

I. Appendix - Complete scoring of the selected NbS participatory – **KNOWLEDGE** tools

1. The Walking app

Criteria #1: *Tool is open-access* [Yes - 0] [No-1]

Justification: tool is accessible for free to be downloaded from iStore or Android Store

Criteria #2: *Tool has a web-interface* [Yes-0] [No-1]

Justification: the tool is only a mobile application without a web - interface

Criteria #3: *Data Granularity* [Low -1] [Medium-2] [High-3]

Justification: Local maps of the area are provided that are taken from general maps on a national level

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: *Data Accessibility* [Low-3] [Medium-2] [High-1]

Justification: The most important data in the app are the maps which can be found easily for the UK

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: *Number of Data Inputs (by user)* [Low -1] [Medium-2] [High-3]

Justification: there are 13 interest points and at 6 questions are asked in them, the kids section has double which would be around 12 questions in total

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: *Subject matter expertise* [Low -1] [Medium-2] [High-3]

Justification: No expertise needed for using the map and following the trails

Low: expertise not needed

Medium: general subject matter understanding
High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: Training intensity for using the app depends on the individual but some people would need maximum of 1 day

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: Scenarios are user-defined [Yes - 1] [No/N-A - 0]

Justification: The scenarios (trails) are defined by the owners of the app and not the users

Total: 6

2. Adaptation Pathway Tool

Criteria #1: Tool is open-access [Yes - 0] [No-1]

Justification: tool is open-access

Criteria #2: Tool has a web-interface [Yes-0] [No-1]

Justification: the tool is web-based

Criteria #3: Data Granularity [Low -1] [Medium-2] [High-3]

Justification: The adaptation pathways are types of data that is localized for the Somerset area however the NbS measures given in the pathways are generalized

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: Data Accessibility [Low-3] [Medium-2] [High-1]

Justification: The most important data on the website is user-generated via workshops with stakeholders so it is accessible and not difficult to find

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user) [Low -1] [Medium-2] [High-3]

Justification: there are a lot of questions regarding the demographic of the user which need to be filled in upon sign-up. Afterwards there are also a lot of data inputs necessary for ranking the existing pathways or modifying them.

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise [Low -1] [Medium-2] [High-3]

Justification: No expertise needed, however general basic knowledge on climate change, adaptation pathways and nature-based solutions helps to better understand the tasks on the website. For those that don't have this knowledge, training videos are provided

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: Training intensity for using the website depends on the individual but some people would need maximum of 1 day

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: Scenarios are user-defined [Yes - 1] [No/N-A - 0]

Justification: The scenarios (adaptation pathways) are pre-defined by the users (stakeholders) on previous workshops but can be modified additionally

Total: 10

3. Online Ideation Website

Criteria #1: Tool is open-access [Yes - 0] [No-1]

Justification: tool is open-access

Criteria #2: Tool has a web-interface [Yes-0] [No-1]

Justification: the tool is web-based

Criteria #3: Data Granularity

[Low -1] [Medium-2] [High-3]

Justification: All data used on the website is sector specific but general in terms of the effects from flooding, drought, adaptation measures etc.

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: Data Accessibility

[Low-3] [Medium-2] [High-1]

Justification: The information on the website is provided by the Province of Antwerp and it can be found easily as it contains general information on the effects from the adaptation measures but also effects from the flooding, drought and other climate change effects.

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user)

[Low -1] [Medium-2] [High-3]

Justification: According to their report from this tool, 145 ideas were generated by users and 185 votes were made on this ideas.

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise

[Low -1] [Medium-2] [High-3]

Justification: No expertise needed, however general basic knowledge on climate change, adaptation pathways and nature-based solutions helps to better understand the tasks on the website. For those that don't have this knowledge, training videos are provided

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool)

[Low -1] [Medium-2] [High-3]

Justification: Training intensity for using the website depends on the individual but some people would need maximum of 1 day

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: *Scenarios are user-defined*

[Yes - 1] [No/N-A - 0]

Justification: The ideas on adaptation measures are defined by the users (stakeholders mostly citizens)

Total: 10

4. Knowledge Co-creation Workshop

Criteria #1: *Tool is open-access*

[Yes - 0] [No-1]

Justification: tool is open-access

Criteria #2: *Tool has a web-interface*

[Yes-0] [No-1]

Justification: the tool was online via WebEx and MS Teams

Criteria #3: *Data Granularity*

[Low -1] [Medium-2] [High-3]

Justification: All data used in the workshop is sector specific but general in terms of the effects from flooding, drought, adaptation measures etc.

