

Final Report describing Lessons Learned from Demonstrators and Collaborators

Deliverable D5.8



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Abstract (for dissemination, 100 words)	This report presents an overview of lessons learned from the experiences of demonstrators and collaborators during RECONNECT using the project lifecycle phases: planning, design, implementation, and monitoring, evaluation, and learning (MEL). The purpose of this report is to highlight key learnings from RECONNECT's multidisciplinary approach to Nature-based Solutions (NbS) that can be applied to future efforts to upscale large-scale NbS for hydrometeorological risk reduction.
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Executive Summary

This report presents an overview of lessons learned from the experiences of demonstrators and collaborators during RECONNECT. The purpose of this report is to highlight key learnings from RECONNECT's multidisciplinary approach to Nature-based Solutions (NbS) that can be applied to future efforts to upscale large-scale NbS for hydrometeorological risk reduction in Europe and beyond.

The lessons learned are reported following the project lifecycle phases: planning, design, implementation, and monitoring, evaluation, and learning (MEL). Moreover, relevant examples from the case studies are brought forward to provide a concrete context to the various learnings.

This report is the final version of the preliminary Deliverable 5.6 of the same title and its target audience is diverse and includes a range of stakeholders involved in NbS implementation, policymaking, and research beyond the RECONNECT consortium.

Here are listed some of the main take-aways from this report, sorted by life-cycle phase. Planning phase activities comprise risk assessment, pre-feasibility study, business case development, and preliminary indicator selection. Lessons learned during this phase include the importance of stakeholder engagement, the benefits to identifying barriers and enablers for NbS implementation early on, fostering knowledge exchange through twinning activities, addressing governance and regulatory challenges, and leveraging collaborative partnerships to overcome barriers.

In the design phase, the case studies focused on translating NbS concepts into actionable plans. Key activities associated with this phase include indicator and measure selection, land acquisition, and permitting. Lessons learned from the design phase include the importance of strategies to address challenges associated with land acquisition and permitting, and the need for a context specific approach for navigating regulatory and political complexities. Moreover, adequate allocation of time and resources for co-creation activities, coupled with fostering collaboration and knowledge-sharing platforms, will bolster project effectiveness.

The implementation phase involves construction of a physical asset and ongoing operation and maintenance (O&M). Lessons learned include the importance of a strong planning and design phase to ensure smooth implementation, the necessity of comprehensive O&M plans for long-term sustainability, and the importance of stakeholder collaboration in sharing O&M responsibilities. Furthermore, strengthening data collection, monitoring, and evaluation mechanisms is imperative to gauge NbS efficacy accurately. Twinning activities were particularly useful during this phase as they enabled knowledge exchange between demonstrators A and B.

Learnings from the monitoring, evaluation, and learning (MEL) phase include the importance of a robust monitoring and evaluation plan based on pre-selected key performance indicators (KPIs), engaging with stakeholders through co-monitoring activities so to monitor NbS co-benefits, and using data collected during the MEL phase to guide future decision-making. Key insights include the importance of engaging stakeholders in co-monitoring and evaluation, the role of continuous learning in driving innovation, and the significance of disseminating knowledge gained from MEL through workshops, reports, and stakeholder engagement activities.

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Abbreviations

DA-1 – Demonstrator A Dove/Gose Elbe Estuary, Germany

DA-2 – Demonstrator A Odense Coastal Area, Denmark

DA-3 – Demonstrator A Tordera River Basin, Spain

DA-4 – Demonstrator A Portofino Regional Natural Park, Italy

DB-1 – Demonstrator B IJssel River Basin, The Netherlands

DB-2 – Demonstrator B Inn River Basin, Austria

DB-3 – Demonstrator B Aarhus, Egå Engsø and Lystrup, Denmark

DB-4 – Demonstrator B Thur River Basin, Switzerland

DB-5 – Demonstrator B The Var Éco-Vallée, France

DB-6 – Demonstrator B Les Bouscheleurs, France

EC1 – European Collaborator Kamchia River Basin, Bulgaria

EC2 – European Collaborator Pilica River Basin, Luciaza river, Poland

EC3 – European Collaborator Sava River Catchment with tributaries, Serbia & Croatia

EAWAG - Swiss Federal Institute of Aquatic Science and Technology

GA - General Assembly

GISIG - Geographical Information Systems International Group

HII - Hydro-Informatic Institute

IC1 – International Collaborator Chao Phraya River Basin, Thailand

IC2 – International Collaborator Greater Tainan Coastline, Taiwan

IC4 – International Collaborator Klang River Basin, Malaysia

IC6– International Collaborator Chindwin River basin, Myanmar

IC7– International Collaborator Tarago River Basin, Australia

IC11– International Collaborator Rio Frio, Colombia /Magdalena

IC12– International Collaborator Cañaveralejo, Lili and Melendez River Basins, Colombia/Cali

IC13– International Collaborator St. Maarten, the Caribbean

IHE Delft - UNESCO-IHE Institute for Water Education

IRPI - Research Institute for Geo-Hydrological Protection

IWA CONSALT - International Water Association CONSALT

NbS - Nature-Based Solutions

NCKU - National Cheng Kung University

RECONNECT - Regenerating Ecosystems with Nature-based solutions for hydrometeorological risk reduction

UIBK - University of Innsbruck

UNBELGR – University of Belgrade

UPM - Universiti Putra Malaysia

WP – Work Package

Glossary of Key Terms

Term	Acronym	Explanation
Barriers	-	Conditions that can hamper the development of NbS.
Co-benefits	-	Additional benefits to the main benefit, which is often related to reducing the flood risk. These bring additional value for nature, people and/or economy.
Co-creation		Collaborative approach to engagement which allows stakeholders to collectively design and build more inclusive and sustainable mechanisms for change. RECONNECT social innovation approach is underpinned by co-creation processes involving researchers and other stakeholders iteratively throughout the stages of co-assessment and planning; co-design; co-implementation, operations, and maintenance; and co-monitoring and evaluation.
Collaborators	-	Cases where large-scale NbS are to be developed and where proof-of-concepts and methodologies developed within RECONNECT are tested.
Demonstrators	-	Cases of large-scale NbS in Europe that provide proof-of-concept to the knowledge base of NbS developed through RECONNECT.
Enablers	-	Conditions that can facilitate the development of NbS.
Hydro-meteorological risk	-	Natural phenomenon related to water and caused by atmospheric pressures and extreme weather conditions which result in floods, erosion, and/or droughts.
Nature-Based Solution	NbS	Collective term for innovative solutions to solve different types of societal and environmental challenges, based on natural processes and ecosystems.
Replication	-	Implementation of a similar NbS intervention based on previous project experience, in an area with similar challenges that the NbS can solve.
Twinning		Twinning is a process designed to enable the exchange of knowledge, experience, and mutual learning among project members.

1 INTRODUCTION

1.1 Aim of this deliverable

This deliverable, *D5.8 Lessons Learned from Demonstrators and Collaborators*, compiles lessons learned from demonstrators and collaborators. Lessons learned are presented for each of RECONNECT's project lifecycle phases: planning, design, implementation, and monitoring, evaluation, and learning. The goal of this deliverable is to identify learnings from the experiences of demonstrators and collaborators so to contribute to the scale up of NbS.

This report is intended for public distribution.

1.2 Structure of this deliverable

Lessons learned are presented using the project lifecycle phases (Figure 1-1). As part of RECONNECT, collaborators were engaged in planning phase activities, including conducting a risk assessment and a pre-feasibility study. Demonstrators A were involved in planning, design, and implementation, and demonstrators B carried out monitoring, evaluation, and learning activities. As such, this deliverable reflects on lessons learned from demonstrators and collaborators during each of the project phases.

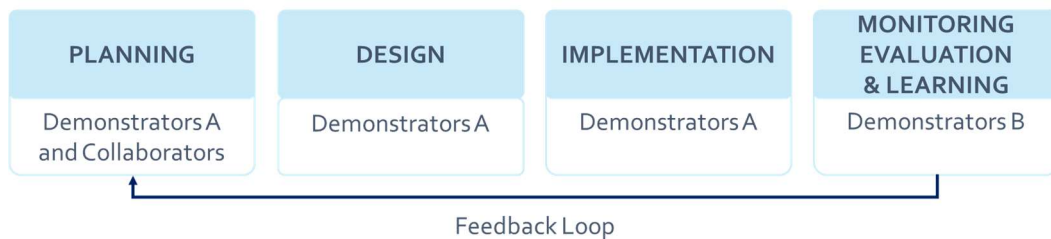


Figure 1-1: RECONNECT's Project Lifecycle Phases

The approach to capturing lessons learned is also reflected in the Theory of Change (Figure 1-2). In RECONNECT, the Theory of Change is used to illustrate how a given intervention, or set of interventions, is expected to lead to a specific outcome. In RECONNECT's Theory of Change, activities within each of the project life cycle phases are positioned as steppingstones to the wide-scale reduction of hydro-meteorological risks. In the linear progression used by the Theory of Change, the demonstration and consequent implementation of NBS will contribute to the replication and exploitation of NbS. These activities will ultimately lead to an improvement in flood and drought risk management through policy and legislation, thus contributing to the wide adoption and mainstreaming of NbS. The project life cycle phases provided demonstrators and collaborators with a framework for project planning and helped to solidify actions required to implement a NbS.

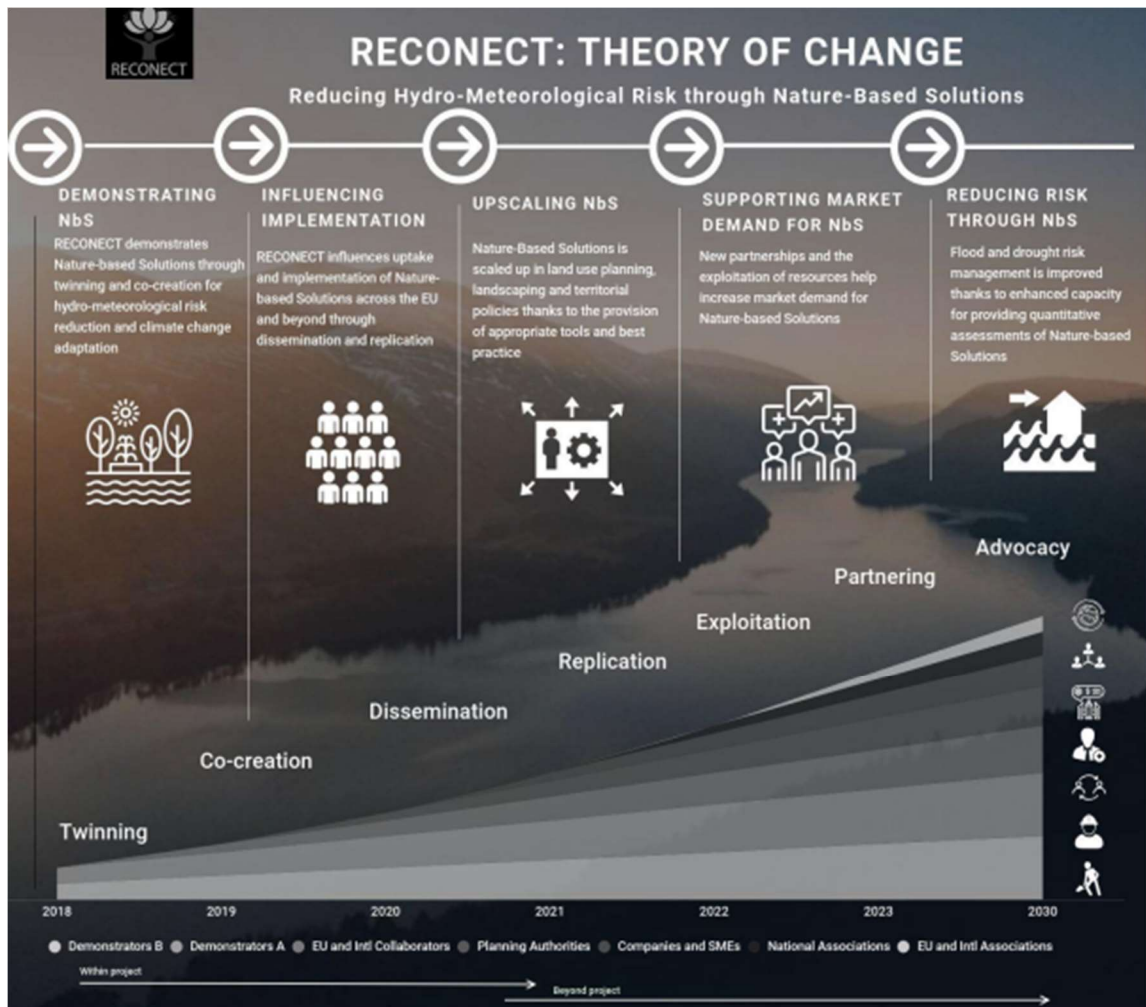


Figure 1-2: Overview of RECONNECT's Theory of Change

Lessons learned from demonstrators and collaborators were gathered from the results of a survey and from a review of RECONNECT literature, including deliverables, periodic reports, and other project activities. Findings from the survey and literature review were then analyzed to identify lessons learned during each of the project phases. This deliverable also reflects on how RECONNECT activities contributed to innovation and replication of NbS. Following an overview of lessons learned from demonstrators and collaborators, we present overall recommendations based on the experience of demonstrators and collaborators for improving the upscaling potential of NbS.

1.3 Links to other deliverables

D5.8 captures lessons learned from the experiences of demonstrators and collaborators as documented in RECONNECT activities, reports, and deliverables. However, there are several deliverables and project activities that provided key insights into lessons learned from demonstrators and collaborators. These include:

- *D1.8 Selection and enhancement of supporting tools/ models/ decision support systems for NBS implementation and evaluation*
- *tools/models/decision support systems for NBS implementation*
- *D2.1 Preparing co-creation: stakeholder analysis*
- *D2.4 Technical specifications and procurement processes for Demonstrators A and B*

- *D2.5 Report describing preparatory actions for Demonstrators A and B Including copies of building permits/permissions of uses / commissioning works*
- *D2.6 Co-monitoring and co-evaluation plans for Demonstrators A and B*
- *D2.8 Guidelines for design, construction and maintenance of large-scale NbS*
- *D3.4 Preliminary report describing co-monitoring activities*
- *D4.2 Baseline assessment and potential for NBS in Collaborators*
- *D4.3 Report describing upscaling strategy, which supplied a list of feasible upscaling processes*
- *D4.5 Report on local acceptance, institutional and political feasibility in Collaborators*
- *D4.6 Catalogue of regulatory, economic, and social barriers for upscaling NBS*
- *D4.8 Pre-Feasibility study for the implementation of NbS in Collaborators*
- *D5.2 Governance, Business Models, and Investment Strategies for Large-Scale Nature-Based Solutions*
- *D5.4 Standards for Planning, Design, and Implementation, Monitoring, Evaluation of large-scale NbS, which provided an overview of the project lifecycle phases and examples of lessons learned*
- *D5.7: Business models and roadmaps. A strategic approach to NbS upscaling*

Moreover, the interviews conducted in support of Deliverable 5.2 - *Governance, Business Models, and Investment Strategies for Large-Scale Nature-Based Solutions* and Deliverable 5.7 - *Business models and roadmaps. A strategic approach to NbS upscaling* were used to gather further information on the barriers and challenges encountered by both demonstrators and collaborators through all the phases of NbS implementation.

2 METHODOLOGY

This section outlines the methodology for collecting, processing, and interpreting lessons learned (Figure 2-1).

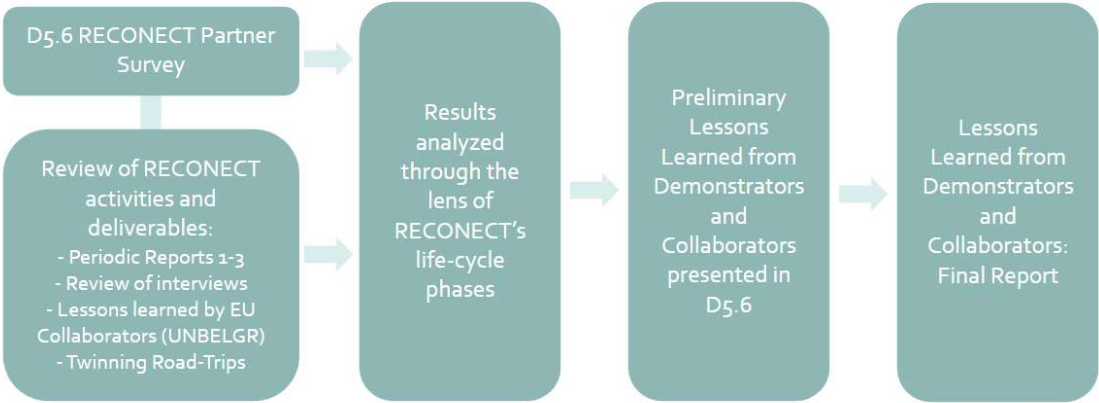


Figure 2-1: Methodology for collecting lessons learned during RECONNECT.

2.1 RECONNECT D5.6 Partner Survey

The *RECONNECT D5.6 Partner Survey* was designed by Ramboll to gather information and perspective from all demonstrators and collaborators to document lessons learned (Annex A). The survey was reviewed by members of the RECONNECT consortium and launched during the 9th General Assembly (GA) in May 2023. During the GA, the survey was announced and distributed via flyers with a QR code directly linking to the survey page. A follow up email with instructions on how to complete the survey was sent to demonstrators and collaborators immediately following the GA. In June 2023, several reminder emails were also sent out. The survey remained open until June 30th, 2023, and received 34 responses.

Organizations represented by the survey results include:

Demonstrator A:

- Portofino Park, Italy (Parco di Portofino and IRPI)

Demonstrators B:

- Greater Aarhus, Denmark (Aarhus Municipality)
- Thur River, Switzerland (EAWAG)
- Inn River Basin, Austria (UIBK)
- Var Valley, France (University of Nice)
- Les Boucholeurs, France (University of Nice)

Collaborators:

- Tordera River, Spain (Generalitat de Catalunya)
- Nangang River Basin, Taiwan (NCKU)
- Chao Phraya River Basin, Thailand (HII)
- Sungai Selangor River Basin, Malaysia (Monash University Malaysia)
- Cameron Highlands, Malaysia (UPM)
- Bregana River Basin, Croatia (Pronging DHI)

- Kamchia River Basin, Bulgaria (Regional Administration Varna)
- Cañaveralejo, Lili and Melendez River Basins, Colombia (University of Valle)
- Drina River Basin and Kolubara River Basin, Serbia (University of Belgrade)
- Pilica River Basin, Poland (European Regional Centre for Ecohydrology, Warsaw Regional Water Management Authority)

Partners:

- Black Sea – Danube Association of Research and Development
- GISIG
- IHE Delft
- IWA CONSALT
- TAUW

2.2 Review of RECONNECT Activities

This deliverable also draws from a comprehensive review of other deliverables and work completed during RECONNECT. RECONNECT activities, such as the interviews conducted in support of D5.7, a review of lessons learned from European collaborators completed by the University of Belgrade, the feedback provided from those that participated in the twinning “Road Trip” in the Netherlands, and activities reported in Periodic Reports 1-3, was reviewed to capture lessons learned from demonstrators and collaborators. Lessons learned were extracted from the review and organized thematically in an excel file (Annex C).

Interview for D5.7 respondents:

Demonstrator and Collaborators were interviewed as part of D5.7. These interviews provided valuable insights into lessons learned during RECONNECT and were also reviewed. Respondents include:

Demonstrator A:

- Seden Strand (Odense Municipality)

Demonstrators B:

- IJssel River Basin (TAUW, IHE-Delft)
- Inn River Basin (UIBK)
- Greater Aarhus (Aarhus Municipality)
- Thur River (EAWAG)
- Var Valley (Nice University)
- Les Boucholeurs (Nice University).

Collaborators:

- Kamchia River Basin, Bulgaria
- Pilica River Basin, Poland
- Bregana River Basin, Croatia
- Drina River Basin, Serbia (Jadar)
- Kolubara River Basin, Serbia (Tamnava)
- Vrbanja River Basin, Bosnia and Herzegovina

3 SUMMARY OF LEARNINGS

Lessons learned from demonstrators and collaborators are described in relation to the four project phases: planning, design, implementation, and monitoring, evaluation, and learning (MEL). Lessons learned from demonstrators A will largely be focused on planning, design, and implementation as these cases were developed and implemented as part of the RECONNECT project. Demonstrator B cases pre-date the RECONNECT project and therefore lessons learned will focus on MEL. Finally, lessons learned from collaborator cases will focus on the planning phase. As part of RECONNECT, collaborators undertook a pre-feasibility study and participated in knowledge sharing activities with a network of European and international collaborators to support planning efforts.

3.1 Planning

The planning phase involves a range of activities crucial for informed decision making and governance. As part of the planning phase, the pre-feasibility study and preliminary business case are developed based on findings from the situational analysis (governance, social, and environmental factors), stakeholder needs assessment, assessment of key performance indicators (KPIs), and a baseline study of site conditions. As part of the RECONNECT project, demonstrators A and collaborators engaged in a range of activities associated with the planning phase.

