

Co-Bio Evaluation Report

With contributions from all Co-Bio partners
compiled and written by Center for Citizen Dialogue



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Introduction: The Co-Bio project

The Co-Bio project (Co-creating Biodiversity in Urban Areas) aims to support the EU Biodiversity Strategy 2030 with a concrete focus on urban biodiversity. The project comprises partners from Denmark, Austria, Portugal, Greece, Hungary and Italy and has been coordinated by the municipality of Vejle, Denmark. During the project period of 1st October 2023 - 31st March 2026, the Co-Bio project has experimented with co-creation methodologies to promote urban biodiversity in six European cities.

The Co-Bio project aimed to foster citizens' active participation and influence in their local community and society. It did so by supporting actors from the public sector and civil society in gaining competences, specific methods and tools for co-creation and cross-sector cooperation towards enhancing biodiversity.

The project has been organised in such a way as to support collaboration and co-creation by involving the project partners directly as facilitators of the case projects, where they have been trained as facilitators in local co-creation processes. The project aims to bridge a competence, knowledge and practical tools gap between the local implementation and the larger European strategic and legislative level, i.e. the EU Biodiversity Strategy 2030.

The Co-Bio project has been driven by a double ambition: 1. To pilot and develop a methodology of co-creating biodiversity, resulting in two publications summarising learning and methods (link to Guide on Co-creating Urban Biodiversity and Seven Keys – a Methodology). 2. To develop and implement a local biodiversity initiative in each of the six cities working with a co-creative approach, in terms of co-planning, co-designing or co-implementing biodiversity initiatives in collaboration with citizens and other stakeholders.

The evaluation addresses both these ambitions in the following way: The first section presents the six local Co-Bio cases in short. The following two sections unfold an evaluation of the entire Co-Bio project from two different perspectives: Firstly, exploring the impact and results created by the Co-Bio biodiversity initiatives from a public value perspective. And secondly, exploring Co-Bio as an experiment with co-creation: What may Co-Bio teach us about co-creation processes? The last section summarises recommendations to practitioners as well as policy makers.

1. Co-creating biodiversity: The six local cases in short

The Co-Bio project comprises six cases of co-creating biodiversity developed and implemented by the local partners in each of the six cities. Below you will find a short description of the local cases, focussing mainly on the stakeholders and activities, as the outcome and impact of the cases is presented in the section dedicated to evaluating the cases. More elaborate descriptions of the cases may be found on the project website, www.co-bio.vejle.dk.

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Denmark: Developing 'biodiversity boxes' for the local community, Skibet

Partner: The Municipality of Vejle

Participants and collaboration: The Municipality of Vejle invited citizens in Skibet, a community close to the city of Vejle, to develop local climate- and biodiversity activities. A biodiversity working group of 13 residents was established, including private landowners, a homeowners' association, the church, and local volunteers.

Aim: Engaging residents and associations in co-creating concrete biodiversity actions.

Activities: The group discussed the idea of a large biodiversity master plan but decided instead to create a more practical and accessible solution. This shift strengthened community engagement. Facilitated by the municipality, a smaller group of citizens developed biodiversity boxes tailored to different types of landowners (farmers, villa gardens, common areas, etc.). The boxes include plants, seeds, nest boxes or hedgehog houses, and information material, making it easy to start biodiversity actions directly. Inspiration came from 'meal kits' where everything needed is provided.

Italy: Planting a biodiversity garden in Palermo

Partner: CESIE, an NGO working with cultural, social, economic and educational development and formal and non-formal education and training.

Participants and collaboration: CESIE made an alliance with Euromadonie, a professional learning institute and employment agency in the Rocella area of Palermo. The biodiversity garden was established in the grounds of the local church. CESIE collaborated with Euromadonie and the local church as well as local botanists and environmental experts in developing a garden to conserve and showcase endemic and rare plant species native to Sicily. Local schools, residents, and volunteers were invited to co-create the space through planting days, workshops, and storytelling sessions

Aim: To create a multifunctional space that fosters education, research, and recreation and integrate biodiversity into the daily lives of the local community through interactive learning.

Activities: Outdoor classrooms were established, hosting seminars, guided tours, and hands-on activities for schools and universities. Interactive workshops on composting, seed saving, and sustainable cultivation practices aimed at bridging scientific knowledge with traditional wisdom.

Greece: Learning activities and a green space in Plataies

Partner: ALLI, an NGO working to enhance innovation processes mainly in the areas of lifelong learning, human capital development, labour markets and social inclusion.

Participants and collaboration: In collaboration with the municipality and a local primary school, ALLI facilitated the initiative 'Action for Urban Biodiversity' in the city of Plataies. Children, parents and teachers participated. Currently, ALLI is negotiating with several other municipalities, that want to adopt the concept for cocreating biodiversity in schools.

Aim: Supporting a community forging a stronger bond with nature and with each other, cultivating a shared sense of responsibility for their urban environment.

Activities: Interactive learning activities with students from the school on the importance of biodiversity, their relation to nature and a riddle about local species and endemic plants. Hands-on planting activities for students collaborating with teachers and parents, finalised with all the participants contributing a personal pledge to look after the green space.

Hungary: Enhancing biodiversity in Wekertelep through community activities

Partner: GreenFormation, a private enterprise working to trigger green and social transition through research, advice and collaborative projects.

Participation and collaboration: GreenFormation organised a range of community activities on biodiversity and reached out to local partners in Wekertelep, an area in Budapest launching the initiative “Wekerle – Naturally!” Collaboration was developed with Transition Wekerle civil organisation, Kiserdővédő Egyesület (Smallforest Protection Association), the local Community Center, a primary school, a permaculture expert, and two private garden owners. Local citizens and children were involved in tours and events as well as planting sessions and a drawing competition.