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: *Data Accessibility*

[Low-3] [Medium-2] [High-1]

Justification: Data used for the workshop is from the province implementing the NbS measures that required models and site specific calculations

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: *Number of Data Inputs (by user)*

[Low -1] [Medium-2] [High-3]

Justification: Data inputs are more in the format of discussion after the presentation of the already implemented measures in their first stage. So that is why we consider the input as low as there is not enough space for changes but more for discussion on what is already planned.

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise [Low -1] [Medium-2] [High-3]

Justification: No expertise needed, however general basic knowledge on climate change, adaptation pathways and nature-based solutions helps to better understand the implemented NbS measures.

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: Training intensity is not needed for attending the workshop

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: Scenarios are user-defined [Yes - 1] [No/N-A - 0]

Justification: The ideas on adaptation measures are defined by the users (stakeholders mostly citizens)

Total: 9

II. Appendix - Complete scoring of the selected NbS participatory – **TRANSITION** tools

1. Flyer for planned future events

Criteria #1: *Tool is open-access* [Yes - 0] [No-1]

Justification: the tool is accessible in online and physical form for anyone interested

Criteria #2: *Tool has a web-interface* [Yes-0] [No-1]

Justification: the flyer is also available online on the project website

Criteria #3: *Data Granularity* [Low -1] [Medium-2] [High-3]

Justification: set to low because data needed is only in regards to the planned future events organized by the province

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: *Data Accessibility* [Low-3] [Medium-2] [High-1]

Justification: Same justification as above

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: *Number of Data Inputs (by user)* [Low -1] [Medium-2] [High-3]

Justification: there are no data inputs for this particular tool

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: *Subject matter expertise* [Low -1] [Medium-2] [High-3]

Justification: No expertise needed

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: *Training Intensity (for use of tool)* [Low -1] [Medium-2] [High-3]

Justification: No training is needed

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: *Scenarios are user-defined*

[Yes - 1] [No/N-A - 0]

Justification: Not-applicable for this tool

Total: 5

2. Stakeholder forum/Round table

Criteria #1: *Tool is open-access*

[Yes - 0] [No-1]

Justification: tool is open-access

Criteria #2: *Tool has a web-interface*

[Yes-0] [No-1]

Justification: the tool is only with physical presence of the participants

Criteria #3: *Data Granularity*

[Low -1] [Medium-2] [High-3]

Justification: This tool required specific information on the project area (climatological, cultural, historical, technical and survey data) which is localized for the area of Beerse and the Laak river

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: *Data Accessibility*

[Low-3] [Medium-2] [High-1]

Justification: Data is localized and could be possibly difficult to find

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: *Number of Data Inputs (by user)*

[Low -1] [Medium-2] [High-3]

Justification: this depends on the flow of the discussion on the round tables and the will of the participants to give input. Groups are normally small so we will say that the inputs are low to medium

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: *Subject matter expertise* [Low -1] [Medium-2] [High-3]

Justification: No expertise needed

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: *Training Intensity (for use of tool)* [Low -1] [Medium-2] [High-3]

Justification: Training intensity is not needed

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: *Scenarios are user-defined* [Yes - 1] [No/N-A - 0]

Justification: Not applicable for this tools as it only serves for discussion and not defining specific scenarios

Total: 10

3. Permanent information plaques and project area accessibility

Criteria #1: *Tool is open-access* [Yes - 0] [No-1]

Justification: tool is open-access

Criteria #2: *Tool has a web-interface* [Yes-0] [No-1]

Justification: the tool a physical plaque not available online

Criteria #3: *Data Granularity* [Low -1] [Medium-2] [High-3]

Justification: The plaque gives the adaptation measures and the expected effects in the area. So the information is general but sector-specific.

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: Data Accessibility

[Low-3] [Medium-2] [High-1]

Justification: All presented data is based on the modelling tools used to derive the effects from the planned nature-based solutions in the area

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user)

[Low -1] [Medium-2] [High-3]

Justification: There are no data inputs by the users

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise

[Low -1] [Medium-2] [High-3]

Justification: No expertise needed, however general basic knowledge on climate change, adaptation pathways and nature-based solutions helps to better understand the information presented on the plaques.

