelle in Paris.

"I never thought I could help with science. But today, I found a rare lichen and added it to the database!"

— Teen participanting a community bioblitz, organized by the Muséum national d'histoire naturelle in Paris.

Challenges and Solutions:

- Potential Challenge: Sustaining youth engagement and ensuring access to expert support. While citizen science platforms often attract highly motivated individuals, participation can become uneven—some users contribute regularly, while many drop off after one or two entries. Younger participants may struggle to stay engaged without ongoing guidance or community connection. Additionally, it can be difficult to find biodiversity experts available to support new users, especially remotely.
- **Solution Insight**: Build networks and empower peer leaders. To address these challenges, partner with local NGOs, schools, universities, or citizen science platforms





(like iNaturalist) to connect with experts who can offer virtual guidance, host Q&A sessions, or provide feedback on observations. Encourage the creation of youth-led online groups or clubs, where experienced young users help onboard and support their peers. Training older students or dedicated youth participants as "community mentors" not only builds their skills but also helps sustain engagement across the platform. Sharing regular updates, challenges, and spotlights on user contributions can also keep the momentum going.

Example

• A citizen science programme for discovering biodiversity

Resources

- INaturalist Org
- BioBlitz Guide
- Vigie Nature-Ecole
- A citizen science programme for discovering biodiversity

4.3. BioBlitz

What if...collaborative events are facilitated for youth to support scientists and experts in place-based biodiversity monitoring?

Purpose:

Collaborative biodiversity inventories, often referred to as bioblitzes, are events held in specific areas that bring together local community members and biodiversity experts. The primary aim is to rapidly collect data on local biodiversity, while also raising public awareness of the importance of biodiversity. Experts provide training in data collection techniques and the use of identification tools. These events typically last from one day to a month, depending on the location, and are often organized in areas where there is a noted gap in biodiversity knowledge. Bioblitzes also contribute to long-term biodiversity monitoring and can inform local conservation efforts.

BioBlitzes are popular citizen science events with the aim to engage participants in biodiversity monitoring. They are "a collaborative race against the clock to discover as many species of plants, animals and fungi as possible, within a set location, over a defined time—usually 24 h" however with time it has now been evolved to be run for shorter durations. Bioblitzes are generally a 'contributory' citizen science activity as they are predominantly run by scientists with the scientific aim of collecting biodiversity data with the help of non-experts⁶.

⁶ Lorke, Ballard, and Robinson, 'More Complex than Expected—Mapping Activities and Youths' Experiences at BioBlitz Events to the Rosette Model of Science Communication'.





How to use the tool:

- Tip 1: Plan with Purpose and Collaborate with Experts. Since a Bioblitz is a short, intensive event, planning ahead is key. Start by identifying and involving biodiversity experts to help co-design engaging, hands-on activities—such as species walks, ecosystem introductions, or guided identification sessions—tailored to their areas of expertise. Align the activities with broader goals like raising biodiversity awareness and filling data gaps.
- **Tip 2: Promote and Communicate Effectively.** To maximize participation, publicize the event widely through schools, libraries, community centers, local websites, and social media. Use clear, engaging messaging that highlights both the purpose of the Bioblitz and its role in larger citizen science and conservation efforts. Emphasize the opportunity for participants—especially youth—to contribute meaningfully to biodiversity knowledge and stewardship.
- Tip 3: Set Up an Accessible and Equipped Base Camp. Create a central "base camp" that serves as the hub for coordination, support, and communication during the event. Equip it with tools like field guides, binocular loupes, magnifiers, and mobile device chargers. Have a friendly and knowledgeable team on hand to help participants with species identification and data submission, ensuring a smooth and engaging experience.
- Tip 4: Engage Participants Beyond the Event. Although a Bioblitz is time-limited, the
 learning and impact can go further. Encourage participants to continue observing and
 contributing through digital platforms like iNaturalist. Share event results and stories
 with attendees and the wider community to maintain momentum and build a sense of
 shared achievement in protecting local biodiversity.

"This event showed how we can all contribute, even if we're not scientists. It's about learning together and caring for our home."

— Youth facilitator during the BioBlizt event organized by the Muséum national d'histoire naturelle in Paris on the biodiversity day on May 22.

Expected Impacts and Benefits:

- Youth Benefits. Skill-building and empowerment: Participants gain leadership, scientific literacy, observation skills, and confidence in engaging with real-world environmental issues. Sense of belonging and agency: Youth feel they are contributing meaningfully to their community and the global climate movement, fostering deeper civic engagement.
- Community Impact: Increased environmental awareness and education: Residents
 gain a better understanding of the biodiversity around them, building a culture of care
 and curiosity about the local environment. Stronger community ties: Bioblitzes foster
 collaboration between citizens, youth, experts, and institutions—creating a stronger,





more informed, and united local network. Nurturing intergenerational understanding and collaboration, bridging gaps across generations.

Challenges and Solutions:

- Potential Challenge: Key challenges in organizing a Bioblitz include the limited availability and time of biodiversity experts, especially in smaller and remote communities. Coordinating large groups and maintaining youth engagement throughout the event can also be difficult, as participants may lose interest during longer activities or if tasks feel repetitive.
- Solution Insight: Partnering with NGOs, universities, or citizen science platforms like
 iNaturalist can provide remote expert support. Training older students to lead peer-topeer sessions can help fill the expert gap. To keep youth engaged, divide participants
 into smaller teams with specific roles and incorporate interactive activities such as
 species identification challenges or tech-based documentation. Offering recognition or
 rewards for contributions can also maintain motivation.

Examples:

BioBlitzes - Natural History Museum UK

More than a Bit of Fun: The Multiple Outcomes of a Bioblitz

Insights from the third NBS EduCommunity Workshop on the BioBlitz tool (See Annex 9).

4.4. Youth Engagement Surveys

What if...decision making is informed by the opinions of local youth groups who are encouraged to express themselves?

Purpose:

Surveys are a classic tool to collect data, but their flexibility makes them adaptable to new ways of communication (online, via social media) and fit for different target audiences, including youth. They have the potential to gather a high quantity of information and illustrate a bigger picture of the opinions of a target group on a specific matter. Surveys do not necessarily require physical presence, and this provides an opportunity for difficult-to-reach youth to participate.

Their effectiveness and inclusiveness, though, are greatly dependent on design, and it is fundamental to tailor surveys to the target audience. Particular attention must be paid to survey length and how questions are formulated to ensure accessibility and guarantee encourage free and non-biased expression. A great way to make sure the survey is received in the right manner is to test the final version with a small group of the same target audience the survey is addressed to.

Moreover, selecting the right dissemination channels is essential to effectively reach the intended audience. Surveys promoted through familiar platforms increase the likelihood of





participation. While creativity and innovation in format can help make surveys more engaging, the core objective is to create a trusted and respectful spaces for youth feel represented.

Ultimately, providing clear context and information about data protection is not just a legal necessity — it also reinforces trust and transparency. Clearly communicating how data will be handled, how results may be shared, and how they will contribute to ongoing processes helps ensure that participants feel respected and genuinely included in shaping outcomes.

How to use the tool:

- Tip 1: Define the objective of your survey: what do you want to learn from it? Make sure to identify the added value for youth to participate by outlining why they should invest time to answer your questions. This aspect should be made clear in the introduction to the survey, together with the information on how data will be treated and next steps.
- **Tip 2:** Draft questions and options for answers. Formulate questions to be as clear and concise as possible.
- **Tip 3:** Test your final survey with a small group of young people. This helps to validate formulations and collect feedback on format and channels for dissemination.

Challenges and Solutions:

- Potential Challenge: It is easy to underestimate the effort required to design a survey
 and collect data. The whole process can take a long time and often there is the
 temptation to shorten it by cutting some steps (e.g. the testing phase). Especially in the
 case of new surveys, this leads to the risk of unreliable data or very low respondent
 rate due to unclear questions.
- **Solution Insight:** DSurveys are not a new tool—there's a rich history of them being used effectively. Drawing inspiration from past examples can help you shape your initial draft questionnaire more easily. Reviewing existing surveys can also help avoid common pitfalls and build on what's already worked.
- To boost response rates, consider partnering with local groups—such as sports clubs, cultural organizations, or youth associations—that can help promote the survey within their networks. Offering small incentives may also encourage participation.
- Most importantly, respondents are more likely to engage if they know their input will be taken seriously. Clearly communicate how their feedback will be used, and establish a timeline that allows the collected input to meaningfully inform the ongoing process. Be sure to include buffers for possible delays.

Examples:

Tips on writing surveys for youth - University of Minnesota: https://blog-youth-development-insight.extension.umn.edu/2017/06/tips-on-writing-surveys-for-youth.html





Young Londoners' Health survey- City of London: https://parksforlondon.org.uk/young-londoners-health-survey/: As part of their broader "Green Infrastructure Strategy," the city included youth perspectives on parks, street trees, and how these could be enhanced through sustainable, nature-based methods like green roofs and rain gardens. This survey aimed to inform future development and ensure that youth voices were central to shaping London's green future.

4.5. Role Play Game

What if...a role play game could encourage the consideration of different perspectives?