Aim: To encourage residents to take at least one nature-friendly, practical step—whether in private gardens, on balconies, or in communal green spaces—and to foster small-scale greening throughout the neighbourhood

Activities: Presentations and walks focussing on biodiversity (bees, bats, bird-friendly garden). Planting activities in two private gardens, a school and a community centre. A drawing competition for children.

Portugal: Planting tiny forests in deprived social housing areas in Vila Nova de Gaia

Partner: RightChallenge, an NGO that aims to promote vocational education and training as a means of social inclusion and equal opportunities.

Collaboration and participation: Right Challenge partnered with the Gaiurb, the Municipal Entity responsible for Land Management and Social Housing in Gaia near the city of Porto. The aim was to develop the ‘GAIA Tiny Forests’ project on areas owned by Gaiurb in three deprived social housing areas. The initiative took place in collaboration with a range of professionals from Gaiurb: Landscape architects, environmental experts and social action technicians, involving the local inhabitants in learning activities as well as planting sessions.

Aim: Strengthening residents' sense of belonging to the chosen sites, demonstrating to people the importance of their spaces and support collective care for the green sites.

Activities: Presentations and workshops as well as awareness-raising activities for the local inhabitants. Field activities: Soil preparation and the planting of native trees, shrubs and herbaceous species.

Austria: Enhancing biodiversity on a university campus in Vienna

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Partners: Gartenpolylog, an NGO promoting community gardens in collaboration with Öko Campus Wien, an NGO working to protect and enhance biodiversity on the grounds of the University of Vienna in Austria since 2021

Collaboration and participation: The initiative ‘Biodiversity UBB’ focused on engaging students and local inhabitants living nearby in an urban nature restoration on the new campus of the university’s biology building (UBB). The initiative was developed and implemented by members of the Öko Campus Wien association together with interested students and locals. It was communicated through the union of the biology students.

Aim: To develop measures to foster community and enhancing biodiversity and structural diversity at campus sites and surroundings, and to give students a stake in the design of their campus and experience with biodiversity measures.

Activities: Meetings and workshops, including an international symposium and network meeting. Community activities and social gatherings. Hands-on sessions in terms of restoring, taking out monoculture shrubs, removing invasive species, planting and seeding and building habitats for wild bees and other insects.

2. The value and impact of the Co-Bio initiatives

This section unfolds an evaluation of the impact and results of the six Co-Bio initiatives applying a public value approach. Firstly, the idea and concept of public value is explained. Secondly, a range of different public value dimensions created by the project are unfolded. The last section offers some concluding remarks on the value and impact of the local Co-Bio initiatives.

This section evaluates the Co-Bio project by using a ‘public value’ framework. The chosen evaluation approach is based on research showing that the value of co-creation initiatives is often to be found in a range of intangible, long-term outcomes, that are perceived differently by different actors. To accommodate these characteristics of co-creation initiatives, we have decided to apply an explorative and qualitative approach based on qualitative interviews with the relevant stakeholders.

Using a ‘public value’ framework to evaluate Co-Bio

By using the ‘public value’ framework, the evaluation draws on a concept of value, that is multi-dimensional, holistic and dependent on the actors’ perspectives. Thus, the evaluation explores possible impacts of the Co-Bio project on the participants’ everyday practice as well as broader impacts in terms of biodiversity, democracy and relationship building.

Public value

- The concept of ‘public value’ was initially launched by an American researcher, Mark Moore. Public values are values that are of importance for and contributes value to the public sphere.
- Moore developed the idea of ‘public value’ in opposition to a purely economic cost-benefit oriented understanding of value creation.
- The concept springs from the idea that the public sector should balance the interests of a diversity of affected stakeholders, generating multiple types of value that are not purely economic.
- References: (Agger & Andersen, 2018; Agger & Tortzen, 2018; Andersen, Greve, Klausen, & Torfing, 2020; Benington, 2011).

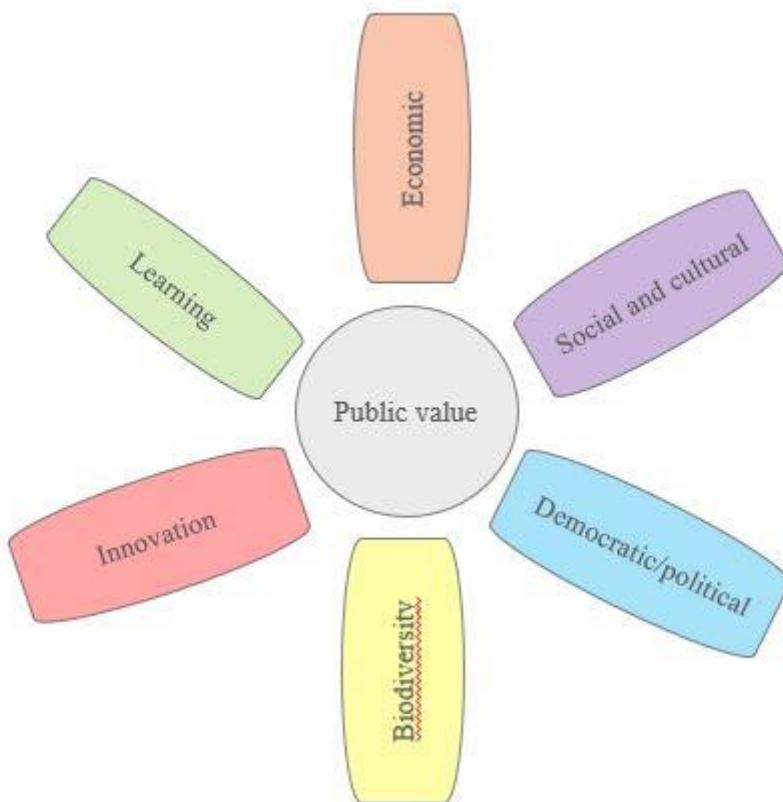
The following evaluation of the impacts created by the Co-Bio project will focus on a range of values that are relevant when evaluating co-creation initiatives:

- **Biodiversity and environmental value:** Value in terms of enhancing biodiversity and environmental quality
- **Innovation and learning value:** Value in terms of experimenting with and learning new and innovative methods, collaborations, solutions
- **Social and cultural value:** Value in terms of building networks, social relations, social capital or cultural identity
- **Democratic value:** Value in terms of stimulating and supporting democratic dialogue, participation and civil engagement

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- **Economic value:** Value in terms of spurring entrepreneurship, employment or voluntary labour

Public value



The evaluation: Methodology and data

Methodology: Qualitative interviews (semi-structured) with a strategic selection of respondents

Data: Interviews with representatives from all six partner organisations (eight respondents in total) conducted by CFCD on Zoom and transcribed using an AI-based solution.

Interviews with a total of 24 stakeholders were conducted through focus group interviews or personal interviews by the partners. The main conclusions from interviews were summarized by partners.

Find the overview of respondents in the appendix.

So, what may we expect in terms of impact from an initiative like Co-Bio applying a co-creation approach to support urban biodiversity over a period of a little more than two years? The local Co-Bio initiatives should be expected to produce visible value and tangible environmental

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effects in terms of green areas and biodiversity measures – and probably also economic value. Furthermore, co-creation initiatives should be expected to produce ‘invisible’ value such as relationship and community building, innovation and learning, that may enable and strengthen biodiversity in the long run.

This section examines the six Co-Bio initiatives from a public value perspective, exploring intangible as well as tangible value creation and impacts reported by the partners and the stakeholders of the projects.

The value of Co-Bio in terms of biodiversity and environmental quality

The objective of the Co-Bio projects has been to enhance biodiversity in urban surroundings. Five of the six local projects have worked to make physical changes to a specific area, supporting biodiversity in terms of plants as well as insects and bats – thus taking a first, small step towards improving urban biodiversity and environmental quality.

Access to land resources has turned out to be an important factor in working with biodiversity measures. In Portugal, Italy and Austria, the Co-Bio initiatives have managed to secure access to a piece of land through partnering with landowning organisations: a housing association, a vocational school and a university respectively.

The Portuguese project has established tiny forests in three deprived social housing areas with the objective of elevating the environmental quality of the outdoor areas. With time, the tiny forests will help fight ‘heat islands’ in the urban environment, providing a space for inhabitants to stay in the shade and enjoy the green areas. The potential future environmental impact of the Portuguese project is even bigger, as Gaiurb is responsible for social housing in the entire municipality and aims to scale the concept of tiny forests to more social housing areas.

The Austrian project has strengthened an existing voluntary effort to enhance biodiversity at the university campus in Vienna and extended it to yet another area of the university campus. The project has benefitted from the expertise and experience with working on the campus area already in place, thus boosting an ongoing biodiversity activity. Furthermore, the biodiversity effort of Öko Campus Wien seems to have influenced the university’s stance on biodiversity:

“It seems that we are changing the agenda and the mindset. Now the university understands that a biodiversity friendly design of the spaces is important. They cannot just skip that and do nothing, because there are people out there reminding them that they need to do something for biodiversity. This makes it quite sustainable in the long run” (partner, Austria)

In the Italian project, the biodiversity garden in Palermo has been designed to create value in terms of biodiversity. This is done through conserving and showcasing endemic and rare plant species native to Sicily as well as strengthening pollinator habitats and ecological balance in the area. At the same time, the garden is an elevation of the environment quality in the area, providing beauty in an otherwise abandoned and deprived area of Palermo:

“Bringing biodiversity and gardens to our very, very grey cities, it's a pleasure. It starts from the senses, from looking at something beautiful, which makes you feel better. A very nice garden where you have flowers, you have plants, you have a path that has been created. I think everybody can agree that this is beauty” (partner, Italy)

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Also, tangible value in terms of biodiversity has been created in the Hungarian and Greek projects. Through a range of different initiatives and collaborations, these two projects have gained access to school yards, private gardens and a community centre garden, managing to establish raised beds and to plant native and pollinator-friendly plants.

The Danish project has not yet created value in terms of biodiversity, but has chosen a more indirect strategy, inspiring and educating land and garden owners in the community to work with biodiversity on their own grounds – a strategy that may enhance biodiversity in the long run.

The value of Co-Bio in terms of innovation and learning

Impact in terms of innovation and learning is particularly linked to partners and stakeholders learning new, more co-creative ways of working to be applied in other fields. Also, value has been created through exploring and developing innovative methods on communicating and collaborating about biodiversity. And finally, through raising awareness and growing knowledge on green issues.

Learning how to work with biodiversity in new, more co-creative ways, has been an important objective of Co-Bio. Several partners point to the Co-Bio initiative having produced value in terms of methodological learning: Through working with the local cases and through mutual learning in the process, they have learned a new methodology, i.e. co-creation, which they see suitable for applying also in other types of projects.

“it brings some deeper expertise and gives us more tools in our toolbox, gaining more knowledge on innovative learning methods. We could establish new teaching methodologies especially for co-creation, which could also be adapted and taken into account for example other civic matters or other educational fields” (partner, Greece).