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool)

[Low -1] [Medium-2] [High-3]

Justification: Training intensity for using the website depends on the individual but some people would need maximum of 1 day

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: Scenarios are user-defined

[Yes - 1] [No/N-A - 0]

Justification: No user inputs with this tool

Total: 10

4. Educational trainings & materials for primary schools

Criteria #1: Tool is open-access [Yes - 0] [No-1]

Justification: we consider this tool as open access because the information provided to the primary schools about water management and NbS practices, can be found openly and freely on the internet as well. All resources such as: activity sheet for home schooling, slow the flow game and resource packs for GCSE and A-Level using the Culm catchment.

Criteria #2: Tool has a web-interface [Yes-0] [No-1]

Justification: all materials were also available online on the project website

Criteria #3: Data Granularity [Low -1] [Medium-2] [High-3]

Justification: All data used in the workshop is sector specific but general in terms of the effects from flooding, drought, adaptation measures etc.

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: Data Accessibility [Low-3] [Medium-2] [High-1]

Justification: Data is freely accessible on the internet

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user) [Low -1] [Medium-2] [High-3]

Justification: 300 pupils contributed to the development of the draft Blueprint vision and then 32 children gave feedback on that draft River Culm Blueprint vision.

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise [Low -1] [Medium-2] [High-3]

Justification: No expertise needed, all information is designed to be presented to elementary school children and their teachers

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: Training intensity is not needed for attending the workshop

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: Scenarios are user-defined [Yes - 1] [No/N-A - 0]

Justification: Around 300 pupils contributed on the development of the draft blueprint version of the Culm.

Total: 9

5. Maptionnaire

Criteria #1: Tool is open-access [Yes - 0] [No-1]

Justification: the application for creating the maptionnaire tool has to be bought and depending on the organization it can be quite pricey (<https://maptionnaire.com/>)

Criteria #2: Tool has a web-interface [Yes-0] [No-1]

Justification: the tool is online and provided on the website of the project

Criteria #3: Data Granularity [Low -1] [Medium-2] [High-3]

Justification: All data is available when purchasing the software. That is why we mark it as a low level data that is already available

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: Data Accessibility [Low-3] [Medium-2] [High-1]

Justification: The data (map of the area) can be easily found for most countries

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user) [Low -1] [Medium-2] [High-3]

Justification: A lot of data input is possible as the participants are freely adding pins on the map showing areas that they have, for example, seen pollution or spotted wildlife. Additional survey

questions can also be added which increases the number of inputs by the user. For this particular project more than 300 survey entries were made.

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: *Subject matter expertise* [Low -1] [Medium-2] [High-3]

Justification: No expertise needed

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: *Training Intensity (for use of tool)* [Low -1] [Medium-2] [High-3]

Justification: Normal everyday computer skills are needed to be able to fill in the questionnaire so for those that lack computer skills a max of 1 day training would be needed.

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: *Scenarios are user-defined* [Yes - 1] [No/N-A - 0]

Justification: There were no user-defined scenarios, only things that have been identified by the citizens in the area (environmental problems, wildlife etc.)

Total: 8

6. Citizen Science

Criteria #1: *Tool is open-access* [Yes - 0] [No-1]

Justification: we don't consider this tool as open access due to the fact that most of the monitoring tools are needed for the citizens to be able to gather all necessary information especially on the water quality and other environmental data (turbidity tool, phosphate strips, total dissolved solids and temperature meter, computer)

Criteria #2: *Tool has a web-interface* [Yes-0] [No-1]

Justification: on the site of the project there is a lot of information on how can people become citizen scientist and what they need to do. The rest of the work is of course fully in physical conditions

Criteria #3: Data Granularity

[Low -1] [Medium-2] [High-3]

Justification: set to low because no data is needed for becoming a citizen scientist. Data collected however is localized for the smaller water courses that are researched

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: Data Accessibility

[Low-3] [Medium-2] [High-1]

Justification: Data can be easily found for most countries on how to become a citizen scientist and what is required from them

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user)

[Low -1] [Medium-2] [High-3]

Justification: High because in total so far there are 50 citizen scientist providing regular information on the water quality and other environmental issues in the areas

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise

[Low -1] [Medium-2] [High-3]

Justification: For using the instruments a higher level of matter expertise is needed. To become a citizen scientist this is not needed but provided with trainings and exercises.