Purpose:

From the outside, decision-making roles may seem simple—but role-play simulations offer an engaging way to explore their complexity. This interactive method brings together different actors to reflect on a hypothetical situation from alternative perspectives. At its core, the activity invites participants to "step into someone else's shoes," taking on roles different from their usual ones. Because of this, role-play simulations are highly flexible and can be adapted to various contexts.

Scenarios can serve different purposes: they may aim to generate concrete outputs that inform a process, or simply create a safe space for dialogue, mutual learning, and empathy-building.

The result is often a deeper understanding across stakeholder groups—of how others operate internally, how they perceive specific challenges, what constraints they face, and the dynamics of power relations. This kind of awareness can foster better cooperation and lead to more inclusive, effective approaches.

However, successful role-play simulations require thorough preparation. This includes defining the scenario, assigning roles, setting rules, and ensuring skilled facilitation. Sessions can range from a few hours to several days, depending on the goals.

In the context of youth engagement, role-play simulations can be a powerful, unconventional learning tool. They offer young people a platform to express their views, better understand institutional processes and limitations, and challenge misconceptions—ultimately building capacity and mutual respect between generations.

- Tip 1: Identify the Purpose of the Role-Play Simulation Begin by clearly identifying the specific gap the role-play simulation is intended to address. Is the goal to help young people understand how the local environmental office makes decisions about green space management? To co-develop or refine municipal initiatives for engaging students in nature conservation? Or to collectively decide how to redesign a neighborhood space? The strength of role-play lies in its flexibility—it can be adapted to serve many different purposes.
- Tip 2: Design a Credible Yet Hypothetical Scenario Craft a scenario that participants will explore during the simulation. This scenario should be easy to grasp but still contain a level of complexity that reflects real-world





challenges. Aim to recreate some of the tensions or dilemmas that typically arise in actual decision-making processes. While the scenario should not mirror real events too closely—so participants can think more freely—it must remain believable and grounded in reality. Striking this balance encourages deeper engagement and thoughtful role exploration.

Tip 3: Assign Roles with Clear Guidance
Distribute roles to participants with detailed instructions. Each participant should
understand who they are representing, what their objectives are, what constraints they
face, and how they relate to others in the simulation. Facilitators are essential for setting
the scene, explaining the objectives, and ensuring that everyone is comfortable with
the process. A well-guided simulation creates the conditions for productive interaction
and shared learning.

Expected Impacts and Benefits:

• Benefits for Youth: Role-play simulations can strengthen the relationship between young people and local institutions by creating space for dialogue, recognizing diverse perspectives, and promoting more inclusive decision-making processes. When used to shape policies or services, this tool helps ensure that the needs and challenges of different groups—especially youth—are taken into account. It also fosters empathy, open-mindedness, and a reduction in polarization by encouraging participants to step into others' roles and viewpoints.

• Benefits for Municipalities: For municipalities, role-play offers a creative and interactive way to engage with youth in a constructive, non-traditional format. It allows institutions to gain fresh insights, uncover potential sources of conflict, and explore collaborative solutions. Importantly, the benefits of the simulation are mutual—both youth and local authorities can learn from each other, paving the way for more responsive, inclusive, and effective local governance.

Challenges and Solutions:

Potential Challenge: Role-play games require a considerable amount of time to ideate. Solution Insight: Despite being a novel tool, there is a tradition of role play and it can be very useful to start with desk research to learn from other experiences and get inspired. If a role play is created from scratch, it is worth envisaging its re-use in a similar context (e.g., in different neighborhoods or schools).

Example:

As part of the 10th European Cities and Town Conference that took place in Aalborg, ICLEI Europe created a role-play game to faciliate an interactive discussion on youth engagement. The role play exercise invited participants to imagine being around a table of discussion to decide new measures to make the local high school more sustainable after a recent report highlighted its low performance, especially on NBS, Energy consumption, and food waste. Participants picked random roles (municipal representatives, principal of the school,





head of technical team of the school, representatives of students and teachers), each one including a general indication of the position of this role toward the topics discussed, made of positive and negative elements. Divided into three thematic groups, participants discussed possible proposals to improve the school sustainability, prioritized them and identified concrete action points and attribute responsibilities to the top three ones.

Other examples can be seen, by Organizations like CRISP e.g.:

Climate Negotiations with Kalabia Simulation Game!

Online Simulation on Climate Change

Youth perspective: Insights from the in-person workshop with youth on Role Play Game

"Doubtful how beneficial it would be in impacting any change in the real-world scenario." "Exciting in the beginning, but that might wane over time."

Pros:

- Involvement of youth can bring out clear issues as they have firsthand experience of what is happening.
- Helps mirror the actions of the government.
- Youth can provide different perspectives based on their own experiences.
- Support critical thinking.
- Fun for younger audiences.
- Teach youth responsibility and accountability.

Recommendations:

- Foster intergenerational dialogue.
- Ensure youth voices are respected.
- Support youth in tackling complex topics.

Additional Resources:

- The city of Liens, in Austria used role-play proved to be effective to discuss Climate
 Risk Management with citizens
 https://www.sciencedirect.com/science/article/pii/S2212096322000250
- CRISP Berlin is an organization which focuses on role play and simulation for conflict resolutions. Many of their formats are thought to help peace building and enhance civic education. https://crisp-berlin.org/about

4.6. Youth Council

What if... youth councils were organized in every neighbourhood, allowing young people to cocreate solutions for local, sustainable systems?





Purpose:

Youth councils provide structured platforms for young people to actively engage in codesigning solutions with community stakeholders, amplifying their voices in Nature-based Solutions (NBS). Inviting youth representatives to organize debates on the social and ecological issues within their networks can foster wider youth involvement, gather valuable input, and increase visibility for their efforts. This approach empowers young leaders to connect with broader audiences, ensuring that youth perspectives are integral to shaping an equitable and sustainable transition. Youth councils allow young people to have the space to engage in local decisions and impact the direction of the changes in their local communities. They can help municipality officials know what the needs of the youth are and how to integrate them into the planning processes, for instance, when implementing NBS.

How to use the tool:

- **Tip 1:** It is important to set up a transparent procedure for selecting the members of the youth council, through open calls or nominations. The selection and the number of selected councillors depend on the needs of the municipality; it should not add a burden to either side but rather be for the mutual benefit. Once a youth council is formed, it would be essential to set up a vision and mission with a timeline for activities to provide clear expectations and desirable results from the engagement of youth in local municipal decision-making processes.
- **Tip 2:** Provide a safe space for the youth to voice their opinions and needs. A trained facilitator could be a good addition to ensure a collaborative environment with the possibilities for gathering ideas in a constructive manner.
- **Tip 3:** Additionally, the aspect of diversity should be kept in mind to give voice to the vulnerable groups of youth too, as well as a plan to sustain their interest in continuing their participation in the youth council could prove very valuable.

Expected Impacts and Benefits:

Youth Benefits

- Encouraging Civic Participation: Youth councils and similar engagement platforms allow young people to directly participate in community and policy discussions. This active involvement fosters a sense of civic responsibility and encourages youth to play a role in shaping their community's future, particularly around issues they care about.
- Deepening Understanding of Ecological Challenges: Through collaborative discussions on NBS, sustainable transitions, and the Just Transition Fund, youth participants gain a nuanced understanding of ecological and economic challenges. They learn about the impacts of climate change, sustainable development strategies, and the complexities of implementing just and equitable transitions, enabling them to make informed contributions and advocate for meaningful action.

Examples

• Youth Councils – Youth Councils





- Youth Climate Council (DK)
- Comhaire na nÓg (IE)
- Barents Regional Youth Council (SE, FI, RU, NO)

Youth perspective: Insights from the in-person workshop on Youth Councils

Pros:

- Makes young people feel more engaged in their governments
- Lead to a future participation of youth in politics
- Adults would make decisions that positively affect youth if there is a youth council
- Can help youth prepare for a career in diplomacy and activism
- Great for networking direct access to politicians and local decision makers

Recommendations:

- Encourage youth to reflect broader community values.
- Create mechanisms to ensure youth input is taken seriously.
- Broaden participation to include diverse youth voices.
- Promote independent thinking and critical engagement.
- Design inclusive processes beyond symbolic involvement.
- Provide clear pathways for youth input to influence outcomes.
- Challenge age-based biases with trust and responsibility.

4.7. Participatory Budget

What if...youth would have a dedicated budget to realize their own ideas on how to improve the community in which they live?

Purpose:

Every year, municipalities assess, discuss, and agree on how to allocate their budget to ensure the city's smooth functioning, provide basic services to the population, and move toward achieving its priorities. A participatory budget is a way to directly involve citizens in decisions about how to spend part of this budget, a task which is normally of competence of the local council. This can go further and become a powerful tool for youth engagement by dedicating funds specifically for youth initiatives.

The basic principles involve youth (age range to be defined) proposing projects to be implemented in their municipality. They should have a clear understanding of the budget available to them and the general municipal objectives their projects should support e.g., to enhance biodiversity, to regenerate a specific area of the city, or simply to make it greener. Effective communication is crucial to ensure the opportunity is inclusive, the project submission process is clear, and youth are properly equipped to develop their projects. To enhance this process, events and presentations should be organized, and municipalities might consider





partnering with schools, where students and teens can collaborate on project ideas, or with other community spaces such as libraries, sports clubs, or neighborhood centers.