The Portuguese partner has obtained personal learning through working co-creatively, which she will use in future projects:

“the co-creating part was something that I had never really heard of, and I think as an organisation it can really open our eyes to consider new ways of working. ...so, in the future... it will be important to consider the co-creation part. That was something that, at least for me personally, was not in my vocabulary” (partner, Portugal).

Furthermore, in the Portuguese project, learning and innovation have been transferred to the alliance partner, Gaiurb, intending to introduce co-created tiny forests in more deprived housing areas. Thus, implementing innovation both in terms of the concept of tiny forests and in terms of a new, co-creative way of collaborating with the inhabitants on preserving and developing outdoor areas:

“the Co-Bio project has introduced an innovative concept of Tiny Forests integrated directly into social housing dwellings, something practically non-existent in Portugal. ... It has highlighted the growing challenge of maintaining common spaces in social housing dwellings and inspired us to make this obstacle a central focus of the work carried out by social action technicians to preserve community commitment and ensure the long-term sustainability of the project” (stakeholder focus group, Portugal).

The Danish project in the community of Skibet has focused specifically on extracting methodological learning on co-creation from the Co-Bio initiative, and point to this type of value:

“by participating in the Co-Bio initiative, I have gotten the opportunity of thinking together with others and to sharpen my understanding of co-creation as a methodology: Where may it be used and where not – what limitations does it have – and what are the prerequisites for working co-creatively?” (partner, Denmark).

The learning on co-creation, which the Danish partners have obtained through Co-Bio, will in the future be applied in other planned community initiatives on climate and biodiversity in the Municipality of Vejle.

Learning to engage citizens in biodiversity issues

Other partners underline, that the Co-Bio initiative has provided them with valuable knowledge about biodiversity as a field. And not least about how to communicate and engage citizens and stakeholders in biodiversity issues. The Hungarian partner underlines, that through the local project she has learned a lot about what works well and not so well, when engaging citizens in biodiversity initiatives – realising that hands-on and practical events create more attention than presentations by experts.

“I think that working with communities is really important. It was inspiring with this hands-on experience. We actually did something and maybe it doesn't have a major impact on biodiversity, but as a snowball effect, it may do more in the future by creating more awareness, more interest” (partner, Hungary).

Several partners also learned how difficult it can be to communicate about biodiversity particularly to citizens from deprived neighbourhoods, who do not have a high level of education. So, through the Co-Bio project the partners realised the importance of not using a professional language, rather translating biodiversity issues into citizens everyday life – and be ready to learn from the citizens' practical experiences. In the Portuguese project mutual learning was going on between the professionals and the citizens discussing biodiversity:

“it was very interesting to see this mutual learning for example having the landscape architects sharing why we chose certain species for theoretical reasons. And then have the neighbourhood residents corroborating with their choices because they had the practical experience or were like: ‘oh yes, the sun shines here through from this hour to this. So yeah, it makes sense that we are choosing this species” (partner, Portugal).

Also, in the Austrian project, knowledge exchange was mentioned as an important value, and the diversity of the participants was underlined:

“The more diverse the participants, the more the project benefits” (stakeholder, Austria).

Raising awareness and transferring learning

An important ambition in all the Co-Bio initiatives has been to raise awareness and transfer learning on biodiversity to stakeholders and citizens. The local projects are reported to have been successful in this respect, over all promoting learning, green skills and awareness of biodiversity, both among children and adult citizens.

The Hungarian Co-Bio initiative has managed to introduce new ideas, knowledge and inspiration on how to enhance biodiversity in private gardens to some of the local citizens – resulting in more focus on biodiversity on their everyday life – as well as ideas for new biodiversity initiatives in the community (stakeholder interview, Hungary).

The Danish project has succeeded in bringing together citizens with different perspectives and experiences on biodiversity. Participants found it inspiring to meet others who care about biodiversity, and they gained new ideas for their own everyday practice, whilst also learning how much is already being done locally (stakeholder interview, Denmark).

In Hungary as well as in Greece, the Co-Bio projects included primary schools and involved children and succeeding in raising awareness and knowledge on species, nature and biodiversity among children. In the Hungarian project, a drawing competition among children was successful in attracting attention:

“the drawing competition utilised art to raise awareness among children, their teachers and parents about the importance of protecting the environment, fostering greater sensitivity to the issue. it also allowed us to reach people who were not primarily focused on environmental protection” (stakeholder, Hungary).

The social and cultural value of Co-Bio in terms of networks and social relations
An initiative, such as Co-Bio, which is based on collaboration between different stakeholders, must be expected to produce value in terms of new networks and social relations. This surely is the case, underlining that an important public value created by Co-Bio is social and cultural.

Supporting collaboration and community-building

The Co-Bio partners have taken a role of facilitators, bringing together relevant stakeholders to collaborate. This has created social value in terms of new networks, relations and collaborations among actors. One example is the Hungarian project, which has managed to bring together a range of local actors with an interest in biodiversity, inspiring them to collaborate on future initiatives.

“New connections have been established. For example, one of the partner organisations reached out to another organisation and are now discussing to do an implementation in the surrounding part of the local market. It is also just a bare space, but it has potential. They started to discuss how they could collaborate on this implementation” (partner, Hungary).

Another example is the community building impact created by the Co-Bio project, both in Denmark, Portugal and Austria. In all these projects efforts were made deliberately to strengthen community bonds.

