

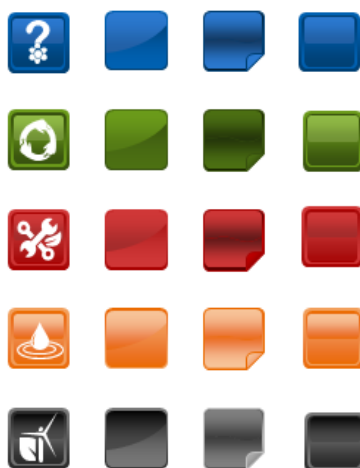


# MANUAL FOR USERS:

## Climate Actions Prioritization Tool

### CLIMACT Prio

Climate Actions Prioritisation Tool  
CLIMACT Prio



START

Institute for Housing and Urban Development Studies (IHS)





# Climate Actions Prioritization Tool

## CLIMACT Prio

### OVERVIEW: CLIMATE CHANGE AND CITIES

Climate change is happening worldwide and this requires the participation of stakeholders, not only at the national and international levels, but also from cities and municipalities. As major economic, industrial, commercial, and household activities take place in urban areas, cities become the largest contributors to worldwide climate change. Urban areas account for half of the world's population, around 60-80 per cent of energy consumption, and approximately 70 percent of greenhouse emission production and these numbers are projected to increase<sup>1</sup>.

Urban areas are also particularly vulnerable to climate-induced changes<sup>2</sup>. The people – and their quality of life - are highly at risk due to the impacts of climate change. This is why climate change actions are needed in cities. Different vulnerabilities should be taken into account by every city to have suitable climate change adaptation actions and strategies to implement<sup>3</sup>. In this context, it is necessary to facilitate a participatory decision making by relevant stakeholders to identify, select, evaluate, and prioritize strategic actions to adapt to present and future climatic conditions<sup>4</sup>.

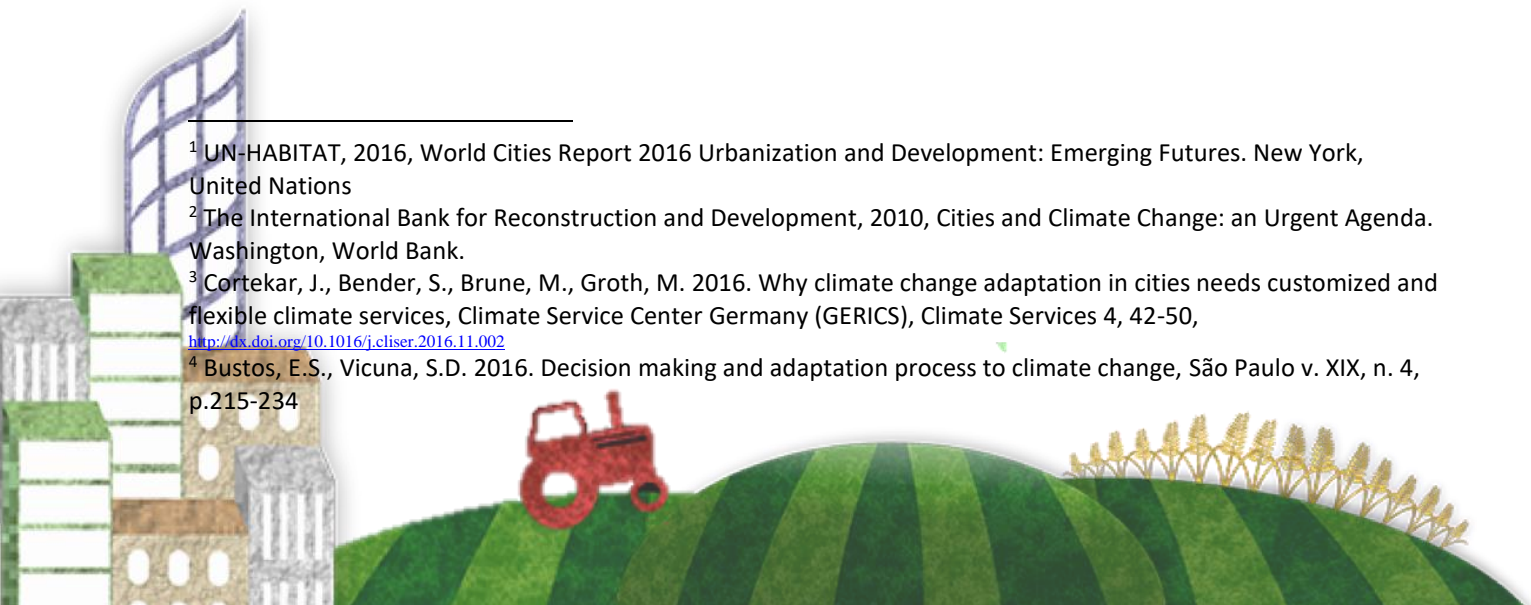
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<sup>1</sup> UN-HABITAT, 2016, World Cities Report 2016 Urbanization and Development: Emerging Futures. New York, United Nations

<sup>2</sup> The International Bank for Reconstruction and Development, 2010, Cities and Climate Change: an Urgent Agenda. Washington, World Bank.

<sup>3</sup> Cortekar, J., Bender, S., Brune, M., Groth, M. 2016. Why climate change adaptation in cities needs customized and flexible climate services, Climate Service Center Germany (GERICS), Climate Services 4, 42-50, <http://dx.doi.org/10.1016/j.cliser.2016.11.002>

<sup>4</sup> Bustos, E.S., Vicuna, S.D. 2016. Decision making and adaptation process to climate change, São Paulo v. XIX, n. 4, p.215-234





## WHY CLIMACT PRIO?

CLIMACT Prio is developed as a decision support, capacity building and climate awareness tool for screening and prioritizing local climate change actions. This tool utilizes a multiple criteria analysis (MCA) approach to assist decision makers and urban planners in identifying a wide range of decision criteria while performing an analysis and assessment of climate change adaptation actions.

This tool provides an interactive format to help users structure and define the decisions under consideration. The tool asks the user to enter the information through a guided menu of instructions and uses a menu-driven graphic representation of results for the evaluation of climate change actions. The user first identifies specific actions to be screened according to their feasibility and impact and then selects evaluation criteria that will be used to assess the final actions. While following the prioritization process, the users rate the relative importance of criteria and assigns scores (qualitative and quantitative) to describe how each option meets each criterion.

With CLIMACT Prio, all relevant stakeholders are provided a platform to fill the gaps by involving and contributing directly to the climate change adaptation strategies. They could as a group – develop local adaptation actions according to their own cities' strengths and weaknesses. This tool is not merely addressed to all local stakeholders and public authorities to start a process of adaptation strategy to climate change, but also to stimulate the interest of students in decision making for climate change.





## THE ADAPTATION CYCLE: A FRAMEWORK TO UNDERSTAND CLIMATE RISK AND ADAPTATION ACTIONS

This manual is designed to allow users to easily understand the process. As illustrated below, this manual is organized into **four main steps** that users are required to go through:

- A. Identification of actions**
- B. Criteria Identification**
- C. Scoring & Standardization**
- D. Weighting of stakeholders**

To help you using the CLIMACT prio tool which is available in Microsoft Excel, refer to the color of each step in the below cycle.

In this exercise, you will use CLIMACT Prio tool to help you in setting up a prioritization process for climate change adaptation actions. Read carefully each step of this manual before you use the tool in the Microsoft excel spreadsheet.

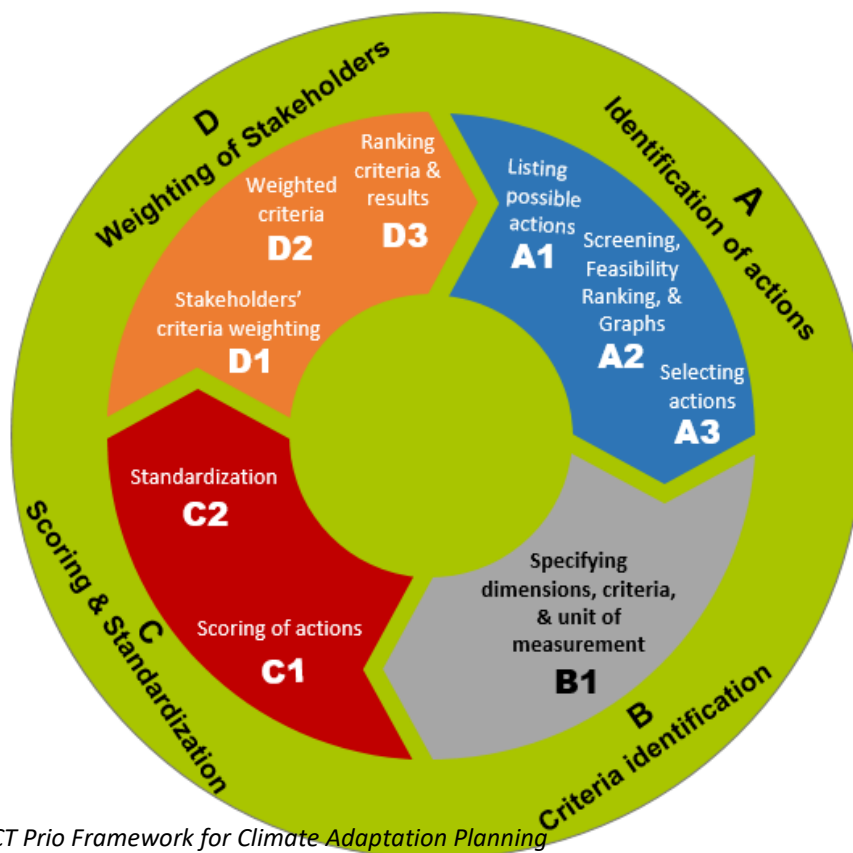


Figure 1. CLIMACT Prio Framework for Climate Adaptation Planning



## HOW TO SET A PRIORITIZATION OF ACTIONS?

### A. Identification of actions

#### A1. Listing possible actions\*\*

The process applies a participatory approach wherein relevant stakeholders are involved at all stages of the process.