Co-Creation

A key learning across all demonstrator and collaborator projects is the importance of **co-creation**. RECONNECT's **social innovation approach** is driven by co-creation which aims to involve a wide range of stakeholders through all stages of project design and implementation. As part of RECONNECT, a three-step methodology was developed to assess potential stakeholders. It includes:

1. Stakeholder identification - identify stakeholders that should be included in the co-creation process of NbS (e.g., in relation to their exposure to the risk, or considering questions related to social cohesion and equity);
2. Stakeholder mapping - map stakeholders according to representation (i.e., based on their groups and roles), and according to influence, i.e., to what extent they affect and/or are affected by the hazard and/or the NbS;
3. Stakeholder involvement - determine the level of participation required and/or desired by each stakeholder.

Conducting a stakeholder analysis supported demonstrators and collaborators in identifying potential project partners and opportunities for financial, political, and community support. Some of the key stakeholders identified by demonstrators and collaborators include local authorities, utilities, regulatory bodies, local community groups, and their representatives, residents, and private businesses and organizations (Table 3-1 and Figure 3-1). Key lessons learned during stakeholder identification and analysis include identifying a wide range of stakeholders so to ensure a wide range of perspectives are heard, providing a clear overview of the proposed solution and benefits to stakeholders, and ensuring transparency of project goals, objectives, and limitations (Deliverable 5.4 – Standards for Planning, Design, Implementation, Monitoring, Evaluation of large-scale NbS).

Table 3-1 Stakeholder groups (adapted from Deliverable 2.1 - Preparing co-creation: stakeholder analysis)

Stakeholder (SH) group	Description
SH1: Authorities	Local, national, or regional governmental organizations with key decision-making power, and/or assigned with overseeing, monitoring or evaluating management plans. In centralized governance systems, regional or national governments might be directly responsible for managing the area. In decentralized systems, the allocation of responsibilities may not be as distinct and have for instance, a local agency responsible for building permits and a regional agency responsible for disaster relief.
SH2: Political Representative	Citizens elected to political office on behalf of their fellow citizens who do not hold political office. It is important to involve elected representatives as they are the ones who are most likely influenced by the decisions taken – or not – locally.
SH3: Civil Society	Individuals, civil society groups, or NGOs that have been involved in the area and issue in question and/or that may affect, gain, or be affected by the hydro-meteorological hazard(s) or the NBS.
SH4: Commercial Sector	Businesses, entrepreneurs, companies, and corporations that may affect, gain, or be affected by the hydro-meteorological hazard(s) or the NBS. These actors may be involved in the construction of the NBS or may be impacted by the hazard. These may include service-providers, local businesses, producers, tourist operators, or insurance companies, to name a few.
SH5: Academia	The scientific community with thematic expertise and experience in the area.
SH6: Media	Media (mass media, print media, digital media, social media) has unparalleled reach and power to change minds and behavioral patterns and can further accelerate mitigation and adaptation by bringing DRR stories to wide audiences. In order to fulfil this potential, media must be brought to the table as a partner rather than just a messenger.
SH7: International and transnational organizations	These could be intergovernmental organizations composed by states (e.g., the Council of Europe, the International Council for the Exploration of the Sea, the Black Sea Commission, the Helsinki Commission). They could also be non-governmental (e.g., the International Sava

	River Basin Commission, Baltic Sea Action Group, Marine Stewardship Council, etc).
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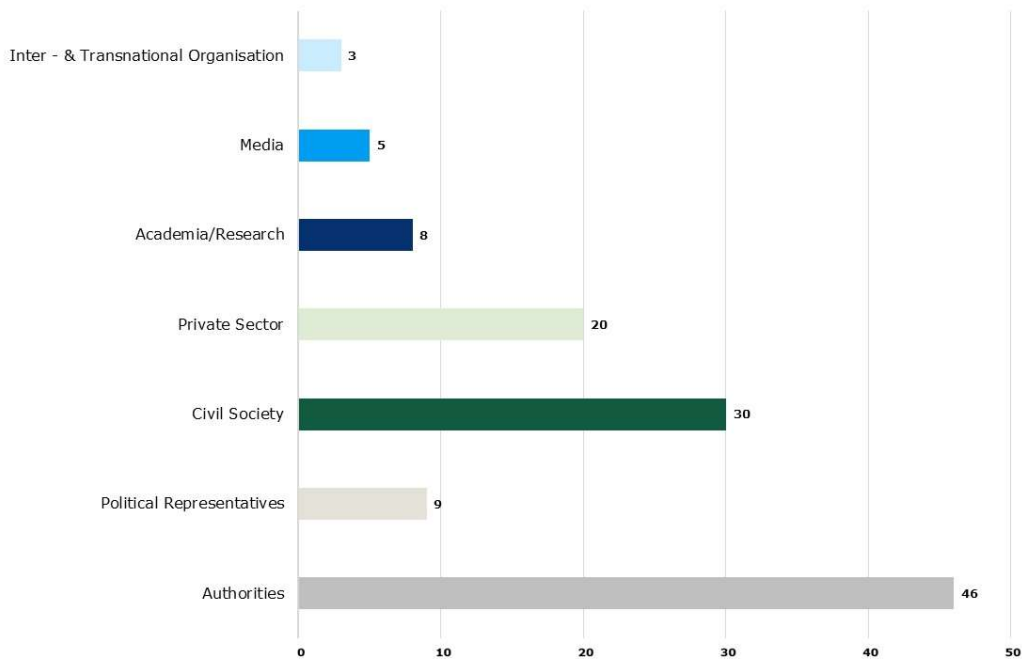


Figure 3-1 Overview of stakeholder groups mapped by demonstrators (adapted from D2.1- Preparing co-creation: stakeholder analysis).

Once stakeholders were identified, they were engaged in **co-assessment and planning activities**. As presented in *Deliverable 6.5 – RECONNECT’s Engagement Strategy*, stakeholder engagement activities should be based on a framework that fosters healthy professional relationships. All engagement efforts in RECONNECT were guided by the following principles:

1. Purposeful: defined by the identified needs outlined in the policy review and stakeholder analysis, which should be updated on a regular basis.
2. Timely approach: engage at the appropriate times (e.g., align with political agendas)
3. Transparent: transparent engagement process and roles
4. Collaborative: inclusive approach to avoid creating disbenefits in the NbS area of influence
5. Respectful: mutual communication accompanied by respect to different opinions, expertise, and capacity to participate.

RECONNECT Example 1: Stakeholders’ involvement in the Stroomlijn Project

The experience of the Stroomlijn Project (part of the Demonstrator B IJssel River Basin) underscores the idea that “preventing conflict is better than repairing relationships”. In other words, ensuring that stakeholders are involved and accept the project is of crucial importance. In fact, it was estimated that only 20% of the cost of the project was spent on technical aspects of the project. The remaining 80% was invested in gaining permission from municipalities, authorities and landowners and gaining acceptance from critics. Therefore, it is believed that it is worth investing time at the beginning of the project to identify stakeholders and develop a communication strategy. Such strategy could save time and prevent conflicts and misunderstandings between stakeholders (Deliverable 2.1 – Preparing co-creation: stakeholder analysis).

Similarly, engagement is also about communication. Another lesson learned from RECONNECT’s projects is the importance of clearly defining needs and goals for the short-term and/or long-term. Needs and goals need to be clearly communicated with stakeholders, highlighting their interests and roles (Deliverable 6.5 – RECONNECT’s Engagement Strategy). For instance, for private and public sector stakeholders, and landowners, it’s important to identify ways of incentivizing their engagement, either by monetary inputs or making them aware of the co-benefits in combining Disaster Risk Reduction (DRR) with improved nature (Deliverable 6.5 – RECONNECT’s Engagement Strategy). An overview of stakeholder interests for each demonstrator case is presented in Figure 3-2.

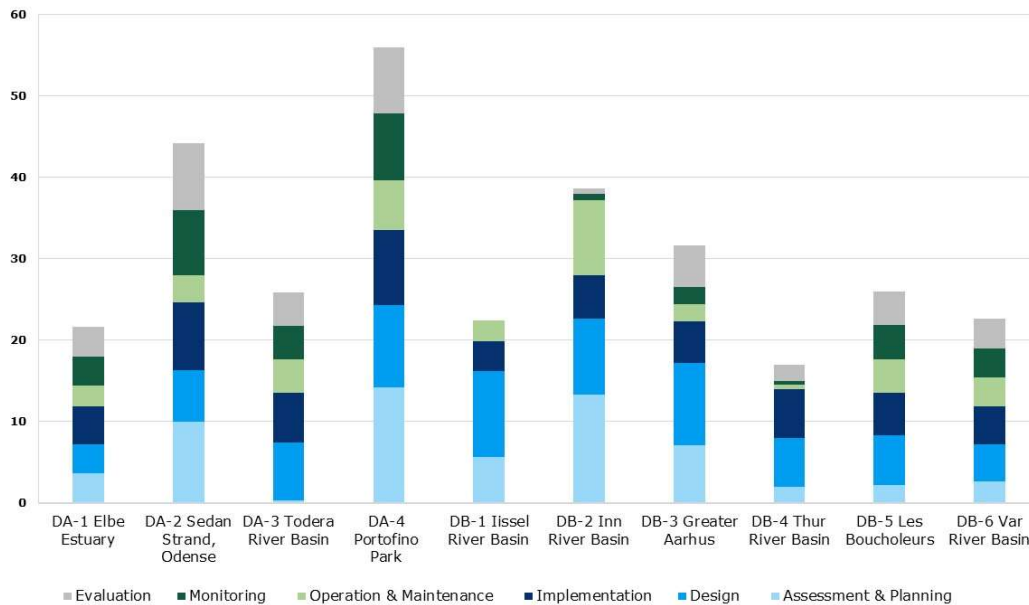


Figure 3-2 Overview of stakeholder interests (adapted from Deliverable 2.1 - Preparing co-creation: stakeholder analysis)

RECONNECT Example 2: Co-creation and communication in the Elbe Estuary

An example of successful co-creation and communication activities can be seen in the Elbe Estuary NbS project in the Hamburg region, Germany. Initially, limited public awareness and acceptance of NbS benefits required extensive community engagement and educational efforts. Early involvement of the public was crucial in establishing regular, transparent dialogues that integrated community views and concerns. This approach fostered public understanding and significantly improved project acceptance, reducing skepticism and rejection, as shown by the results of a survey assessing the relationship between the residents and the NbS.

Effective planning should always incorporate a bottom-up process, engaging public institutions, listening to community ideas, and addressing critical voices throughout the project.

Moreover, stakeholders’ knowledge contributed to the development of hazard, vulnerability, and risk mapping, cost-benefit analysis, and multiple-criteria assessments. Demonstrators and collaborators engaged stakeholders to understand places and people exposed to hydro-meteorological hazards, vulnerabilities, preferences, and other community concerns. More details and lessons learned on stakeholder engagement in these contexts are presented in the following sections.

Finally, engaging stakeholders in the co-creation process, however, takes considerable resources and social science skills. The NbS implementation team should therefore

consider including a co-creation specialist or a dedicated stakeholder manager in their project.

Barriers and Enablers

Stakeholders were also engaged to identify barriers and enablers for NbS implementation. As part of this exercise, demonstrators A and collaborators analyzed governance at four different levels (international, national, regional, and local level) to identify legislative barriers and enablers. In some cases, project owners found that national level plans, such as water management strategies, disaster risk reduction plans, and climate adaptation strategies enabled the implementation of NbS. For cases within the EU, directives such as the Water Directive, Floods Directive, and Habitat Directive were also relevant. Ideally, NbS projects should align with existing policies to support wider development objectives and gain political traction. At the same time, however, some NbS projects owners found that different policies and regulations, such as laws on conservation and disaster risk reduction, were in conflict, which presented a barrier to project implementation. Multi-jurisdictional environments, such as watersheds, added additional regulatory complexity and in some cases, the legislative and jurisdictional environment hindered the adoption of NbS. This finding reinforced the need for comprehensive co-creation efforts so to ensure buy in from all relevant stakeholders.

In addition to governance and regulatory barriers, demonstrators and collaborators identified barriers such as data gaps, lack of financial resources, a lack of political will, and hesitancy from local authorities, landowners, and other stakeholders regarding the benefits of NbS. By assessing the systematic barriers to the implementation of NbS, demonstrators and collaborators found that they were better positioned to develop strategic approaches to overcome these challenges. However, a key learning from RECONNECT is to also focus on factors that enable NbS. Demonstrators and collaborators found that it is important to consider enablers during the planning stage as it helps to avoid short-term thinking which typically focuses solely on barriers and day-to-day challenges and is what dominates the list of concerns on project owners or beneficiaries. Table 3-2 provides an overview of commonly identified barriers and enablers.

Table 3-2: Barriers identified and examples of actions to address barriers (from Deliverable 2.1 – Preparing co-creation: stakeholder analysis, Deliverable 2.6 – Co-monitoring and co-evaluation plans for Demonstrators A and B, Deliverable 4.2 – Baseline assessment and potential for NbS in Collaborators, Deliverable 4.6 – Catalogue of regulatory, economic and social barriers for upscaling NbS)

Barrier Identified	Examples of action(s) to address barrier
Data access	<ul style="list-style-type: none"> Contact to other organizations (e.g., Municipalities, NGOs, citizen organizations) to gather references/baselines. For the Demos B, data was collected from previous studies (e.g., the Stroomlijn project for the IJssel River Demo) (from D2.6).
Lack of political support and awareness of NbS	<ul style="list-style-type: none"> Ranking of the short-listed measures using a multicriteria analysis (MCA) framework with incorporated stakeholders' opinions on the importance of the impacts that selected NBS provide (from D4.2). Design targeted campaigns specifically tailored for policymakers. This can include workshops, seminars, and informational materials that highlight the relevance of NBS (from D4.6).

	<ul style="list-style-type: none"> • Develop concise policy briefs and white papers that present evidence-based information on the effectiveness of NBS (from D4.6). • Highlight successful NBS projects that have demonstrated positive outcomes. Showcase case studies and examples where NBS has been effectively implemented, emphasizing the social, economic, and environmental benefits (from D4.6). • Integrate references to NBS in relevant policy documents, strategies, and development plans (from D4.6).
Landowners not on board due to a lacking land acquisition and compensation mechanism	<ul style="list-style-type: none"> • Increased involvement of landowners and clear communication of the NbS's added values. For example, the city of Odense reached legally binding agreements with two out of three farmers owning land in the project area to modify their farming practices, ensuring flood protection and compensation for restricted agricultural activities. These agreements require farmers to allow water onto their land during floods. The third farmer opted out, prompting a redesign of the NbS. In Denmark, private landowners are responsible for coastal protection and flood damage costs. The Odense cluster believes NbS will be more acceptable if proven cost-effective and beneficial for society. Property value correlates with the level of flood protection, and participation in local coastal protection efforts is mandatory (from D2.1). • Establish mechanisms for fair and transparent market valuation of the land in order to ensure that compensation is based on the actual value of the land and takes into account relevant factors (e.g. agricultural potential, ecological value, or cultural significance) (from D4.6). • Introduce financial incentives for individuals, communities, and businesses adopting NBS. This could include tax breaks, subsidies, or grants to encourage the implementation of NbS (from D4.6).
Limited public understanding regarding the planning, implementation, functioning and potential benefits of NbS	<ul style="list-style-type: none"> • Organize community workshops and seminars in the area of a planned large-scale NbS to provide communities with a platform to learn more about NbS (from D4.6). • Identify other organizations (including civil society organizations) with a shared interest in NbS and set-up a multiplier network advocating for NbS (from D4.6) • Enhancing a sense of urgency in communicating the importance of immediate actions and the potential consequences of delayed implementation (from D4.6). • Provide scientific proof for the benefits of NbS
Limited knowledge on how to include certain types of NBS into the models to evaluate their effects	<ul style="list-style-type: none"> • Twinning, collaboration with technical partners within the consortium (see more details on twinning in the sections below).

	<ul style="list-style-type: none"> • Where no solution is found, the limitations are clearly stated, and the closest possible solution is examined/evaluated.
Lack of expertise for evaluating nature and people indicators in baseline and future conditions in ex-ante assessments	<ul style="list-style-type: none"> • Same as for the data access, plus an increased focus on the creation of transdisciplinary teams and collaboration with other demonstrators/collaborators.
Lack of financial resources for NbS solutions	<ul style="list-style-type: none"> • Seek financial support from international organizations, development agencies, and donor countries. Many global funds and initiatives prioritize projects that contribute to sustainability, climate resilience, and biodiversity conservation (from D4.6). • Foster collaborations between public and private sectors to co-finance NbS projects. Public-Private Partnerships can bring together resources, expertise, and innovation to implement large-scale and impactful nature-based initiatives (from D4.6). • Involve leveraging various funding mechanisms and strategies to support projects that support the effective realization of NbS (from D4.6).
Silo thinking	<ul style="list-style-type: none"> • Create cross-sectorial/cross-functional teams with representatives of different departments, unit or agencies that have expertise on the realization of NBS and/or are affected by the realization of NBS (D4.6). • Agree upon and define common goals or visions that require collaboration between different units and would support the uptake of NBS (D4.6). • Establish channels for open communication and exchange of information across different units, including regular meeting, shared knowledge and exchange platforms (D4.6).

Twinning

One of the key activities within RECONNECT that supported demonstrators and collaborators in addressing barriers is **twinning**. Twinning forms the basis of proof-of-concept regarding large-scale NbS as it enables project owners to exchange experiences, information, and good practices across cases. Twinning activities within RECONNECT, such as twinning workshops, fieldtrips, and other knowledge sharing opportunities, supported demonstrators and collaborators in addressing project barriers (Figure 3-3). Specifically, knowledge held by demonstrators was shared both with other demonstrators and with European and international collaborators to support the creation of new NbS cases. At the same time, collaborators were able to exchange experiences and discuss common barriers and enablers. Twinning activities supported project owners in addressing challenges related to stakeholder engagement, land ownership, NbS measure selection, and indicator development.



*Figure 3-3: Visit to the Zandmotor project during the Twinning Roadtrip after the 8th GA.
Photo by Laura van der Stelt.*

RECONNECT Example 3: Twinning Workshop in Barcelona

In March 2024, a RECONNECT workshop on Twinning took place in Barcelona, Spain (Figure 3-4), bringing together demonstrators and collaborators to discuss common project barriers and strategies to overcome them. Key barriers identified included inadequate regulations and procedures, lack of political will for long-term commitment, extended timescales between NbS implementation and their effectiveness, insufficient financial resources, and limited public knowledge and understanding. Despite these challenges, the workshop highlighted that increasing social and political awareness has the highest transformative potential. These factors, while not strongly influenced by other barriers, significantly impact the ability to overcome them. By promoting ecological and NbS awareness, fostering a sense of urgency, and advocating for long-term political commitments, these barriers can be addressed, paving the way for successful NbS implementation.

The 2024 twinning workshop was particularly important as it created a space for discussion and sharing of insights. This exchange was fundamental in gaining deeper understanding of NbS challenges and collaboratively finding common solutions to similar problems.

Throughout the RECONNECT project, twinning initiatives have been largely positively received by the project partners, especially by the NbS owners. In many instances the importance of experiencing the NbS projects in the field was highlighted. Given this feedback, the suggestion for future projects would be to make sure to allocate resources to these types of knowledge-sharing activities and on-field visits from the start.



Figure 3-4: Presentation at the Barcelona Twinning Workshop in March 2024

Selection of Measures

In most cases, demonstrators selected measures that have already been proven in practice, such as slope stabilization, reconstruction of canal banks, afforestation, and removal of dikes, and re-meandering streams. During RECONNECT, Demonstrators A and collaborators had the opportunity to learn from the experiences of Demonstrator B (Table 3-3). As part of the design phase, the twinning process enabled demonstrators and collaborators to exchange knowledge and expertise. While site conditions and contexts varied, twinning activities still enabled demonstrators and collaborators to share experiences some of the benefits and challenges associated with each measure type. Demonstrators and collaborators also found that the Measure Select Tool helped to support decision making around the most appropriate measure for the site challenge, but found it required thorough assessment by local experts to filter out measures that were not feasible.

Table 3-3: Common NbS technical solutions applied by demonstrators (Adapted from D2.4).

NbS measure	Planned by Demonstrator A	Implemented by Demonstrator B
Construction of retention area, rain beds	DA1	DB1, DB3
Real time controlling system, flood alert tools	DA1	DB1, DB6
Removal of vegetation, removal of hedges and hedgerows, cleansing ditches	DA2	DB1, DB6
Re-meandering of streams, restoring gullies/trenches	DA2	DB1, DB3, DB4
Removal/excavation of dikes or other engineering structures	DA2	DB3, DB4, DB5
Construction of new dikes or other engineering structures	DA2	DB3, DB6
Construction of new specific zones (recreational - beaches, or biodiversity - birds islands, etc.)	DA2	DB3, DB6

Removal of vegetation, removal of hedges and hedgerows, cleansing ditches	DA4	DB1, DB6
Planting trees/bushes/vegetation	DA4	DB1, DB2, DB4
Terraces restoration, Rebuilding/maintenance of protective walls	DA4	DB2
Slopes stabilization, reconstruction of canal banks	DA4	DB2, DB4, DB5, DB6
Drainage systems, creating bypasses, pumping stations demolition	tbd	DB1, DB2, DB3

The analysis of potential NBS measures is based on the methodology developed within *Deliverable 4.2 - Baseline assessment and potential for NbS in Collaborators*. It consists of two main parts:

1. preliminary selection of measures (screening) from the RECONNECT catalogue of measures using the Measure Selection tool, and
2. a multicriteria analysis (MCA) of the potential measures, which incorporates stakeholders' preferences about different goals.