“We worked to strengthen the community. We had regular meetings on the site. Sometimes it was only about sitting together, looking at how the plants were doing, so not a lot of things happened. This is, I think, an important part of the project, because sometimes we didn't even really need to have a program. I figured out that people are quite happy just being there, talking to each other, watering the plants” (partner, Austria).

In the Portuguese project, the local inhabitants have managed to strengthen their bonds and sense of community working together on the biodiversity initiative:

“it is really important to strengthen the community ties, as everyone is working together and engaged in doing something. Because it often happens, that we might be living 10 years in a building not talking to each other just work home work. But if it's something that people want to, OK, I can go check out what is happening out there.” (partner, Portugal).

Furthermore, all the six local Co-Bio projects are noted to have had a positive impact in terms of building new or strengthen existing relations among stakeholders.

Linking stakeholders

One positive impact in terms of network has to do with the Co-Bio partner organisations reaching out for allies and collaboration partners and thus building new relations. An example of this is the Austrian partner reaching out to the student union at the Biological Institute of the university for support and collaboration. Another example is the Hungarian project reaching out to a local community centre and a local school as well as local voluntary associations to collaborate on biodiversity initiatives in Wekerletelep. And a third example is the Greek project reaching out to local schools as well as a church for collaboration on the biodiversity initiative. The Greek partner reflects:

“I believe that through this we could build stronger communities. And they could also act as a living lab where people from different sectors and socioeconomic backgrounds can work and learn together, capitalising on a social level by creating new relationships and fostering a shared set of levels for a better present and a better future, especially in terms of having more secure environments and sustaining and nourishing urban biodiversity” (partner, Greece).

Furthermore, some of the partners succeeded in strengthening existing networks with the relevant stakeholders, when collaborating on the Co-Bio initiative. For example, the Italian project reached out to well-known partners in terms of a vocational school and a volunteer landscape architect, who had contributed previously to other collaborative projects. In the Portuguese project, the partner organisation reached out to an already existing alliance, Gaiurb. In the Danish project, the Municipality of Vejle integrated the Co-Bio initiative into an already existing relationship and collaboration to the community of Skibet. Lastly, the Austrian project used the Co-Bio initiative to strengthen an existing international network between volunteers from a range of different countries working to enhance biodiversity at university campuses.

The value of Co-Bio in terms of democracy

The basic idea of the Co-Bio project is to work co-creatively with biodiversity initiatives, inviting relevant stakeholders to participate and influence the projects. So, the aim of the local Co-Bio projects has been to create democratic value by stimulating and supporting democratic dialogue, participation and civil engagement.

Overall, the Co-Bio projects are reported to succeed in producing democratic value by empowering relevant stakeholders, offering them a role as active co-creators of biodiversity measures.

Stakeholders have been taking a role of co-creators on different levels in the six local projects. In the Austrian, Danish and Hungarian projects, students and citizens have been invited to co-design the biodiversity initiatives. Whereas in Portugal, Greece and Italy, citizens have mainly taken the role of co-implementors, participating in the implementation of biodiversity initiatives.

The Austrian project of enhancing biodiversity in the University campus grounds has offered a platform for bottom-up student-led initiatives, engaging and empowering students to develop and implement initiatives on the university grounds. The project has managed to create ‘an inspirational atmosphere’ for students and local inhabitants to contribute to biodiversity initiatives.

“Through the project, we create this inspirational atmosphere where you realise that you can set up things and you can change things. Some of the students came up with the idea to have these raised beds, so, in a way it is growing through informal contacts, we are just showing the example and inspiring other people to start doing things” (partner, Austria).

The Austrian Co-Bio initiative as a platform for student-led initiatives is reported to create democratic value by giving the students a sense of agency in terms of shaping their campus. For example, taking part in the biodiversity activities gave this student a sense of empowerment and purpose:

“As an entomologist (studying insects), I often just record dying species – this project helped me feel that I am actually changing something” (participant (student), Austria).

This quote points to the biodiversity initiative creating yet another kind of value, namely by improving the well-being, self-confidence and psychological health of participants. Developing a sense of agency in relation to the biodiversity crisis, thus, may create psychological value, particularly for young people, who are affected by climate anxiety and a sense of impotence.

The Danish biodiversity project in the community of Skibet has also been organised as a bottom-up process mainly driven by a group of local citizens, facilitated by the municipality. The municipality invited the community into an open agenda concerning climate and biodiversity, and it turned out that working with local biodiversity was high on the citizens’ agenda. Democratically, an open agenda approach, contributed to an equal dialogue.

“The agenda is open, and everybody may contribute with what they prefer. It is also psychological: Everybody has the same worth. All ideas, engagement and input are valuable...This is a good way to develop ownership” (partner, Denmark)

The local citizens in Skibet, thus, played an active role, firstly in setting the agenda for the project, secondly in deciding on the kind of initiative they wanted to develop and lastly, in producing the biodiversity boxes. The process succeeded in producing democratic value in terms of stimulating and supporting democratic dialogue, participation and civil engagement in the community and strengthening community bonds.

The Italian project of planting a Biodiversity Garden in the grounds of a local church collaborated with a professional learning institute and employment agency, involving students and local inhabitants in workshops and hands-on planting activities. The project took place in a socially deprived area with

students who are not used to being invited into the role as co-creators. Nevertheless, the project managed to produce democratic value in terms of empowerment among the students.

“They showed up, because they felt that from day one they were important for the result. In that sense, I would say we managed to engage them in a very genuine way and to give ownership to these people. We managed to make them feel important, because let's face it: these are people who think they are not important” (partner, Italy).

In the Portuguese project of planting tiny forests in deprived social housing areas, the inhabitants mainly took on the role as co-implementors, participating in meetings and hands-on planting sessions. For the inhabitants, the possibility to collaborate on developing and improving their outdoor areas may count as a democratic value.