✓ *Identify up to 20 actions across different sectors related to climate change adaptation.*

Select up to 20 possible actions based on the city study case.

Step A1: Listing Possible Actions				
No	Actions	Type	Sector	Implementation
1	Rainwater harvesting	Structural	Water management	Short term
2	Relocation of vulnerable households	Non-structural	Social	Long term
3	Seawall	Structural	Water management	Medium term
4	Design standards	Non-structural	Buildings	Medium term
5	Emergency medical services	Non-structural	Disaster management	Medium term
6	Water storage and conservation	Non-structural	Water management	Short term
7	Early warning systems	Structural	Disaster management	Short term
8	Water recycling	Non-structural	Water management	Short term
9	Crop diversification	Non-structural	Ecological	Medium term
10	Construction of evacuation centers	Structural	Infrastructure	Medium term

Figure 2. Listing Possible Adaptation actions

✓ *Indicate the typology of action*

Categorize each action whether it is structural or non-structural.

Step A1: Listing Possible Actions				
No	Actions	Type	Sector	Implementation
1	Rainwater harvesting	Structural	Water management	Short term
2	Relocation of vulnerable households	Non-structural	Social	Long term
3	Seawall	Structural	Water management	Medium term
4	Design standards	Non-structural	Buildings	Medium term
5	Emergency medical services	Non-structural	Disaster management	Medium term
6	Water storage and conservation	Non-structural	Water management	Short term
7	Early warning systems	Structural	Disaster management	Short term
8	Water recycling	Non-structural	Water management	Short term
9	Crop diversification	Non-structural	Ecological	Medium term
10	Construction of evacuation centers	Structural	Infrastructure	Medium term

Figure 3. Indicating the type of actions

**\*\*This step should be inputted manually by the user**





*Indicate the relevant sector for each action*

Categorize each action according to its relevant sector.

Step A1: Listing Possible Actions				
No	Actions	Type	Sector	Implementation
1	Rainwater harvesting	Structural	Water management	Short term
2	Relocation of vulnerable households	Non-structural	Social	Long term
3	Seawall	Structural	Water management	Medium term
4	Design standards	Non-structural	Buildings	Medium term
5	Emergency medical services	Non-structural	Disaster management	Medium term
6	Water storage and conservation	Non-structural	Water management	Short term
7	Early warning systems	Structural	Disaster management	Short term
8	Water recycling	Non-structural	Water management	Short term
9	Crop diversification	Non-structural	Ecological	Medium term
10	Construction of evacuation centers	Structural	Infrastructure	Medium term

Figure 4. Indicating the type of sector

✓ *Indicate the time frame for implementation of the measure*

Categorize the implementation time frame of each action.

Step A1: Listing Possible Actions				
No	Actions	Type	Sector	Implementation
1	Rainwater harvesting	Structural	Water management	Short term
2	Relocation of vulnerable households	Non-structural	Social	Long term
3	Seawall	Structural	Water management	Medium term
4	Design standards	Non-structural	Buildings	Medium term
5	Emergency medical services	Non-structural	Disaster management	Medium term
6	Water storage and conservation	Non-structural	Water management	Short term
7	Early warning systems	Structural	Disaster management	Short term
8	Water recycling	Non-structural	Water management	Short term
9	Crop diversification	Non-structural	Ecological	Medium term
10	Construction of evacuation centers	Structural	Infrastructure	Medium term

Figure 5. Indicating the time frame



## 2. Screening, Feasibility Ranking, & Graphs

This sub-step will screen out the actions that may not be viable to implement and will bring forward alternative actions for a more detailed assessment.

Before starting this sub-step, study the feasibility and impact criteria (*Figure 6*) which are adapted from UN Habitat (2014).

	Criteria	High	Medium	Low
Feasibility Criteria	<b>Stakeholders' acceptability:</b> <i>Would local stakeholders accept this option?</i>	Majority of stakeholders would accept this option	A limited majority of stakeholders would accept this option	Low support of stakeholders would for this option
	<b>Technical feasibility:</b> <i>Will necessary designs, skills and competencies, maintenance support be available for this option?</i>	Resources to develop designs, skills and competencies, and maintenance support are available	Limited resources to develop designs, skills and competencies, and maintenance support	No available resources to develop designs, skills and competencies and maintenance support
	<b>Ease of implementation:</b> <i>Can it be implemented at the local government level, or does it depend upon state/provincial or national support?</i>	City can implement this option without external support	City can implement this option with some support	City cannot implement this option without external support
	<b>Financial viability:</b> <i>Is it a financially realistic option? Does the city have funding or potential access to funding to cover the costs?</i>	Financially realistic with available funding at city level	Limited funding opportunities at city level	Expensive and limited funding opportunities at city level
	<b>Mainstreaming potential:</b> <i>Could it be integrated with existing local government planning and policy development?</i>	Yes, easily and fully through many plans and strategies	Yes, partly but with more time and through more limited plans and strategies	Relatively limited potential, would require additional activities
Impact Criteria	<b>Effectiveness:</b> <i>How well would this option work on reducing climate vulnerability (in relation to the other actions)?</i>	Climate vulnerability will be reduced to a large extent (in relation to the other actions)	Climate vulnerability will be reduced to a moderate extent (in relation to the other actions)	Climate vulnerability will be reduced to a limited extent (in relation to the other actions)
	<b>Multi-sectoral and multi-objective:</b> <i>Would this option address objectives in other sectors?</i>	Yes, significant cross over with other sectors and objectives	Some cross over with other sectors and objectives	Little cross over with other sectors and limited impact on other objectives

Source: UN Habitat (2014)

Figure 6. Feasibility and Impact Criteria





## A2 (1). Screening \*\*

This sub-step is about narrowing down the initial long list of alternative actions by screening them **based on feasibility and impact criteria**. The screening is using the following scale: **Very High, High, Medium, Very Low, and Low**.

**First**, screening based on **Feasibility Criteria** of each action.

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14

15

Step A2 (1): Screening							
Actions	Feasibility criteria					Impact Criteria	
	Stakeholder Acceptability	Technical Feasibility	Ease of Implementation	Financial feasibility	Mainstreaming Potential	Effectiveness	Multi-sectoral/objective
1 Rainwater harvesting	High	High	High	High	Medium	Medium	Medium
2 Relocation of vulnerable households	Low	Medium	Low	Low	High	High	High
3 Seawall	Medium	Medium	Medium	Low	High	High	High
4 Design standards	Medium	Medium	Medium	Medium	High	High	High
5 Emergency medical services	High	Medium	High	Medium	Medium	Medium	Medium
6 Water storage and conservation	Medium	High	Medium	High	Medium	Medium	Medium
7 Early warning systems	High	Medium	High	Medium	High	High	Medium
8 Water recycling	Medium	High	Medium	Medium	Medium	Medium	Medium
9 Crop diversification	Medium	Low	Medium	Medium	High	Medium	High
10 Construction of evacuation centers	High	Medium	Medium	Low	High	High	Medium

Introduction

Step A

A1

A2 (1)

A2 (2)

A2 (3)

A3

Step B

B1

Criteria Source

Step C

C1

C2

Graphs-Radar

Step D

D1

D2

D3 (1)

Figure 7. Screening based on feasibility criteria

**Second**, screening each of action based on its **Impact Criteria**.

Screening each of the action based on the Impact Criteria

Step A2 (1): Screening							
Actions	Feasibility criteria					Impact Criteria	
	Stakeholder Acceptability	Technical Feasibility	Ease of Implementation	Financial feasibility	Mainstreaming Potential	Effectiveness	Multi-sectoral/objective
1 Rainwater harvesting	High	High	High	High	Medium	Medium	Medium
2 Relocation of vulnerable households	Low	Medium	Low	Low	High	High	High
3 Seawall	Medium	Medium	Medium	Low	High	High	High
4 Design standards	Medium	Medium	Medium	Medium	High	High	High
5 Emergency medical services	High	Medium	High	Medium	Medium	Medium	Medium
6 Water storage and conservation	Medium	High	Medium	High	Medium	Medium	Medium
7 Early warning systems	High	Medium	High	Medium	High	High	Medium
8 Water recycling	Medium	High	Medium	Medium	Medium	Medium	Medium
9 Crop diversification	Medium	Low	Medium	Medium	High	Medium	High
10 Construction of evacuation centers	High	Medium	Medium	Low	High	High	Medium

Introduction

Step A

A1

A2 (1)

A2 (2)

A2 (3)

A3

Step B

B1

Criteria Source

Step C

C1

C2

Graphs-Radar

Step D

D1

D2

D3

Figure 8. Screening based on impact criteria

**\*\*This step should be inputted manually by the user**





## A2 (2). Feasibility Ranking

This sub-step shows the ranking of each action. Observe how all the scores for each action add up.