The first step of the methodology allows to select the measures which are generally suitable for the focus area. The second step assigns a weight to each selected measure based on the stakeholder preferences about main goals and subgoals related to water, nature and people as the main challenges. Consequently, it allows to rank the measures according to their scores and to shorten the list of potential measures. Such an approach can be followed by a more detailed analysis that could consider cost-effectiveness and feasibility of the measures, thus facilitating the decision-making process of implementing NbS. Top ranked measures by collaborators are presented in Table 3-4 (*Deliverable 4.2 – Baseline assessment and potential for NbS in Collaborators*).

Table 3-4: List of top ranked measures in all collaborator sites for hazards of most concern (from Deliverable 4.2 – Baseline assessment and potential for NbS in Collaborators).

Top ranked measures		
Floods	Floods and landslides	Floods and droughts
Urban trees/parks	Reforestation and forest conservation	Floodplain excavation/enlargement/restoration
Floodplain excavation/enlargement/restoration	Afforestation, forests and naturally vegetated land	Wetland restoration/enhancement
Upper watershed restoration	Detention basins	Bypass/diversion channels
Afforestation, forests and naturally vegetated land	Floodplain excavation/enlargement/restoration	Reconnection of oxbow lakes and remeandering
Wetland restoration/enhancement	Deepening water bodies	Retention ponds
Buffer strips	Wetland restoration/enhancement	Detention basins
Reforestation and forest conservation	Upper watershed restoration	Sand dam
Retention ponds	Live/rock check dams	Buffer strips
Natural bank stabilisation	Bypass/diversion channels	Natural bank stabilisation
Reconnection of oxbow lakes and remeandering	Lake restoration	
Detention basins	Vegetated slope techniques	
Rain gardens / Bio-retention area		
Widening of water bodies		
Bypass/diversion channels		
Deepening water bodies		
Dike relocation		
Intensive green roofs		
Lake restoration		

Involving stakeholders into the process of selecting measures allows the introduction of additional relevant local information that might otherwise be unnoticed/disregarded by

the engineers¹. In this way, a selection of the most suitable and effective measures for a specific area and hazard type is ensured. This is important for the successful implementation and sustainable exploitation of a specific measure and, therefore, for long-term risk reduction and effective water resources management (Deliverable 4.2 – Baseline assessment and potential for NbS in Collaborators).

RECONNECT Example 4: Selection of measures in the Tamnava river basin

In the Collaborator Tamnava River Basin in Serbia, several suitable NbS measures were identified during the planning phase including retention ponds, afforestation and reforestation, floodplain restoration, buffer strips, and removing obstacles along the watercourse. *Figure 3-5* presents an example of the ranking of measures, displaying the partial scores of each measure in relation to six main goals (i.e., water quantity, water quality, habitat structure, biodiversity, socio-economics, human well-being). This graph combines the performance score of each measure with the stakeholder weight for each sub-goal and main goal. It can be observed that the partial score for flood and landslide risk reduction (i.e., “main risk”) is comparatively lower than the scores for other goals, such as benefits and co-benefits. This highlights the importance of including both primary benefits and co-benefits in the analysis, ensuring that communities and ecosystems can fully benefit from the selected NbS measures. If the measures in *Figure 3-5* were prioritized solely based on risk reduction, the measure of terracing would be ranked higher than, for example, natural bank stabilization, which offer more co-benefits for both nature and community goals (Deliverable 4.2 – Baseline assessment and potential for NbS in Collaborators).

Moreover, follow-up discussions with local stakeholders also contributed to the narrowing down of the plausible measures to adopt. Specifically, wet swales were also considered but were disregarded by stakeholders because they were seen as too expensive and more challenging to implement due to land ownership issues. This illustrates the importance of involving stakeholders early on so to eliminate measures that are not suitable to the local context and could present challenges. In addition to that, demonstrators and collaborators reported that co-creation activities strengthened relationships with residents, built community trust by interacting directly with interested parties, and led to knowledge exchange and local insights. Co-creation activities were found to be useful for building consensus across diverse groups when there was disagreement or competing priorities among stakeholders.

¹ Ruangpan, et al., (2021). Incorporating stakeholders' preferences into a multi-criteria framework for planning large-scale Nature Based Solutions. *Nature-based Solutions in River Landscapes*, 50, 1514-1531.

EC-3c Tamnava River (floods + landslides)

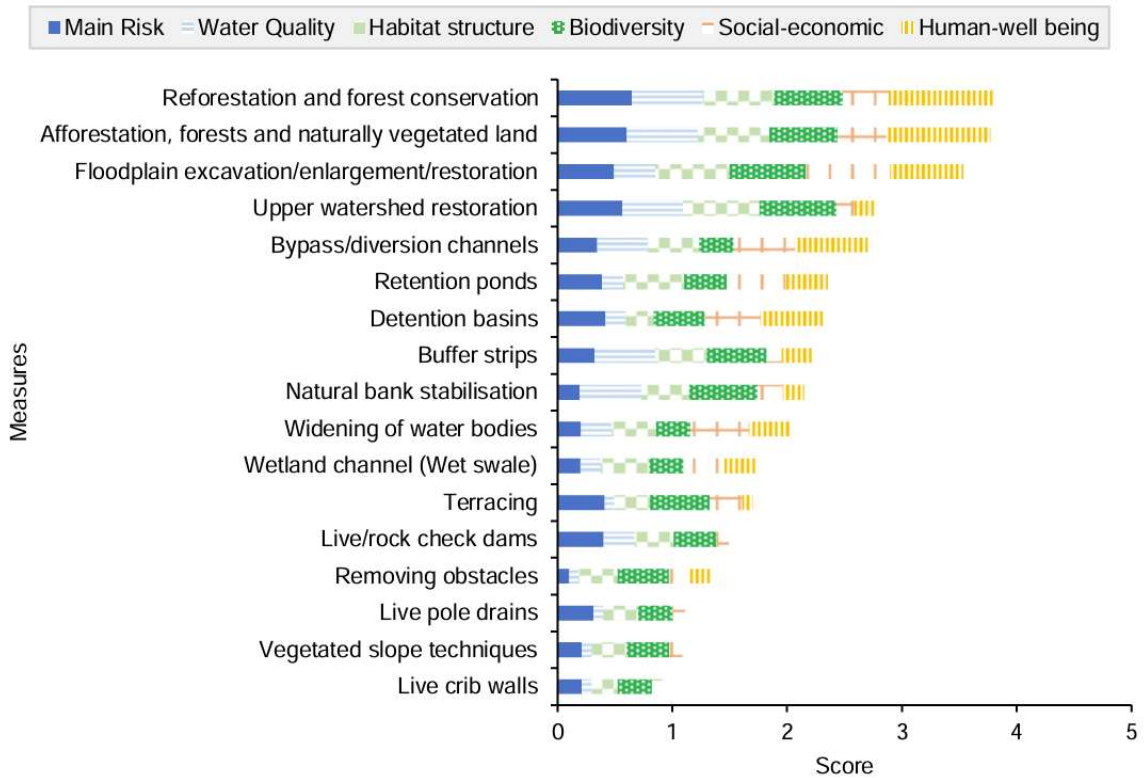


Figure 3-5 Example of the ranking of measures from the Tamnava River, Serbia (from Deliverable 4.2 – Baseline assessment and potential for NbS in Collaborators)

Indicator Selection

As part of the planning phase, demonstrators and collaborators identified preliminary key performance indicators (KPIs). Selecting KPIs during the planning phase aids with goal identification, assessing the benefits of different types of NbS, and ensures the benefits of the chosen solution can be qualified and quantified during the MEL phase. When selecting KPIs, it is important that all potential benefits of NbS (i.e., economic, environmental, and social) are taken into consideration. Failing to set KPIs across the multiple benefits of NbS (for people, nature, and water) can be harmful as it limits the opportunity to gain a holistic overview of the project’s benefits and may limit the project’s ability to attract a diverse range of stakeholders. Moreover, indicators should be developed through a co-creation process that takes into consideration the goals and preferences of local stakeholders. For example, in Seden Strand, Odense a wide range of stakeholders participated in indicator selection. Stakeholders had diverse interests, including protection of residential areas from flooding, limiting biodiversity loss in and outside of Natura 2000 protection, and the protection of coastal landscapes for recreational use. Because stakeholders, such as local authorities, sectoral agencies, NGOs, and the public were involved in the planning process, their interests were taken into consideration to ensure that all potential co-benefits of the NbS were defined and assessed.

During RECONNECT, the NbS KPI Selection Tool was developed by IHE Delft to assist with indicator identification. The tool outlines 91 indicators across three categories: water, nature, and people. One of the key learnings from the Indicator Selection Tool was around selecting people indicators. Demonstrators and collaborators noted that the Indicator Selection Tool introduced new ideas related to people indicators, including how to measure the societal benefits of NbS and better frame the benefits of NbS across people, nature, and water. The Indicator Selection Tool also supported new learnings around

quantifying and designing for co-benefits as it helped project owners identify a range of different goals and how to measure them through indicator selection.

The updated monitoring programmes revealed that on average during the RECONNECT project's lifetime, the selected number of sub-goals for A-demonstrators decreased from 10 to 4.5 sub-goals. This reduction was expected since the Tool's purpose is to identify the most relevant indicators for the project. By selecting the most pertinent indicators, the project can allocate its budget more effectively, ensuring that time and resources are directed toward the most critical areas. Specifically, half of the chosen indicators focused on monitoring NATURE, and approximately 25% of indicators were on both PEOPLE and WATER. Overall, A-demonstrators retained 43% of the original sub-goals on average.

For B-demonstrators, the initial monitoring programme had an average of 5.7 sub-goals, nearly evenly spread across the three challenge areas. NATURE comprised the highest proportion. The revised monitoring programme saw an average increase of 0.67 sub-goals, primarily in the challenge area WATER. Meaning, that the evaluation highlights the necessity of revisiting the monitoring program, particularly for newly developed NbS, and underscores the potential underestimation of resources and costs associated with monitoring.

The Indicator Selection Tool ensures that the right balance is struck in the selection process. While it is essential to avoid selecting too many indicators, which can dilute focus and waste resources, there is also a risk of selecting too few indicators, potentially omitting important aspects of the project. Across demonstrator and collaborator projects, some of the most commonly selected sub-goals were flood risk reduction for the goal water quantity, the sub-goal maintaining and enhancing biodiversity for the goal biodiversity and increasing recreational opportunities and stimulating economic benefits for the goal socio-economics.

Pre-Feasibility and Business Case Development

As part of the planning phase, demonstrators and collaborators analyzed the knowledge gained through pre-feasibility studies activities such as hazard, vulnerability, and risk assessment, cost-benefit analysis, and multiple-criteria assessments. The data collected as part of this exercise was used by demonstrators and collaborators to understand site challenges and select preferred solutions based on stakeholder feedback, site conditions, and hazard identification. RECONNECT tools and processes, such as twinning, the measure selector tool, NbS suitability mapping tool, and multi-criteria analysis tool, were used by demonstrators and collaborators to support measure identification, selection, and placement.

Collecting data and information not only helped to learn about the mechanisms that contribute to the hazards and risks in the area but was also important for understanding possible effects of the potential NbS measures on particular risk components. Baseline data collection was therefore essential for any future evaluation of NbS performance. Because of the multiple dimensions of the expected NbS outcomes, it was vital that the baseline assessment covered all aspects that were important for demonstrating the benefits of the proposed solution in the co-evaluation stage (i.e., lack of the baseline data may lead to impossibility to evaluate certain benefits from NbS and consequently limit their value). This means that indicators should be carefully selected to allow both ex-ante and ex-post evaluation (Deliverable 4.2 - Baseline assessment and potential for NbS in Collaborators). Moreover, sharing knowledge, data and methods (i.e., models and analysis programs) across institutions, stakeholders and RECONNECT partners was repeatedly mentioned as a key factor to allow for the proper analysis of risks in the various case studies.

The planning phase also involves the development of a business case and financing strategy which takes into consideration the complexity and multi-dimensional value of NbS. Traditionally, a “business-as-usual” (BAU) business case for infrastructure development outlines a case for the project including costs, associated risks, as well as pros and cons, alternative options, actions to take, identification of potential barriers, and the predicted timescales over which the project will be completed. However, traditional approaches to business model development are unable to fully capture the benefits derived from NbS. One of the key learnings from RECONNECT is that new methods are required to illustrate the multi-dimensional value of NbS. Demonstrators and collaborators noted that cost-benefit analysis (CBA) and other types of analyses that include non-market cultural, social, and ecological benefits are essential for qualifying and quantifying the multiple benefits of NbS. Non-monetary value can be communicated through tools such as the Business Model Canvas for NbS or the Investment Framework.

Conversely, two of the primary ways in which monetary value can be captured from NbS is through the sales model (i.e., payment for ecosystem services or commodity sales) or through cost reduction and avoided damages (investment to avoid future damages).

Overall, since NbS lack a built-in revenue stream, to access funds from sources beyond public budgets, innovative collaboration among stakeholders and a diversification of funding sources is necessary. Leveraging private sector investments, using climate adaptation grants and loans, and building capacity to understand diverse investment opportunities are crucial steps for demonstrators and collaborators. Showing the measurable value of NbS is essential for gaining financial support. Additionally, aligning projects with regulatory frameworks such as the EU Taxonomy can address financial barriers and enhance the attractiveness of NbS to investors. These insights can help to effectively strategize, attract funding and implement successful projects (Deliverable 5.2 – Governance, Business Models, and Investment Strategies for Large-Scale Nature-Based Solutions).

RECONNECT Example 5: Business case development in the Chao Praya River

The Chao Phraya River project in Thailand, is a successful example of showing the value of NbS to gain financial support from private investors. Firstly, NbS interventions have proven instrumental in protecting agricultural lands from floods and droughts, enhancing soil quality, and thereby improving crop yields and market opportunities for farmers. These economic benefits attracted private sector interest, particularly from companies reliant on agricultural produce or water. Such companies, like Coca-Cola in this project, were motivated to invest in NbS to ensure the sustainability of their supply chains. Additionally, international companies aiming to build a sustainable brand image and meet sustainability compliance requirements find NbS projects appealing for preferential financing opportunities. The project's success underscores the potential for NbS to secure diverse funding sources, including government grants, private sector investments, and international support, by delivering tangible co-benefits like improved agricultural productivity and water security (Deliverable 5.2 – Governance, Business Models, and Investment Strategies for Large-Scale Nature-Based Solutions, Annex C).

3.2 Design

In the design phase, the NbS concept developed in the planning phase is translated into a specific plan. In this phase, the pre-feasibility study and preliminary business case are evaluated and updated based on the co-design process with stakeholders.

During the planning phase, demonstrators and collaborators developed a pre-feasibility study and a business case. As part of the design phase, demonstrators A defined a more

specific plan for project implementation, including selecting measures, updating the business case, undertaking a feasibility assessment, acquiring land if necessary, developing indicators to be used for MEL, and acquiring permits. The design phase also involves co-creation activities with stakeholders.

Co-Design

RECONNECT's social innovation approach was concretized through engagement with partners and stakeholders. Co-creation methodologies were utilized by demonstrators A in the design phase as well to identify challenges, needs, and the desired benefits of NbS from the perspective of different stakeholders. Some of the most effective methods utilized by demonstrators to engage stakeholders include expert interviews to strengthen the evidence base and gather qualitative information, focus groups to identify community concerns, values, and perspectives, and presenting evidence on the benefits of NbS to different groups so to support informed decision making and gain political support (Figure 3-6). Project owners also facilitated field trips to existing NbS sites to show real world examples of the benefits and effectiveness of NbS cases, which helped to illustrate the value of NbS to non-expert stakeholders. It is important to demonstrate, in a practical way, and with practical actions, the effectiveness of NBS against hydro-meteorological events, and convince local politicians and decision makers to adopt these solutions, as alternative or in combination with grey infrastructures.



Figure 3-6: Participants and outcomes of discussions from the 1st Regional Workshop in Hamburg (July 2022) including residents, local politicians and water, soil and nature conservation organizations. Pictures taken from the 8th General Assembly's presentation of the Elbe Estuary Demonstrator.

A key learning from the design phase on the co-design process is to always contextualize NbS measures to ensure their relevance to different stakeholders by, for example, highlighting benefits related to biodiversity, health, economics, social cohesion and place-making, or disaster risk reduction.

Stakeholder engagement in this phase may take different forms, but a guiding principle to understand for each stakeholder group is "What's in it for us". For the municipalities and private property owners, there may be an interest in reducing the risk and impact of devastating floods. For farmers there may be an interest in reducing risk of failed crops/harvest in certain areas prone to flooding, for nature conservation NGOs there may be an interest in getting more nature and biodiversity to a certain area. To the national authorities there may be a need or interest in attaining certain sustainability goals (Deliverable 6.5 - RECONNECT's Engagement Strategy).

RECONNECT Example 4: Co-design in the Hovmarksparken Climate Adaptation project

In the Greater Aarhus – Lystrup Climate Adaptation project, citizens of Lystrup participated in several workshops led by the University of Aarhus and the private company 'Habitats'. The aim of the workshops was to ensure the local relevance of NbS projects in addressing environmental, health, economic, socio-political and technical issues. During these workshops, residents generated ideas for the future recreational use of Hovmarksparken as part of the 'Wild on Purpose' initiative, which aims to enhance urban biodiversity through private initiatives. This approach extended stakeholder involvement beyond mere information sharing, enabling citizens to actively participate in selecting and co-designing recreational features for the area (Figure 3-7) (Deliverable 5.4 - Standards for Planning, Design, Implementation, Monitoring, Evaluation of large-scale NbS).

Figure 3-7 Examples of NbS features (i.e., the introduction of cattle managed by the residents and the sowing of native plants around the new basin) co-designed with citizens in the Demonstrator B Greater Aarhus (Hovmarksparken), as shared by Aarhus Municipality.



Business Case and Feasibility Study

Findings from co-creation activities during the design phase should be integrated into the updated business plan, feasibility study, and implementation plan. The business case should be refined based on key metrics, an updated understanding of risks and opportunities, new data, and revised goals and financial projections. The business case should also outline how project activities will be paid for and identify the funding gap (if applicable). One of the key learnings from RECONNECT is that co-financing / co-funding is an important strategy for securing investment in NbS. Co-financing / co-funding spreads the financial burden across multiple stakeholders, such as government, NGOs, landowners, and private sector stakeholders, and promotes partnerships and collaboration between public and private entities. NbS project owners should look to non-traditional investment partners, such as business owners, to identify synergies and potential funding partnerships.

During the design phase, a feasibility study is conducted to assess the site, identify challenges, and evaluate the suitability of the selected measures. The feasibility study should act at the foundation for understanding the benefits, risks, and resource requirements of the project and should cover a range of different aspects including technical feasibility, economic viability, and the project's social and environmental impact. The goal of the feasibility study is to identify the most suitable measures and implementing arrangements for the site. One of the key learnings from the feasibility

Lessons Learned from Demonstrators and Collaborators – D5.8

studies conducted during RECONNECT is that the ranking of measures using multi-criteria analysis may result in disfavoring certain useful measures. The final selection of the measures should therefore be made in close cooperation between experts and stakeholders.

RECONNECT Example 5: Feasibility study in Seden Strand

The measures selected for the Demonstrator A Seden Strand include constructing a new dike, remeandering streams, and establishing nature trails. The project prioritized multi-benefits, such as improved flood protection, enhanced natural habitats, and better public access. Stakeholders, including landowners, NGOs, residents, and politicians, were involved early in the process to ensure broad acceptance and support. Landowners, being crucial for the implementation, were engaged through negotiations and face-to-face meetings to address their concerns and secure their cooperation. NGOs and residents were informed and included to foster community support. Political acceptance was facilitated through alignment with existing risk management and Natura 2000 action plans. This comprehensive stakeholder involvement ensured the project addressed local needs and preferences, enhancing its feasibility and long-term sustainability (from Deliverable 2.4 – Technical specifications and procurement process for Demonstrators A and B).

Land Acquisition

During the design phase, project owners must secure access to land through acquisition or a long-term lease. Within RECONNECT, the process of land acquisition is regarded as one of the greatest barriers to the implementation of NbS as it is costly, time consuming, and requires significant political and community support.

There are many different approaches to land acquisition, including land purchase, land swap, and land lease. Land purchase is the most traditional approach to acquiring land but is also the costliest as it requires a significant initial investment as well as ongoing maintenance costs. In cases where the implementing agency, such as the public sector, already owns land, a land swap may be an advantageous option. In a land swap agreement, a private landowner would swap land with a government stakeholder, allowing for both parties to benefit without the need for a monetary transaction. Finally, a lease agreement provides another avenue for securing land access for NbS, particularly when landowners are unable to utilize their land for economically productive purposes.

RECONNECT Example 6: Agreements with landowners in Seden Strand

As part of RECONNECT, Odense Municipality engaged extensively with landowners exposed to coastal flooding to showcase the benefits of NbS and identify opportunities for the co-creation of NbS on their land. After extensive consultation, Odense Municipality entered into an agreement with landowners at Seden Strand to implement a NbS on non-productive agricultural land. As part of the arrangement, the municipality agreed to undertake all costs associated with project implementation as well as monitoring activities for 5-years post implementation in exchange for using private land. After this five-year period, the responsibility of monitoring and ongoing maintenance will be transferred to landowners. This arrangement benefits landowners and the wider community as it mitigates coastal flooding, improves recreational space, and enhances local biodiversity. One of the key lessons learned from this case is to engage landowners early in the co-creation process so to demonstrate the benefits of NbS and identify mutually beneficial arrangements for acquiring land to implement NbS.