Once proposals are collected—likely more than what can be funded—the next step is to determine which projects will be implemented. There are various ways to do this: the same youth group could vote, or they could work together to set priorities and select the most relevant projects. In the first case, time would be needed for presenting proposals and potentially campaigning in support of them. Then, it is time for implementation: it is very important to be clear about the timeline and the intended way to realize the selected proposals. Youth are often involved in the realizations and events are organized to celebrate the successful completion of the project.

How to use the tool:

- **Tip 1:** Define within the municipality the budget envelope that could be saved for this purpose, ideally funding more than one project, and link it with the city's objectives. These fundamental boundaries should be sufficiently broad to allow the open call to cater for different perspectives.
- Tip 2: Municipalities need allies to make this work in the best possible way and increase
 the participation of youth from different backgrounds. Schools can be a precious ally
 with their outreach and transversality, but other types of formal group that gather
 youth.
- Tip 3: As communication is so central, it is important to define the process in its details and make sure every step is defined with youth in mind. Creative solutions are welcomed to encourage and support participation, e.g., not limiting written text as the only format for the project submission, and welcoming other types of means of communication, which can be more youth friendly.

Expected Impacts and Benefits:

- Youth Benefits: The participatory budget fosters a sense of empowerment within the
 community overall, including the engaged youth. When youth see the tangible changes
 that result from their input, it reinforces their belief in their ability to influence local
 development.
- Municipality benefits: Municipalities stand to gain in terms of trust from the local community due to the open, inclusive, and highly transparent process created. This transparency not only reassures residents about the responsible use of public funds but also helps build a stronger bond between the local government and the citizens it serves. Additionally, the municipality's efforts to actively empower the community, particularly youth, are likely to generate increased support.

Challenges and Solutions:

 Potential Challenge: A common barrier, especially when starting with a youth participatory budget, may be to anticipate the needs of support from the targeted youth and be prepared with different means to respond to them. Also, a lack of knowledge on budgeting.





• Solution Insight: Looking at how youth participatory budgets have been implemented in other cities or institutions can be incredibly helpful. Often, other municipalities or organizations (including schools, where participatory budgets are sometimes also organized) provide valuable resources, showcasing various methods used, initiatives carried out, stakeholders involved, and communication techniques adopted. It is then very important to adapt these materials to the local context, and local stakeholders are best placed to do so. Therefore, it is advisable to hold a consultation with schools, youth organizations, and other relevant groups early in the process to ensure that the approach is tailored to the community's specific needs.

Additional Resources

- https://youthpb.eu: a website that gathers participatory budget experiences to give them more visibility but also creates some resources to guide the set-up of participatory budgets in schools and communities.
- https://urbact.eu/good-practices/participatory-youth-budget the example of Valongo, Portugal.
- https://hal.science/hal-03807166/document for a scientific perspective on it.

4.8. Board Games

What if... board games were played by youth not only in their free time but also as a means to engage with local municipalities and provide potential Nature-based Solutions for societal and environmental issues?

Purpose:

Game-based approaches can be both fun and educational, offering an engaging way to involve young people. Board games in particular provide a structured yet flexible environment where youth can experiment with different strategies, explore various options, and learn to manage limited resources—all within a defined set of rules. This structure helps support decision-making and reinforces key learning outcomes in a playful context.

However, one limitation is the gap between the game environment and real-life application. While games are easy to play and simulate scenarios effectively, it can be challenging for participants to translate what they've learned into real-world action, especially given the complexity of socio-environmental issues.

- **Tip 1:** Ensure there is sufficient furniture (tables and chairs) in a room with a conducive environment to engage in the game for the young participants.
- **Tip 2:** Prepare the ground rules for how to play the board game and explain them to the youth participants in a manner that they can grasp.





• **Tip 3:** Ensure the board game responds to local challenges faced and related NBS that can solve the issue, to support easy imagination of the scenario in question, such that the youth participants can think of easy but complete solutions to those issues.

Expected Impacts and Benefits:

- Youth benefits: Systems thinking and problem solving can be enhanced in the participants.
- Improved environmental literacy can be expected from the game play especially if the game is designed in a way that induces critical thinking and problem-solving skills while learning about the NBS as solutions to the multiple societal and environmental challenges.
- Teamwork and collaborative efforts can make the youth aware of the power, but also the challenges of collective decision making.

Challenges and Solutions:

Potential challenges:

- Complex design can cause difficulties for the young participants to grasp the concept
 of NBS well while trying to solve the presented challenge. The simpler the game is to
 understand and most appropriate for the age of the youth, the better the outcomes
 might be.
- Long term and real-life impact are limited as once the board game is over, even with deep reflection there might be a disconnect to the real-life challenges.

Solution insights:

• Relevance based on culture and context is important to keep in mind right from the inception of the game, or else the results might not be as desired.

Examples:

- <u>Serious game for nature-based solutions: Engreeneering</u> Royal HaskoningDHV created an NBS-based game on how to make better decisions for the benefit of citizens, budgets, and ecosystems in the fictional "Valley Town" named Engreeneering game.
- Gamification as a tool for sustainability azote





Youth perspective: Insights from the in-person workshop with youth on Board Games

The game should be not too vague but not too specific either. Minor changes to already existing games would be good to include the NBS perspective.

Pros:

- Good possibility for young people to learn about relevant topics such as NBS in a fun way with other people without sacrificing a lot of their time.
- High level of engagement and participation from the involved parties.
- Young people can get awareness about real problems and have ideas for creating solutions.
- Improves critical thinking regarding those issues.

Recommencations:

- Secure dedicated funding for materials and facilitation.
- Adapt formats to allow broader community access and scalability.

4.9. Scenario Planning

What if ... the worries about future crises and uncertainties caused by climate change were openly discussed—and the enablers, barriers, and drivers were mapped out—to help young people imagine different futures, especially the one they prefer?

Purpose:

Participatory scenario planning for crisis is a strategic approach used by governments, businesses, organizations, and communities to forecast future conditions, evaluate potential risks, and devise adaptive strategies. Rather than reacting to crises after they occur, this tool supports the development of multiple plausible scenarios shaped by critical uncertainties—such as climate change, socio-political shifts, or economic disruptions.

By engaging a broad and diverse group of stakeholders—including those most affected, such as young people and vulnerable communities—the process fosters social learning, builds collective intelligence, and strengthens collaborative decision-making. It not only enhances resilience through better preparedness but also supports long-term transformation by integrating different types of knowledge, values, and aspirations into shared, actionable futures.

This tool can be effectively combined with visioning exercises by first using scenario planning to explore plausible crises and uncertainties, then following with visioning to imagine transformative responses and desired futures beyond those challenges.





- Tip 1: Adapt to Context Tailor the process to your specific audience, region, or thematic focus (e.g., climate, food systems, water). Ensure participation from those most affected, especially youth and vulnerable groups, to ground scenarios in realworld experiences.
- Tip 2: Use the Scenario Planning Quadrant method (inspired by Shell's approach)⁷-
 - Draw two intersecting axes to form four quadrants.
 - Identify critical drivers of change (e.g., policy support, climate severity) and select two with high uncertainty and high impact.
 - Label one axis with one driver (increase/decrease), and the other with the second driver.
 - Co-create the four distinct future scenarios—one for each quadrant—by imagining possible developments, challenges, and opportunities.
 - Enrich each scenario with narratives, visuals, or keywords describing risks, benefits, and system shifts.
 - Give each scenario a name and discuss which ones are desirable, avoidable, or probable—and what actions are needed now to navigate toward preferred outcomes.

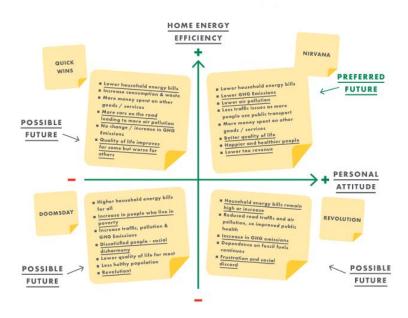


Figure 2 Shell Global Solutions International B.V. "Scenario Planning Quadrant", o. J.

• **Tip 3: Debriefing-** Facilitate a group reflection to compare scenarios with the current reality. Discuss what insights emerged, what risks or opportunities are most pressing,

⁷ Shell Global Solutions International B.V., 'Scenario Planning Quadrant'.





and what can be done now to shape a more resilient and just future. Encourage participants to identify early warning signs, leverage points, and concrete actions they can take individually or collectively. The results can inform educational programs, community strategies, or youth-led initiatives in Nature-Based Solutions and beyond.

Expected Impacts and Benefits:

Youth benefits:

- Enhanced Strategic Thinking: Youth organizations are empowered to anticipate future climate trends, risks, and opportunities. This approach strengthens long-term planning and supports informed decision-making for local climate initiatives.
- Improved Policy Advocacy: Young leaders gain the ability to develop well-informed, forward-thinking policy papers that align with evolving climate scenarios, thereby enhancing their influence in policy discussions.
- Increased Youth Engagement & Empowerment: Providing practical tools builds confidence among young activists, while encouraging intergenerational collaboration and knowledge sharing enhances community-driven climate action.
- Less Anxiety and Fear: young people would feel less worried about future impacts and events, and be more prepared and secure to confront challenges.