“The project is based on an expectation of really trying to transform the lives of the people that live in the social housing dwellings where the tiny forests are being implemented. I think that it is very important...it makes a difference to have somewhere beautiful to live... even if these vulnerable members of society do not consider these issues particularly relevant” (partner, Portugal).

The Greek project underlines the democratic potential of the co-creative approach in supporting the role of local citizens and communities. They are motivated to take ownership and act together on challenges like a decrease in green areas and biodiversity in the cities. According to a municipal stakeholder, this way of working aligns well with the ambitions of the municipality.

“This is a democratic exercise at neighbourhood level. The co-creation workshops are designed to give residents a direct voice in shaping their public spaces, which builds stronger community ties and fosters a more active and engaged citizenry. For the municipality this is a test case for a new model of governance” (stakeholder (municipality), Greece).

The economic value of Co-Bio

The Co-Bio initiatives have not explicitly been designed for generating economic value. The stakeholders have not been asked to address this issue directly – and, experientially, it is difficult to measure the exact economic value of co-creation measures in the short run. Nevertheless, the initiatives may – in a range of different ways - carry a potential for creating economic value.

The initiatives potentially mobilise voluntary civic resources to design and maintain green areas – in cities, schools and universities, replacing or supplementing public resources and employees. An example of this is the Austrian case, where students and local inhabitants voluntarily look after part of the campus and adjacent grounds, taking out monoculture shrubs and removing invasive species, planting and seeding and building habitats for wild bees and other insects. Voluntary tasks that save the University’s money.

Furthermore, the impact generated by Co-Bio in terms of innovative, learning and social value, may potentially spill over into economic value. For example, good health, well-being and strong social ties in a community have been documented to reduce the costs of health care and social services. In this sense, the Co-Bio initiative may be expected to create economic value in a long-term perspective.

Another example of generating economic value is tied to Co-Bio developing innovative concepts with a potential for scaling. Two of the local initiatives seem to be holding a potential for scaling, as central stakeholders consider the concept a sustainable business case worth expanding: In Greece, several municipalities are interested in implementing the Co-Bio concept. They aim at collaborating with schools on supporting communities forging bonds with nature and with each other, cultivating a shared sense of responsibility for their urban environment. Likewise, the central stakeholder of the Portuguese initiative, Gaiurb, is preparing to scale the Co-Bio initiative of planting tiny forests to a range of other housing areas. Thus, Co-Bio has succeeded in developing innovative concepts that are considered sustainable ‘business models’ by central local stakeholders, i.e. municipalities and housing organisations.

Conclusion: The value and impact of the Co-Bio projects

The six Co-Bio initiatives have succeeded in producing a range of different impacts, the most tangible and visible being **biodiversity and environmental impact** in the shape of tiny forests, pocket parks and raised beds in a range of urban environments in cities all over Europe. Thus, taking a small first step towards greener European cities in the future.

What is also important to note, however, are the intangible types of impact created through the Co-Bio local cases, which may give hope for obtaining even greater impact in the future.

Impact in terms of learning and innovation: Introducing new, more co-creative ways of working with biodiversity, involving citizens and other stakeholders as active creators. Building capacity, developing new skills and inspiring partners and stakeholders to take on new ways of working with biodiversity. And finally, facilitating knowledge sharing, inspiration and learning among citizens, students and children on nature and biodiversity.

Impact in terms of networks and social relations: Reaching out to and linking actors, who have not collaborated before. Including a broad range of stakeholders, allowing them to work together on biodiversity measures, supporting and strengthening community bonds through local hands-on activities.

Impact in terms of democracy: Stimulating and supporting democratic dialogue, participation and civil engagement by offering citizens an active role as co-creators in biodiversity measures. Empowering students as well as citizens by giving them a say in developing their near surroundings, potentially improving their well-being and psychological health. Creating a space of participation and influence for ‘vulnerable’ groups of citizens, who are often excluded or neglected in democratic processes, such as residents of ‘deprived’ areas and children.

Impact in terms of economy: Experientially, it is difficult to measure the economic impact of co-creative initiatives in the short run. Potentially, however, the Co-Bio local cases may

generate long term economic value in different ways: Mobilising civic resources to replace or supplement public funding, improving health, well-being and social cohesion in communities and developing innovative concepts that may be scaled and implemented by municipalities and housing associations.

3. Co-Bio as a co-creation process

This section explores Co-Bio as a co-creation process, asking: What may we learn from Co-Bio in terms of the conditions and approach needed to succeed with co-creation? This section explores learning points from the co-creation process underlined by the project partners. You may find a more elaborate guide on how to facilitate co-creation processes in the publication 'Six keys to co-creating biodiversity - methodology' (www.co-bio.vejle.dk/).

Learning points: What has been difficult?

When asked to point out what conditions have been particularly challenging in working with the Co-Bio project, time has been mentioned as the most difficult barrier to co-creation. In detail, three themes are underlined by the partners: a. Bureaucracy and slow decision-making processes in public organisations b. Working with voluntary stakeholders and c. Managing a tight time frame and pressure for results. These points will be elaborated on in the following.

Bureaucracy and slow decision-making in public organisations

Access to land is pivotal in working with biodiversity – and several of the partners have aimed at collaborating with municipalities or local schools on utilising public areas. They point to slow and bureaucratic processes in public organisations as an important barrier to co-creation. In Portugal, collaborating with a Gaiurb, a municipal housing company did apply a lot of waiting times for contracts to be processed:

“we had to do a lot of waiting regarding the public contracting, because in one of the social housing dwellings we really had to break the ground, so there was this waiting to get the access. When you just have to wait and can't do anything, I think it's the biggest challenge” (partner, Portugal).