Permitting

During the design phase, project owners must also secure the necessary permits. One of the key learnings from the experiences of demonstrators B is that there is no unified approach to acquiring permits or procuring goods and services that can be applied across different geographies. This is because the issuance of permits and organization of tender procedures is an exclusive function of local and national governments and requirements vary by jurisdiction. Across RECONNECT demonstrator sites, there was also a wide variation in the costs associated with procurement as well as the conditions for negotiated tenders. The terms for obtaining permits are also variable across geographies and are dependent on specific local rules and the characteristics of the selected NbS.

3.3 Implementation

The implementation phase involves identifying actionable steps to develop the NbS and then carrying out the work; it consists of two sub-phases: construction and operation and maintenance (O&M). The primary goal of construction is to develop a physical asset whereas O&M aims to ensure the ongoing functioning and upkeep of infrastructure and is therefore an ongoing process. One of the key lessons learned through RECONNECT is that the implementation of NbS requires a multidisciplinary team so to ensure all the benefits and functionalities of the project are realized. The implementing team should have the expertise to address the main challenges, focus areas, and goals agreed with stakeholders. The team should also be able to support the effective development of an O&M plan and evaluation of NbS effects. If the planning and design phases are comprehensive, the implementation of the project should be smooth, and actions should already have been taken to mitigate any risks or setbacks to implementation.

As part of RECONNECT, demonstrator A cases in the Elbe Estuary (Hamburg, Germany), Seden Strand (Odense, Denmark), and Portofino Natural Park (Portofino, Italy) were implemented. Tordera River Basin (Catalonia, Spain) did not complete investigation and planning phase, and hence didn't start construction.

RECONNECT Example 7: Learnings from implementation in Portofino Natural Park

The work done for the NbS implementation in the Portofino Natural Park case study led to the understanding that implementing a holistic, catchment-scale, ecosystem-based approach is essential for effective risk management, especially when working with small-scale implementations. This approach involves assessing instability areas, active gravitational processes, and the spatial relationships with the stream network and exposed elements. Moreover, prioritizing interventions based on a systematic scale is vital for addressing the complex interplay of natural and anthropogenic factors. The application of NbS can significantly reduce debris and mud flow source areas, manage running water effectively, and prevent the saturation of culverts. Enhancing the safety and usability of trails through proper maintenance not only benefits visitors but also protects cultural heritage sites.

Construction

During the construction phase, the contractor is responsible for preparing the site for construction, ensuring the necessary safety and quality control measures are in place, validating site conditions through testing for, for instance, heavy metals, soil composition, hydraulic connectivity, pH, and percentage of organic materials present in the soil, and developing a construction plan. The contractor is then responsible for carrying out construction work. Under RECONNECT, the NbS in Seden Strand and Portofino Natural Park were fully constructed (Figure 3-8).



Figure 3-8 Pictures of the specific NbS works. Clockwise from the top left: removal of trees; creation of the new dikes; nature plug ins (the rocky pits in the dike, providing habitats for amphibians); creation of the new watercourse (from D5.4 – Standard for Planning, Design, Implementation, Monitoring, Evaluation of large-scale NbS).

Operation and Maintenance

O&M refers to specific tasks that enable the long-term success of the NbS. Following the construction phase, a set of tasks are defined and shared with the project operator to outline ongoing and periodic O&M tasks. O&M tasks can be shared between different stakeholders, such as the municipal drainage department, water utility, and landowners. For example, in Seden Strand (Odense, Denmark) it was agreed that Odense Municipality is responsible for O&M for three years following construction and then the responsibility of ongoing O&M would fall to the landowners who benefited directly from the NbS.

As part of the implementation phase, a comprehensive maintenance strategy that defines both proactive and reactive approach is essential to ensure the long-term function of the NbS. Examples of ongoing O&M tasks include ensuring a consistent flow to constructed wetlands, checking for evidence of preferential flow paths, checking for sediment accumulation, checking for damage from animals or insects, checking for erosion, and replacing broken or damaged materials.

Key O&M approaches from both Portofino Regional Natural Park and the the IJssel River basin project (‘Stroomlijn’) projects revealed the importance of selecting highly efficient NbS measures which require minimal maintenance efforts.

RECONNECT Example 8: O&M learnings from Stroomlijn and Portofino Natural Park

The main goal of the Stroomlijn project was to remove vegetation to allow for better water discharge. Vegetation types were removed/maintained at the river floodplains, and transformed into vegetation types that allow for better water discharge and reduce maintenance costs (Figure 3-9). Vegetation is expected to grow back within years (shrubs, low vegetation) to decades (trees) and it will be the landowners' responsibility to carry out the maintenance tasks (Deliverable 2.6 – Co-monitoring and co-evaluation plans for Demonstrators A and B).

Similarly, in the Portofino Regional Natural Park the NbS measures itself focused on maintenance activities. Maintenance of dry-stone wall contributed to restore old terraces and re-incentivize agricultural activities, while maintenance of hiking paths ensured slope stabilization and reduce erosion processes (Figure 3-10). The NbS measures maintenance plan is going to be divided between the Park authority and the three Municipalities of Santa Margherita Ligure, Portofino, and Camogli. Good coordination between stakeholders is needed, as maintenance activities also involve extensive stakeholder engagement to ensure effective implementation and sustainability over time (Deliverable 2.6 – Co-monitoring and co-evaluation plans for Demonstrators A and B).



Figure 3-9 The Stroomlijn project, in the Netherlands (from Deliverable 2.8 – Guidelines for design, construction and maintenance of large-scale NbS).



Figure 3-10 Portofino Regional Natural Park, Terrace recovery in the Paraggi pilot area (from Portofino Park Demonstrator A, presentation at the 12th RECONNECT General Assembly, Belgrade, 2024)

3.4 Monitoring, Evaluation, and Learning (MEL)

MEL is an ongoing process integral to enhancing project outcomes and guiding future decision making. Within RECONNECT, many activities and deliverables were structured to develop capacity around MEL as a method for demonstrating and upscaling the benefits of NbS. Effective monitoring and evaluation plans are crucial for the long-term success of NbS and contribute to the reference framework on the benefits of NbS. Moreover, monitoring and evaluation provides essential data that can be presented to stakeholders to demonstrate the value of NbS, which contributes to legitimizing NbS as a viable solution to a wide range of challenges. During the MEL phase, project owners are responsible for developing a monitoring program that systematically tracks project progress and outcomes based on a series of key performance indicators (KPIs). This phase also involves engaging with stakeholders in a process of co-evaluation and co-monitoring as well as collecting and disseminating learnings from the project to a wider audience.

During the MEL phase, project owners collect data and report on the indicators defined during the design phase. Indicators should be scientifically sound, practical, context specific, align with policy principles and reporting obligations, and be multi-disciplinary. As part of RECONNECT, demonstrators A and collaborators were responsible for selecting indicators, whereas demonstrators B were responsible for carrying out MEL activities.

Monitoring

Monitoring is a critical part of upscaling NbS as it contributes to building the evidence base on NbS through the development of different datasets. As part of monitoring activities, project owners should assess the effectiveness and defined benefits of NbS through collecting qualitative and quantitative data.

RECONNECT Example 9: Monitoring of Lake Egå in Greater Aarhus

Periodic monitoring of water quality revealed that the retention period in Lake Egå (Figure 3-11) was longer than anticipated, resulting in higher water temperatures and lower oxygen levels. These conditions can be detrimental to the lake's aquatic fauna, particularly for fish undergoing smoltification (the physiological process where young salmonids adapt from freshwater to seawater). Thanks to an effective monitoring program, the issue was identified in time, and updates to the water discharge management solutions are being planned (Deliverable 5.4 - Standards for Planning, Design, Implementation, Monitoring, Evaluation of large-scale NbS).



Figure 3-11: Lake Egå surrounded by grazed meadows with Aarhus Bay in the background (from Deliverable 2.3 - Scope of Works for Demonstrators A and B).

Despite work on selecting and measuring a wide range of indicators for people, nature, and water, assessing the environmental and social benefits of NbS (or co-benefits) was still a challenge for project owners. This may be due to a lack of data, challenges in quantifying the long-term benefits of NbS, lack of capacity to collect qualitative data, and financial constraints. For instance, despite having an action plan for monitoring indicators related to PEOPLE, most demonstrators B faced challenges with the assessment and evaluation of these indicators. As part of RECONNECT, support was provided to aid demonstrators with the assessment of people indicators, however, more support is required to streamline the evaluation of people indicators in the future. One strategy for over-coming the challenge is to involve stakeholders in monitoring activities (co-monitoring). Monitoring methodologies that assess the environmental and social impact of NbS rely upon active feedback from “users” through, for instance, surveys on the “willingness-to-pay”. Co-monitoring also supports efforts to showcase the social and environmental benefits of NbS to citizens and decision makers.

Evaluation

The data collected through monitoring activities should be used to evaluate how successful the NbS is in achieving its goals, objectives, and KPIs. Findings from the evaluation process can be used to adjust the performance of the NbS, thereby increasing its value. Findings from the evaluation can also be disseminated to stakeholders to showcase the value of NbS across a set of KPIs. Within RECONNECT, the results from the evaluation of KPIs were compared to baseline values/situations, either previously monitored or inferred from pre-existing data. This allowed for the assessment of the

impact of the NBS measure in meeting the defined goals. As part of this process, demonstrators and collaborators engaged in twinning activities to enhance knowledge around baseline assessments and monitoring and evaluation methodologies. Moreover, twinning supported project owners in understanding the trade-offs between benefits, co-benefits, and unintended impacts of NbS. Tools, such as the ICT Platform, can help project owners monitor and evaluate NbS. Also, dashboards and visualization tools can help project owners analyze large datasets and are important tools in disseminating the learnings from monitoring and evaluation activities to a wider audience.

RECONNECT Example 10: Co-evaluation of Demonstrators

An important component of RECONNECT's goal of developing an evidence base on NbS was the concept of co-evaluation across case studies, i.e. to compare the results of different NbS from different locations and different hydro-meteorological hazards against one another. This process is expected to provide an overview of the most successful monitoring methods and NbS approaches. Given the differences between the various case studies, the Demonstrators' results will be compared via a novel Mixed Method Appraisal Tool using 17 questions to be evaluated by two experts external to RECONNECT. Some examples of the questions are: "Is the interpretation of results sufficiently substantiated by data?", "Was the data collection approach appropriate to evaluate the sub-goal?", "Is there quantitative/qualitative proof that the hazard has decreased?"

This new approach to co-evaluation and its results are to be presented in Deliverable 3.6 – Co-evaluation of Demonstrators, which is due by the end of the RECONNECT project.

As mentioned in the example, the co-evaluation of RECONNECT Demonstrators is still not completed, however, the preliminary outcomes of this ongoing assessment highlight the importance of concrete methodologies and standardized approaches for a clear evaluation of project's results.

Once completed, Deliverable 3.6 is expected to provide more detailed lessons learned on co-monitoring and co-evaluation, which will be beneficial for collaborators and future projects beyond RECONNECT.

Learning

Learning from the implementation and ongoing monitoring and evaluation of NbS projects contributes to innovation within RECONNECT. Innovation is a central theme within RECONNECT and involves building awareness of RECONNECT outcomes, developing capacities to plan, design, and implement NbS, and influencing laws and policies so to enable the upscaling of NbS. The latter objective is based on the recognition that root causes of social problems transcend place, and that innovative approaches to hydrological risk reduction must be established in law, policy, and institutions.

RECONNECT Example 11: Impacts on policy in Seden Strand and Hamburg

In Seden Strand, Odense, the successful implementation of NbS has significantly shaped local policy, feeding into the Biodiversity Action Plan and the 2024 Climate Adaptation Action Plan of Odense Municipality. Odense Municipality has demonstrated a strong commitment to promoting extensive biodiversity and achieving climate neutrality by 2030. These dynamic plans, backed by broad political consensus, highlight the critical role of NbS in influencing policy decisions. A similar success story can be seen in Hamburg, where an additional permanent position has been added at the Water Directorate of the Ministry of Environment to support hydrological risk reduction and NbS implementation.

The experiences in Seden Strand and Hamburg underscore the transformative impact of NbS on policy development and implementation. Key lessons learned include the importance of strong municipal commitment, the need for broad political consensus, and the value of continuous, dynamic planning. These factors are crucial in demonstrating that NbS can effectively drive significant environmental policy changes and sustainable development.

Learning from the implementation of NbS involves disseminating knowledge through activities such as workshops, co-creation sessions, graphically driven reports, and sustained stakeholder engagement (Figure 3-12). Learning also involves sharing exploitable results. Within RECONNECT, publications and reports were the primary exploitable output and way to share learnings, with many demonstrators and collaborators reporting that RECONNECT enabled the publication of reports, papers, and other educational materials. Demonstrators and collaborators also reported that RECONNECT activities supported the development of tools and models that are already being used by the private sector.

RECONNECT Example 12: Developed tools to be used for dissemination and upscaling

Key examples of RECONNECT tools are the “RECONNECT Indicator Selection Tool”, and the “RECONNECT Indicator Assessment Methodologies”. Both tools have been successfully used by demonstrator and collaborators to select relevant indicators needed to monitor NbS impacts, and to develop methodologies to assess the selected indicators (Deliverable 2.6 – Co-monitoring and co-evaluation plans for Demonstrators A and B). The monitoring data is then displayed on the “RECONNECT Service Platform”, which is an ICT platform combining network distributed data, intelligent tools and standardized web-services, accessible through a centralized catalogue of network services (D2.6 – Co-monitoring and co-evaluation plans for Demonstrators A and B). Moreover, best practices, challenges, and solutions from RECONNECT outputs have been compiled to establish NbS standards, including all life-cycle phases: planning, design, implementation, and monitoring, evaluation, and learning (MEL) (from Deliverable 5.4 – Standards for Planning, Design, Implementation, Monitoring, Evaluation of large-scale NbS).

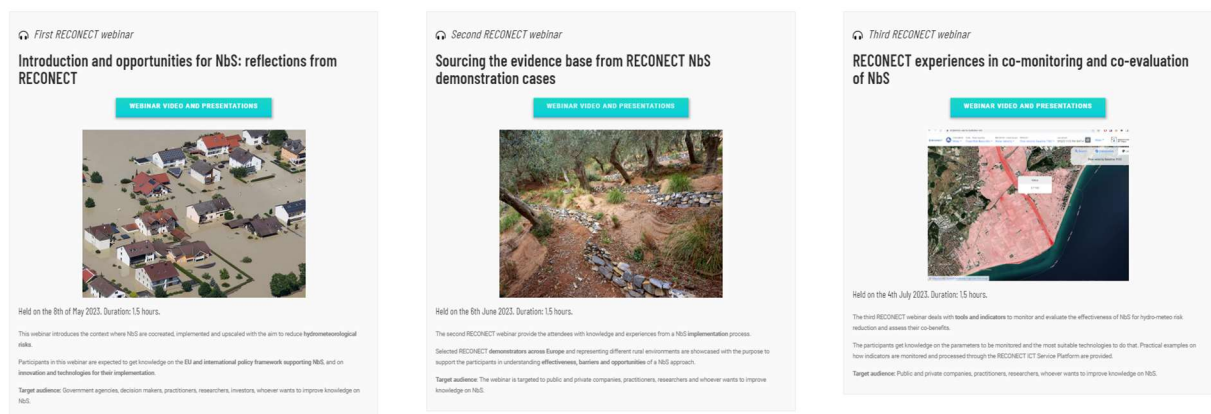


Figure 3-12: The three RECONNECT webinars on the RECONNECT website. This series had the aim to educate and create awareness on the RECONNECT experience and outcomes during live streamed events.

4 RECOMMENDATIONS AND CONCLUSION

D5.8 presents a synthesis of lessons learned during RECONNECT from the perspective of demonstrators and collaborators.

The lessons learned presented in this deliverable were discussed in relation to the project life cycle phases. However, many of the lessons learned are applicable across all project phases. Key learnings include the importance of co-creation and stakeholder engagement, the value of analytical tools and frameworks for decision making and project planning, the importance of data collection, monitoring, and evaluation, and the role of knowledge dissemination and capacity building for gaining support for NbS. The path towards successful NbS implementation requires continuous learning, collaboration, and a commitment to innovation. Some of the key recommendations emerging from this deliverable are listed below. These recommendations come from the experiences of demonstrators and collaborators and should be considered as part of future efforts to develop NbS.

- **Develop concrete methodologies and standardized approaches:** Improve the clarity and replicability of project activities by providing concrete methodologies and standardized approaches. This can involve developing guidelines, toolkits, or manuals that outline step-by-step processes and best practices for implementing specific activities. Clear methodologies will facilitate the replication and adoption of successful approaches in future NbS projects. See *Deliverable 5.4 – Standards for Planning, Design, Implementation, Monitoring, Evaluation of large scale NbS*, for a more detailed discussion on the role of standards in NbS.
- **Provide training and capacity-building:** Offer training programs and capacity-building initiatives to enhance stakeholders' communication, facilitation, and networking skills. This can help them effectively engage in co-creation activities and navigate challenges related to stakeholder identification, question formulation, and consensus-building.
- **Allocate sufficient time and resources:** Recognize that co-creation is a time-consuming process and allocate adequate time and resources for stakeholders to engage meaningfully. Ensure that project timelines and budgets account for the various stages of co-creation, including planning, design, implementation, and evaluation.
- **Foster collaboration and knowledge sharing:** Facilitate opportunities for stakeholders to collaborate and share knowledge and experiences across different projects and initiatives. This can be achieved through regular workshops, forums, or online platforms where stakeholders can learn from each other, exchange best practices, and address common challenges related to co-creation. Emphasize the identification and sharing of transferable lessons and strategies that can be adapted to different geographical, political, and socio-cultural contexts.
- **Evaluate and learn from the co-creation process:** Conduct regular evaluations of the co-creation process to identify areas for improvement and capture lessons learned. This feedback loop will enable stakeholders to refine their approach, adjust strategies, and continuously enhance the effectiveness of co-creation efforts.

- **Strengthen data collection and monitoring:** Invest in robust data collection systems to gather accurate and reliable data on the effectiveness and impact of NbS. This can involve establishing monitoring protocols, conducting research studies, and leveraging technological advancements such as remote sensing and citizen science. Accessible and comprehensive data will help build a compelling case for NbS and inform decision-making processes.
- **Build capacity and secure funding:** Provide training and capacity-building opportunities to stakeholders involved in NbS implementation. This can include technical skills development, project management training, and financial planning support. Additionally, explore diverse funding sources and partnerships to secure financial resources for scaling up NbS initiatives. See *Deliverable 5.7 – Business models and roadmaps*, for a more detailed discussion on exploitation and upscaling.
- **Foster political will and policy support:** Engage in advocacy efforts to raise awareness among policymakers and decision-makers about the benefits and potential of NbS. Highlight the multiple co-benefits, such as climate adaptation, biodiversity conservation, and socio-economic advantages. Collaborate with local authorities, policymakers, and relevant stakeholders to develop NbS-friendly policies, regulations, and incentives.
- **Demonstrate trade-offs and synergies:** Conduct comprehensive assessments to evaluate the trade-offs and synergies associated with different NbS options. Provide evidence-based information on the economic, environmental, and social costs and benefits of NbS. This will enable decision-makers to make informed choices and understand the value of NbS in achieving multiple objectives.
- **Promote NbS integration into planning and decision-making:** Advocate for the integration of NbS principles and approaches into urban planning, land-use decision-making, and policy frameworks. Demonstrate the value of NbS in achieving sustainable development goals, climate resilience, and social equity. Engage in strategic partnerships with relevant institutions, organizations, and initiatives to mainstream NbS into broader agendas.
- **Streamline the process of knowledge dissemination:** Support the dissemination of RECONNECT outcomes through various channels, including publications, reports, educational materials, and online platforms. Streamline the process of disseminating information to stakeholders, making it easily accessible and understandable. Consider developing user-friendly materials and translating them into multiple languages to reach a wider audience.
- **Facilitate partnerships with the private sector:** Continue supporting collaborations between NbS practitioners and the private sector to enhance the exploitation of RECONNECT outputs, strengthening the process from conceptualization and innovation, development of an idea, business models and financial planning, outlining key actions for development and timeline planning. Identify opportunities for the private sector to utilize tools, models, or methodologies developed during RECONNECT. Foster knowledge exchange and identify pathways for private sector engagement in implementing and scaling NbS.
- **Facilitate cross-sector collaboration:** Promote cross-sector collaboration and engagement with stakeholders from diverse sectors, including government agencies, NGOs, academia, and communities. Encourage dialogue, cooperation,

and the exchange of expertise to leverage different perspectives and resources. Such collaborations can enhance the development and exploitation of NbS outputs and ensure their scalability and wider adoption.

- **Evaluate and learn from experiences:** Conduct regular evaluations of the innovation activities and learn from the experiences of Demonstrators and Collaborators. Identify successes, challenges, and areas for improvement to inform future efforts. Gather feedback from stakeholders and adjust strategies accordingly to optimize the impact and effectiveness of innovation initiatives.

5 Annexes

5.1 Annex A - Survey Questions and Results

Please find the survey questions and results attached in a separate excel file.

5.2 Annex B - Miro Board

Miro Board was used to organize the survey results thematically. You can view the Miro Board here: https://miro.com/app/board/uXjVMv9qmY0=.

5.3 Annex C - Review of RECONNECT Activities

To capture lessons learned, RECONNECT activities were reviewed by Ramboll. Inputs include, interviews done in support of D5.7, a review of lessons learned from collaborators conducted by University of Belgrade, and an overview of the Twinning Road Trip in the Netherlands.