Challenges and Solutions:

- **Potential Challenge:** Youth and marginalized participants may feel intimidated or uncertain about contributing to abstract or complex scenario discussions, especially if the process is dominated by technical language or more vocal participants.
- **Solution Insight:** Use inclusive, youth-friendly facilitation techniques such as storytelling, drawing, or role-play to explore scenarios. Break into smaller, mixed-experience groups and provide guiding prompts or visual aids to spark ideas. Ensure facilitators actively encourage quieter voices and frame all contributions as valuable to co-creating diverse, grounded future pathways.

Examples:

CRISP e.V., a German organization specializing in civic education and conflict transformation, applied the scenario planning tool within the IKI ARCH project in Egypt and Sudan. In this instance, the tool was used to support youth-led organizations in anticipating and preparing for future climate-related challenges. Through exploring possible future scenarios, these organizations were able to develop informed strategies for policy advocacy and local climate action.





"The workshop provided me with a methodology that creates an overview of how-to bring climate action fundamentals to bear on scenarios (a realistic view of the interconnectedness of climate change drivers)"

Participant of the ARCH IKI project lead by CRISP e.V using the scenario planning tool in Egypt.

Related Resources:

- Implementing the tool in Egypt under the IKI ARCH Project
- Implementing the tool in Sudan under the IKI ARCH Project
- Scenario Planning Quadrant toolbox

4.10. Visioning Exercise

What if ... young people were empowered to dream up utopias—and, by combining bold imagination with grounded understanding of their context, shaped concrete pathways for transformative change?

Purpose:

While scenario planning explores what could plausibly happen, visioning focuses on what we want to happen—what's worth striving for. This tool invites learners to collaboratively imagine desirable futures where ecological regeneration, social equity, and well-being are central. It opens space to reimagine societies where the economy serves life, governance is participatory, and humans live in harmony with nature.

By crafting aspirational narratives of radically different, just, and sustainable worlds, visioning helps overcome the challenge of imagining beyond the status quo. It supports the development of transformative pathways for social change, sparking innovation and motivating action. Like participatory scenario planning, it empowers stakeholders by stimulating creativity, easing tensions, enhancing social learning, and integrating diverse knowledges and worldviews (Rana u. a. 2020).

- **Tip 1: Tailor the language and focus to your specific setting**—whether school-based, community-based, or thematic (e.g., food systems, water, energy, or urban nature).
- Tip 2: Begin by exploring current dominant narratives (e.g., climate anxiety, economic growth, technology dependence), then introduce alternative frames letting of the "business as usual" and supporting radical imagination towards a more positive future.





- Imagining the Year 2045: Invite participants to time-travel 20 years into a regenerative, thriving, and just future. Ask them to co-create a story world or landscape where humans live in partnership with nature, and where systemic change has occurred.
- Guiding prompt: "Imagine you are waking up in your community in the year 2045. The climate change has challenged the world vastly, and many ecosystems have changed. However, society was able to adapt and build a just climate resilience through bold, collective action. Nature is adapting too, and returning to our cities, towns, and ecosystems. Social and ecological well-being are central to how society is now, and an indicator of wealth and wellbeing. What does life look like?"
- Encourage creative outputs: storytelling, collage, drawing, map-making, zines, or mini theatre. Use structured prompts to unpack the features of the envisioned future and surface underlying values, systems, and dynamics.
 - o What do people look like?
 - o How do people consume things?
 - o What does 'nature' look like? How is it perceived?
 - o Who will have a voice in the future?
 - o How do people spend their time?
 - o What do we do with waste?
 - How does this vision compare to current 'desired 'economic growth and development projections?
 - o What is the key feedback in this future?
 - Are there important drivers in this future?
 - o What critical responses are needed to get to this future?
 - o What key innovations are important for this future?
- Tip 3: Facilitate reflection on how to move from current realities to the desired future. Support learners in identifying leverage points, windows of opportunity, and small but significant actions they can take today. Key questions for the debrief:
 - What did you feel or discover during this visioning?
 - o Which parts of the future felt possible or already emerging?
 - o What needs to change—at personal, community, and system levels—to get there?
 - Where are there seeds of this future in the present moment?
 - Use a back casting method to map the steps and shifts needed to realize the vision.
 Highlight that transformation is not linear, and the journey includes uncertainty, resistance, and creativity.

Expected Impact and Benefits:

- Futures literacy and systems thinking capacity
- Personal and collective empowerment through co-creation
- Enhanced agency, creativity, and hope-based resilience
- Deepened sense of place, ecological empathy, and intergenerational responsibility
- Opening space for integrating scientific, local, and indigenous knowledges

Challenges and Solutions:





- Potential Challenge: Youth from marginalized backgrounds may feel hesitant or unsafe to share their ideas openly, especially in mixed or formal settings where they have historically felt excluded or undervalued.
- **Solution Insight:** Use trust-building and trauma-informed facilitation techniques to create a safe, non-judgmental space. Begin with small-group or creative, non-verbal activities to ease participants into the process. Position lived experience as valuable knowledge, and explicitly name that all contributions—whether spoken, drawn, or felt—are welcome and respected.

Related Resources:

- World Game by IFF
- Real Utopian Workshops
- From Whas is to What if
- HubMobile Toolkit

4.11. Participatory Mapping

What if... urban, coastal, and rural planners used the collective knowledge of young people to prioritise their needs and create thriving green spaces?

Purpose:

Participatory mapping is a collaborative process that uses cartography to make visible the relationships between land, community, and identity—centring local knowledge, lived experiences, and cultural values. It challenges top-down planning by allowing communities, especially youth and marginalized groups, to spatially express what matters to them.

A key approach within this is Public Participation Geographic Information Systems (PPGIS), which enhances participatory mapping through digital tools like <u>Maptionnaire</u>, enabling participants to geo-tag insights, needs, and visions in real-time.⁸ While participatory mapping often uses physical maps and workshops—ideal for hands-on, intergenerational engagement—PPGIS extends this process digitally, offering scalability, interactivity, and integration with formal planning systems. Together, they democratize spatial decision-making, amplify underrepresented voices, and inform place-based Nature-Based Solutions with greater equity and precision.

Participatory Mapping (in-person)		Participatory Mapping (in-person)	PPGIS (online)	
	1	Engage the Community	Survey Design	
		Invite a diverse group of participants to an	Design a balanced digital survey that	
		accessible, welcoming location. Ensure	includes both spatial and non-spatial	

⁸ Kyttä, M et al., 'Maptionnaire. In Evaluating Participatory Mapping Software (Eds. Burnett, C. M.). Springer, Pp 71–91.'





	Participatory Mapping (in-person)	PPGIS (online)
	multiple perspectives—especially youth and vulnerable groups—are included.	questions. Keep it concise and user- friendly.
2	Gather Materials Use printed base maps, transparent overlays, or natural elements like sand, sticks, or stones. Project digital maps, if possible, and archive hand-drawn outputs.	Select Participants Choose a recruitment strategy— random sampling for representation or crowdsourcing for open participation. Consider digital access barriers.
3	Outline Key Features Have participants mark known landmarks (roads, rivers, sites) and sketch their daily geographies or spatial memories. Use pre- existing maps for reference if available	Data Collection Distribute the survey through emails, social media, or targeted platforms. Encourage participants to pin their input on interactive maps.
4	Add Local Insights Invite participants to highlight places of concern or importance (e.g., safe spaces, areas at risk). Use sticky notes, drawings, and discussion to capture meaning.	Data Analysis Use built-in analysis tools (e.g., Maptionnaire dashboards) or export for GIS-based spatial analysis to identify patterns, hotspots, or planning needs.
5	Guiding Questions - What problems does the community face? - Where are these problems located? - Where are the hotspots? - Who is responsible? (optional) - How are the issues connected? - Are there positive examples or solutions? How are these problems connected to each other? Are there good practice examples?	Data Storage & Use Store spatial data securely in GIS databases. Integrate findings with planning systems and share insights with relevant stakeholders.
6	Refine & Use the Map: Make adjustments until the group is satisfied with the final version. This map serves as a valuable tool for planning, decision-making, and future comparisons.	Data Sharing & Use: Publish findings for public or institutional use, ensuring privacy considerations while enabling informed urban and environmental planning.

What are the outcomes?

These tools generate rich, place-based data that reflect how communities—especially youth and marginalized groups—perceive, experience, and value their environment. The outcomes include:





- Spatial identification of local issues, risks, and assets (e.g., unsafe areas, biodiversity hotspots, underused green spaces)
- Community-driven insights into everyday life, priorities, and aspirations
- · Layered maps combining physical space with social, emotional, and cultural meaning

The results can be used to:

- Inform local Nature-Based Solutions (NBS) by grounding interventions in real needs and lived experiences
- Support inclusive decision-making and dialogue between communities and planners
- Track changes over time, especially when mapping is repeated in cycles
- Empower youth and marginalized groups by making their spatial knowledge visible and actionable in public policy or school-based projects

Combined with other tools like scenario planning or visioning, participatory mapping helps build shared understanding and collective ownership of place-based transformation.