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Step A2 (2): Feasibility Ranking

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16

Actions	Feasibility Criteria					Impact Criteria		Total	Ranking	Feasibility Index
	Stakeholder Acceptability	Technical Feasibility	Ease of Implementation	Financial feasibility	Mainstreaming Potential	Effectiveness	Multi-sectoral/ objective			
1 Rainwater harvesting	3	3	3	3	2	2	2	18	1	0,9
2 Relocation of vulnerable households	1	2	1	1	3	3	3	14	10	0,5
3 Seawall	2	2	2	1	3	3	3	16	4	0,7
4 Design standards	2	2	2	2	3	3	3	17	3	0,7
5 Emergency medical services	3	2	3	2	2	2	2	16	4	0,8
6 Water storage and conservation	2	3	2	3	2	2	2	16	4	0,8
7 Early warning systems	3	2	3	2	3	3	2	18	1	0,9
8 Water recycling	2	3	2	2	2	2	2	15	8	0,7
9 Crop diversification	2	1	2	2	3	2	3	15	8	0,7
10 Construction of evacuation centers	3	2	2	1	3	3	2	16	4	0,7

Introduction

Step A

A1

A2 (1)

A2 (2)

A2 (3)

A3

Step B

B1

Criteria Source

Step C

C1

C2

Graphs-Radar

Step D

D1

D2

D3 (1)

Figure 9. Ranking the feasibility of each action

### Note:

**The Total Column:** the Sum of Feasibility and Impact Criteria

**The Ranking Column:** the Ranking of the Final Scores - from Highest (1) to Lowest

**The Feasibility Index:** the Average of the Sum of All Feasibility Scores

## A2 (3). Feasibility Graph (SKIP)

First, Click the Graph and Select **Analyze** in the toolbar. Under the **Data Category**, select **Refresh All**.