5.4 Annex D - Results from 10th General Assembly Mentimeter Activity

1. Information about the respondents

Please enter your name

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Lyudmil Ikononov
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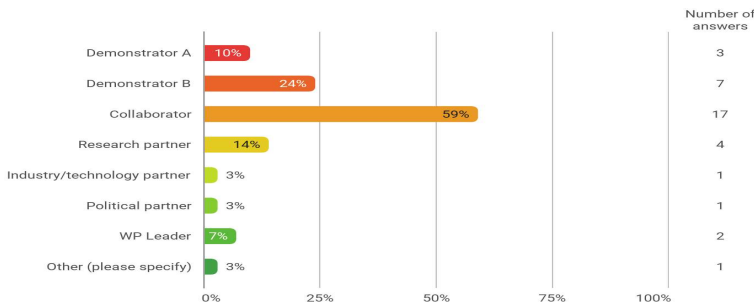
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University Innsbruck
Universiti Putra Malaysia
Universite Cote d'Azur, France
Universidad del Valle
UNBEL
UNBELGR
UNBELGR
TAUW
Regional Administration of Varna
Proning DHI d.o.o.
National Chen Kung University (NCKU)
Monash University Malaysia
IWACons
IHE Delft
Hydro-Informatics Institute (HI1)
Gisig now and previously CNR-IRPI
Geographical Institute "Jovan Cvijic" SASA
UNBELGR
Faculty of Civil Engineering University of Belgrade
Ente Parco di Portofino
Eawag - Swiss Federal Institute of Aquatic Science and Technology, Switzerland
Eawag - Swiss Federal Institute of Aquatic Science and Technology
Eawag
ERCE PAN
CNR IRPI
BDCA
Aarhus municipality
ACA (Catalan Water Agency)

How are you or your organisation involved in RECONNECT? Please select all that apply:



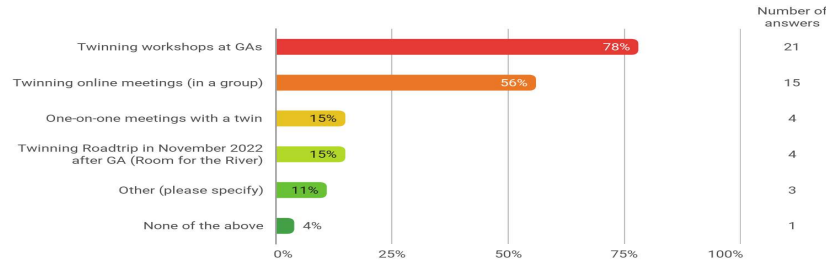
How are you or your organisation involved in RECONNECT?

Please select all that apply: - Other (please specify)

PhD candidate

2. Twinning activities

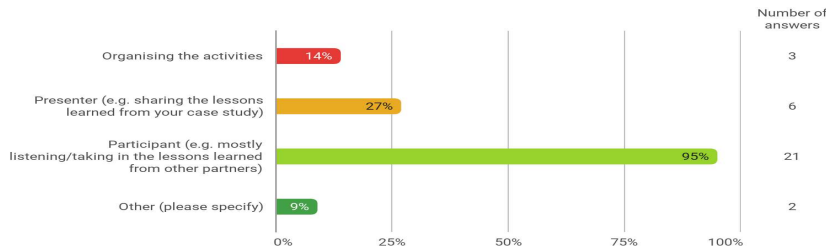
Have you been involved in any of the following twinning activities? Please select all that apply"



Have you been involved in any of the following twinning activities? Please select all that apply" - Other (please specify)

work on RECONNECT twinning strategy within the first 2 years of the project
Workshops and expert meeting with Swiss cantonal and federal stakeholders
Twinning roadtrip in May 2023 after GA
Twinning in the Danish cluster With IHE + Hamburg

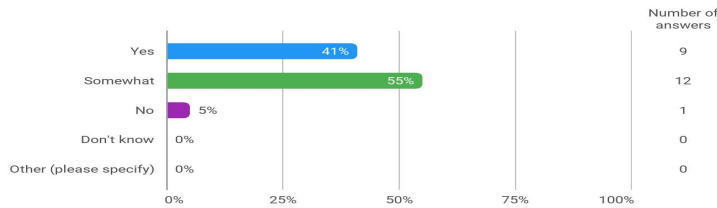
In what capacity have you been involved?



In what capacity have you been involved? - Other (please specify)

participant
Expert / consultant

Have you found the twinning activities successful?



Have you found the twinning activities successful? - Other (please specify)

Please explain how you think twinning has or has not been successful, providing specific examples of outcomes and / or failures of the twinning activities/process.

sometimes the particular questions are very specific to a site or situation one-on-one twinning could be successful only if it is provided by relevant resources (m/m, money), and a deliverable (advisory report) is planned

learn European way to communicate with local stakeholders when promoting a NBS. In Taiwan, maybe few meetings with stakeholders are sufficient but in Europe, the negotiation with stakeholders are more in contact with each person.

better understanding of the NBS solutions used, time for detailed understanding of the planning and implementation process, joint time for sharing experiences

We wished to twin with Tordrera River Case in Spain but their Demonstrator did not move forward. Other possible Demonstrators like "Room for the River" in The Netherlands and Elbe in Hamburg, although applicable in many aspects, are too big for us.

We find the twinning activities is good possibility to exchanged knowledge and experience with other partners.

Twinning was successful in regards of gaining knowledge from demonstrator cases but in regards of applying concrete measures, tools etc. could be improved by examples and/or sharing software, methodologies etc.

Twinning between Demonstrators and Collaborators mostly happens during GAs. Listening to presentations and/or visiting some sites during GAs is very useful. However, I find knowledge sharing from Demonstrators to Collaborators poor in terms of methodological approaches.

There was no direct cooperation between collaborators and demonstrators. During the last few GAs, the collaborators expressed some of their doubts and questions, but they were rarely answered, such as the question of how to make a cost-benefit analysis for nature and people; then how to model upper watershed restoration NBS.

The twinning activity is very successful in term of knowledge exchange, but its implementation should align with the specific local circumstances. Nonetheless, it is valuable knowledge that can be utilized at a more suitable time in the future.

The Swiss authorities and stakeholders appreciated very much the experience we could offer. Learning from other European countries was well received. RECONNECT partners appreciated to learn from the Swiss experience on river restoration as NBS with more than 20 years of history.

Sharing and exchange knowledge was quite effective. The road trip in Netherlands was very good in that is great to see the NBS in action, the scale and what the finished system looks like Learning from each other, sharing tools

I would have loved to join the road trip. I think this is the best option. However it is difficult because of time constraints. Direct contact and share if experience goes much beyond exchange of formal (written) knowledge

I think the time is an obstacle, for sure more meetings are needed. Overall it was good.

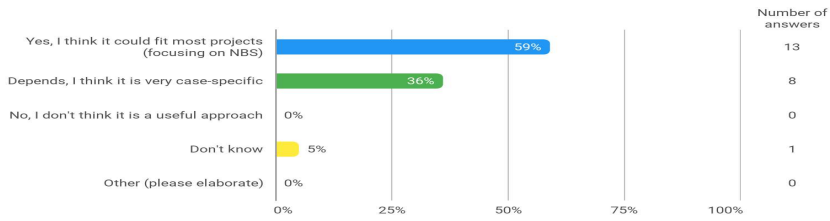
I have participated in most of twinning activities that have been organized (except for the road trips). However, I have not been involved and/or I have not promoted any one-to-one twinning activity, in part because our project has not progressed as expected, so we have not experienced yet the need to answer some questions and/or the need to address some more specific issues. That being said, for me the concept "twinning" is still a little fuzzy and difficult to grasp. I think it has not been well defined in the project, and there is not a clear idea of how twinning should be done. In my opinion, another barrier for twinning is that it takes a lot of time to learn from who to learn what (i.e., to learn all the specific details of each NBS case and to understand what lessons can be learnt or might be useful from each of the cases). This deep understanding has not been facilitated in any of the WP.

For Uemo is Lisse we have made a survey on people indicators, which was done together with DTU. The results were helpful for us as Demo B but also for DTU to use for the whole project (for example compare results to other surveys within the project).

Direct exchange with other participants and transfer of experiences.

By sharing experiences.

Would you recommend twinning be adopted in future projects?

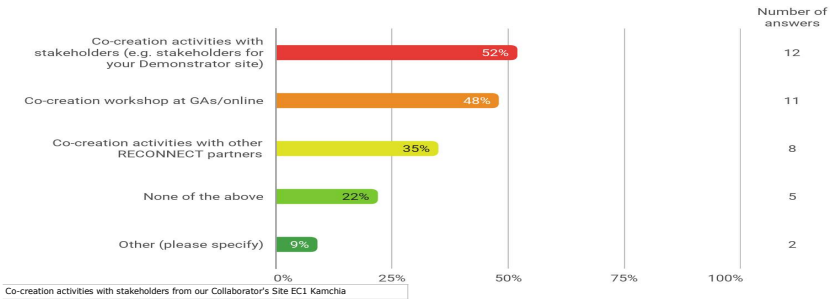


Any further comments regarding twinning?

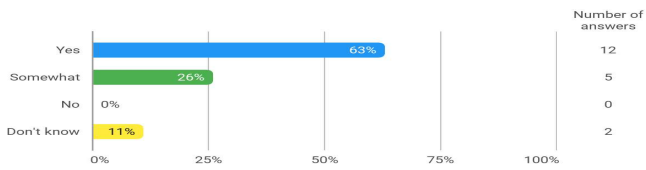
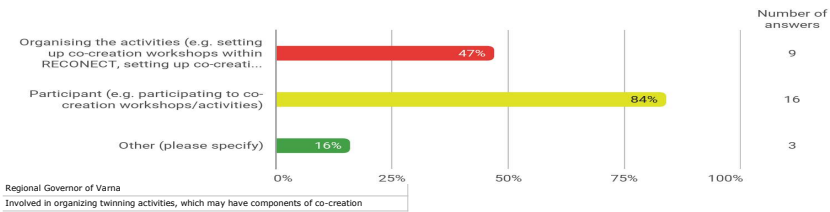
no
 Twinning should be expanded in such a way as to enable mutual visits, collaborators to demonstrators and vice versa.
 No
 I think that only structured twinning with clear specific goals makes sense and could be useful. For the time being, twinning is not a mandatory part of RECONNECT and the twinning approach is not quite persistent. Making it a mandatory activity, requiring a deliverable, might make the process more fruitful.

3. Co-creation activities

Have you been involved in any of the following co-creation activities?



In what capacity have you been involved?



Please explain how the co-creation has or hasn't been successful, providing specific examples of outcomes and / or failures of the co-creation activities/process.

others could learn from our experience
 We have not been able yet to apply co-creation in our NBS case.
 We have exchange experiences and knowledges, found out about main barriers and enablers to overcome them.
 The participants, separated in co-working groups generated original territorial planning solutions for preventing specific local flood threatening situations.
 The co-creation is successful in term of introducing new idea to be aligned with the local situation in the future.
 RECONNECT partners appreciated to learn from the swiss experience on river restoration as NBS with more than two decades of planning and execution. The authorities and stakeholders appreciated very much the experience we could offer.
 Outcomes: planning of measurements with stakeholders to fit their interests
 Many information is collected from the workshop participants that is substantial for NBS project development and project results.
 In the case of the Plica catchment area, a workshop organised in cooperation with UFZ was used to show the current status of the work and to do workshop work on selected areas. Stakeholders were asked to identify problems as well as their needs and expectations with regard to selected parts of the river/catchment area. In addition, during the fieldwork, discussions were held with local residents regarding the catchment's use in the past.
 In our opinion during GA meetings or workshops should be scheduled more time for co-creation process than on other activities e.g. presentations
 Few feedbacks after the presentation of the on-design activities.
 Designing activity was initiated early at the beginning of the project in order to conclude all the administrative issues and to begin the construction phase as soon as possible. Then, more time would has been necessary to the co-creation activity in order to catch more feedbacks from the stakeholders.
 Co-creation was success in my opinion because it allows us to directly talk and interact with interested parties and in conjunction with them come to a better solutions.

Co-creation is difficult to organize in the desired scale because always some of the necessary stakeholders cannot or does not want to participate.

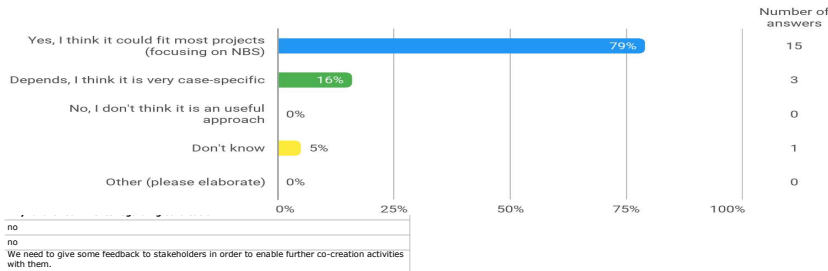
In co-creation, it is learned that other stakeholders have completely different opinions and the need for much better and closer mutual cooperation is shown.

Regardless of the outcomes in co-creation, it is difficult to later implement the decisions that were agreed upon during co-creation.

Co-creation as conducted in RECONNECT: Collaborator cases requires certain social skills and significant effort to organize, while the teams do not have this expertise and resources. NBS projects need to include social science experts or stakeholder managers for effective co-creation.

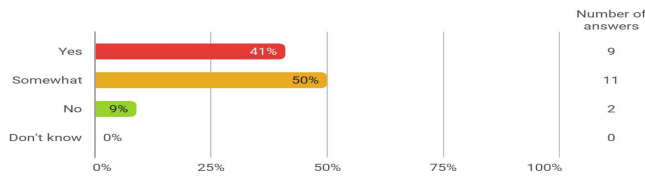
Because the Demo B IJssel project has already completed, we mostly shared our experience with other Demo's who are still in the planning/implementation phase.

Would you recommend a co-creation approach be adopted in future projects?

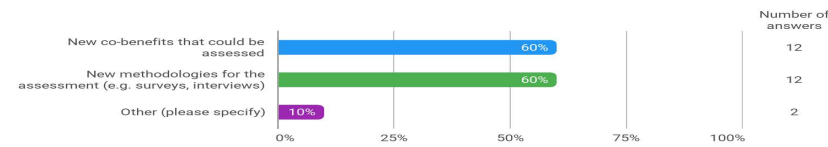


4. Co-benefits

Have you learned anything new on co-benefits within RECONNECT? E.g. evaluation/monitoring of co-benefits, possibilities for co-benefit enhancement in your project?



Could you briefly share what you have learned regarding co-benefits of Nbs?



Could you briefly share what you have learned regarding co-benefits of Nbs? - Other (please specify)

NBS co-benefits examples

All of the above, but only partially

Any further comments regarding evaluation/monitoring (or other areas) of co-benefits?

We need more specific guidelines for evaluation.

We find useful the list of indicators. It allow us to work out list of indicators in our case.

The fact that the monitoring and maintenance is usually harder than establishing the solution.

No

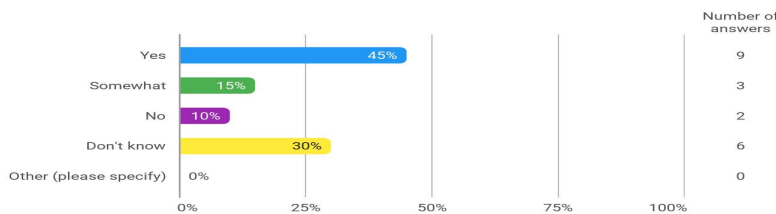
Interested in evaluating the human well being.

I learned that there are various co-benefits and that there are various methodologies for defining them, but I cannot recognize or calculate/implement them independently.

All that I found out is only informative.

5. Exploitation

Do you have exploitable outcomes from your work within RECONNECT, or have you been involved in exploitation within RECONNECT in other ways?



Do you have exploitable outcomes from your work within RECONNECT, or have you been involved in exploitation within RECONNECT in other ways? - Yes

publications, reports

new cooperation, new projects relevant to NBS

landslide model

We improve a hydrological model for flood simulation including nbs measures. (z) we also apply the RECONNECT framework to assess the application of NBSs on Coastal Protection (erosion problem)

Up-scaling of restoration measures to other sites

Publication

Policy recommendations, Collaboration Platforms, Reports, skills

Many lessons learned during my involvement in RECONNECT can be used in everyday engineering work and can be applied in similar situations.

Both at the research scale and at the innovation one.

Do you have exploitable outcomes from your work within RECONNECT, or have you been involved in exploitation within RECONNECT in other ways? - Other (please specify)

Do you have exploitable outcomes from your work within RECONNECT, or have you been involved in exploitation within RECONNECT in other ways? - Somewhat

skills and knowledge
pre-feasibility study for NBS project, publications
Educational materials, shared knowledge

Which barriers / enablers to the exploitation of RECONNECT outputs have you found most noticeable? Please explain.

lack of political support
difficulties in securing funding for the practical implementation of the NBS
aligning of cases, different culture/ society

There is a difference between local and regional/general perceptions.
Local authorities are more cautious when it comes to evaluating NBS measures, fearing that environmental measures may hinder development or intensification of agriculture. Regional respondents focused more strongly on the general needs of stakeholders.
The only barrier I have found is the lack of time to interact with experts in their fields and sharing knowledge with them.

The main barrier is related to the difficulties in making interventions in private owned areas. Besides, some small slopes, which result relevant for adopting shallow landslide mitigation activities, may be owned by several owners who is almost impossible to agree with.

Specific guidance for exploitation is needed.
Sharing knowledge and experience during monthly progress meetings. For example, land acquisition process in Odense is also an important topic in Spain and Portofino.
Ineffectiveness in dealing with flood problems due to many reasons: selection or investment priorities, division of responsibilities between local and state authorities for flood management, lack of educated staff, etc.

From Collaborators' point of view, there is not enough guidance on methodological approaches from the project to reach the exploitation stage.

Enablers were the open minds of the stakeholders and water managers.

By taking part in Reconnect, I was motivated to research the barriers and enablers for NBS implementation.

Barriers: data requested for model is always the most challenging one. Promotion (confidence) of using NBS is another barrier especially under extreme weather system such as typhoons.

As a university partner exploitation is not top priority. I think research outputs would have to be exploited by industry partners.

Academic publication procedure takes a long time

- cost
- stakeholders

Do you have any learnings to share regarding exploitation from RECONNECT?

not yet
The framework of applying NBS, from selection of measures, assessment, monitoring, co-creation... we haven't such entire procedures to implement a project but RECONNECT carries out of this. The framework is the most we learn from RECONNECT.

The RECONNECT catalogue of measures turn out to be useful in process of selection of NBS measures.

See above

No

Models developed in Reconnect and related to shallow landslides susceptibility assessment and to terraces identification through high resolution LiDAR data analysis, have been already used in consultancy activities. Their application, after proper adaptation, may be useful in other areas and contexts.

Create tools in more open source software to increase accessibility

By researching NBS, we found out that there are barriers that are general and also apply to the implementation of other solutions as well.

Broad discussions were crucial. Workshops helped considerably.

- community based/NGO

Any further opportunities you would like to see regarding exploitation / i.e. workshops, frameworks, knowledge sharing.

workshops, knowledge sharing

more extensive use of RECONNECT tools by partners, that probably requires some training/webinars

happy to see all

frameworks.

frameworks

Yes, all of them.

Workshops.

Workshops were very appreciated and knowledge sharing was crucial.

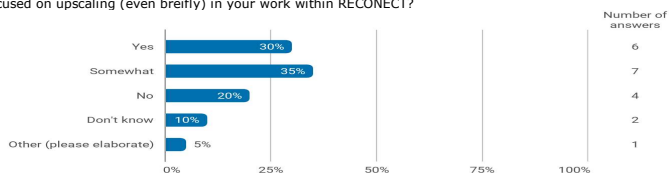
Workshop & knowledge sharing

Knowledge sharing activities with in-depth discussions about complex topics and how they are dealt with by other parties, for example land acquisition.

For me (and my organization) it would be of use to have periodic workshops accompanied by a literature regarding frameworks.

6. Up-scaling

Have you focused on upscaling (even briefly) in your work within RECONNECT?



Have you focused on upscaling (even briefly) in your work within RECONNECT? - Other (please elaborate)

No, but we would be very interested in upscaling and replicating NBS

Have you come across or learned about any barriers or enablers to upscaling? Please explain.

upscaling should be done in areas with likewise circumstances

no

enablers are the necessity to improve larger stretches of the river using river restoration for example

The methods used during the workshops let us to come across barrier - Lack of involvement of stakeholders. The interactive methods used during the workshops allowed stockholders became a part of the process. That brought better understanding of NBS measures.

The barriers are the same we have find in the project development.

The main enabler may be seen in the necessity of making small and low-cost spread interventions at the catchment scale to mitigate the geohydrological risk.

Only via twinning

Lack of political will, lack of knowledge about NBS, poor land management by the governments (among other things, urbanization is always prioritized over the environment and human well being).

It is necessary and very important.

In my case, barriers were many (regarding local upscaling) and enablers were few (mostly engineers and a part of legal framework in which we operate). Because of that upscaling process can be slowed but there are really no barriers that can impede with it.

Barriers were somewhat the long process of approval of measures.

Barriers are limited resources and data availability

- policies

Do you have any other learnings to share regarding upscaling from RECONNECT?

no

It is a little difficult to match between European and international collaborator areas

We have several examples of replication/upscaling among the Collaborators. New Collaborator cases (Vrbanja, Bosna and Herzegovina, and Sungai Selangor, Malaysia) were added to the pool of Collaborator sites during the project. This kind of upscaling is due to the influence of the partners' networks. Colombian case in the city of Cali also has several followers in the city, which are the result of the political will and commitment of local authorities.