Expected Impact and Benefits:

Youth benefits:

- Civic Participation & Spatial Agency: By contributing to maps that inform real decisions, youth gain a sense of ownership over their environment and experience meaningful participation in community and policy processes.
- Systems Thinking & Ecological Awareness: Mapping local challenges and assets helps youth understand the interconnections between social and ecological systems, deepening their place-based knowledge and capacity for regenerative thinking.

Challenges and Solutions

- **Potential Challenge**: Low participation from marginalized youth or community members due to digital knowledge or access barriers, lack of trust in planning processes, or past experiences of exclusion.
- Solution Insight: Build relationships through trusted local partners (e.g., youth groups, schools, cultural associations), and combine digital (PPGIS) with in-person methods to ensure access. Use creative, low-tech entry points—like community walks, art-based mapping, or storytelling sessions—to build comfort and ownership before introducing digital tools. Co-design the mapping process with participants to increase relevance and engagement.

Examples:

• <u>Travel behaviour in Turku</u>⁹ In 2020, PPGIS method was used to collect data on citizens' travel behaviour in Turku, and about 800 residents participated in the online survey.

⁹ Ramezani, Soinio, and Kyttä, 'Survey Results: Mobility in Turku Region and Future of the Harbour Area'.





After analysing the 474 full responds, four types of travel behaviours were classified. The result of this project can be used both in transportation and land use planning.

- Maptionnaire has been used both in academic research projects and in public participation processes (see: examples at https://participatorymapping.org/). Kahila-Tani et al (2019)¹⁰ studied a sample (n= 203) of Maptionnaire projects that were realized as part of real-life public participation projects
- Advancing Youth Engagement with Digital Tools: A Blueprint from Cardiff

Resources:

- Maptionnaire
- Esri: ArcGIS Survey123
- Mapping for Change
- Commonplace
- Map-me
- NordGreen handbook
- HubMobile Toolkit

4.12. Third Spaces

What if... third spaces became hubs for hands-on nature-based learning and restoration projects led by youth?

Purpose:

Third spaces—informal, non-institutional public environments such as parks, cultural centres, or community art spaces—offer fantastic opportunities for youth inclusion. These spaces exist outside of the home (first space) and school or work (second spaces) and are uniquely positioned to support youth-led engagement, creativity, and connection to place¹¹.

For municipalities, third spaces provide a flexible and low-barrier setting to involve young people—especially those from underrepresented groups—in the co-creation of Nature-based Solutions (NBS) and public life. When activated through participatory design, arts, and cultural programming, third spaces can foster belonging, voice, and agency. They serve not only as sites of recreation but also as platforms for youth to shape their environment, build social cohesion, and contribute meaningfully to regenerative urban futures.

 Third spaces offer flexible, informal environments where youth can engage with nature through creativity, storytelling, and hands-on experimentation beyond traditional education.

¹¹ Srivastava, 'Arts-Based Third Spaces for Youth'.



¹⁰ Kahila-Tani, Kytta, and Geertman, 'Does Mapping Improve Public Participation?'



- Arts-based third spaces build trust and belonging, particularly for marginalized youth, by centring personal expression and community connection in environmental learning.
- When co-designed with young people, third spaces can transform public areas into inclusive, safe, and engaging environments that support equitable participation in Nature-Based Solutions.

How to use the tool:

- Tip 1: Identify and Activate Underused Third Spaces Start by mapping informal
 public or semi-public spaces—such as parks, libraries, community centres, or open
 urban areas—that could host youth-centred NBS activities. Prioritize spaces that are
 accessible, safe, and familiar to young people, especially those from marginalized
 groups.
- Tip 2: Encourage Creative and Cultural Expression- Integrate arts, storytelling, music, or digital media as part of NBS education in these spaces. This allows young people to engage with ecological challenges in ways that are meaningful, expressive, and inclusive of diverse identities and perspectives.
- Tip 3: Co-Design with Youth, Not Just for Them- Involve young people from the beginning—through workshops, youth councils, or school partnerships—to co-design how the space is used and what learning or engagement looks like. This builds ownership, relevance, and long-term impact. To do this, you can use of existing tools featured in this toolkit, like Participatory Mapping, Visioning Exercises, and Scenario Planning, to co-create third spaces.
- **Tip 4: Connect Learning with Action-** Link third-space activities with real municipal plans and projects. For example, use youth-generated insights to inform green infrastructure upgrades, park redesigns, or biodiversity initiatives—making their contributions visible and actionable.
- Tip 5: Build Long-Term Partnerships- Collaborate with schools, youth organizations, artists, and local NGOs to sustain programming in third spaces. Long-term engagement increases trust, deepens learning, and strengthens the role of youth in shaping regenerative cities.

Expected Impact and Benefits:

- Youth Benefits: Third spaces empower youth by offering opportunities to lead, collaborate, and shape their environments—building critical leadership, co-creation, and civic participation skills. These spaces also foster environmental awareness through hands-on, place-based learning, helping young people understand local ecological challenges and their role in regenerative solutions.
- Community Impact: When activated intentionally, third spaces become hubs for community resilience—bringing together diverse groups, surfacing local knowledge, and strengthening collective ties to place. They create accessible entry points for learning and dialogue around Nature-Based Solutions, helping build public support and shared stewardship of local green infrastructure.





Challenges and Solutions:

- Potential Challenge: Youth from marginalized communities may not feel welcome or safe in existing public spaces due to previous exclusion, lack of representation, or poorly designed infrastructure that doesn't meet their needs.
- Solution Insight: Work in partnership with youth from the start to co-design third spaces that reflect their realities, identities, and aspirations. Cities like Umeå, Sweden, have successfully increased youth participation—especially among girls by involving them directly in the design of inclusive public spaces, resulting in higher usage, safety, and a stronger sense of ownership.

Examples

- Third Spaces Foster Creative and Critical Thinking Beyond Traditional Systems
 As highlighted in "The Third Space, Reimagined" by Andy Fidel, third spaces offer
 hybrid, flexible environments that go beyond institutional settings. These spaces allow
 youth—especially those who feel excluded from formal structures—to engage on their
 own terms, combining storytelling, digital tools, and physical space. In the context of
 NBS, third spaces invite young people to connect with nature through imagination, cocreation, and experimentation, helping them envision alternative, regenerative futures.
 Arts-Based Third Spaces Build Trust and Belonging for Marginalized Youth
 The University of Pennsylvania report¹² on arts-based third spaces shows that these
 environments are particularly effective in reaching youth who face social, economic, or
 cultural exclusion. By centring expression, emotion, and identity, third spaces help build
 confidence and connection to community. For NBS education, this means creating
 space where youth can explore ecological issues through arts, culture, and dialogue,
 strengthening both personal and collective agency.
- Inclusive Design of Third Spaces Translates to Real Public Impact The case of *Umeå*, *Sweden*, from <u>Make Space for Girls</u>, illustrates how thoughtfully designed third spaces—like parks and urban commons—can address gendered and age-based inequalities. Umeå engaged girls and young women in reimagining public space through inclusive design practices, increasing both usage and safety. For NBS, this reinforces the value of involving youth and vulnerable groups in the co-design of green and blue infrastructure, making environmental solutions truly accessible and inclusive.

"...young people have nowhere to go. They are not welcome in restaurants and bars and have limited financial opportunities to take part in the commercial offer in the form of films, concerts, theater or other events. For those who are not active athletes, there are few options in small or medium-sized cities."

- City of Umeå in northern Sweden

¹² Srivastava.





Resources

- Offline Oasis: Why Teens Need non-digital Third Spaces EDIT change management
 Editcm BLOG—
- "Third places and learning!" | EPALE
- Ray Oldenburg & Karen Christensen: third places, true citizen spaces | The UNESCO Courier
- Dynamics of third places in Europe
- Why you need a third place | Sophie Spier | TEDxSioux Falls Youth YouTube
- What are Third Places and Why Do They Matter? | Shanker Institute
- Arts-Based Third Spaces for Youth
- Publications | Pour la Solidarité
- <u>Placemaking: What if We Built Our Cities Around Places | Publications Project for Public Spaces</u>
- Third Place EPALE
- Third Spaces: (9) The Third Space, Reimagined | LinkedIn
- Ray Oldenburg
- 'Third spaces' are a key to fighting the loneliness crisis | Here & Now
- (9) Understanding the Vital Role of Third Spaces: Unveiling the Places that Foster Connection and Community | LinkedIn
- Ground-Up Storycrafting Lab Youth4Nature

5. Case studies showcasing Youth Inclusion

5.1. Almada

Background and Goals

Almada (Portugal), a predominantly urban municipality, has been implementing youth inclusion initiatives to address the community's disconnection from nature. By engaging youth in environmental education and awareness programs centred on nature-based solutions (NBS), the city aims to foster a deeper connection with natural processes and cultivate future leaders in conservation. Special attention has been directed toward young adults (18-25 years old) from universities and polytechnical schools, as well as younger participants (14-18 years old) involved in summer programs and eco-school initiatives.

Planning and Development

Youth inclusion in Almada is driven by participatory programs such as the municipal participatory budget and Agenda 21 student assemblies. Through these platforms, young people have directly contributed to initiatives, including the ecological restoration of riverine habitats using natural engineering solutions. Youth have played active roles in planning and decision-making, presenting proposals and collaborating with city officials and local organizations to bring ideas to fruition.