Another partner points to bias against municipalities and public authorities, particularly in the South of Europe, creating an expectation that these stakeholders are bureaucratic and not interested in collaborating. While a third partner has learned from the Co-Bio initiative, that working with public organisations demands a lot of time and effort:

“so, we learned that for institutions we need more time for planning, for processing everything. So, we definitely learned that with institutions like the municipality or a school, we cannot do these kind of actions like: ‘we will do this next week and that one next week. We need more structure and more time with the institutions” (partner, Hungary).

Mobilising and working with volunteers

The Co-Bio initiatives have all aimed at mobilising and collaborating with relevant actors, such as inhabitants in a local area or students from the university as well as relevant NGOs. Working with 'voluntary' stakeholders, who have other engagements and limited time resources, may be challenging. It makes the initiative vulnerable in terms of time and resources - and demands flexibility and careful time management.

According to one of the partners:

“Community work unfortunately doesn't always stick to a rigid schedule, everybody needs to work, everybody has some obligations, family obligations etc. So, I would say, that we had to

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“bring some flexibility into our project, timeline and the collaboration of the different actors”
(partner, Greece).

Working with volunteers calls for ongoing motivation as well as clarity concerning roles and responsibilities. According to the partners, not all tasks may be expected to be carried out by voluntary stakeholders. This partner underlines the importance of working continuously with motivating the volunteers:

“(the voluntary citizens) didn’t have that much capacity and time for this and one of them got really exhausted towards the end of the project. How can we motivate volunteers? Of course, people volunteer because they would like to do this. But in this project, there were a lot of tasks
(partner, Hungary).

Managing a tight time frame and pressure for results

Working with nature and biodiversity is unpredictable, and the season for planting is relatively limited. This has posed a challenge, particularly to the Co-Bio initiatives placed in the south of Europe. In Italy, Greece and Hungary, the right ‘window’ for planting has been relatively short – and watering of the plants has demanded special attention. Time for planning as well as implementing is thus mentioned as a challenge by the partners. Asked what should be done differently another time, one partner reflects:

“it would be important to allow more time for planning. The implementations should have been done only in the spring period. So it was, let’s say, a short time frame. In the summer, it’s too hot for planting. By June, most of the plants were out of the stores, so that was also a problem”
(partner, Hungary).

Another partner reflects that a co-creation initiative like Co-Bio will often be balancing between product and process. Co-Bio is born with two different aims: On the one hand, experiencing a pressure to produce tangible results in terms of biodiversity. And on the other hand, aiming to experiment with ‘genuine’ involvement and co-creative processes. The partner reflects:

“the project is designed in a way so that we are all focussing very much on realising specific cases – and are forgetting the purpose of exploring a certain method and subtracting learning. It does not really matter, if the case is successful – what matters is the learning that comes out of it”
(partner, Denmark).

Learning points: What has worked well?

Apart from the value created by the Co-Bio project as unfolded in section 2 of this report, the partners point to two aspects of the Co-Bio project that have worked well: a. The diversity of participants and b. a room for reflection and feedback between the partners. These two aspects will be elaborated in the following:

Diversity of partners and participants

The Co-Bio project contains a large degree of diversity in terms of partners, contexts and initiatives. This is valued greatly by the partners and seen as an important source of both learning and inspiration when it comes to biodiversity and co-creation.

Specifically, one partner points to the importance of having not only NGOs as partners, but also including a public organisation like The Municipality of Vejle:

“It has been very fruitful for us especially having the municipality of Vejle included, because we are also working on how to cooperate with municipalities, so that's a big issue in our work. To be able to say to the city government of Vienna: ‘Look, this is how it could work as well!’ and to take the example of Vejle and use it in your collaboration” (partner 2, Austria).

Another partner reflects more generally on inviting diversity into processes and projects:

“Everyone thinks differently. And I think this is very good for projects in general and crucial also for this one. Especially in the reflection rounds, when we had these settings with two people talking about a case. I remember some situations, when there was a real ‘aha moment’ for different people in the group because of these exchanges out of different sectors. So, for me, it seemed really a good way to develop projects, which should be transferred to the public sphere, for example, designing public spaces” (partner 1, Austria).

The importance of a room for reflection and feedback

The partner above is referring to ‘reflection rounds’ in the Co-Bio project as a valuable opportunity for the partners to reflect together on challenges and possible solutions in facilitating the local projects – and to share experiences and knowledge.

Virtual feedback sessions designed and facilitated by Center for Citizen Dialogue were a built-in element of the Co-Bio project. The feedback sessions were designed deliberately as a ‘reflective room’ containing ‘reflecting team’ sessions addressing specific challenges brought up by the partners. This allowed the partners to share the challenges that they encountered in the process and get inspiration and encouragement from their fellow partners. A range of different themes and challenges were addressed in the reflection rounds, i.e. getting access to land, mobilising and supporting key stakeholders, handling challenging collaboration with schools and how to best support the anchoring and sustainability of the initiatives.

These partners value the sharing and learning going on between partners:

“Regarding the partnership itself, I think it was also very good to see the willingness of everyone to always share and learn. Particularly in the feedback sessions that you facilitated in the past months” (partner, Portugal).

“There was a lot of learning going on. The feedback sessions were very helpful. Also, if some of the partners were stuck in their local case to exchange and to talk about: ‘how did you do it? What were your solutions?’ This was really something that helped a lot” (partner 2, Austria).