The use of RECONNECT information in my own activities, e.g. using co-creation in other planned/implemented projects; knowledge transfer during seminars and conferences.

The approach we followed considering small catchments may be scaled up considering small sub-catchments and then integrate the process for large catchments.

Scientific knowledge is very much appreciated but need to be brought across often in the language of the country. Just publications in English are not enough.

Preparation or graphical visualization or barriers and enablers allowed us to identify the most important barriers delivered by stockholders and their impacts on the possibility of implementation NBS in the future.

It is long process and it requires long-term engagement in many spheres (social, political, institutional, legal...)

- rules & reg

Any further information / insights / opportunities you would like to see or share regarding upscaling? I.e. workshops, frameworks, knowledge sharing.

yes - workshops, poster session, interactive meetings as a better chance to share the knowledge.

workshop

the flow of information on the working results of the other WPs is insufficient; I would be happy to participate in webinars presenting a piece of the work generated but in detail. GA meetings unfortunately only allow for a general overview of what is going on in the project.

frameworks

Workshops are a necessary instrument to spread knowledge and to share experiences.

Workshops and knowledge sharing is very important.

Upscaling depends on political will and existence of policies, standards and so on. Further work should be related to that.

Everything offered is welcome

As we see it upscaling is an amazing way to spread ideas and involve the public so lessons learned go far beyond RECONNECT. Regarding the workshops they could be used to spread awareness in public and to expose them to this concept because most people in Serbia don't have an access to these types of information.

All of them.

Do you see possible future opportunities for upscaling within or beyond the RECONNECT project in your region / country? Please explain.

yes - we are planning to continue the upscaling activities during the next project which will be developed in Pilica basin

yes, with current gov approach towards environmental solution

yes, along the Thur river but also other river systems in Switzerland

Yes. HII is currently implement science-based implementation for climate change adaptation in communities all over the countries (right now we are implementing in 1,800+ community areas). So, we are quite confident that we can apply NBS concepts in some of them.

Yes. Based on the Feasibility study(ies), and using the support of National Operational Programs "Environment" and "Regions in Growth"

Yes, we would promote the model of a risk mitigation strategy based on series of spread NBS interventions at catchment scale: a catchment scale holistic ecosystem-based approach.

Yes, there is a lot of opportunities for upscaling, we are pleased that we got the opportunity to be a part of RECONNECT and to be involved from the start. Balkans region is inert and we see upscaling as a possibility to move things forward.

There is potential, but it requires a change in the mindset of water managers; to this end, it is necessary to raise awareness, to break down scepticism about NBS, but also to co-create / involve the public, to cooperate with local authorities and NGOs.

There are international/regional channels like Sava River Basin Commission that might support upscaling. For this region, imposing EU directives or policies would be beneficial for further upscaling.

In the future for sure. Findings of reconect have great potential to be transferred to neighbouring catchments with similar characteristics

I think that there is a possibility of upscaling both within the project and outside it.

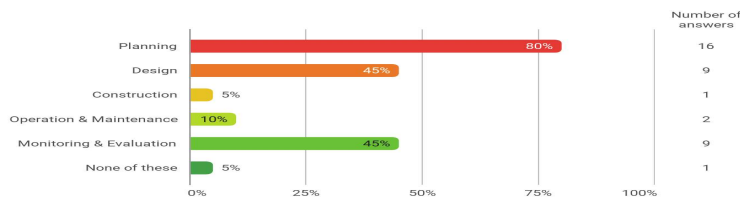
The very fact that the project is being promoted, including various stakeholders contributes to upscaling.

Demonstrators to share knowledge on how did they impact the decision-makers.

Absolutely, we are working on that. Two additional sites along the Thur river are in progress. Cantonal authorities were especially interested in our new approaches to assess the risks of contaminants and especially microplastics for drinking water production close to NBS sites.

7.1 Lessons learned

Please choose all project phases where you have learned something new through RECONNECT, and add some examples where applicable. E.g. barriers and enablers? New guidelines? Collaborations?



PLANNING

Please choose all project phases where you have learned something new through RECONNECT, and add some examples where applicable. E.g. barriers and enablers? New guidelines? Collaborations? - Planning

research and learning new methods, overcoming barriers

guidelines

develop risk model to purposed NBS

creation process of list of measure with measure selection tool

co-creation methodologies, co-benefit definition and assessment

closer inclusion of communities

barriers and enablers

Yes, from Demonstrators A

Twinning (ob

Suitability mapping

Selection of possible NBSs

Portofino

Planning of flood protection must be done on time since that realization of projects is time consuming.

I learned about NBS in general, how to plan them and how to cooperate with stakeholders.

What stakeholders see as barriers.

Holistic approach and co-creation process with stakeholders. Also, systematic overview of the barriers.

Barriers

DESIGN

Please choose all project phases where you have learned something new through RECONNECT, and add some examples where applicable. E.g. barriers and enablers? New guidelines? Collaborations? - Design

model development, collaboration with experts

co-creation methodologies

citizen surveys

The idea and method of co-creation with stakeholders

Partially, from Demonstrators A

Framework for multifunction design

Elbe Estuary

Co-creation, twinning

Co creation design methods

CONSTRUCTION

Please choose all project phases where you have learned something new through RECONNECT, and add some examples where applicable. E.g. barriers and enablers?
New guidelines? Collaborations? - Construction

Seden Strand, Odense

MUNICIPALITY & EVALUATION

Please choose all project phases where you have learned something new through RECONNECT, and add some examples where applicable. E.g. barriers and enablers?
New guidelines? Collaborations? - Monitoring & Evaluation

guidelines
 monitoring and analyses of microplastics
 data gathering and evaluation
 Yes, from Demonstrators B, and works within WP2, WP3
 Ways of monitoring people indicators. This has not been done before in the project and there was no 'baseline' data to compare
 The new assessing methodologies developed within RECONNECT
 Selection of indicators
 Monitoring methods, evaluation of co benefits
 Greater Aarhus, Ijssel River

OPERATION & MAINTENANCE

Please choose all project phases where you have learned something new through RECONNECT, and add some examples where applicable. E.g. barriers and enablers?
New guidelines? Collaborations? - Operation & Maintenance

Yes, from Demonstrators B, and works within WP2, WP3
 Irm River

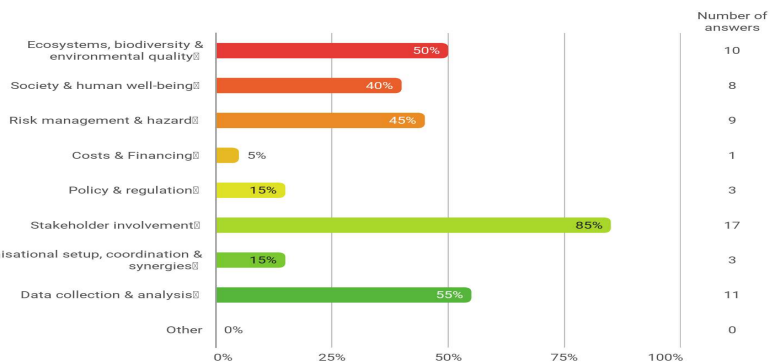
OTHER

Have you used other resources/ This might include resources such as contacts from another business / twinning contacts, any specific guidance (guidelines / standards etc.) you found useful. Please explain if applicable.

nope
 in planning further work on the project
 contacts from previous projects
 Thailand's Sufficiency Economy Philosophy aiming for a self-sustained community
 Synergies with other ongoing national projects were very helpful to leverage the RECONNECT funding. Additional funds came from Swiss National Science Foundation, Cantonal and Federal agencies. We developed a new sampling protocol for microplastics sampling and analyses.
 Sources within Switzerland: Guidelines for river restoration of the Federal Office for the Environment; Guideline for development of the Thur river catchment of the Agency for the Environment Canton Thurgau
 Experience of other (sister) projects. NBS guidelines provided by external parties.
 EPA publications, US Army corps of engineers publications/software, FEMA (Federal Emergency Management Agency), and similar agencies related to water and wastewater management

7.2 LESSONS LEARNED

Please choose all the areas where you think you have learned something new through RECONNECT, and add some examples, where applicable.



DATA COLLECTION & ANALYSIS

Please choose all the areas where you think you have learned something new through RECONNECT, and add some examples, where applicable. - **Data collection & analysis**

spatial & attribute data
 please see previous comment
 planning data collection/analysis vs KP Indicators
 microplastics analyses
 expanding the knowledge by research
 data collection technology and management
 data collection and modelling
 concept and methodology
 Open and world datasets
 Monitoring technology
 LIDAR data analysis

ECOSYSTEMS, BIODIVERSITY & ENVIRONMENTAL QUALITY

Please choose all the areas where you think you have learned something new through RECONNECT, and add some examples, where applicable. - **Ecosystems, biodiversity & environmental quality**

variety
 new possible indicators
 expanding the knowledge by research
 Yes, from Odense
 Nature indicators
 Nature indicators
 Nature and people indicators
 I learned what kind of influence NBS can have on them.
 I got acquainted with concrete examples
 Behaviour of contaminants and microplastics at the surface water - groundwater interface

RISK MANAGEMENT & HAZARD

Please choose all the areas where you think you have learned something new through RECONNECT, and add some examples, where applicable. - **Risk management & hazard**

risk assessment method
 risk and hazard methodology and assessment
 modelling of drought and flood hazard
 landslide risk
 expanding the knowledge by research
 Yes, from TALUW
 I mostly knew from before and I learned a little something extra.
 Hydrological modelling
 Flood risk reduction

SOCIETY & HUMAN WELL-BEING

Please choose all the areas where you think you have learned something new through RECONNECT, and add some examples, where applicable. - Society & human well-being

- monitoring people indicators is very new to our project
- assessment of human well being
- Yes, from EAWAG
- People indicators, Co-creation process
- People indicators definition and assessment
- People indicators
- I learned that people can benefit significantly from NBS, but I still don't know how to monetize it.
- I got acquainted with concrete examples

POLICY & REGULATION

Please choose all the areas where you think you have learned something new through RECONNECT, and add some examples, where applicable. - Policy & regulation

- importance of negotiation aspect with crucial politics
- expanding the knowledge by research
- Yes, from all Demonstrators

COST & FINANCING

Please choose all the areas where you think you have learned something new through RECONNECT, and add some examples, where applicable. - Costs & Financing

- Elbe Estuary

ORGANISATIONAL SETUP, COORDINATION & SYNERGIES

Please choose all the areas where you think you have learned something new through RECONNECT, and add some examples, where applicable. - Organisational setup, coordination & synergies

- coordination of different subject
- Twining and co-creation
- Co-creation, meetings and interaction with the stakeholders

STAKEHOLDER INVOLVEMENT

Please choose all the areas where you think you have learned something new through RECONNECT, and add some examples, where applicable. - Stakeholder involvement

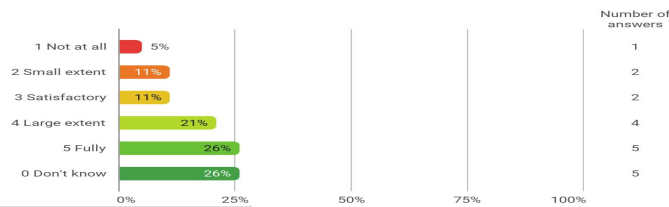
- new methodologies in analyzing results and data gathering
- new approaches
- methods of interactive work with stockholders
- methodology
- helpfulness of workshops and expert meetings
- guide (deliverable), workshops and exercises on stakeholder cooperation, drawing inspiration from the workshops held during the CA (virtual & I2I)
- expanding the knowledge by interacting with stakeholders
- collect input
- co-creation methods and experiences
- co-creation methodologies
- Yes, through all RECONNECT activities, both in Demonstrators and Collaborators sites
- Stakeholders are crucial for successful realization of plans/projects
- Seden Strand, Odense
- Methods for stakeholder involvement
- I became aware that stakeholders have different interests and that everyone's interests are very important. You need to have great skills to coordinate all interests and make everyone happy.
- Co-creation tools, analysis of the barriers
- Co-creation

OTHER

Please choose all the areas where you think you have learned something new through RECONNECT, and add some examples, where applicable. - Other

8. Expected Impacts

EI#1: The EU being recognized as a leader in NBS for hydro-meteorological risk reduction and climate change adaptation.



The deliverables from this project should be published so we could get feedback from the public for the next deliverable (and also more public exposure).

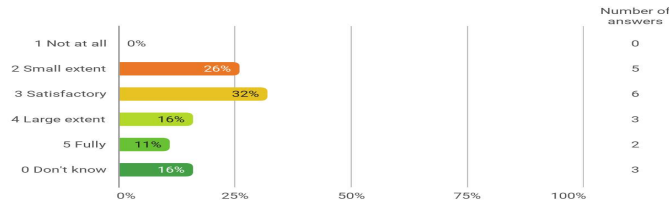
It is difficult for me to assess this because I do not know the situation outside the EU. But I certainly think that in the EU a lot of care is taken about the implementation of the NBS. In my opinion that management team could have made the results more visible but perhaps this is on the way.

I would say one of the leaders. There are also non-EU countries which went far. I have the impression that we are still at the beginning of the road, the results of the work are not yet visible. Only the Demonstrators show the implementations made within the project; there is no flow of information within the project e.g. about the results/effects of NBS monitoring. Therefore, it is difficult to say that we have achieved a contribution at European level in any of the following statements

Examples of application in very different conditions (coastline, floodplain and slopes) allow to show the success of NBS-based approach.

Amazing ideas put into play by an enthusiastic group of people that are leaders in their area of expertise, only remark is that more time should be rewarded for better impact overall. A pandemic made an impact on the project and I think reduced our time together face to face working and exchanging.

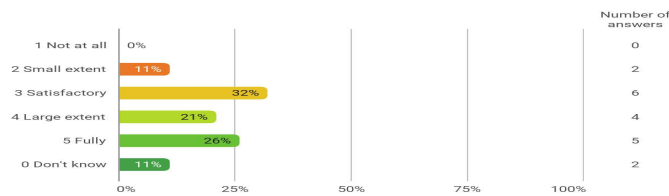
EI#2: The mainstreaming of NBS in land use planning, landscaping and territorial policies due to the provision of appropriate tools and best practice.



Please explain your rating.
What could have been done better?
What was done well?

some deliverables are not out therefore it is difficult to comprehensively judge
 This is yet to be done in the Task 4.7, which is starting in September.
 Still missing RECONNECT Guidelines & Standards
 Same as EI#1
 It is certainly important, but I cannot evaluate it
 In the Netherlands (water) safety comes first, so whether it be with grey infrastructure or a combination with NBS.
 In our opinion mainstreaming process is going too slow for the goals set. More time and resources should be invested to ensure mainstreaming has a better outcome.
 In collaboration cases the Reconnect project was a first step of introducing the NBS as the potential solution for hazard reduction.
 Implementation and making things broadly visible needs time. Perhaps this is still to come.
 Everything is done well, I am just not sure is it about mainstreaming.
 A better link with the policy makers dimension would be profitable for the project upscale.

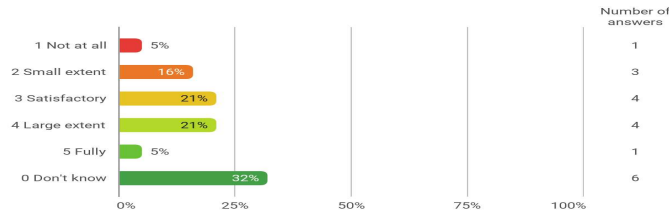
EI#3: Development of an integrated EU- wide evidence base and a European reference framework on NBS.



Please explain your rating.
What could have been done better?
What was done well?

some deliverables are not out therefore it is difficult to comprehensively judge
 base of EU- wide evidence was developed on the satisfactory level
 We need to publish our works (deliverables, tools, data, etc) and the progress up to now publicly and work toward this goal.
 We are working on that. It is not fully reached yet.
 There are plenty of cases in the project with various evidence.
 Same as EI#1
 Official publication of framework, guidelines and/or steps.
 In our opinion all the needed legislation and frameworks are there, only need some unification that can define the general document.
 If nothing else, RECONNECT has a wide network of examples
 Applications of NBS in very different geomorphological contexts.

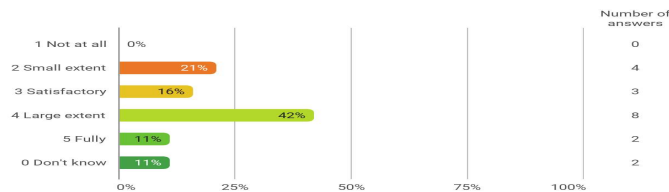
EI#4: Enhanced market demand for NBS for hydro-meteorological risk reduction and climate change adaptation.



Please explain your rating.
What could have been done better?
What was done well?

some deliverables are not out therefore it is difficult to comprehensively judge
 analysis of the benefits and co-benefits of NBS within Reconnect project proofed how NBS measures can be used to reduction of flood and drought risk, which show how important it is for the market.
 This is too early to be judged.
 There is not a great market demand (in our experience) but in the future it may be the case.
 Still missing RECONNECT Guidelines & Standards
 Same as EI#1
 Maybe some more effort in the diffusion of the results and lessons learned.
 I would like it to be so.
 I cannot make this assessment.
 Do not know

EI#5: Improved disaster risk management, due to enhanced capacity for providing quantitative assessments of NbS for disaster risk reduction and climate change adaptation.

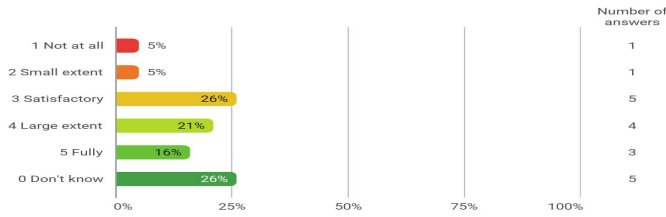


Please explain your rating.
What could have been done better?
What was done well?

some deliverables are not out therefore it is difficult to comprehensively judge
 This is too early to be judged.

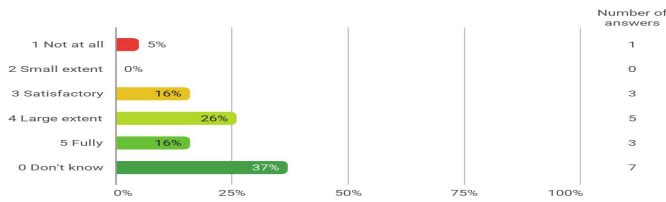
Same as EI#1
 In the engineering sense this is true and enhances risk management but public opinion is not in favor of NBS because they "can't" see the works (local problem)
 I think that up to now the project has not produced too many documents that would improve disaster risk management, except building the evidence base from the cases.
 I think that this will be achieved at the end of the project

EI#6: Reduced human and financial costs due to better and more flexible disaster risk management with NBS.



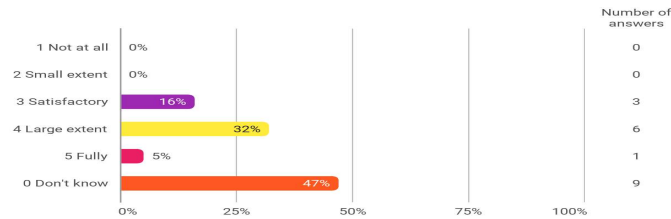
Please explain your rating.
What could have been done better?
What was done well?
 This is too early to be judged.
 The prevention approach allows to reduce financial cost due to disaster
 The NBS allow to protect areas inhabited and occupied, which results in limiting damage to life and property
 Same as EI#1
 Once we learn how to value the benefits, I believe the goals will be met
 In engineering sense it is a definitive benefit, again as above, public opinion doesn't reflect that.
 I have not seen such analysis in the project.

EI#7: Enhanced implementation of EU policies for disaster risk prevention and reduction.



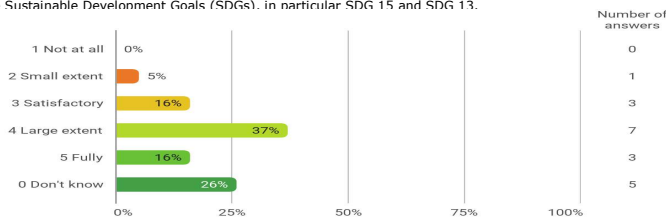
Please explain your rating.
What could have been done better?
What was done well?
 This is too early to be judged.
 The methodological approach, from designing to construction and the importance of monitoring activities throughout the whole process.
 The NBS allow to protect areas inhabited and occupied, which results in limiting damage to life and property
 Same as EI#1. However, at an institutional level (European) it might be easier to induce change, as institutions are already aware of the future challenges and problems. However, I think more evidence base is needed to cause societal change, and/or to mainstream NBS.
 I have not see such a contribution from the project.
 Do not know
 Amazing base of knowledge that could be used to enhance implementation of EU policies, but local legislative isn't in congruence with EU directives.

EI#8: Contribution to the priorities of the EIP Water.



Please explain your rating.
What could have been done better?
What was done well?
 Same as EI#1. However, at an institutional level (European) it might be easier to induce change, as institutions are already aware of the future challenges and problems. However, I think more evidence base is needed to cause societal change, and/or to mainstream NBS.
 I am not familiar with EIP Water.
 Do not know

EI#9: Implementing the Sustainable Development Goals (SDGs), in particular SDG 15 and SDG 13.