Implementation and Participation

The city maintains consistent youth participation through partnerships with NGOs, schools, and youth associations. Regular communication channels, including social media, email newsletters, and WhatsApp groups, ensure visibility and engagement. While the general volunteering program is not youth-specific, it has attracted significant participation from young people. Events tailored to organized youth groups have also been successful in maintaining engagement.

Challenges and Barriers

Key challenges include limited human resources to establish a dedicated youth volunteer program and barriers to independent youth participation. To address this, the city has emphasized group-based involvement through schools and associations. Despite these constraints, no resistance or scepticism toward youth inclusion has been encountered.

Impact and Outcomes

Youth involvement has had tangible impacts on city programs. For example, student-proposed projects for riverine habitat restoration were implemented as municipal policy, showcasing the value of youth-led ideas. Furthermore, youth participation in the ReDuna project brought fresh perspectives on event management, youth-oriented communication, and awareness signage. While no formal evaluations have been conducted, feedback mechanisms such as surveys and emails have guided the improvement of initiatives, leading to more engaging and diverse activities.

Sustainability and Future Plans

Almada plans to sustain youth inclusion through ongoing initiatives and the development of a general volunteer program. The city envisions youth playing an increasingly active role in environmental planning, fostering a generation of participatory citizens committed to collaboration and conservation. Partnerships with NGOs and departments focused on youth and sports will further enhance these efforts.

Key Lessons and Advice

Almada's experience highlights the importance of connecting with youth through trusted intermediaries, such as schools and NGOs. Hands-on, dynamic activities that integrate art and science have proven effective in capturing youth interest. Cities looking to replicate this model should prioritize engaging communication and foster opportunities for youth to solve openended, real-world problems.

Conclusion

Almada's youth inclusion initiatives demonstrate the potential of engaging young people in nature-based solutions to bridge the gap between urban communities and nature. Through participatory programs, innovative communication strategies, and a commitment to fostering leadership, the city is paving the way for a sustainable and inclusive future.





5.2. Türkiye

Background and Goals

The Ministry of Youth and Sports in Türkiye, in collaboration with UNICEF, launched a Social Inclusion and Youth Participation Project to foster social cohesion between Turkish youth and migrant/refugee youth under Temporary Protection Status. This initiative aims to address social adaptation challenges and promote equitable opportunities in education, culture, and personal development. Key objectives include overcoming language barriers, creating equal access to resources, and addressing social cohesion issues through preventive and remedial projects.

Target Demographics

The program focuses on disadvantaged youth, including adolescents and young adults under Temporary Protection Status, those not attending school, and others at risk of exclusion due to social or economic barriers.

Planning and Development

Youth engagement during planning relied on surveys and pilot studies to assess their needs and challenges, such as language learning and social integration. Although youth were not directly involved in decision-making, their feedback significantly shaped program design. Collaborations with schools, NGOs, international organizations, and local community groups provided a solid foundation for implementation.

Implementation and Participation

The Ministry facilitated youth participation through diverse programs like Turkish language courses, skill-building workshops, and cultural events. Youth Centers served as hubs for consistent engagement, complemented by innovative initiatives such as Genç Alan and Genç UPSHIFT. Social media, digital portals, and localized outreach emerged as effective communication methods.

Challenges and Barriers

The program faced logistical challenges, such as incentivizing participation and addressing access issues in remote areas. Youth encountered barriers like language difficulties and limited digital resources. These obstacles were partially addressed through financial incentives, mobile education units, and community trust-building efforts.

Impact and Outcomes

The initiatives have made a significant impact by facilitating integration and mutual understanding between refugee and local youth. Programs like Turkish language courses have successfully improved social adaptation, while Genç UPSHIFT fostered entrepreneurial and innovative thinking. Evaluations highlight the programs' positive outcomes, though unexpected successes, such as enhanced youth engagement in creative problem-solving, also emerged.





Sustainability and Future Plans

The Ministry plans to maintain its initiatives through continuous funding, expanded workshops, and enhanced digital tools like the Gençlik Bilgilendirme Sistemi (Youth Information System). Ongoing field surveys ensure programs are tailored to participants' evolving needs and measure their effectiveness.

Lessons and Advice

Türkiye's experience underscores the importance of early stakeholder engagement, leveraging digital platforms, and integrating feedback mechanisms. Hands-on, dynamic activities that combine education, art, and social interaction effectively engage youth. Other cities and ministries could draw inspiration from this model by emphasizing community collaboration and robust evaluation frameworks.

Conclusion

The Social Inclusion and Youth Participation Project exemplifies how targeted, well-designed programs can empower disadvantaged youth. By addressing barriers and fostering mutual understanding, the initiative has laid the groundwork for a more inclusive society while providing a roadmap for other cities and ministries to follow.

5.3. Genova

Background and Goals

In Genova (Italy), there is a social promotion association called Alle Ortiche, which carries out urban regeneration and civic innovation projects focussing on cultural and environmental dimensions. The association itself was founded by a group of young people below 30 years of age. Through the Urban Linneo project, the association engaged with various age groups including middle and high school as well as university students. They have also promoted youth volunteering and have activated civil services opportunities.

Planning and Development

The volunteer group welcomes anyone interested in participating in the creation of specific activities, workshops, or spaces. There is a wide range of opportunities for involvement, and they seek the engagement of the Alle Ortiche Assembly, which consists of volunteers rather than members of the Association, for every project. Additionally, they have the participation of civil service volunteers—currently, with two volunteers, and using a call they expect to have 2 more. The volunteer base expands significantly during the spring and summer when open-air activities are organised. For schools, it is a little bit different, since they primarily connect with them through teachers, while for university students and similar, usually they organize open calls.

Implementation and Participation

In terms of communication and tools, their Instagram page is performing very well with young people; however, young adults are difficult to reach. Cultural events also serve as valuable





engagement opportunities. The civil service network, being broader and involving other partners, effectively aids in dissemination.

In terms of engagement, in the Urban Linneo project the association experimented with a public call to involve young people (18-27) to plan and develop a cultural initiative through a mentoring process supported with a dedicated budget. Selected participants are quite different from volunteers: most of them have heard about the project through social media or by being a "passive" participant to an event. This helps identify what works and what doesn't and what adjustments are needed. The association does not engage them only to collect ideas but by providing a dedicated budget to use, they support in implementing some of the ideas.

Challenges and Barriers

The main challenges that young people face when it comes to develop their ideas are paternalistic and patriarchal dynamics. The association often encounter dynamics rooted in prejudice against young people. It's crucial to create a space for freedom, though the engaged youth may not always know how to manage it effectively. Coming back to the example of Urban Linneo's call, the groups of selected young people have received training on specific topics, and then they were also given quite a free space to develop ideas. Sometimes, they desire more guidance, more meetings, and closer follow-up. It has also been noticed that they often try to spend less than they have, in terms of budget management.

Impact and Outcomes

With Urban Linneo project Alle Ortiche is still in the experimentation phase as it is still going on so an evaluation cannot be provided right away. However, they notice some "unexpected" outcomes such as involving young people keeps the organization vibrant and ensures a continuous influx of new ideas. If this is true in an organisation like Alle Ortiche, which is still quite young with members in their 30s, it is worth imagining how crucial this would be in other contexts.

Sustainability and Future Plans

For Alle Ortiche, the main source to expand and maintain these initiatives is through the development of project (and participation to tenders to get funded). Recently, they have submitted applications for two projects to propose a new, expanded, and updated edition of the artistic residencies (for artists under 35) that was tried and tests in last years annual Festival. They also aim to structure more complex proposals with a broader scope, for instance, they plan to reintroduce the Summer school on the topic of urban regeneration, which was also an action of the Urban Linneo project directed towards university students and was very successful.

Key Lessons and Advice

Alle Ortiche proposed "Real Impact and Clear Parameters" as a basis for such activities of youth engagement. They believe that initiatives that are not just theoretical but also involve real interventions, even if small ones are more successful and beneficial. They suggest it is important to listen to young people not just "out of obligation" but with clear parameters: "it should be clear what we want to achieve, what we ask for, and what we offer."





A small stipend, scholarship etc. could make a difference to keep the youth involved in longer projects with sustained interest as well.

Conclusion

Alle Ortiche's commitment to actively engage with the youth, going beyond mere consultation and integrating a dedicated budget for real application of youth ideas, is commendable. They are keen on expanding their activities over time and supporting the youth in whichever way possible through projects, to give them the opportunity to voice their opinions and ideas while also experimenting with implementation work.

5.4. Parma

Background and Goals

In Parma (Italy), as in many municipalities, youth policy has traditionally been paired with other streams of work such as culture and sports, resulting in youth being a small component within the broader political agenda. When the current mayor—formerly councillor for culture and youth—was elected 2.5 years ago, he chose to establish a dedicated councillorship for youth to give the issue greater visibility, autonomy, and impact. Beatrice Aimi, a pragmatic and technically skilled figure, was appointed to the role, with the intention of moving beyond one-off events toward more meaningful initiatives. Now Parma's youth department addresses the 16–35 age range, with current activities primarily focussing on those up to age 26, and the aim of expanding the reach of the department to the full target group by the end of 2025.