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool)

[Low -1] [Medium-2] [High-3]

Justification: Training is needed, all information is provided online especially in Covid 19 times and it depends on the availability of the citizen on how much time they would spend learning how to use the instruments and do proper surveying. That is why we opt for the medium training intensity

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: *Scenarios are user-defined*

[Yes - 1] [No/N-A - 0]

Justification: Not-applicable for this tool

Total: 11

7. Storymaps

Criteria #1: *Tool is open-access*

[Yes - 0] [No-1]

Justification: tool is open-access

Criteria #2: *Tool has a web-interface*

[Yes-0] [No-1]

Justification: the tool is fully available at www.klimaatadaptatiebrabant.nl

Criteria #3: *Data Granularity*

[Low -1] [Medium-2] [High-3]

Justification: This tool required specific information on the whole province area in terms of: climate effects and climate data, geographical land use data, population data etc.

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: *Data Accessibility*

[Low-3] [Medium-2] [High-1]

Justification: Modelling tools and satellite observation data is needed to derive the possible climate effects to be presented on these story maps. Other information is more easily available for most countries (population, land use etc.)

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: *Number of Data Inputs (by user)*

[Low -1] [Medium-2] [High-3]

Justification: no data inputs are required

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise [Low -1] [Medium-2] [High-3]

Justification: No expertise is needed to be able to look at the story maps, however a basic knowledge on climate effects and climate change would improve the experience

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: Training intensity is not needed

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: Scenarios are user-defined [Yes - 1] [No/N-A - 0]

Justification: Scenarios are not user-defined

Total: 9

8. Travel Guide to climate robust river landscapes

Criteria #1: Tool is open-access [Yes - 0] [No-1]

Justification: tool is open-access

Criteria #2: Tool has a web-interface [Yes-0] [No-1]

Justification: the tool is a booklet but also available online

Criteria #3: Data Granularity [Low -1] [Medium-2] [High-3]

Justification: Data used for these booklets is on presenting the nature-based solutions and its effects on the water-soil-nature system bearing in mind the occupation and sustainable land use. So the necessary data is localized on the region and/or city

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: Data Accessibility [Low-3] [Medium-2] [High-1]

Justification: All presented data is based on the modelling tools used to derive the effects from the planned nature-based solutions in the area

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user) [Low -1] [Medium-2] [High-3]

Justification: There are no data inputs by the users

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise [Low -1] [Medium-2] [High-3]

Justification: No expertise needed, however general basic knowledge on climate change, adaptation pathways and nature-based solutions helps to better understand the information presented in the booklets.

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: No training intensity needed

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: Scenarios are user-defined [Yes - 1] [No/N-A - 0]

Justification: No user inputs with this tool

Total: 11

9. Design Thinking – Embassy of Water

Criteria #1: Tool is open-access [Yes - 0] [No-1]

Justification: we consider this tool as open access the information behind the methodology of design thinking is fully available on the internet and there are plenty of examples of using this tool

Criteria #2: Tool has a web-interface [Yes-0] [No-1]

Justification: same as above

Criteria #3: Data Granularity [Low -1] [Medium-2] [High-3]

Justification: This tool is about learning by doing so it's very experimental and doesn't require any localized nor sector-specific information

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: Data Accessibility [Low-3] [Medium-2] [High-1]

Justification: Same as above

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user) [Low -1] [Medium-2] [High-3]

Justification: A lot of data inputs have been gathered by this particular tool (more than 300) just by talking with citizens and other relevant parties. Inputs are in the form of questions to survey questions regarding what the relevant problems are etc. but also in terms of actions because the citizens experiment and do their own projects

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise [Low -1] [Medium-2] [High-3]

Justification: In order to understand the climate issues and try to experiment and see what the outcomes are from specific climate adaptation measures, a general subject matter understanding of the climate and the effects of climate change is desired. However, in this particular tool, the users are mostly without any technical understanding

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: Training intensity is not needed for doing design thinking

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: *Scenarios are user-defined* [Yes - 1] [No/N-A - 0]

Justification: All scenarios are user defined (by scenarios it's meant adaptation measures in this case)

Total: 8

10. Citizen Meetings

Criteria #1: *Tool is open-access* [Yes - 0] [No-1]

Justification: this tool is a citizen meeting freely available for participation to everyone

Criteria #2: *Tool has a web-interface* [Yes-0] [No-1]