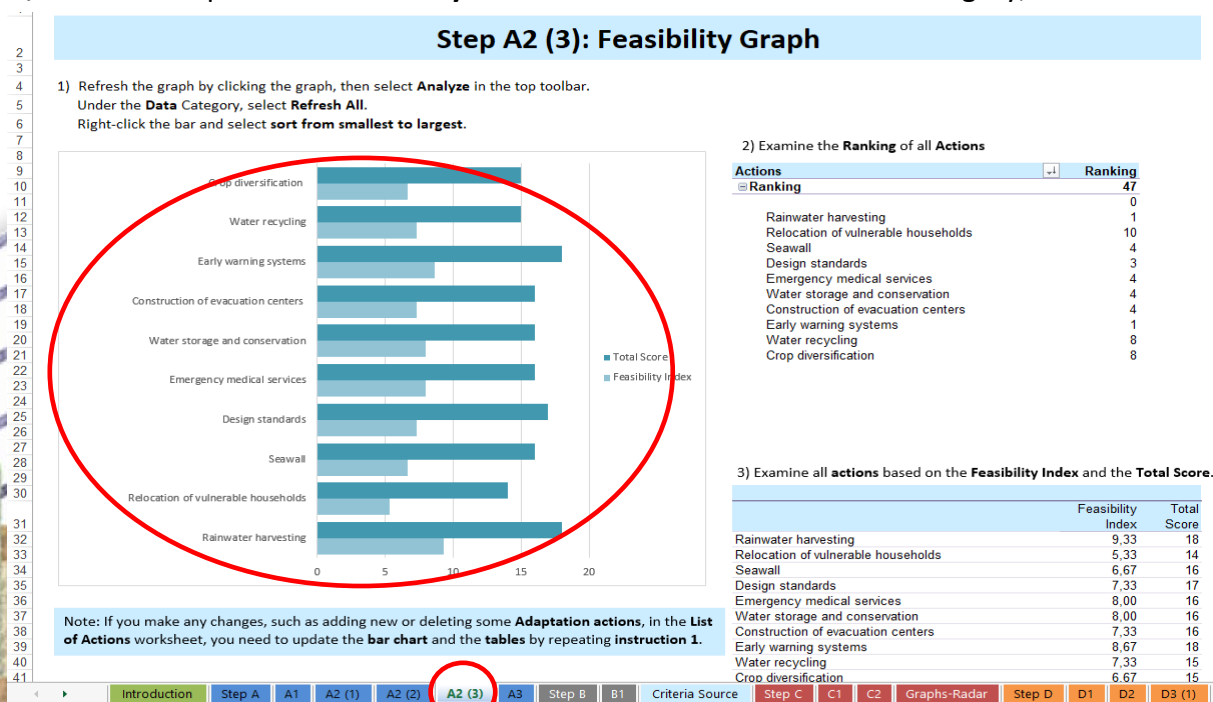


Figure 10. Feasibility Graph



**Second, examine the Ranking of all Adaptation Actions.**

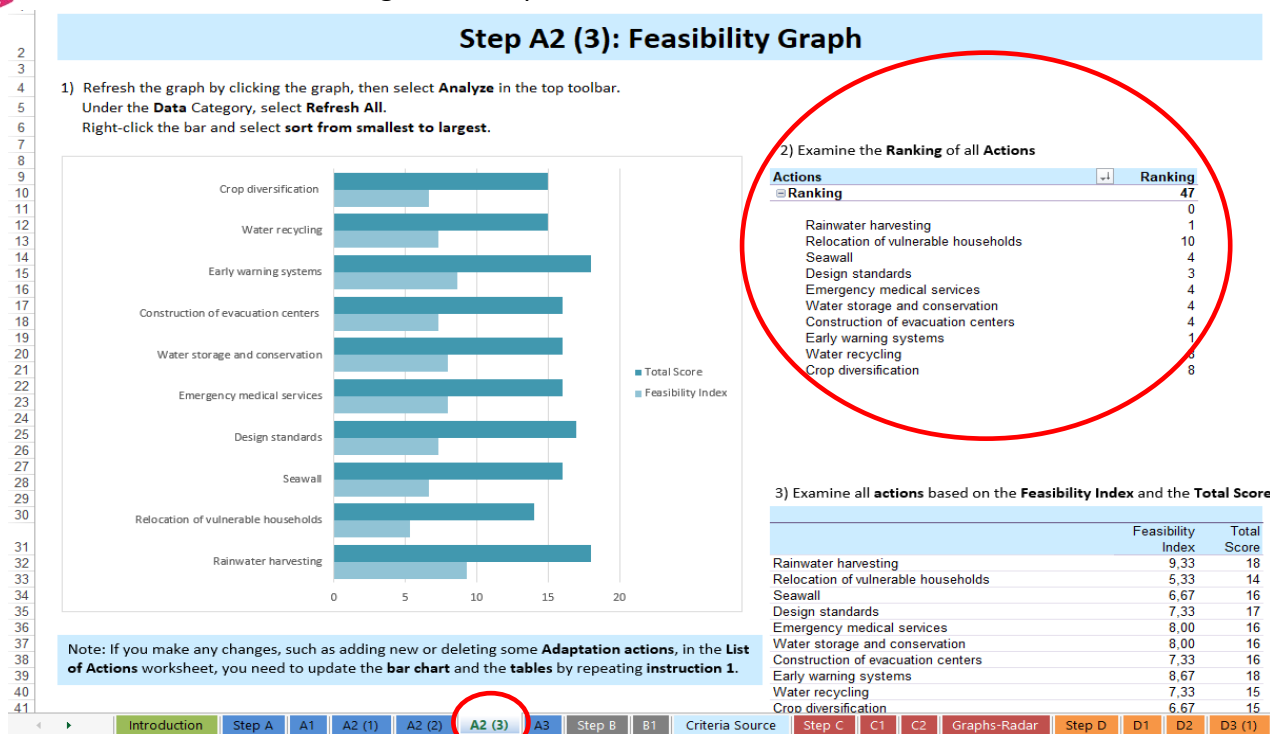


Figure 11. Ranking of all adaptation actions

**Third, examine all adaptation actions based on Feasibility Index and Total Score.**

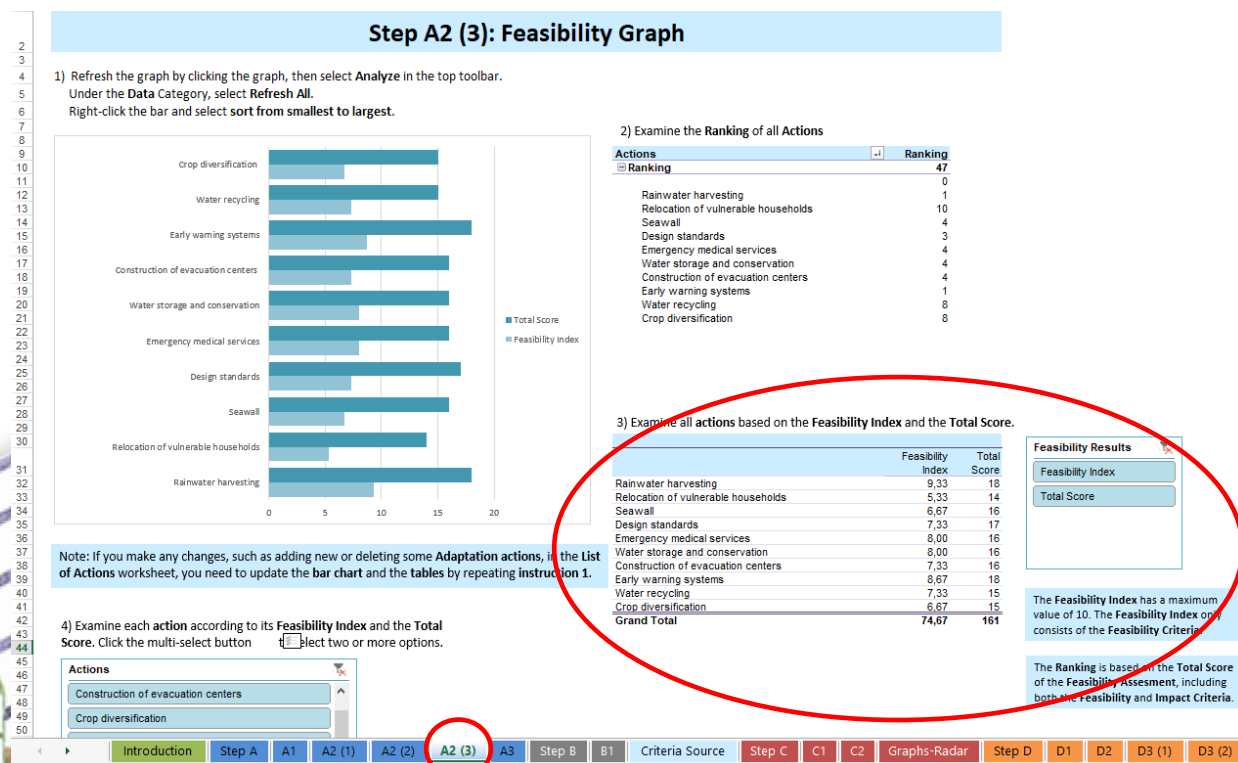


Figure 12. Feasibility index and total score of all actions



**Fourth, examine each adaptation action according to its Feasibility Index and Total Score.**

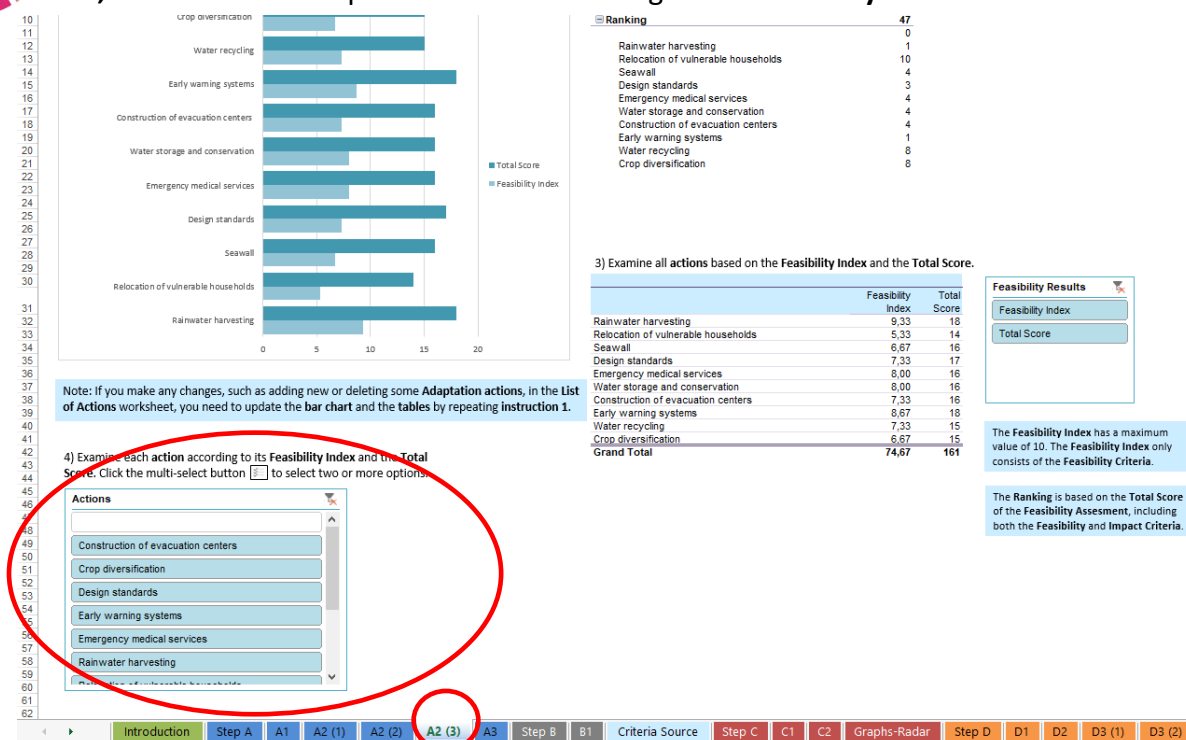


Figure 13. Feasibility index and total score of each action

This step should be based on stakeholder judgments (e.g. local policy makers or government officers) or your research related to the feasibility and impact of identified options for the case study.

### A3. Selecting Actions\*\*

✓ Choose up to 10 of the highest ranked actions for further assessment.

Based on the highest ranked actions in the feasibility assessment, list down the actions, including the type of measure, associated sector, and time frame for implementation. **Study the case study carefully to narrow down the actions properly.**

Step A3: Selecting Actions				
No	Actions	Type	Sector	Time frame
1	Rainwater harvesting	Structural	Water management	Short term
2	Early warning systems	Structural	Disaster management	Short term
3	Design standards	Non-structural	Buildings	Medium term
4	Emergency medical services	Non-structural	Disaster management	Medium term
5	Water storage and conservation	Non-structural	Water management	Short term

**Navigation:** Introduction | Step A | A1 | A2 (1) | A2 (2) | **A2 (3)** | **A3** | Step B | B1 | Criteria Source | Step C | C1 | C2 | Graphs-Radar | Step D | D1 | D2 | D3 (1) | D3 (2) | Final-Graph | To ...

Figure 14. Selection of actions

**\*\*This step should be inputted manually by the user**



## B. CRITERIA IDENTIFICATION

### B1. Specifying Dimensions, Criteria, & Unit of Measurement

#### ✓ Specifying Dimensions

Select the dimensions or categories to evaluate the actions.

Step B1: Specifying Dimensions, Criteria & Unit of Measurement				
No	Dimensions	Criteria	Unit	Min/Max
1	Social	Accessibility	"1-5"	Max
2	Governance	Jobs creation	"1-5"	Max
3	Social	Woman empowerment	"1-3"	Max
4	Governance	Technical feasibility	"1-5"	Max
5	Social	Stakeholders commitment	"1-5"	Max
6	Governance	Integration with policy domains, programmes, or projects	"1-5"	Min
IF OTHER WAS SELECTED CLICK HERE TO SEE THE CRITERIA OPTIONS				
Dimensions		Units of Criteria	Preference	
Social		"1-5"	Min	
Governance		"1-3"	Max	
		"1-10"		

Figure 15. Specifying dimension

To see the options of dimensions and criteria evaluation, click the link provided below the table in the B1 excel sheet.

#### ✓ Specifying Criteria

Define the criteria to evaluate the impacts and benefits of actions. Select up to 10 criteria only for this exercise.

Step B1: Specifying Dimensions, Criteria & Unit of Measurement				
No	Dimensions	Criteria	Unit	Min/Max
1	Social	Accessibility	"1-5"	Max
2	Governance	Jobs creation	"1-5"	Max
3	Social	Woman empowerment	"1-3"	Max
4	Governance	Technical feasibility	"1-5"	Max
5	Social	Stakeholders commitment	"1-5"	Max
6	Governance	Integration with policy domains, programmes, or projects	"1-5"	Min
IF OTHER WAS SELECTED CLICK HERE TO SEE THE CRITERIA OPTIONS				
Dimensions		Units of Criteria	Preference	
Social		"1-5"	Min	
Governance		"1-3"	Max	
		"1-10"		

Figure 16. Specifying Criteria





The criteria can be diverse and should be SMART (Simple, measurable, available, relevant, and time bond, as well as understandable by all stakeholders).