The city's youth policy is structured around four main areas: welfare, youth leadership, employment, and creativity. As part of youth leadership, a flagship initiative has been Parma's candidacy for the title of European Youth Capital, a goal that has guided much of the recent programming, without disregarding the others. At the heart of Parma's candidacy is the ambition to reduce Italy's growing generational gap. Italy presents significant challenges for young people in achieving autonomy, with forecasts suggesting that by 2030, full independence may not be reached until the age of 50. Sustainability is directly referred in 2 of the 8 key priorities identified in the application. Parma's youth demonstrate a strong awareness of environmental issues, including circular economy principles, waste reduction, and sustainable consumption patterns but they also see it in a very holistic manner, strictly connected with social aspects.

Planning and Development

Young people played a central role in the development of Parma's application for the title of European Youth Capital, a two-year process that began in 2023 with an open call and outreach campaign to engage local youth. Youth people who raised their interest were invited to a participatory weekend event aimed at inspiring them to become changemakers, but also to lay the foundation for setting priorities and next steps.

A large open-space meeting was then held, bringing together 150 young people to identify key topics of interest to include in the application. From there, thematic working groups—referred to as "commissions"—were formed around the issues raised. Sustainability quickly emerged as a top priority, though young participants emphasized a broader, intersectional view that





included social equity and inclusion. An open call was launched to form a Climate Assembly, an advisory body composed of young people, experts, associations, and local representatives, to guide and promote sustainability initiatives in the city.

Engaged youth also drafted a manifesto, which outlines their vision, principles, and the role they aim to play now that the city has been nominated EU youth capital. A meeting is planned to invite other youth associations and individuals to sign the manifesto, which will serve as a foundational document for future action. Moreover, to ensure young people have a concrete role in governance, the city will establish a decision-making committee for the European Youth Capital initiative, composed of representatives from companies, institutions, and other stakeholders—none of whom will be over the age of 35. This reflects the city's broader commitment to youth leadership as well as the critical role of partnership in achieving this success and, further down, turning it into concrete actions.

Implementation and Participation

Parma's approach to youth engagement is interest-driven activities, with the belief that trust is best built when young people are free to choose their level of involvement. The youth group that emerged from this process named themselves Direzione Futura ("Direction Future") and have become key actors in keeping their peers engaged. This had to be built overtime as prove the increase in number since the first open call when the 32,000 emails sent by the municipality received 23 responses, underscoring also the need to rethink communication.

An example of initiatives developed to open up for engagement is *Parma Passepartouts*, a series of monthly informal meetings held in public parks where young people gather over drinks to speak directly with city councillors. These events are relaxed in format, encouraging open dialogue and youth themselves proposed some games to spark meaningful discussions with councillors around the topics that matter most to them. The result has been rich, thoughtful exchanges and a deeper understanding of the city's projects and priorities.

Challenges and Barriers

The City of Parma recognizes the need to broaden its outreach, particularly toward disadvantaged groups. In response to that, the plan moving forward involves mapping relevant associations and entities that represent these communities, engaging directly with their leaders to share the project's vision, and collaboratively refining the approach. The ultimate goal is to create peer-to-peer connections, where young people already involved in the project can reach out directly to others.

More than youth, the source of scepticism come from adults. Despite Parma's strong network of active stakeholders, not all were initially open to engaging with the project. Internally, some municipal colleagues were also hesitant, particularly when introduced to tools like the Youth Impact assessment framework, highlighting the broader challenge of cultural change within institutions. To address this, training sessions were organized to foster understanding and support. The shift toward involving youth more directly—moving from speaking about young people to speaking with them—has been essential.

Impact and Outcomes





Assessing impact is a central pillar of Parma's youth engagement strategy, seen as essential for shifting institutional mindsets, tracking progress, and generating meaningful data that can be used to set measurable goals and (re)allocate resources. Since 2023 the city introduced a generational impact assessment—an approach also referred to in the EU as a "youth check" or "youth test", appearing to be the first municipality in any OECD country to adopt this tool at the local level.

All internal administrative acts, when processed through the city's management system, must now include a dropdown classification indicating whether a resolution is generational, potentially generational, neutral, or anti-generational. The assessment process also required a review of the city's strategic planning document—the Documento Unico di Programmazione (DUP)—through a youth lens by the administration first and by young people afterward, who were invited to present to the city council their assessment.

Sustainability and Future Plans

Parma's vision on youth engagement is rooted in leaving a legacy. Every activity and event are designed to meet the real needs of young people but also to offer opportunities for learning, experimentation, and skills development. Besides the manifesto, the assembly and the strategy to increase the outreach to underrepresented groups, particularly vulnerable individuals and young workers, the city keeps creating opportunities for youth to experiment and take the driving seat. This is possible thanks to the dense network created with local stakeholder, which also translate in monetary support. The application for European capital of youth was supported by 218 letters of support and gathered 12.5 million, 56% coming from the private sector.

Key Lessons and Advice

- Be transparent with the young people you engage. It's important to acknowledge that
 municipalities cannot resolve every issue, but they can listen, collaborate, and build
 relationships based on mutual respect. At the same time, institutions must take
 responsibility for navigating the administrative and bureaucratic aspects that come with
 implementation.
- Start from the interests of young people and let those guide your work. Meaningful engagement grows when initiatives are rooted in what truly matters to them.
- Actively involve local groups, foster connections among them, and build a network.
 Despite living in a hyperconnected world, real synergies are often lacking—creating those links is where real value emerges.
- Don't hesitate to look at what other cities are doing and replicate good practices. Inspiration and innovation often begin by learning from others.
- Trust is built over time. In our case, more than 200 meetings and focus groups over the
 past few years have revealed just how much potential can be unlocked through
 sustained dialogue and shared commitment.





• The alignment of institutional leadership with the voices of young people has proven to be a turning point, helping to build a shared narrative and begin a deeper transformation in how youth engagement is understood and practiced.

Conclusion

Parma's journey as a candidate for European Youth Capital demonstrates how municipalities can foster youth engagement when they commit to listening, sharing power, and embedding participation into governance. By creating space for young people to lead, experiment, and contribute meaningfully, the city has strengthened trust, enriched its own policy processes and triggered a change in conceiving youth role in decision making which can go beyond the public administration realm. Key to this success has been a willingness to connect existing local energies, and to adopt innovative tools such as the generational impact assessment.

5.5. Friesland

Background and Goals

Friesland, a region in the Netherlands, recognizes that youth must play a central role in shaping long-term environmental and climate policy. With limited youth turnout in traditional participation platforms, the region aimed to better involve young people—aged 12 to 35—in climate visioning and spatial planning. Youth are seen as critical stakeholders, especially in decisions that will directly affect their future.

A key initiative supporting this goal was the development of a serious game—a participatory, role-playing exercise designed to immerse youth in the complex trade-offs of climate-resilient regional planning. The game focused on the IJsselmeer region and introduced the national planning principle of Water and Soil as Leading, helping participants explore realistic solutions in a playful yet strategic setting.

Planning and Development

Friesland engaged youth through school projects, guest lectures, youth networks, and targeted events. One major milestone was the inclusion of youth perspectives in the preface of the regional Climate Vision, giving symbolic and practical weight to their ideas. The serious game was co-developed by the Province of Fryslân and Waterschap Hunze en Aa's as part of broader outreach and awareness efforts tied to national climate directives.

The game was designed around real-world challenges—such as biodiversity loss, freshwater availability, and sustainable economic growth—encouraging players to think holistically. Schools and universities were essential partners in recruiting participants and embedding the game into learning environments.

Implementation and Participation

The serious game was played over three interactive rounds: (1) defining a strategy, (2) collecting possible measures, and (3) implementing those measures on a visual game board representing the IJsselmeer area. Participants were assigned stakeholder roles (e.g., municipality, water board, resident, farmer, business), each with different priorities. They had





to negotiate, make trade-offs, and seek "meekoppelkansen" (synergy opportunities) to score the highest combined benefit across five pillars: water safety, freshwater access, ecosystem health, economic vitality, and landscape quality.

This game-based method complemented ongoing youth activities such as school visits, the Stim fan Fryslân platform, and the youth-led Generation Friesland 2035 (GF2035) network. These efforts collectively created a landscape of informal yet impactful participation.

Challenges and Barriers

Friesland's youth engagement is not yet part of a fixed program, often relying on one-off activities that occur during school terms. Youth face barriers such as limited time, varying levels of interest, and lack of experience with complex governance. Political skepticism has also surfaced—some officials view youth proposals as overly idealistic or detached from short-term realities. These challenges highlight the need for clear communication and managed expectations.

Impact and Outcomes

Youth input has shaped both policy direction and public discourse in Friesland. Their vision helped set the tone of the Climate Vision, while the serious game fostered creative thinking and revealed the value of experiential learning. Youth networks like GF2035 and young farmers' collectives have developed their own agendas, supporting continued engagement beyond formal processes.

The serious game succeeded in translating abstract policy goals into tangible, interactive experiences that made youth feel both heard and empowered. It also helped participants better understand the roles and constraints of various stakeholders.