Justification: the tool is online and provided on the website of the project

Criteria #3: *Data Granularity* [Low -1] [Medium-2] [High-3]

Justification: Data necessary for these meetings is mostly general but sector specific in terms of the effects of NbS on the area. Collaboration is needed with the citizens to help them learn about tools and how to manage the landscape effectively, supporting the existing exology

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: *Data Accessibility* [Low-3] [Medium-2] [High-1]

Justification: The data (map of the area) can be easily found for most countries

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: *Number of Data Inputs (by user)* [Low -1] [Medium-2] [High-3]

Justification: Depends on how many participants join the meeting and how much input they provide. Since in this particular project the aim was to have 200 citizens and landowners permanently engaged and providing input, we opt for the high number of data inputs.

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: *Subject matter expertise* [Low -1] [Medium-2] [High-3]

Justification: No expertise needed

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: *Training Intensity (for use of tool)* [Low -1] [Medium-2] [High-3]

Justification: Training intensity is not needed for attending the meetings

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: *Scenarios are user-defined* [Yes - 1] [No/N-A - 0]

Justification: The stakeholders are facilitated in order to involve them in the decision making in all scales and disseminate up to date relevant information.

Total: 10

11. Landscape Fond

Criteria #1: *Tool is open-access* [Yes - 0] [No-1]

Justification: this tool is a crowdsourced initiative and it is freely available for participation to everyone interested that fulfills certain criteria

Criteria #2: *Tool has a web-interface* [Yes-0] [No-1]

Justification: the tool is explained and could be applied for via the website of the province

Criteria #3: *Data Granularity* [Low -1] [Medium-2] [High-3]

Justification: All criteria and necessary information to start up the individual crowdsourcing project is freely available on the website. Depending the individual project data granularity demands would differ so that is why it's difficult to chose a specific weight for this category so we will go with a high indication as the projects are quite local.

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: Data Accessibility [Low-3] [Medium-2] [High-1]

Justification: Same explanation as above.

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user) [Low -1] [Medium-2] [High-3]

Justification: Depending on the a lot of factors. However due to the fact that the citizens are doing and organizing their own projects, we will choose a high number of data inputs by them.

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise [Low -1] [Medium-2] [High-3]

Justification: For developing an individual project a general subject matter understanding is needed with a possibility to increase this expertise in the due of the project.

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: Expert help is offered to those eligible for this tool. Their guidance takes up a medium training intensity as it includes mostly the set-up of the crowdsourcing campaign

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: Scenarios are user-defined [Yes - 1] [No/N-A - 0]

Justification: The stakeholder groups define their whole course of action

Total: 13

III. Appendix - Complete scoring of the selected NbS participatory – **CO-CREATION** tools

1. Landscape planning (CCT2)

Criteria #1: *Tool is open-access* [Yes - 0] [No-1]

Justification: the methodology behind the tool is openly accessible and searchable online

Criteria #2: *Tool has a web-interface* [Yes-0] [No-1]

Justification: has the potential to be made online, however for this project the tool was fully in a physical surrounding

Criteria #3: *Data Granularity* [Low -1] [Medium-2] [High-3]

Justification: Only cadaster plan from the area is needed which is part of the national-level data

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: *Data Accessibility* [Low-3] [Medium-2] [High-1]

Justification: Data can be easily found for most countries (cadaster map of the area)

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: *Number of Data Inputs (by user)* [Low -1] [Medium-2] [High-3]

Justification: Depends on the number of participants. It needs quite a lot of information from the citizens (mapping measures on a map, voting for the best solution etc.) so we would say that a medium to high is the data input.

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: *Subject matter expertise* [Low -1] [Medium-2] [High-3]

Justification: No expertise needed, however general basic knowledge on climate change, adaptation pathways and nature-based solutions helps to better understand the of designing the area with NbS.