The criteria should relate to broader local governments' priorities and objectives.

### ✓ Specifying the unit of measurement

Step B1: Specifying Dimensions, Criteria & Unit of Measurement				
No	Dimensions	Criteria	Unit	Min/Max
1	Social	Accessibility	"1-5"	Max
2	Governance	Jobs creation	"1-5"	Max
3	Social	Woman empowerment	"1-3"	Max
4	Governance	Technical feasibility	"1-5"	Max
5	Social	Stakeholders commitment	"1-5"	Max
6	Governance	Integration with policy domains, programmes, or projects	"1-5"	Min

[IF OTHER WAS SELECTED CLICK HERE TO SEE THE CRITERIA OPTIONS](#)

Dimensions	Units of Criteria	Preference
Social	"1-5"	Min
Governance	"1-3"	Max
	"1-10"	

Figure 17. Specifying unit of measurement

**If sufficient data is available, then choose a quantitative scale.** You can choose a currency as an indicator of cost and select minimize in the 'Min/Max' column to indicate that you want to minimize this criterion.

**If data is not available, then choose qualitative scale.** The scales are from "1-10" or "1-5" (1 = very low performance, 10 (or 5) = very high performance).

## C. SCORING & STANDARDIZATION

### C1. Scoring of Actions\*\*

#### ✓ Indicate the score for every criterion.

Step C1: Scoring of Actions							
Indicate the scores for each alternative on every criterion*							
* The criterion of cost should be minimized and therefore the lowest cost option should be scored 5 (best performance) while the highest cost option should be scored 1 (worst performance)							
Options/Criteria	Accessibility	Jobs creation	Woman empowerment	Technical feasibility	Stakeholders commitment	Integration with policy domains, programmes, or projects	
Scale units	"1-5"	"1-5"	"1-3"	"1-5"	"1-5"	"1-5"	
	Max	Max	Max	Max	Max	Min	
Rainwater harvesting	3	3	3	5	3	3	
Early warning systems	5	3	3	5	1	2	
Design standards	4	5	3	5	1	1	
Emergency medical services	5	4	3	5	1	4	
Water storage and conservation	4	5	2	5	2	2	

Figure 18. Scoring actions

**\*\*This step should be inputted manually by the user**



For each of the selected actions, learn more about how they can score against different criteria by brainstorming with your groupmates or via desk research and literature review.

**If quantitative units of measurement are used**, to minimize ambiguity and subjectivity, smaller scoring scale is easier to use and is less subjective than a larger scale (e.g. values of 55 to 80 could denote an important impact on a scale of 0 to 100, where 2 is the only value available on a scale of 1 to 3).

**If qualitative units of measurement are used**, a relative scoring should be applied (E.g. score of one action is compared to a score of another actions).

## C2. Standardization

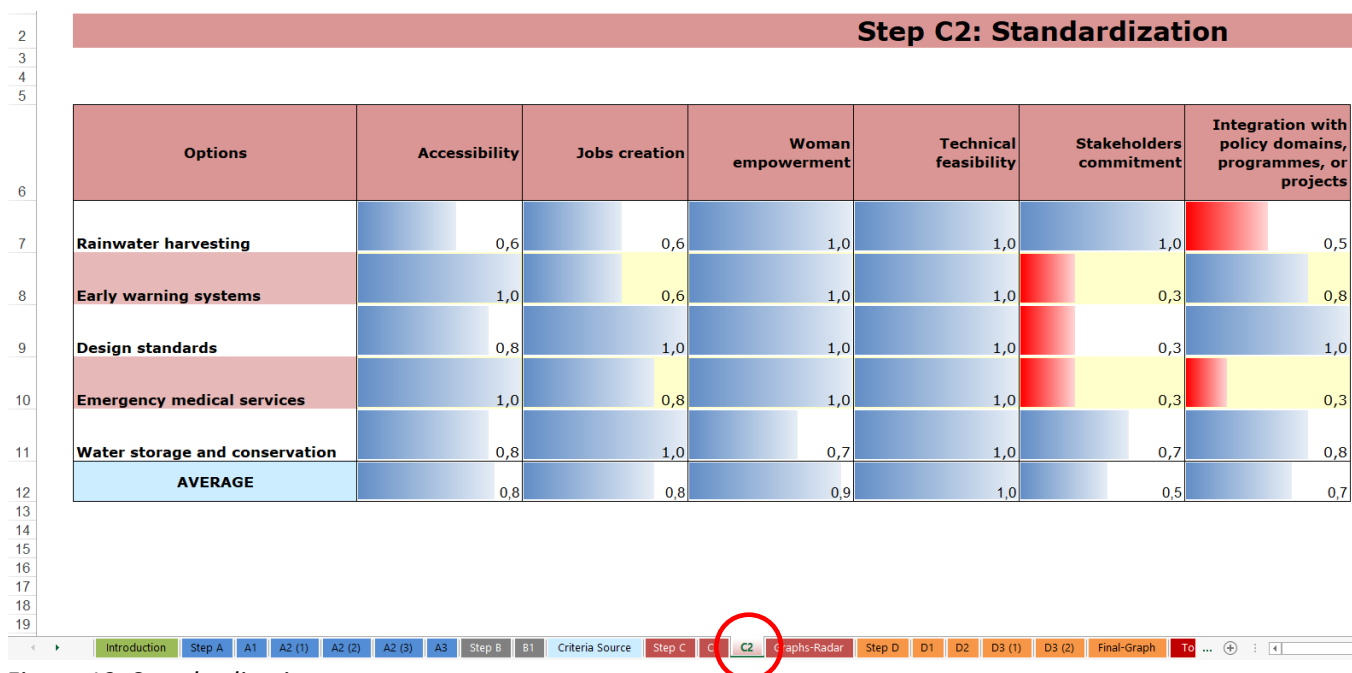
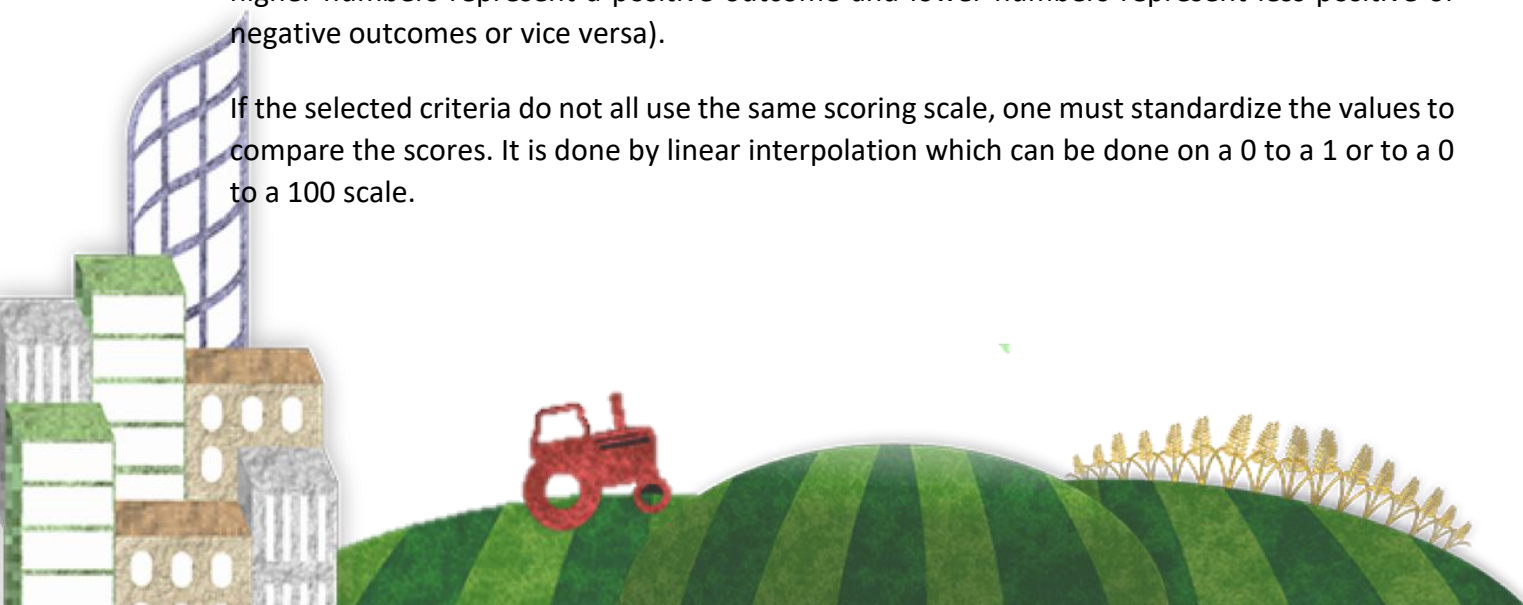


Figure 19. Standardization

### ✓ Verify that all the criteria scores are in the same direction.

All the scoring scales must be in the same direction (from negative to positive values) (e.g. that higher numbers represent a positive outcome and lower numbers represent less positive or negative outcomes or vice versa).