We know from research and practice, that leading and facilitating co-creation processes may be a demanding task. So, designing a room specifically for reflection and mutual inspiration and feedback turned out to be a valuable investment in the Co-Bio project.

4. Recommendations based on Co-Bio

This section presents recommendations for practitioners about how to succeed with co-creation based on experiences from the Co-Bio initiative, i.e. focussed mainly on co-creating biodiversity in an urban context. You may find an elaborated version with methodological advice in 'Six keys to co-creating biodiversity – a methodology' (www.co-bio.vejle.dk/). The last section contains recommendations for policymakers.

These recommendations for practitioners are based on the Co-Bio initiative:

Get access to a piece of land suitable for co-creating biodiversity

In many cities, land is scarce and expensive – that is why you should not underestimate the importance of getting access to a piece of land suitable for co-creating biodiversity. This need may well become the guidance for the alliances you will want to build.

In terms of access to land, the six local Co-Bio projects have ended up with a very different focus. Some are working with biodiversity in private gardens collaborating with local citizens. While others have made alliances with a public school, a university, a church or a housing association with an interest in enhancing biodiversity on their grounds. In general, it often is challenging and time consuming to get access to areas such as parks or left over spaces owned by the municipality.

Build local alliances

Building clever alliances is a prerequisite in co-creating urban biodiversity. Alliances with people and organisations that have local knowledge, connections to relevant stakeholders and maybe even offer access to a piece of land, have turned out pivotal to succeed with the Co-Bio initiatives. Often you won't even need to look out for new alliances but may be able to build on your existing network. What is important is to build alliances with one or more stakeholders, that share your ambitions concerning biodiversity and find that the initiative will also serve their interests.

Take a curious and humble position

Not everybody is as engaged in biodiversity as you! And not everybody understands what biodiversity is – or take an interest in the concept. The stakeholders you want to mobilize or collaborate with may have very different motivations for wanting to be part of a local biodiversity initiative. It is important, therefore, that you take a humble position and curiously explore the potential 'common ground' that may link your ambitions and interests to those of other stakeholders. Here, language and communication play a key role.

Invite a diverse group of participants

The basic idea of enhancing biodiversity through co-creation is to bring people with diverse interests and competences to work together and create more creative and sustainable solutions. Therefore, you as facilitator should be on the lookout for diversity. Don't be satisfied with mobilising 'the usual suspects, aim to reach out to diverse participants.

Sometimes, it may be a good idea to reach out to the inhabitants in a neighbourhood with the aim of mobilising participants for a local initiative. This may be done through an ‘open invitation’ in the form of an event, workshop, competition or survey to spur interest in the biodiversity initiative.

Work hands-on with visible activities

In general, the six Co-Bio initiatives have experienced that activities such as planting, DIY-activities, walking tours and excursions constitute good ways of attracting attention and participation from citizens. To many people, biodiversity may seem an abstract concept. So, hands-on activities and visualisation may help local citizens in a neighbourhood to understand what it is all about. Biodiversity is suitable for being a ‘common third’ bringing people together to work on something tangible. Planting and nurturing a green area calls for working together, and often it is a satisfying experience for participants to be making a visible difference in beautifying their neighbourhood.

Set a framework and be flexible

Co-creation processes require a special type of leadership. These processes may seem messy, unclear, complex and diverse, as participants belong to different organisations with different logics. Leadership of co-creative processes is continuously negotiated. As a facilitator you are leading stakeholders who may decide to leave the collaboration at any minute, should a situation become too complicated or the task meaningless.

The task as facilitator and thus leader of a co-creation process is about finding the right balance. On the one hand the participants – and the biodiversity initiative – will need a clear purpose as well as framework in terms of the management of time and resources. On the other hand, as you will often be working with volunteers, it is important to be flexible and accommodating towards the needs of the participants and the unpredictable nature of the co-creation process. As well as supporting the motivation and engagement of the participants.

Ensure the sustainability of the initiative

An important factor in ensuring the ‘afterlife’ of an initiative is the connections, relations and collaborations between different stakeholders developed during the initiative. If your biodiversity initiative has been designed and developed in collaboration between local stakeholders that have succeeded in finding common ground, it is more likely to be sustainable.

One way to secure the afterlife of your initiative is to anchor it with a resourceful local organisation willing to sustain it in the long run. Another way is to develop ‘stewardship’ among local citizens. Citizens who experience the new green area as ‘their own’ are more likely to look after and maintain it.

Policy recommendations

The following are recommendations for decisionmakers from public organisations wanting to support and advance urban biodiversity through co-creation. Two main policy recommendations have been developed by the partners of the Co-Bio initiative based on their experiences:

- Before you initiate projects: Listen closely to the relevant actors and build relationships before taking initiatives. Be open minded and explore, what is already there, and which stakeholders are already being actively engaged in the field
- Allocate resources to engage citizens in the greening of cities and make it easy to participate. Value the engagement and initiatives of volunteers by offering a supportive framework and by eliminating bureaucratic barriers and offering flexible funding. Sustain and nurture capacity building among citizens and NGOs in the field

Appendix: Overview of respondents

Partner	Citizens	CSO's	Pub.sec.	SH total	Part. Int.	Total
Hungary	4		2	6	1	7
Italy	1	2	1	4	1	5
Austria	2	2		4	2	6
Portugal			4	4	1	5
Denmark	4			4	2	6
Greece	1		1	2	1	3
Total	12	4	8	24	8	32

SH = stakeholders

Stakeholder subgroups: Citizens, Civil Society Organisations (CSOs), Public sector

Part. Int. = Partner interview, number of partners participating