Low: expertise not needed
Medium: general subject matter understanding
High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: Training intensity is quite low and can be explained to those that need it at the beginning of the landscape planning workshop

Low: 1 day
Medium: 2-3 days
High: 1 week

Criteria #8: Scenarios are user-defined [Yes - 1] [No/N-A - 0]

Justification: Scenarios of the area are made in different groups by the stakeholders and then they individually vote for the best scenario to be incorporated in the final design

Total: 9

2. Final Design Presentation (CCT3)

Criteria #1: Tool is open-access [Yes - 0] [No-1]

Justification: tool is open-access

Criteria #2: Tool has a web-interface [Yes-0] [No-1]

Justification: the presentation was available on the website of the project

Criteria #3: Data Granularity [Low -1] [Medium-2] [High-3]

Justification: Information on the presentation is in terms of the planned NbS for which a localized technical data was necessary

Low = High-Level; national-level data
Medium = general but with more sector-specific data
High = localized sector data and localized technical data

Criteria #4: Data Accessibility [Low-3] [Medium-2] [High-1]

Justification: Data presented (the final NbS design) was derived from models and the landscape planning tool

High = Data can be found for most countries (developed & developing) (1)
Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user) [Low -1] [Medium-2] [High-3]

Justification: Stakeholders were encouraged to give feedback on this design and suggest a name for the area via an online survey.

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise [Low -1] [Medium-2] [High-3]

Justification: No expertise needed, however general basic knowledge on climate change, adaptation pathways and nature-based solutions helps to better understand the implemented NbS measures.

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: Training intensity is not needed for attending the presentation

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: Scenarios are user-defined [Yes - 1] [No/N-A - 0]

Justification: The final design is based on user-defined scenarios made with another tool and this is purely to present the results and vote for a name, so this is not applicable for this specific tool

Total: 12

3. Individual farm visits (CCT4)

Criteria #1: Tool is open-access [Yes - 0] [No-1]

Justification: the methodology behind the tool is openly accessible and searchable online

Criteria #2: Tool has a web-interface [Yes-0] [No-1]

Justification: in person meetings are only taken into account with this tool

Criteria #3: Data Granularity [Low -1] [Medium-2] [High-3]

Justification: To be able to discuss with farmers openly about their area, a localized technical data is needed

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: Data Accessibility [Low-3] [Medium-2] [High-1]

Justification: Data to present to farmers can be sometimes difficult to find and require modeling tools or instruments in this case, to derive data. Farm soil conditions are carried out for possibility of identifying issues to landowners

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user) [Low -1] [Medium-2] [High-3]

Justification: Depends on the number of farmers. The approach is quite individual and requires a lot of time to speak with each single farmer so we will limit the possibility for this tool to low.

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise [Low -1] [Medium-2] [High-3]

Justification: Farmers have a lot of experience and knowledge already about their land. In order to understand the climate issues in their area they need some additional general understanding of climate change, the possible effects on their land which is mostly explained by the facilitators in the project.

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: Training intensity is quite low and can be explained to those that need it at the beginning of the landscape planning workshop

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: *Scenarios are user-defined* [Yes - 1] [No/N-A - 0]

Justification: Scenarios in the area are discussed together with the farmers so that higher resilience of the catchment to flooding, drought and climate change is achieved.

Total: 12

4. Digital Collaboration Tools (CCT5)

Criteria #1: *Tool is open-access* [Yes - 0] [No-1]

Justification: tools used for digital collaboration with stakeholders (MURAL, ThingLink) are commercial and not open-access

Criteria #2: *Tool has a web-interface* [Yes-0] [No-1]

Justification: all tools are digitally available

Criteria #3: *Data Granularity* [Low -1] [Medium-2] [High-3]

Justification: Depends on the information type however for co-designing NbS, general but more sector-specific data is necessary

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: *Data Accessibility* [Low-3] [Medium-2] [High-1]

Justification: In these collaboration tools, data for designing NbS is mostly easy to find

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: *Number of Data Inputs (by user)* [Low -1] [Medium-2] [High-3]

Justification: These collaboration tools allow high numbers of data input

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: *Subject matter expertise* [Low -1] [Medium-2] [High-3]

Justification: No expertise needed, however general basic knowledge on climate change, adaptation pathways and nature-based solutions helps to better understand the implemented NbS measures.

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: *Training Intensity (for use of tool)* [Low -1] [Medium-2] [High-3]

Justification: Training intensity is not needed for attending the presentation

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: *Scenarios are user-defined* [Yes - 1] [No/N-A - 0]

Justification: the idea behind collaborative tools is to co-create NbS measures together with the stakeholders

Total: 11

5. Film Nights

Criteria #1: *Tool is open-access* [Yes - 0] [No-1]

Justification:

Criteria #2: *Tool has a web-interface* [Yes-0] [No-1]

Justification: has the potential to be made online, however for this project the tool was fully in a physical surrounding

Criteria #3: *Data Granularity* [Low -1] [Medium-2] [High-3]

Justification:

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: Data Accessibility

[Low-3] [Medium-2] [High-1]

Justification:

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user)

[Low -1] [Medium-2] [High-3]

Justification: Depends on the number of participants. It needs quite a lot of information from the citizens (mapping measures on a map, voting for the best solution etc.) so we would say that a medium to high is the data input.