If the selected criteria do not all use the same scoring scale, one must standardize the values to compare the scores. It is done by linear interpolation which can be done on a 0 to a 1 or to a 0 to a 100 scale.





✓ Observe the graphs for each action and the average of criteria scores for all actions. (SKIP)

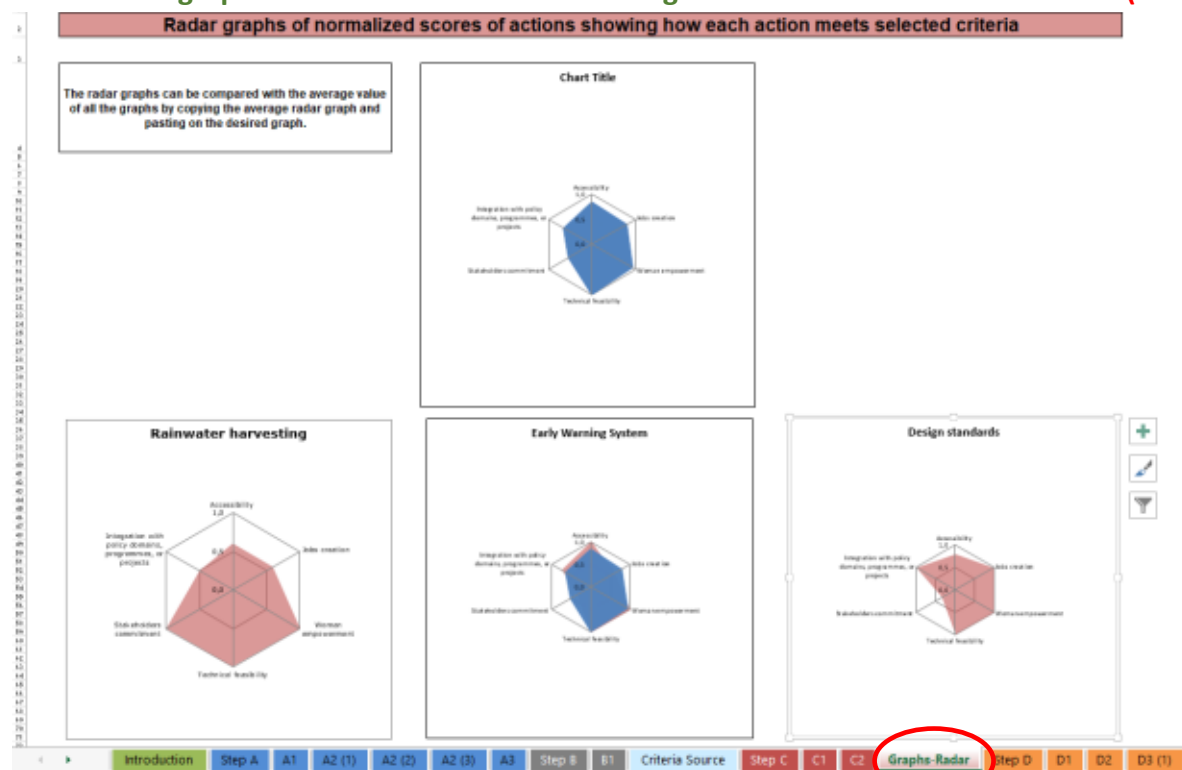


Figure 20. Graphs-Radar

Observe the graphs based on the normalized initial results (“Graphs-Radar” spreadsheet). The radar graphs show how each action meets selected criteria. Radar graphs can be compared with the average value of all the graphs by copying the average radar graph and pasting on the desired graph in the excel document.

## D. WEIGHTING OF STAKEHOLDERS

### D1. Stakeholders’ Criteria Weighting

✓ Fill each stakeholder in specific section denoted as “Stakeholder 1”, “Stakeholder 2”, and so on.

Step D1: Stakeholders' Criteria Weighting

Dimensions	Criteria	Units	Impact Range	Stakeholder 1				Stakeholder 2				Stakeholder 3				Stakeholder 4				Stakeholder 5			
				Rank	Importance	Values	Weights	Rank	Importance	Values	Weights	Rank	Importance	Values	Weights	Rank	Importance	Values	Weights	Rank	Importance	Values	Weights
1 Social	Accessibility	"1-5"	2.0	1	Very High	100	31.2%	2	High	70	22.6%	3	Moderate	60	18.8%	4	Low	40	12.5%	5	Very Low	20	6.3%
2 Governance	Jobs creation	"1-5"	2.0	2	High	80	25.0%	3	Moderate	60	18.8%	4	Low	40	12.5%	5	Very Low	20	6.3%	1	Very High	100	31.2%
3 Social	Women empowerment	"1-5"	1.0	3	Moderate	60	18.8%	4	Low	40	12.5%	5	Very Low	20	6.3%	1	Very High	100	31.2%	2	High	80	25.0%
4 Governance	Technical feasibility	"1-5"	0.5	4	Low	40	12.5%	5	Very Low	20	6.3%	1	Very High	100	31.2%	2	High	80	25.0%	3	Moderate	60	18.8%
5 Social	Stakeholders commitment	"1-5"	2.0	5	Very Low	20	6.3%	1	Very High	100	31.2%	2	High	80	25.0%	3	Moderate	60	18.8%	4	Low	40	12.5%
6 Governance	Integration with policy domains, programmes, or projects	"1-5"	3.0	6	Very Low	20	6.3%	6	Very Low	20	6.3%	6	Very Low	20	6.3%	6	Very Low	20	6.3%	1	Very High	100	31.2%

Performance Indicator: Best Moderate Worst

C1 C2 Graphs-Radar Step **D1** D2 D3 (1) Final Graph Tool Evaluation

Figure 21. Denoting stakeholders



Invite relevant stakeholders, for instance local community, representatives, grassroots organizations, local or national government) to rank the criteria.

✓ **Each stakeholder ranks the criteria from the most to the least important.**

The most important (1<sup>st</sup> ranked) criterion will be denoted by 1, the 2<sup>nd</sup> most important criterion by 2 and so on.



Figure 22. Stakeholders rank criteria

✓ **Provide weighting (relative importance) preferences verbally.**

Indicate the level of importance using the scale: **Very Low, Low Moderate, High, and Very High.**



Figure 23. Providing weighting





✓ Describe the weighting preferences with an arithmetic value.

Each type of verbal expression of preference has short arithmetic range that is associated with. For each type of verbal expression of your preferences there is a short arithmetic range that is associated with (See Table 1).

Table 1. Level of importance with associated important values

Level of Importance	Values of importance	
Very High	100	90
High	80	70
Moderate	60	50
Low	40	30
Very Low	20	10

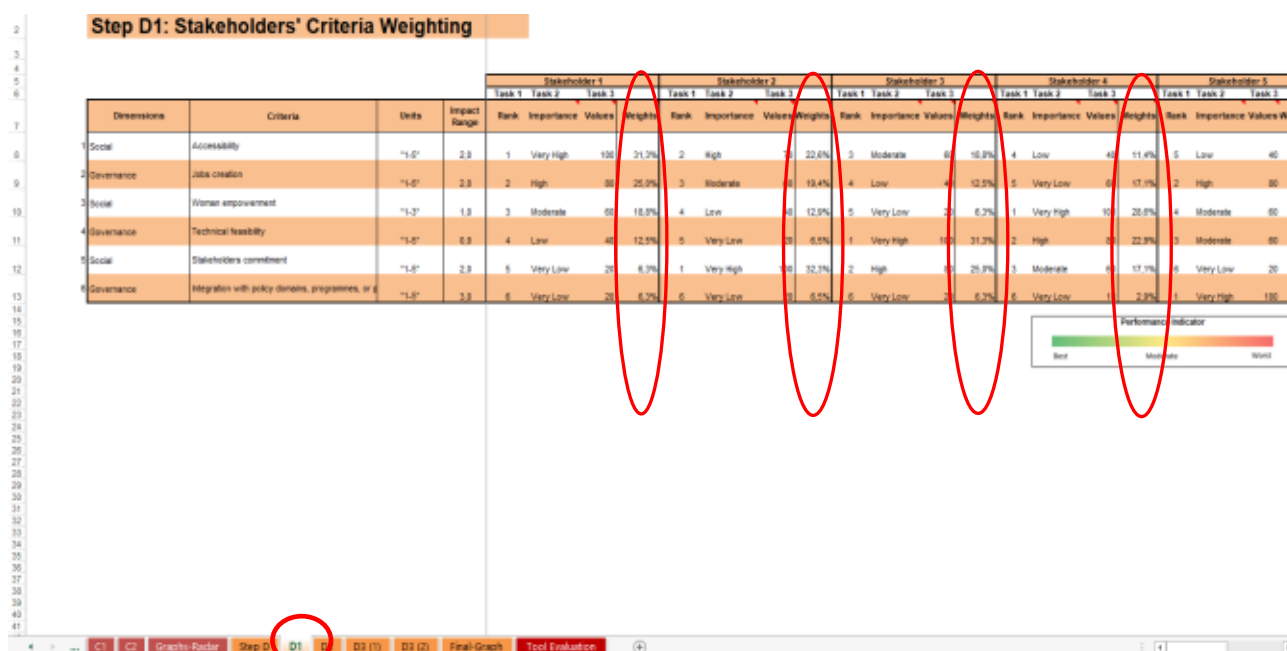


Figure 24. Arithmetic value of weight

**Note:**

The column called "Impact Range" represents Maximum Score minus Minimum Score assigned to each action in Impact Matrix.