Sustainability and Future Plans

Ongoing engagement efforts continue through education-based outreach such as workshops and lectures. However, a long-term, institutionalized youth inclusion strategy is still under development. The serious game format, having proven effective, is seen as a replicable tool for future use across schools and public engagement campaigns.

Key Lessons and Advice

- Use serious gaming to make complex policy decisions tangible and engaging.
- Start early and diversify engagement across age groups and education levels.
- Work through trusted intermediaries like schools and youth organizations.
- Be transparent about the impact of youth input and manage expectations.
- Encourage self-organization, allowing youth networks to define their own agendas.

Conclusion

Friesland's innovative use of serious gaming illustrates how creative tools can activate youth in climate and environmental planning. Combined with flexible, education-driven outreach, the





region is cultivating a generation that not only understands but also shapes a sustainable, resilient future. Serious gaming offers a promising model for other regions aiming to turn youth participation into a meaningful and lasting force in policy development.

6. Recommendations for local authorities

Make NBS Learning Experiential and Accessible

- Organise field visits, guided tours, and exploratory walks.
- Facilitate hands-on restoration activities and citizen science projects.
- Use outdoor classrooms and living labs.
- Embed NBS in school curricula through core subjects and real-world case studies.
- Promote transdisciplinary projects and STEM integration.
- Provide training and resources for educators.

Empower and Support Youth-led NBS Initiatives

- Provide seed? funding, mentorship, and training for youth projects.
- Organise competitions and public exhibitions of youth-designed NBS.
- Partner with youth organisations and networks to co-create solutions.

Involve Youth in Governance and Decision-making

- Establish youth councils and mentorship programs (e.g., Espoo Future Mentors).
- Include youth voices in planning, visioning, and goal setting.
- Ensure youth roles in governance with open feedback mechanisms.
- Recognise youth as key stakeholders from the start.

Use Digital Tools to Inspire and Engage

- Launch interactive social media campaigns
- Produce engaging digital content (videos, infographics, podcasts)
- Develop gamified experiences and storytelling platforms
- Collaborate with influencers and content creators
- Establish youth awards and recognition programs

7. Conclusion

Local governments are on the frontline of responding to the climate and biodiversity crises—yet they are not alone in this effort. As this toolkit has demonstrated, young people are ready





and willing to be key partners in co-creating Nature-Based Solutions (NBS) that serve both people and the planet. What they often lack is not motivation, but meaningful access, recognition, and support. This is where municipalities can lead by example.

From the outset, this document has highlighted the importance of including youth—particularly vulnerable and underrepresented groups—in NBS education and decision-making. As outlined in the introduction, youth inclusion is not just a moral imperative; it is a strategic advantage. Young people bring lived experience, innovative thinking, digital fluency, and a deep commitment to environmental and social justice. Their engagement contributes directly to more relevant, responsive, and regenerative NBS.

The methodology chapter detailed the co-development process with youth, local governments, educators, and other experts. It reflects real-world experiences, validated tools, and shared learning across diverse contexts. This process underscored a critical insight: **inclusion must** be intentional, ongoing, and embedded in the structures of governance and education—not just an afterthought.

The tools and case studies presented in this document offer concrete ways to act—from hackathons and participatory budgets to youth councils, scenario planning, and digital engagement. These tools are not one-size-fits-all, but they are adaptable and designed to be shaped around local priorities, capacities, and cultural contexts.

Ultimately, meaningful youth inclusion in NBS is not about ticking a box. It is about building partnerships that strengthen local democracy, deepen ecological literacy, and foster long-term resilience. Municipalities that embrace youth as stakeholders, co-creators, and leaders stand to gain not only fresh perspectives and community trust, but also a generation of engaged citizens who feel more connected to their environment and more agency about their future.

This toolkit is a starting point. The work ahead requires continued collaboration, investment, and reflection. But by acting now, local governments can create the enabling conditions for youth to thrive—and in doing so, help shape greener, fairer, and more resilient communities for all.

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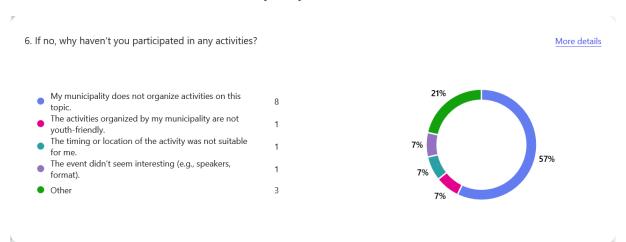


Annexes

Annex 1. Results of the online survey on youth inclusion



Annex 2. Results of the online survey on youth inclusion



Annex 3. Results of the online survey on youth inclusion







Annex 4. List of proposed activities to engage youth in nature-based solutions in the online survey

Education & Awareness in Schools

- Bring NBS into schools and organize outdoor learning activities
- Collaborate with schools to allocate time for student participation
- Encourage hands-on projects (e.g., school gardens like cabbage patches)

Hands-on Environmental Action

- Tree and sapling planting activities
- Forest cleaning and seed planting
- Recycling drives for clothing, school supplies, and packaging waste
- Organize local biodiversity walks or "aperitivos" (social meetups with a nature focus)

Youth Participation & Co-Management

- Involve youth in the planning and management of green spaces
- Facilitate direct youth involvement in maintenance of natural areas
- Create participatory political forums or "face-to-face" events with local leaders

Community Events & Campaigns

- Host nature-themed concerts and interactive events
- Organize sports matches or competitions tied to fundraising or awareness (e.g., tree planting contests with rewards)
- Run creative campaigns to promote renewable energy and eco-awareness

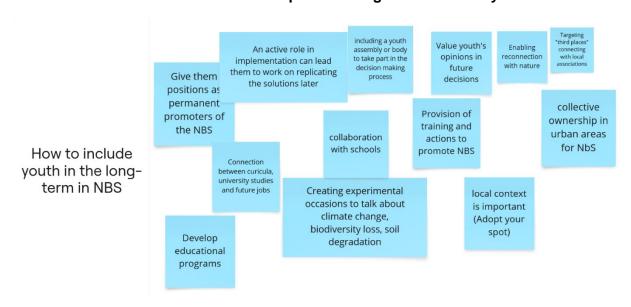
Immersive Experiences

 Organize nature camps to build empathy and awareness of ecosystems and respectful behavior toward nature

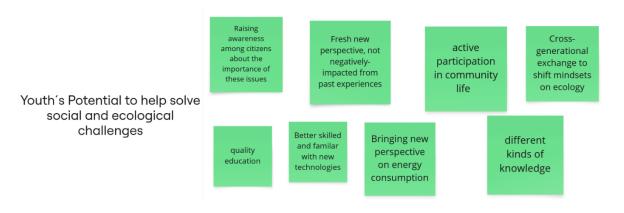




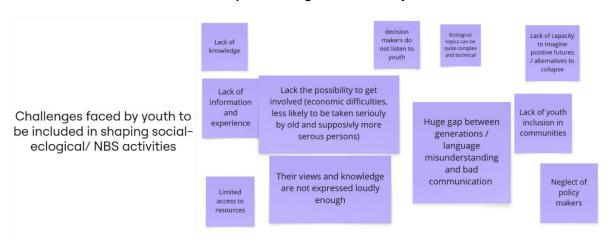
Annex 5. Results of the online workshop with local governments on youth inclusion



Annex 6. Results of the online workshop with local governments on youth inclusion

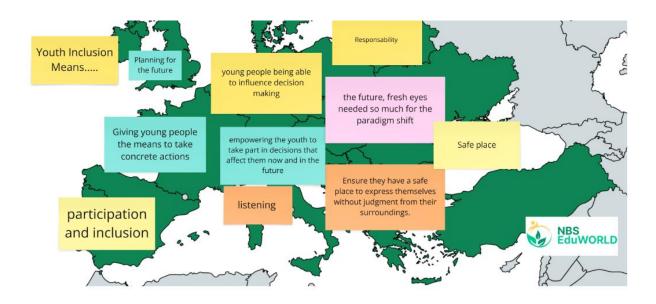


Annex 7. Results of the online workshop with local governments on youth inclusion





Annex 8. Results of the online workshop with local governments on youth inclusion



Annex 9. Insights from the Third NBS EduCommunity Workshop on the BioBlitz tool





Annex 10. Relevant resources

Youth Inclusion Toolkits*

- Youth Participation Toolkit
- Inclusion Youth Voice Toolkit Youth Sport Trust
- Meaningful Youth Participation Toolkit Youth At Heart
- Toolkit Inclusive Youth Participation Stichting Alexander
- Toolbox: how to make the EU Youth Dialogue more inclusive Youth Goals
- Youth Council Toolkit FCM

Inclusion Toolkits*

- LGBTQ Inclusion in Youth Program Environments
- INCLUSION TOOLBOX EYF
- YOUTH COLLABORATION TOOLKIT TrueColorsUnited

Youth Manifesto*

- Youth Declaration on transforming Education.
- Youth declaration on "The European Year of the Youth- beyond 2022"
- Youth Declaration UNECE
- Manifesto for Young People by Young People! European Commission 2020
- EUROPARC Youth Manifesto 2018
- Renew Europe Youth Manifesto 2023
- Youth Manifesto for Nature and the Environment Wildlife Ulster 2022



^{*} Not specific to NBS.



Project partners

