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise

[Low -1] [Medium-2] [High-3]

Justification: No expertise needed, however general basic knowledge on climate change, adaptation pathways and nature-based solutions helps to better understand the of designing the area with NbS.

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool)

[Low -1] [Medium-2] [High-3]

Justification: Training intensity is quite low and can be explained to those that need it at the beginning of the landscape planning workshop

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: Scenarios are user-defined

[Yes - 1] [No/N-A - 0]

Justification:

Total: 11

6. The Forum (CCT6)

Criteria #1: *Tool is open-access* [Yes - 0] [No-1]

Justification: tool is made to bring people together to co-create long term plan for the catchment

Criteria #2: *Tool has a web-interface* [Yes-0] [No-1]

Justification: the tool is available online as well with a common platform and place to meet virtually when needed

Criteria #3: *Data Granularity* [Low -1] [Medium-2] [High-3]

Justification: Information on the presentation is in terms of the planned NbS for which a localized technical data was necessary

Low = High-Level; national-level data

Medium = general but with more sector-specific data

High = localized sector data and localized technical data

Criteria #4: *Data Accessibility* [Low-3] [Medium-2] [High-1]

Justification: Data presented and discussed was derived from models and is potentially difficult to find

High = Data can be found for most countries (developed & developing) (1)

Medium = Data is hard to find in developing countries (2)

Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: *Number of Data Inputs (by user)* [Low -1] [Medium-2] [High-3]

Justification: The tool is organized in a way that encourages meetings of stakeholder groups to discuss problems and solutions together few times a year so the data inputs are high

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: *Subject matter expertise* [Low -1] [Medium-2] [High-3]

Justification: No expertise needed, however general basic knowledge on climate change, adaptation pathways and nature-based solutions helps to better understand the implemented NbS measures.

Low: expertise not needed
Medium: general subject matter understanding
High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: Training intensity is not needed for attending the presentation

Low: 1 day
Medium: 2-3 days
High: 1 week

Criteria #8: Scenarios are user-defined [Yes - 1] [No/N-A - 0]

Justification: The final design is based on user-defined scenarios made with another tool and this is purely to present the results and vote for a name, so this is not applicable for this specific tool

Total: 13

7. Landscape mapping (CCT10)

Criteria #1: Tool is open-access [Yes - 0] [No-1]

Justification: the methodology behind the tool is openly accessible on the internet

Criteria #2: Tool has a web-interface [Yes-0] [No-1]

Justification: the tool is used in a physical gathering

Criteria #3: Data Granularity [Low -1] [Medium-2] [High-3]

Justification: Cadaster map is only needed

Low = High-Level; national-level data
Medium = general but with more sector-specific data
High = localized sector data and localized technical data

Criteria #4: Data Accessibility [Low-3] [Medium-2] [High-1]

Justification: Same as above

High = Data can be found for most countries (developed & developing) (1)
Medium = Data is hard to find in developing countries (2)
Low = Data is difficult to find anywhere and requires other modeling tools to derive data (3)

Criteria #5: Number of Data Inputs (by user) [Low -1] [Medium-2] [High-3]

Justification: The tool is used in medium sized groups of people so that is also the number of inputs

Low: 0 – 15

Medium: 16 – 32

High: 33+

Criteria #6: Subject matter expertise [Low -1] [Medium-2] [High-3]

Justification: No expertise needed, however general basic knowledge on climate change, adaptation pathways and nature-based solutions helps to better understand the implemented NbS measures.

Low: expertise not needed

Medium: general subject matter understanding

High: subject matter expertise and high skill needed

Criteria #7: Training Intensity (for use of tool) [Low -1] [Medium-2] [High-3]

Justification: An explanation on what people need to do on the map is needed before the start of the exercise (not more than 1h)

Low: 1 day

Medium: 2-3 days

High: 1 week

Criteria #8: Scenarios are user-defined [Yes - 1] [No/N-A - 0]

Justification: Participants chose NbS measures that tackle a specific problem they have in terms of flooding

Total: 9