## D2. Weighted Criteria

### ✓ Observe the most valued criteria.

Observe which criteria are the most valued (the highest weights).

Weights indicate the average of all scores for all stakeholders.

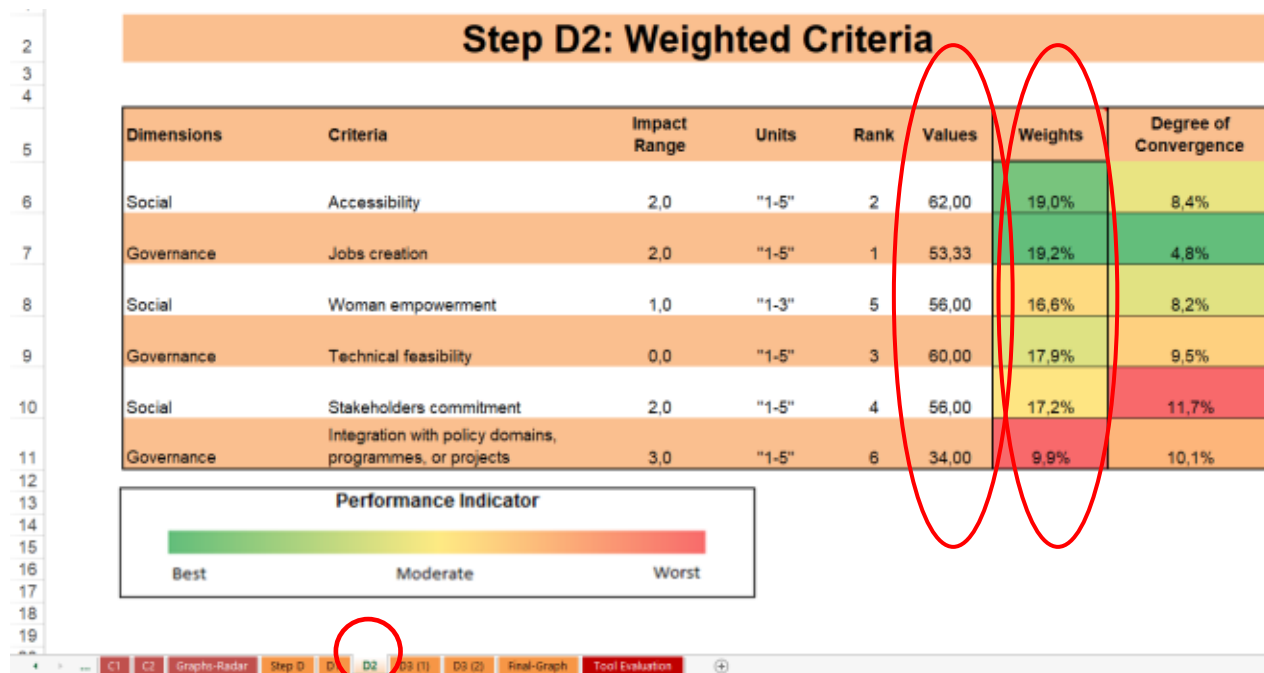


Figure 25. Observing the most valued criteria

### ✓ Observe the degree of convergence.

Observe if there is high degree of convergence (the lowest percentage).



Figure 26. Observing the degree of convergence



**Degree of convergence** column represents the Standard Deviation (StDev) of all weighted scores which indicates the degree of stakeholder consensus on different criteria.

### ✓ Observe the final criteria scores

Observe which criteria are the most valued.



Figure 27. Final Criteria Scores

## D3. Ranking criteria & Results

### D31. Ranking Criteria

Observe the final ranking.

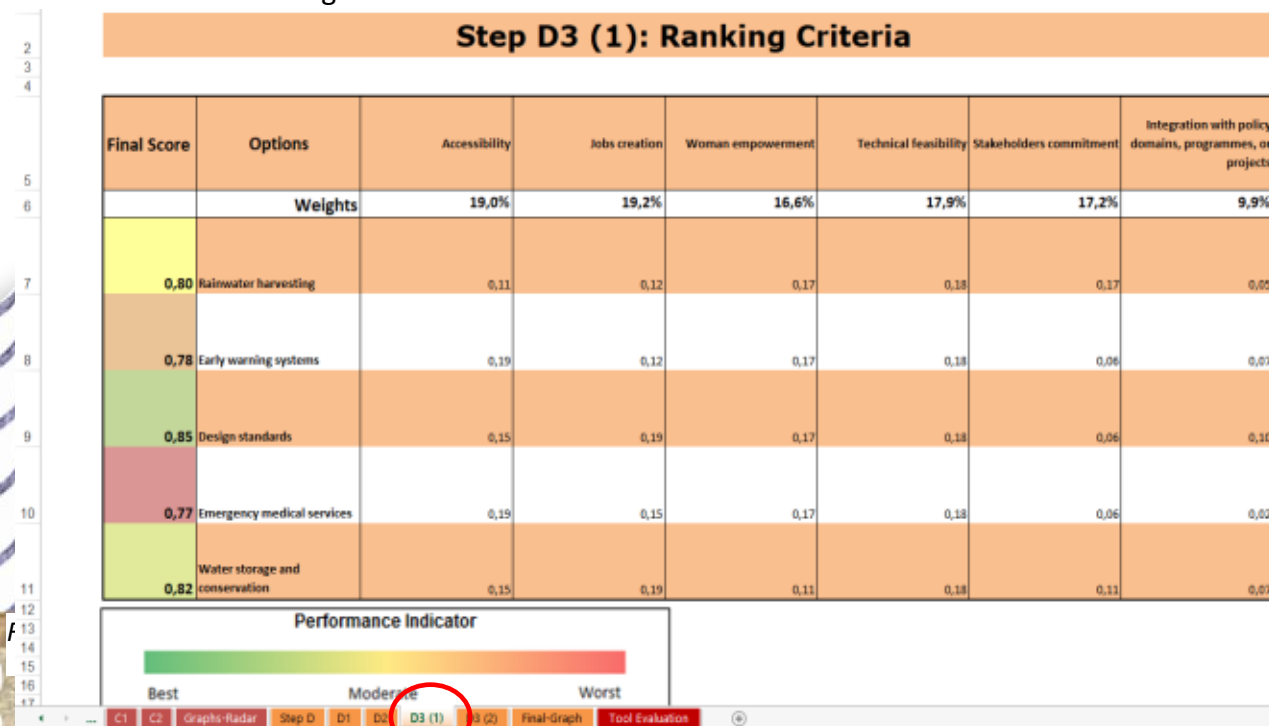


Figure 28. Ranking Criteria



**Final weighted scores:** weighted summation between the **standardized scores of the impact matrix** and the **weights assigned to each criterion**

### ✓ Results

**First**, right-click the **bar chart** and select **sort** option from **the smallest to the largest** to see it in order.