Please explain your rating.
What could have been done better?
What was done well?
 This is very broad, so broadly RECONNECT absolutely fits into these SDGs.
 NBS have positive impact on the sustainable development goals 13 and 15
 I don't know the topic of the question at all
 Definitely, the implementation of NBS is aligned with the achievement of SDG.

	Interviews				Score	Monitoring and Evaluation			State of the lessons learnt*		
	Planning	Design	Implementation	O&M		Monitoring	Evaluation (W, N, P)	Content	Processes	Barriers&Enablers	
Demonstrator DA-1: Dove/ Gosse Elbe Estuary, Germany											DA-1 is at the moment still under construction (see sheet "State of the project- Demonstra"), the monitoring is ongoing and the evaluation just started. The lessons learned for this demonstrator are non-existent as the process of producing them did not start.
Demonstrator DA-2: Odense Coastal Area, Denmark	<ul style="list-style-type: none"> • (1)The main outcome mentioned is the relation between the landowners and municipality. The NBS owner is the land owner, that is why their agreement is primordial, and in order to avoid conflict (because landowners were more focus on the way they could use the area while the municipality is more focus on the development), there is a need to find the good arguments and make sure they understand the purpose of the project and how they could benefit from it. For this project they have also been helped by local NGOs to sharpen their guidelines and to find the good arguments in favor of NBS to convince landowners. • (2)A better planning beforehand evaluating the value of land before and after would have permit to define a budget to purchase the lands and avoid some of the landowners to step out of the project. Having a better idea of the adding value after the implementation could allow for better negotiations. • (3)Another comment is the fact that the synergies of this project between nature and climate adaptation allowed them to get funding from multiple sources. On top of this, the possibility to integrate private investors with green bonds and carbon credits needs to be considered for future projects. 	<ul style="list-style-type: none"> • (4)A difficulty encountered during the design phase was to find the right solution, a lot of time have been spent discussing the design with the landowners. • (5)In addition, for financial issues they could not buy the land, so they ended up buying the right to use it. • (6)In these types of projects, the help of the consultancy company is a must, in order to make sure that the calculations are correct and to not be responsible if the solution doesn't work. 		<ul style="list-style-type: none"> • (7)In this case there is a lack of a tools or methods to highlight the benefits of NBS and nature to convince the decision makers that can be used for future projects. 						DA-2 gave some feedbacks during the interviews realized for D5.7 and the overall analysis from December is showing that they have just started generating some feedbacks.	
Ecosystems, biodiversity & environmental quality					0 / 4						
Society & human well-being					0 / 4						
Risk management & hazard					0 / 4						
Costs & Financing	• (2), (3)	• (5)			2 / 4						
Policy & regulation					0 / 4						
Stakeholder involvement	• (1)				1 / 4						
Organisational setup, coordination & synergies	• (1)	• (4), (6)			2 / 4						
Data collection & analysis				• (7)	1 / 4						
Demonstrator DA-3: Tordera River Basin, Spain											No information for DA-3
Demonstrator DA-4 Portofino Regional Natural Park, Italy											Nothing have been collected during the interview from last year but the overall analysis showed that some preliminary phases started .
Demonstrator DB-1 IJssel River Basin, The Netherlands	<ul style="list-style-type: none"> • (1)The planning of this project was managed by a multi-level government based on 4 levels of authorities, allowing joint ownership with each part with their own responsibilities. Setting up project groups with the 4 different levels, in order to agree on the plan and make sure each area of expertise of these authorities is doable. • (2)Used a collaborative GIS platform combining projects, helpful to measure the effects it could have on different parts of the river and so, the different projects. 	<ul style="list-style-type: none"> • (3)The project involved a lot of stakeholders on a national and local scale, managing this number of stakeholders was a difficulty. • (4)In general, projects in the Netherland are almost always involving the citizens in the project, the design of these type of projects need also to fulfil the national requirements and regulation, for rivers, projects need to be designed for a thousand-year event. 	<ul style="list-style-type: none"> • (5)The construction company are in direct contact with the citizens during the implementation phase as well, and can bring suggestion and are following the process, making sure what has been agreed on is respected. 	<ul style="list-style-type: none"> • (6)In terms of the maintenance cost, 50% of it comes from taxes 						DB-1 gave some useful feedbacks spread out across the different phases (see columns on the left), the color code above highlight that preliminary phases started for the Evaluation and the Lessons learned .	
Ecosystems, biodiversity & environmental quality					0 / 4						
Society & human well-being					0 / 4						
Risk management & hazard		• (4)			1 / 4						
Costs & Financing				• (6)	1 / 4						
Policy & regulation		• (4)			1 / 4						
Stakeholder involvement		• (3), (4)	• (5)		2 / 4						
Organisational setup, coordination & synergies	• (1), (2)		• (5)		2 / 4						
Data collection & analysis	• (2)				1 / 4						
Demonstrator DB-2 Inn River Basin, Austria	<ul style="list-style-type: none"> • (1)One outcomes of this demonstrator mentioned during the interview is the possibility to have a look at the neighboring catchments to see the potential effects, the hydrological modelling will not be as precise as the model used for their catchment (the one studied) but enough to have an idea. • (2)It appears as well that fundings for these types of projects are an issue. Money from the state is not infinite and it is even more true for the municipality that often needs to choose to invest their money from one project to another. • (3)Tourism could be used as an enabler to finance these types of interventions and protect the landscape. 									Interview with DB-2 allowed to collect feedbacks on the Planning phase only . At the moment they have not started the Evaluation and the Lessons learnt of their site.	
Ecosystems, biodiversity & environmental quality					0 / 4						
Society & human well-being					0 / 4						
Risk management & hazard					0 / 4						
Costs & Financing	• (2), (3)				1 / 4						
Policy & regulation					0 / 4						
Stakeholder involvement					0 / 4						
Organisational setup, coordination & synergies					0 / 4						
Data collection & analysis	• (1)				1 / 4						
	• (1)For these projects, they have used a mixed collaboration with the citizens and	• (4)Used of iterative process:	• (5)For the implementation, they have	• (8)Maintenance is divided between Aarhus water							

<p>Demonstrator DB-3 Aarhus, Egå Engse and Lystrup, Denmark</p>	<p>some biologists to plan the recreational area around the Nature-based solutions, that permit good outputs and adapt the planning in accordance.</p> <ul style="list-style-type: none"> • (2) Since the implementation of the Lystrup project, they have adapted their planning approach to have a more holistic approach. • (3) Due to recent regulations, projects in Denmark now need to focus on cost-benefit analysis and by law they need to apply the expected annual-damages to balance the investments costs with the possible damage costs 	<p>planning, designing, discussing, repeat and re-adapt</p>	<p>collaborated with the Aarhus University for the biodiversity part, which experimented with some solution that then been implemented.</p> <ul style="list-style-type: none"> • (6) Another learning coming from their experience is the importance of soil they were using for their projects. In order to be more biodiversity friendly, they are now using mineral soil instead of a neutral one. • (7) Learning also from the negative consequences of their actions, issues with fish that got confused from the transformation of the river into a lake, from now on this aspect have been considered by providing an alternative solution to other projects. 	<p>(maintaining the hydrological functions) and the municipality is maintaining the surrounding of the NBS.</p>	<p>DB-3 provide good inputs during the interview 1 year ago, however the official start for the Evaluation and the Lessons learnt did not produce anything at the moment.</p>
Ecosystems, biodiversity & environmental quality	• (1)		• (5), (6), (7)		2 / 4
Society & human well-being	• (1)				1 / 4
Risk management & hazard	• (3)				1 / 4
Costs & Financing	• (3)				1 / 4
Policy & regulation	• (2), (3)				1 / 4
Stakeholder involvement			• (5)		1 / 4
Organisational setup, coordination & synergies	• (1)		• (5)	• (8)	3 / 4
Data collection & analysis		• (4)			1 / 4
<p>Demonstrator DB-4 Thur River Basin, Switzerland</p>	<ul style="list-style-type: none"> • (1) Farmers were a bit skeptical about the project because they were the one impacted by this river restoration project, however they found a solution by exchanging their lands with some situated further away from the river, this solution is an alternative of buying the land from the farmers. • (2) In Switzerland, they can have some conflict between river restoration project and drinking water wells (drinking water production). Restoration projects can impact the way water is recharging the ground (the delay water infiltrates). 	<ul style="list-style-type: none"> • (3) The design of the riverbanks attracted some biodiversity, with birds coming back after many years and also beavers who came back but messing up the place a bit. 	<ul style="list-style-type: none"> • (4) As a part of the project, they have implemented some elements for the community, like a fireplace, bike paths, wood that can be used and information panels in order to explain the history and the details of the project, which helped the community to feel engaged and considered in the project. 	<ul style="list-style-type: none"> • (5) The river restoration that made the river wider caused some issues. Due to the implementation of gravel banks, the river changed in shape and gained some terrain on the side cutting down some trees. At some point they had to do something. That is why, in order to protect the land, they had to invest extra money to build a trench in case water is gaining too much land. However, this event increased sediments going in the other direction, resulting in land where the river used to be, and the other way around. 	<p>DB-4 is the most advanced one at this date, with ongoing actions: Moreover the interview for DB-7 already produced good inputs for each phases.</p>
Ecosystems, biodiversity & environmental quality		• (3)			1 / 4
Society & human well-being	• (2)		• (4)		2 / 4
Risk management & hazard				• (5)	1 / 4
Costs & Financing	• (1)			• (5)	2 / 4
Policy & regulation	• (2)				1 / 4
Stakeholder involvement			• (4)		1 / 4
Organisational setup, coordination & synergies					0 / 4
Data collection & analysis					0 / 4
<p>Demonstrator DB-5 The Var Éco-Vallée, France</p>	<ul style="list-style-type: none"> • (1) The main barrier and outcome of this project is the recognition of NBS as a system, at the moment only universities, researchers and scientists are aware of the multiple benefits NBS is providing. 				<p>The Monitoring and Evaluation as well as the Lessons learnt did not start at the moment.</p>
Ecosystems, biodiversity & environmental quality					0 / 4
Society & human well-being					0 / 4
Risk management & hazard					0 / 4
Costs & Financing					0 / 4
Policy & regulation	• (1)				1 / 4
Stakeholder involvement					0 / 4
Organisational setup, coordination & synergies					0 / 4
Data collection & analysis					0 / 4
<p>Demonstrator DB-6 Les Bouscheleurs, France</p>		<ul style="list-style-type: none"> • (1) NGOs were used to connect different groups of people. With the municipality, the oyster farmers and with the inhabitants in order to raise awareness. 			<p>Monitoring is at the preliminary phase, otherwise poor information have been collected at this date.</p>
Ecosystems, biodiversity & environmental quality					0 / 4
Society & human well-being					0 / 4
Risk management & hazard					0 / 4
Costs & Financing					0 / 4
Policy & regulation					0 / 4
Stakeholder involvement		• (1)			1 / 4
Organisational setup, coordination & synergies		• (1)			1 / 4
Data collection & analysis					0 / 4

European Collaborators	Planning	Design	Implementation	MEL
Kamchia River Basin, Bulgaria	<ul style="list-style-type: none"> Fragmentation of responsibilities and powers between multiple authorities (local and governmental), and stakeholders, is a real issue in Bulgaria Language translation/certification in up-scaling (e.g. a plan, drawing, or design project needs to be translated/adopted/in Bulgarian) Feel the need for more rigid (standard) formulatin/classification of the "large scale" NBS. Having a hard time getting stakeholders involved to give input in the MCA analysis Good enabler: borrow from positive experience and good practices from the Demonstrators Modeling is an important tool to assist NBS selection, evaluate their efficiency, demonstrate positive effects to the local stakeholders Modeling require also various expertise. Calibration and verification was also a challenge due to the lack of hydrometeorological data Need to set a site-specific standards and guidelines to evaluate NBS effectiveness and reliability Lack of specific standards and guidelines to evaluate NBS effectiveness and reliability. 	<ul style="list-style-type: none"> Local tuning of the NBS could be sometime difficult and time consuming process, especially when some permits are required Hesitation from National authorities to support design and construction of NBS compare to the local and regional authorities 		<ul style="list-style-type: none"> Baseline monitoring: Additional sensors to measure (water discharge, water quality parameter, video-cameras) will provide a real basis to monitor all group (Water, Nature, People)
Pilica River Basin, Poland	<ul style="list-style-type: none"> Lack of knowledge and competencies, especially in the planning, in terms of administrative, legacy, and spatial and data related RECONNECT catalogue was useful to select Nbs measures Easier to involve institutions operating at the regional level compare to the residents and local authorities which require face to face meeting Local authorities are more cautious when evaluating NBS, fearing that environmental measures may hinder development or intensification of agriculture. Regional respondents focused more strongly on the general needs of the stakeholders Field inspection, analysis of archival maps and informal conversations with residents about the shape of the river before regulation should become the basis for work. However, it is time consuming to look for this type of documentation. Lack of expertise in the team to model NBS The collection of data on compensation paid to farmers for agricultural losses takes time but can make an important contribution to the estimation of benefits 			
Bregana River Basin, Croatia	<ul style="list-style-type: none"> The absence of national strategy and action plans Lack of knowledge from professionals and the public RECONNECT Catalogue is a good starting point to see Nbs measures, it significantly simplified the initial process, making it easier to understand for the Collaborators and other involved stakeholders Modelling of some selected measures could be challenging Communication with different stakeholders groups gave them a better understanding of their specific needs and opinions and learned how certain stakeholders views differ from their views and why Lack of expertise in Nature and People indicators to evaluate the potential benefits and co-benefits of the NBS Lack of more detailed guidelines for certain type of benefits. 			
Drina River Basin, Serbia (Jadar)	<ul style="list-style-type: none"> Low knowledge level on NBS benefits Lack of institutional capacity for NBS measures support Low national and international funds allocated for such measures Lack of relevant legislation, and insufficient law compatibility across different basin entities The RECONNECT catalogue is a good starting point for the selection of measures The questionnaire to collect stakeholder opinions could be improved to provide more examples and makes it easier for stakeholders to express their opinions The information on the measures within "Measure Selector Tool" on the project webpage, which could assist stakeholders, are not sufficiently informative in some cases, especially about the scale of the measure effects. Severe lack of adequate hydrometeorological data and data on the terrain Incorporating the selected NBS into the models and their exact locations was a challenge. The spatial Suitability Analysis did not significantly narrow down the potential locations. Lack of data in this basin poses a significant barrier to a successful evaluation of the proposed NBS measures. Lack of expertise in the team, primarily to model the effects of erosion control Evaluation of damages from floods as water indicator should be done for the most important or valuable assets, it prolongs the process and does not add any values to the decision making process Lack of guidelines for assessing certain type of benefits Lack of expertise on Nature and People indicators for evaluating the co-benefits 			
Kolubara River Basin, Serbia (Tamnava)	<ul style="list-style-type: none"> Lack of relevant legislation Lack of systemic classification of building stock Lack of mechanism for capturing indirect losses Low resolution terrain data Low national funds allocated for such measures Preliminary selection of measures was made without recognizing the ecological benefits, which should have significant impact on the choice of measures. The RECONNECT Catalogue is good starting point for the selection of measures. The questionnaire to collect stakeholder opinions could be improved to provide more examples and makes it easier for stakeholders to express their opinions Calibration of the hydrologic model was a challenge due to the lack of adequate hydrometeorological data and catchment configuration Incorporating the selected NBS into the models and their exact locations was a challenge. The spatial Suitability Analysis did not significantly narrow down the potential locations. Lack of guidelines for assessing certain type of benefits Lack of expertise on Nature and People indicators for evaluating the co-benefits 			

<p>Vrbanja River Basin, Bosnia and Herzegovina</p>	<ul style="list-style-type: none"> ▪ The preliminary selection of NBS resulted in a long list of measures, which had to be filtered according to the applicability and suitability of the measures in the basin ▪ The RECONNECT catalogue of measures represents a good starting point for selection of the NBS. ▪ In order to get relevant answers from the stakeholders, they should be previously introduced to the project, its goals and the concept of Nbs. ▪ Calibration of the hydrological model was a challenge due to the lack of adequate hydrometeorological data. ▪ Lack of expertise to model certain Nbs ▪ Could benefit from having forestry and geomorphologists in the team to help with the modeling and design of before mentioned measures ▪ Lack of specific guidelines for certain types of benefits and co-benefits ▪ Lack of expertise in Nature and People indicators for evaluating the co-benefits 			
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*These informations are described as the barriers for the implementation of NBS

Information you can find on the D5.5 or the D4.2 assessing the barriers and enablers of the project which maybe doesn't correspond to what we are looking for --> lessons learned

*Information collected from review of lessons learnt from demonstrations conducted by University of Belgrade.

The EU collaborators did not implement any NBS, they are part of the RECONNECT project because they are using it as a methodology to select and rank the potential applicable measure with the help of the Multi- Criteria Analysis (MCA) and the Measure Selector Tool.

State of the project - DEMONSTRATORS

Tracking impacts and outputs from RECONNECT

		Investigation & Planning					Monitoring* & Evaluation			Lessons Learnt	
		Prefeasibility Study	Design (preliminary&detailed) + EIA	Baseline Monitoring*	Permits	Funding	Works	Monitoring	Evaluation (W, N, P)	Content	Processes
Demos A	Elbe Estuary	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed
	Seden Strand	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed
	Portofino	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed
	Tordera	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed
Demos B	Thur River	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed
	Ijssel	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed
	Inn River	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed
	Greater Aarhus	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed
	Var River	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed
	Les Boucheleurs	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed
Development of products, spinoffs and startups to support all of the above								Evidence-base / Replication & Upscaling / Mainstreaming			

completed
 ongoing
 not yet started or unknown
 Preliminary phase
 on hold

*An overlapping task

State of the project - COLLABORATORS

		Investigation & Planning					Construction			Monitoring	Lessons Learnt		
		Prefeasibility Studies					Permits	Funding	Works	g* (post-con)	Content	Processes	iers&Enab
		Preliminary Selection of NBS (measures selector tool + MCA)	Modelling	Evaluation of benefits and costs	Final Selection of NBS	minary&define Monite							
Collaborators Europe	Jadar	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
	Tamnava	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
	Vrbanja	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
	Pilica	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
	Kamchia	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
	Bregana	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
Collaborators Asia	Chao Praya	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
	Cameron Highlands	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
	Selangor	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
Collaborators Latin America	Nangang	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
	Cariveratejo, Melendez, Lili	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
	Medellin	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
	Rio Comprido, Jacarei	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
	Peru	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed
St Maarten	Completed	Ongoing	Completed	Completed	Completed	Ongoing	Completed	Completed	Completed	Completed	Completed	Completed	

COMMENT Jasna

xxx I know that the works for Chao Praya are done, but I don't know if they have finished PFS?

xxx I am not aware that Fikri has finished PFS and started works

xxx I am not aware that Daniel has finished PFS

They have only finished task 4.1, they claim that they are working on 4.2, but I have not seen anything

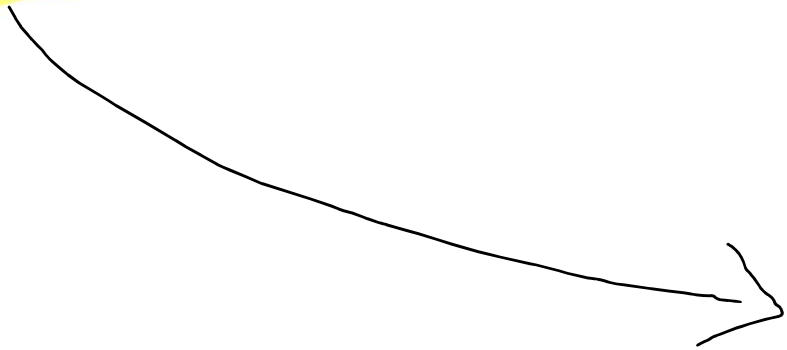
They do not respond to mails

Not applicable
 completed
 ongoing
 not yet started or unknown
 Preliminary phase
 on hold