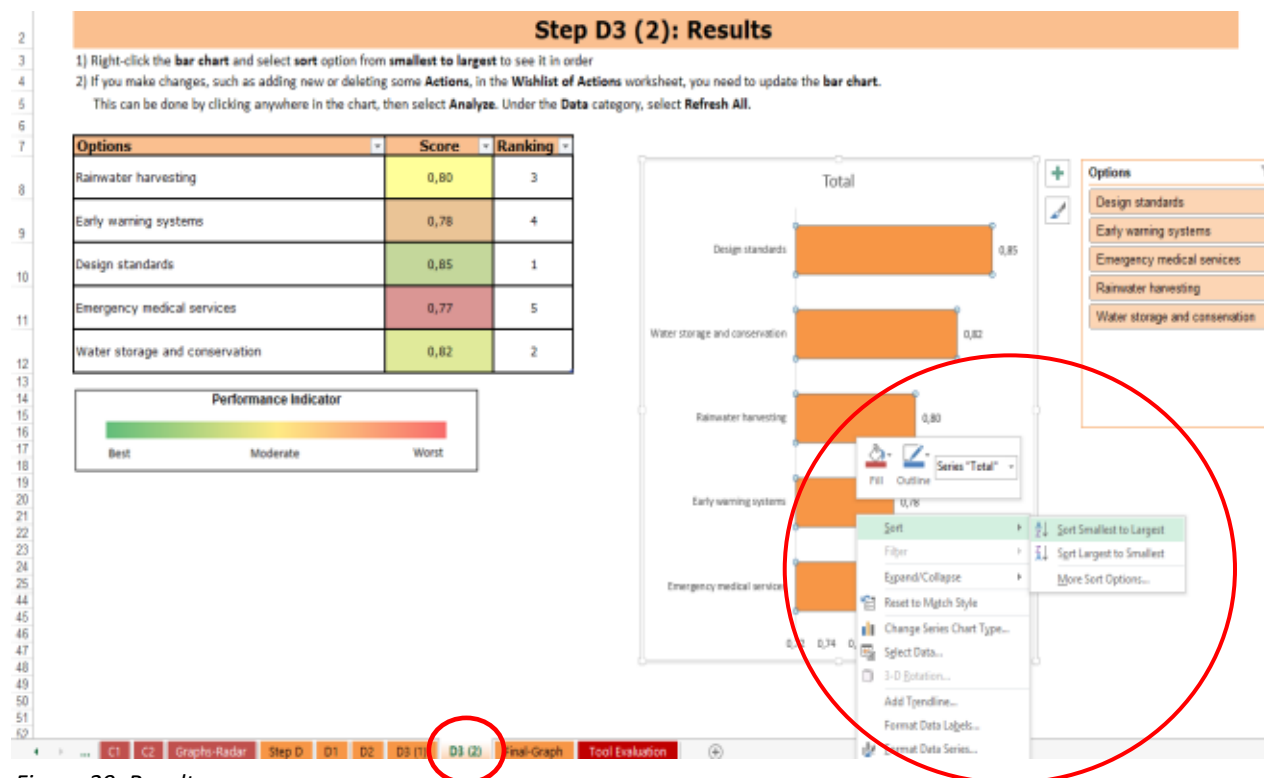
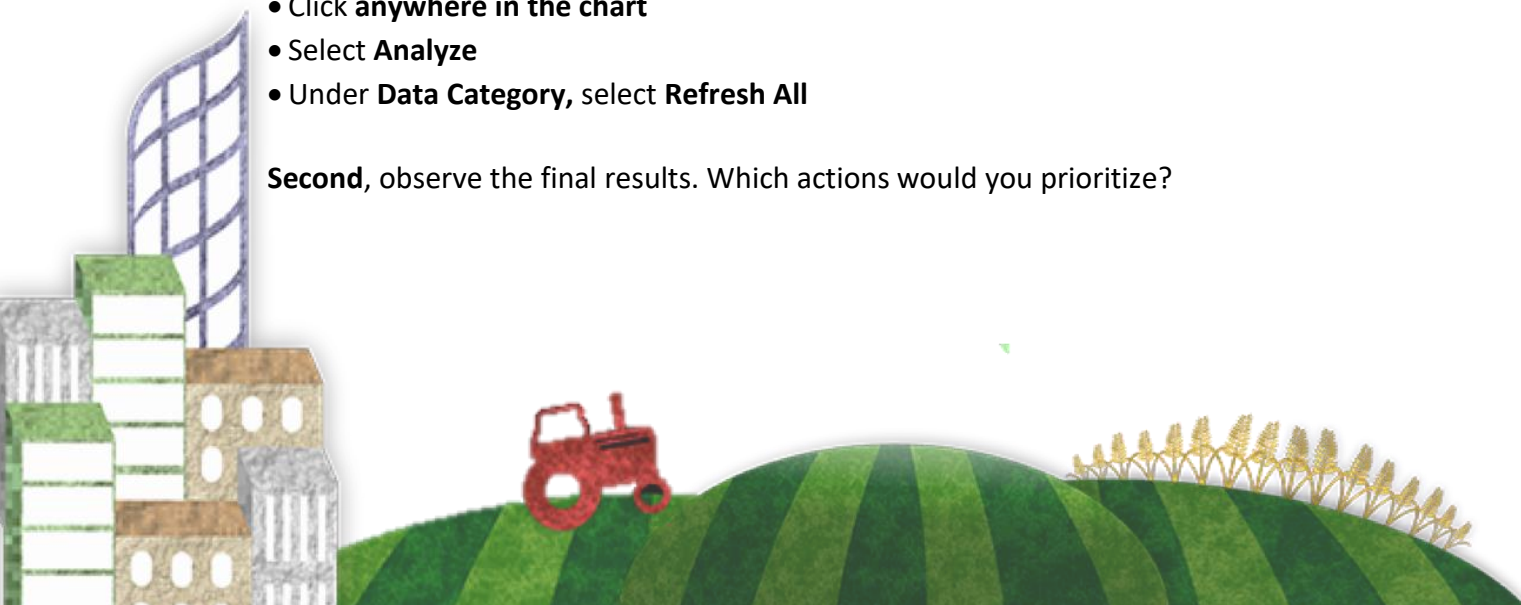


Figure 29. Result

If you make changes (e.g. adding new or deleting some **actions**) in the **Step A3** spreadsheet, you need to **update the bar chart**:

- Click **anywhere in the chart**
- Select **Analyze**
- Under **Data Category**, select **Refresh All**

**Second**, observe the final results. Which actions would you prioritize?





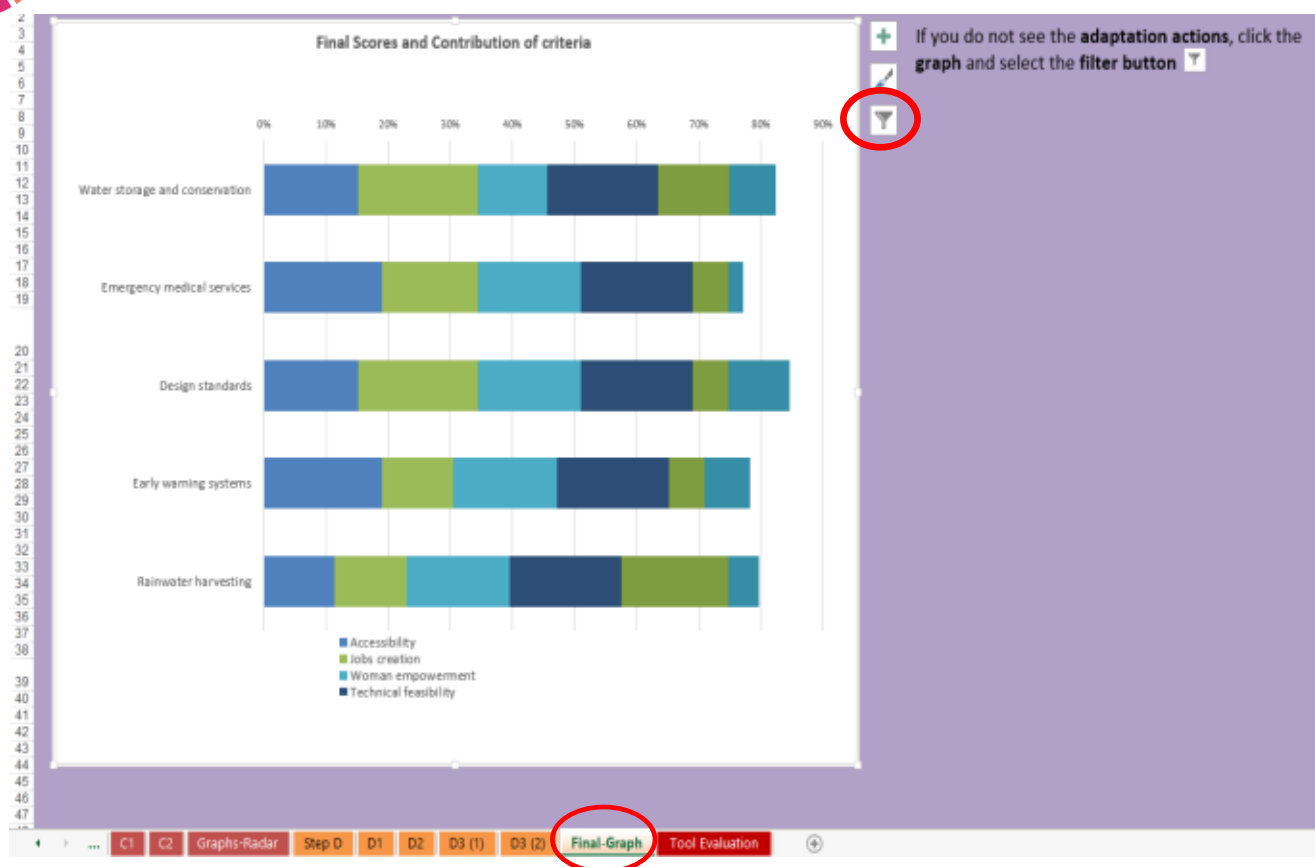


Figure 30. Final Graph

If you do not see the actions, click the **graph** and select the **filter button**

The graph above shows the result of final scores and contribution of criteria for each action. Here, you can see which action should be prioritized.