*An overlapping task

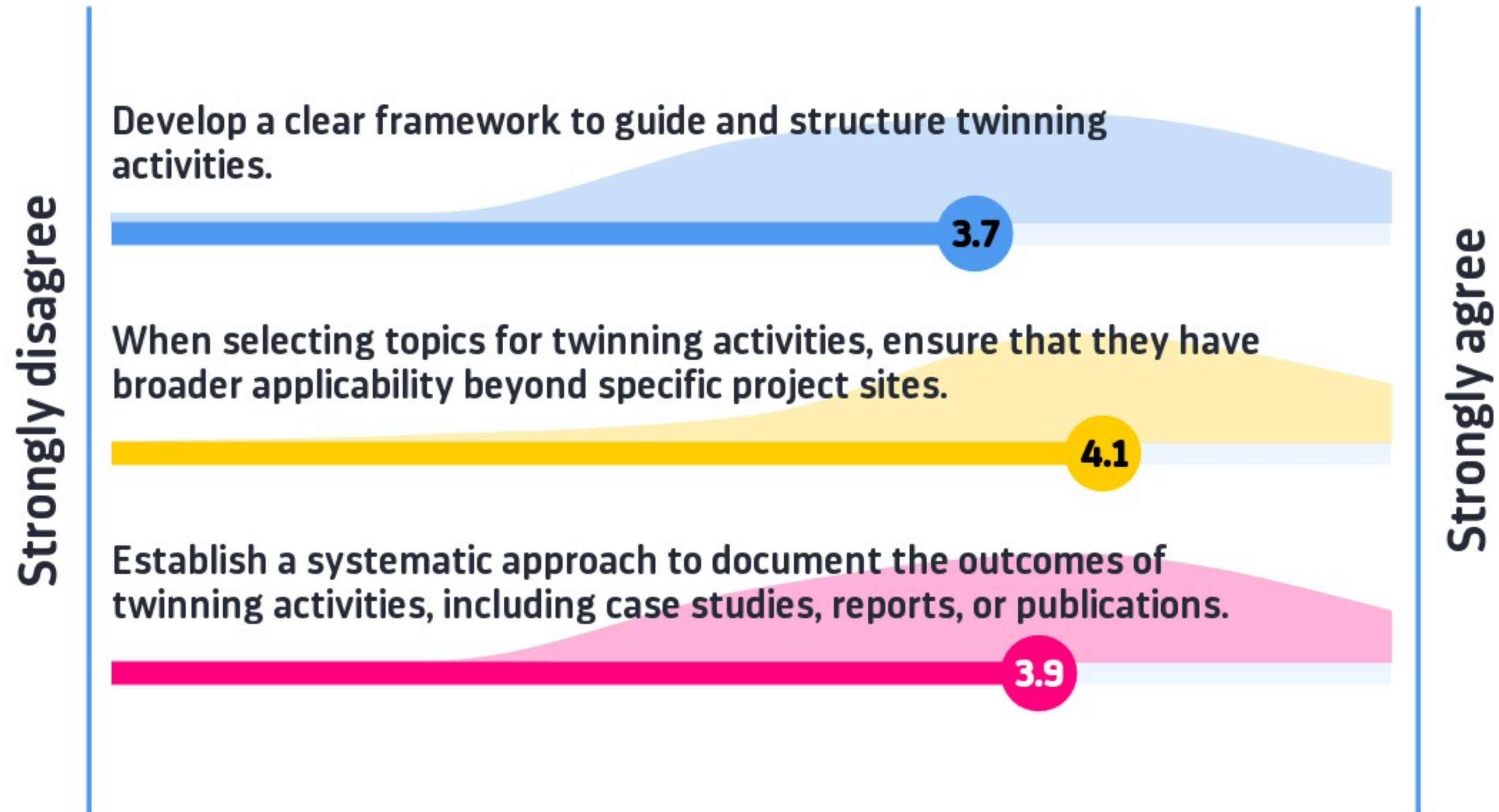
Respondants	The Feedbacks and lesson learned highlighted:
Daniele La Cecilia (Aewag)	<ul style="list-style-type: none"> • The long term perspective of the project and how to accelerate the process given the urgent needs of hydro-meteorological risks exacerbated by climate change
Sumy Puengo (Thailand)	<ul style="list-style-type: none"> • Several government agencies from different levels are involved for the Bypass Kampem project • The fact that they embraced water as an opportunity rather than a threat and transformed stakeholders to shareholders • The multi-purposed of Noordward project such as bridges used as dikes, resting areas for birds. They also facilitated public access and provided opportunities for recreation. • In terms of strategies to overcome the constraints and barriers of the projects. Highlighted the added value of human projects (improving spatial quality approach)
Marti Viti (DTU)	<ul style="list-style-type: none"> • The Holistic approach of the projects • The fact that the Room for the River project is comprised of site-specific NbS to better suit each area of actions • Outreach and education to the public where the projects are situated is setting up a very good example for future NbS
Lars Kildahl Sonderby (Odense)	<ul style="list-style-type: none"> • The value for both Nature and People these projects are highlighting

	Planning	Design	Implementation	MEL
Ecosystems, biodiversity & environmental quality				
Society & human well-being				
Risk management & hazard				
Costs & Financing				
Policy & regulation				
Stakeholder involvement				
Organisational setup, coordination & synergies				
Data collection & analysis				

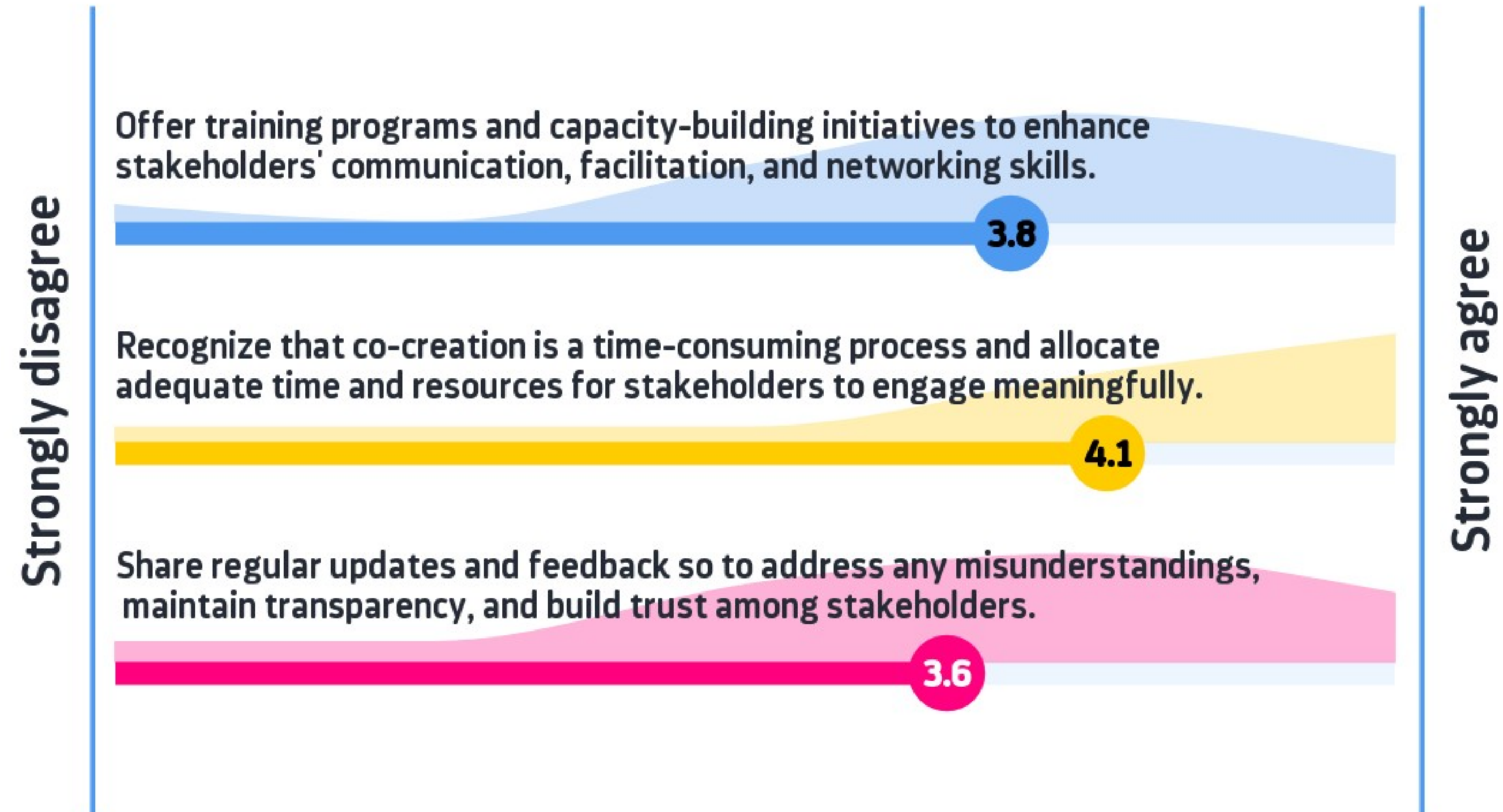


<p>1. Ecosystems, biodiversity & environmental quality</p> <p>This aspect describes the consideration and contribution to nature during the different phases of the project, it seeks to protect, restore, and enhance the natural systems. It can be achieved by conservation and restoration of natural habitats, enhancing the local biodiversity and offering a healthy ecosystem.</p>	<p>5. Policy & regulation</p> <p>Nature-based solutions require supportive policies and regulations to enable their implementation, such as regulations that protect natural systems or policies that incentivize the use of green infrastructure and the. It can also be the regulations and policies that are slowing down or making the different phases of the project more complicated compared to traditional infrastructure.</p>
<p>2. Society & human well-being</p> <p>This aspect describes the consideration and contribution to people. If the project provides benefits to the society and people by providing ecosystems services, humans can benefit from, like a better air and water quality for instance and/or provide recreational opportunities for the population.</p>	<p>6. Stakeholder involvement</p> <p>This aspect describes the involvement of the different stakeholders for the success of the NbS and the required collaboration in order to make the project doable.</p>
<p>3. Risk management & hazard</p> <p>It describes the solutions which is helping to mitigate and manage risks associated with natural hazards, such as floods and landslides, by providing natural buffers and reducing exposure to hazards.</p>	<p>7. Organisational setup, coordination & synergies</p> <p>This aspect describes the coordination and cooperation between different actors, such as government agencies, NGOs, and private sector organizations for example.</p>
<p>4. Costs & Financing</p> <p>This aspect considers the costs and financing mechanisms associated with nature-based solutions, including the cost of implementing and maintaining these solutions, as well as funding sources and potential re-calibration of the budget.</p>	<p>8. Data collection & analysis</p> <p>It describes the procurement of accurate and up-to-date data on the status of natural systems and their benefits, as well as monitoring and evaluation to ensure that these solutions are effective and sustainable over the long term.</p>

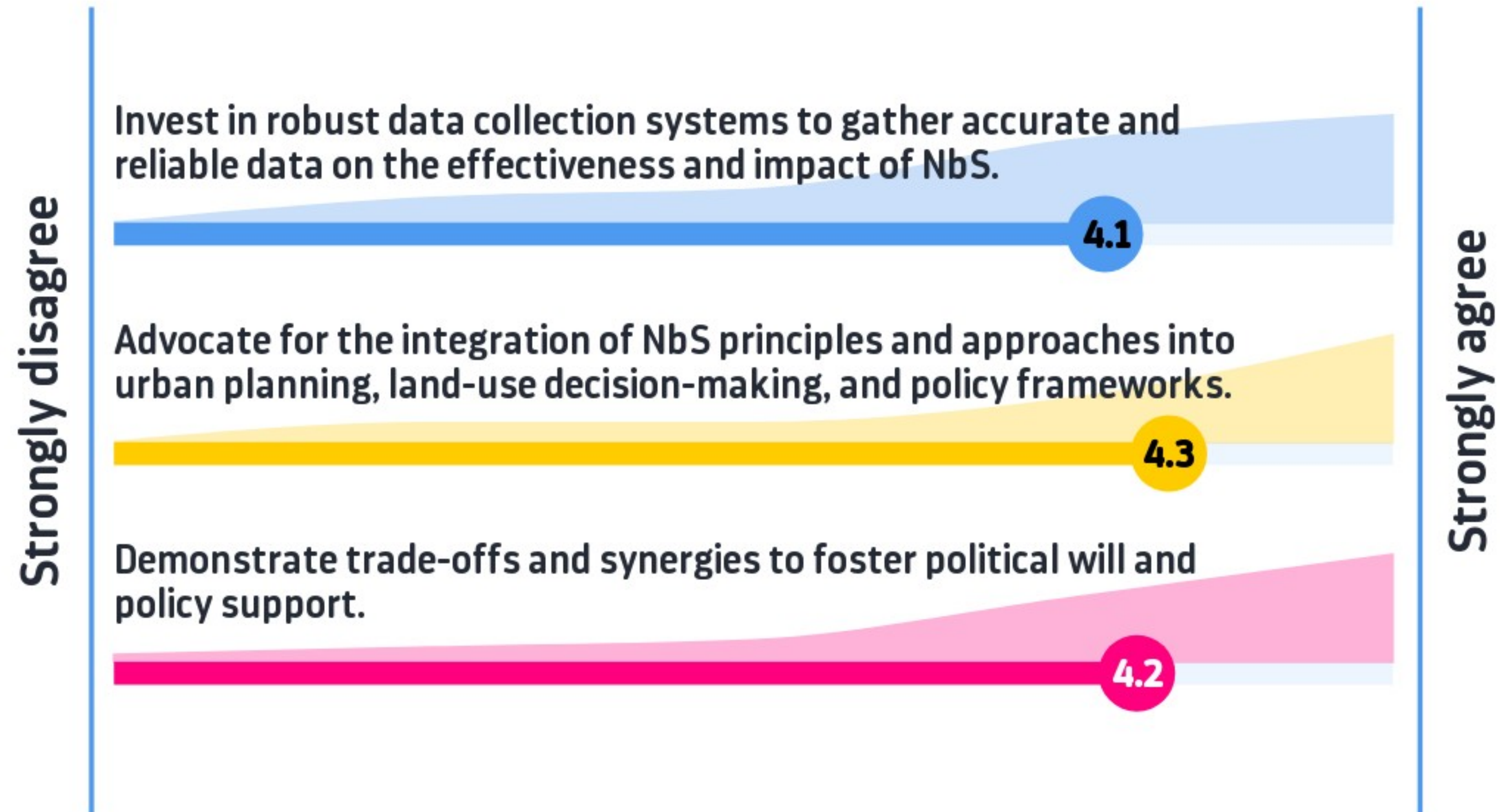
Scaling Deep (Twinning): It's important for future efforts to upscale NbS to...



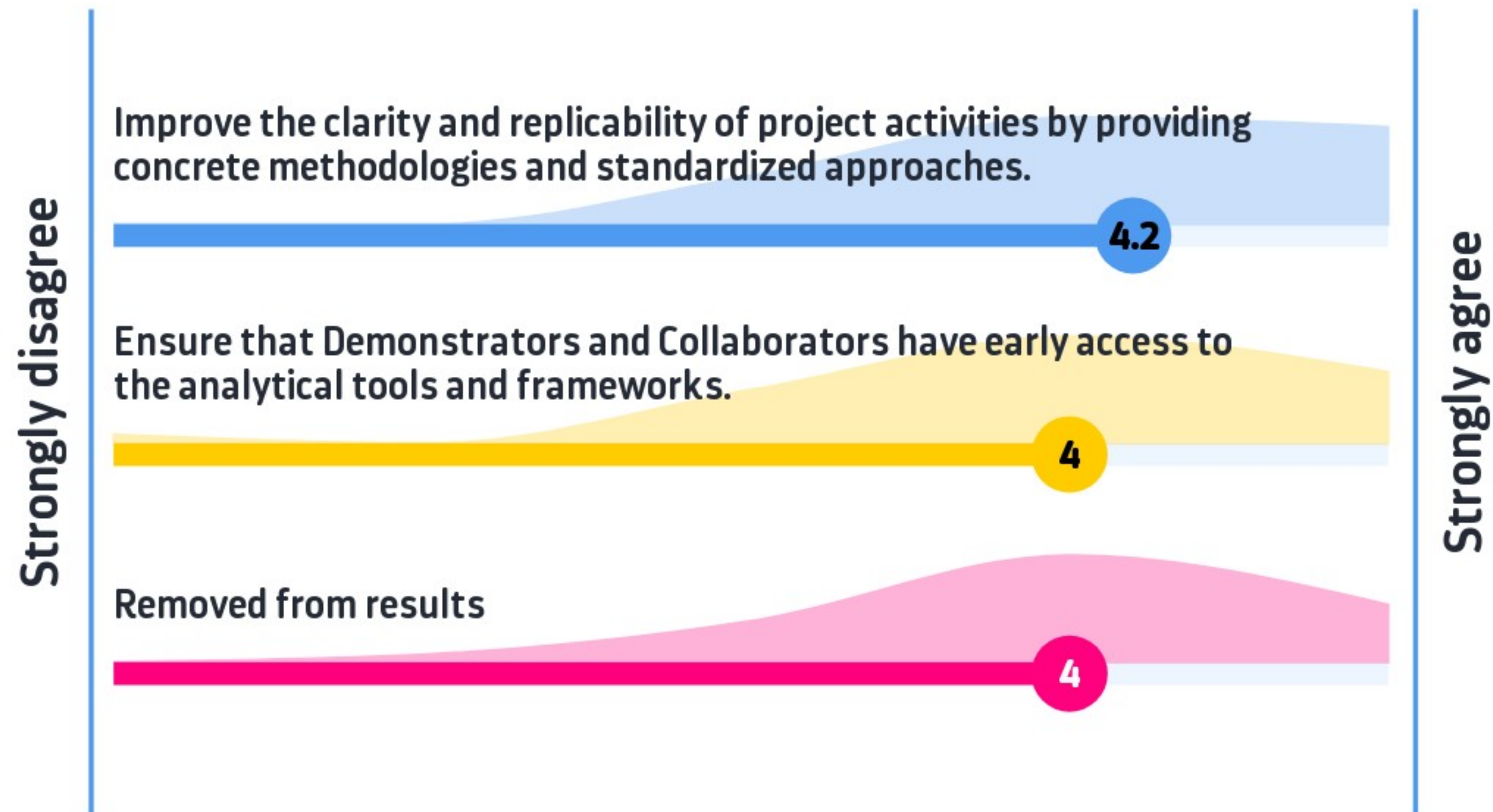
Scaling Deep (Co-Creation): It's important for future efforts to upscale NbS to...



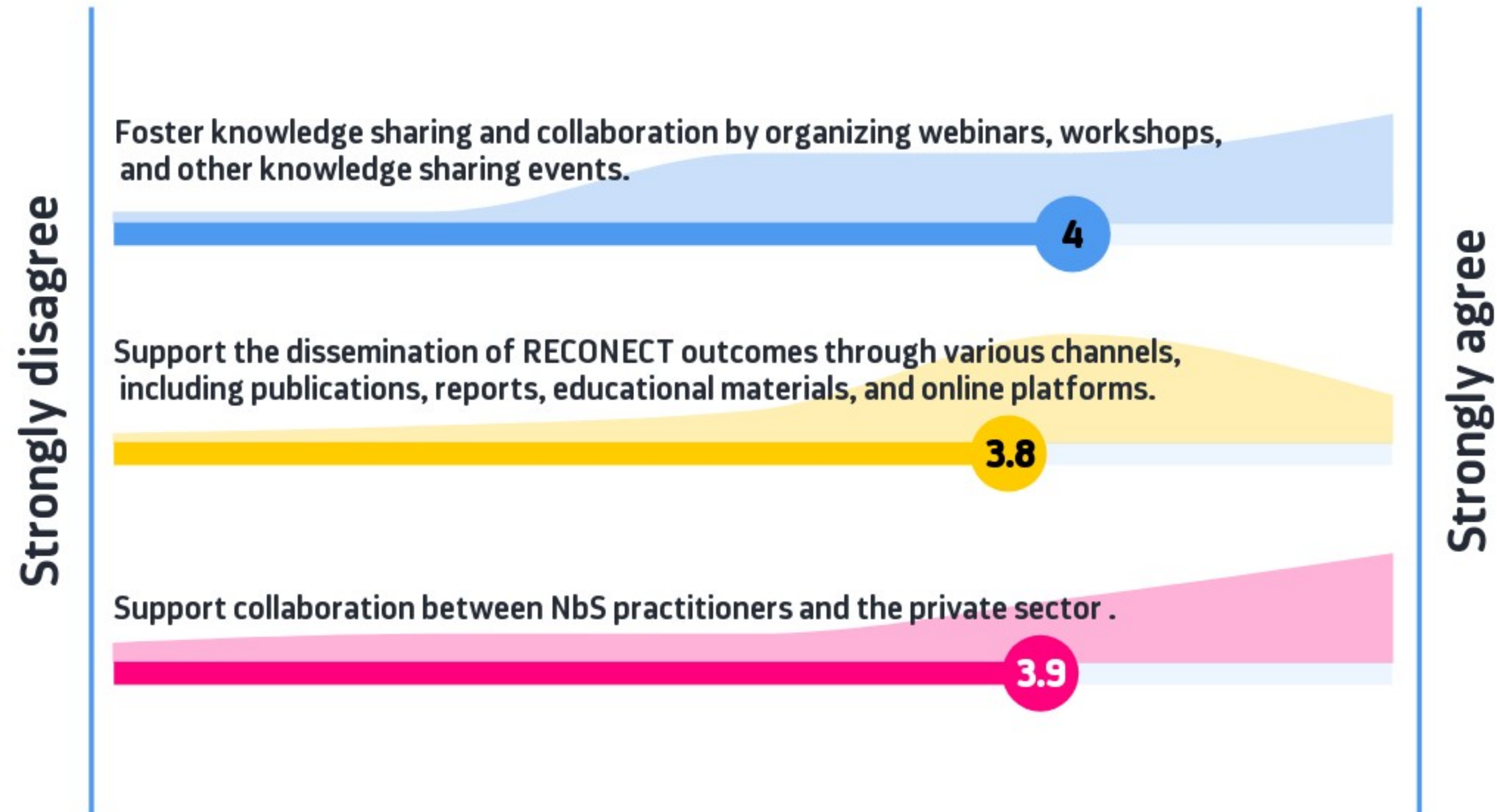
Scaling Up (Upscaling): It's important for future efforts to upscale NbS to...



Scaling Down (Analytical Tools): It's important for future efforts to upscale NbS to...



Scaling Out (Systems Change): It's important for future efforts to upscale NbS to...



Strongly disagree

Continue supporting collaborations between NbS practitioners and the private sector to enhance the exploitation of RECONNECT outputs.

3.7

Promote cross-sector collaboration and engagement with stakeholders from diverse sectors.

4.7

Continue organizing workshops, knowledge sharing sessions, and webinars to facilitate the exchange of ideas, experiences, and technical knowledge.

4

Strongly agree



3

