



COMMONWEALTH *of* LEARNING

# Inclusive Community Engagement for Climate Change Action

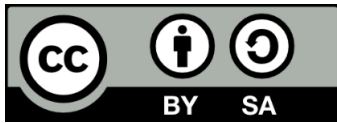
— COURSE —

# **Inclusive Community Engagement for Climate Change Action**



The Commonwealth of Learning (COL) is an intergovernmental organisation created by Commonwealth Heads of Government to promote the development and sharing of open learning and distance education knowledge, resources and technologies.

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This course has been developed with the input of various experts in climate change, as part of COL's programme on Climate Change Education for Teachers (CCE4T). It was authored by Dr Jean Uwamahoro and Dr Marcellin Rutegwa, College of Education, University of Rwanda. The peer review was conducted by Dr Elisabeth Lakin of the University of Dundee, United Kingdom. Copy editing was done by Dr Dania Sheldon.

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The Commonwealth of Learning wishes to thank those below for their contribution to this course:

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## About this course

Inclusive Community Engagement for Climate Change Action has been produced by the Commonwealth of Learning in collaboration with the University of Rwanda's College of Education.

As is widely recognised by individuals and policymakers, our planet is currently facing the impacts of climate change. Many initiatives have been introduced to mitigate and adapt to these impacts. However, there is still much to be done to bring everyone around the globe together in this fight. Teachers are agents of social change. In this course, you will learn some techniques for involving community members in climate change action and how to initiate small projects to adapt to or mitigate climate change. By doing so, you will teach your learners how to protect our planet.

As an open scholar and a teacher, you have a vested interest in seeking to understand and mitigate the impacts of climate change, since these affect your present and future. As an open scholar, you also get to choose what, when, and how you want to learn.

You can work through the course content alone or with others with whom you can share ideas.

You can work entirely offline, entirely online, or in a blended mode if your local open school provides such an option.

The modules are structured in the same way, as outlined below.



Watch

### Course Video Teaser

<https://youtu.be/9ccUVY37N8w>

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## How this course is structured

### The course overview

The course overview gives you a general introduction to the course. Information contained in the course overview will help you determine:

- whether the course is suitable for you
- what you will need to know already
- what you can expect from the course
- how much time you will need to invest to complete the course



The overview also provides guidance on:

- study skills
- where to get help
- course assignments and assessments
- activity icons
- units

We strongly recommend that you read the overview *carefully* before starting your study.

## The course content

The course is broken down into units. Each unit comprises:

- an introduction to the unit content
- unit outcomes
- new terminology
- core content of the unit with a variety of learning activities
- a unit summary
- assignments and/or assessments, as applicable

## Resources

For those interested in learning more on this subject, we mention additional resources where applicable in the main text and in footnotes.

## Your comments

After completing Inclusive Community Engagement for Climate Change Action, we would appreciate it if you would take a few moments to give us your feedback on any aspect of this course. Your feedback might include comments on:

- course content and structure
- course reading materials and resources
- course assignments
- course assessments
- course duration
- course support (assigned tutors, technical help, etc.)

Your constructive feedback will help us to improve and enhance this course.

## Course overview

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### Welcome to Inclusive Community Engagement for Climate Change Action

In this course, you will first learn how to explain why climate change actions are needed and how to define climate action plans and inclusive community engagement. You will then use these concepts to explore the following: communities and populations that are more vulnerable to impacts of climate change; enablers of inclusive community engagement for climate change action; the steps in inclusive community engagement for climate change; climate change community engagement strategies; and case studies of community engagement for climate change actions. You will conclude this course by designing a challenge to generate community engagement for climate change action in your local area.

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### Inclusive Community Engagement for Climate Change Action. Is this course for you?

This course on inclusive community engagement for climate change action has been designed to equip in-service teachers with skills and tools to become channels of climate change action and engineers of behaviour change for climate change action.

The course Climate Change Impacts: Adaptation, Mitigation, and Climate Justice is a pre-requisite to this course.

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### Course outcomes

Upon completion of Inclusive Community Engagement for Climate Change Action, you will be able to:



### Outcomes

- define inclusive community in general and community engagement for climate change action
- identify communities and people who are more vulnerable to impacts of climate change
- describe enablers of inclusive community engagement for climate change action
- discuss steps and strategies to achieve community engagement for climate change action
- analyse the strengths and weaknesses of cases where inclusive community engagement was used for climate change action
- identify sectors that need inclusive community engagement for climate change action in local contexts
- design and implement a challenge to achieve community engagement for climate change action to mitigate or adapt to impacts of climate change

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## Timeframe



### How long?

You are expected to complete this course in eight weeks. In every week, you will have a unit to cover. You are expected to spend four hours studying the course materials and two hours completing activities, including quizzes and reading additional resources suggested to you. This is an online course. You will study it at your own pace, and you schedule the study time at your convenience.

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## Study skills



As an adult learner, your approach to learning will be different to that from your school days: you will choose what you want to study, you will have professional and/or personal motivation for doing so, and you will most likely be fitting your study activities around other professional and/or domestic responsibilities.

Essentially, you will be taking control of your learning environment. Consequently, you will need to consider performance issues related to time

management, goal setting, stress management, etc. Perhaps you will also need to reacquaint yourself with areas such as essay planning, coping with exams, and using the Web as a learning resource.

Your most significant considerations will be time and space, i.e., the time you dedicate to your learning and the environment in which you engage in that learning.

We recommend that you take time now — before starting your self-study — to familiarise yourself with these issues. There are a number of excellent resources on the Web. A few suggested links are:

- <https://keeplearning.ubc.ca/learning-tips/>

“Online Learning Tips” is a website of the University of British Columbia containing tried and tested tips that can help you become a good online learner. It offers 13 tips, but you are not requested to read or consider all of them at once. Instead, you are advised to select ones that are appropriate to the course you are taking and the phases of your course.

- <https://www.palomar.edu/areyouready/online-study-skills-and-managing-time/>

This is Palomar University’s website “Online Study Skills and Managing Time.” You will find important information about challenges presented by online learning environments and advice on how to manage your time as online learner.

- [https://libguides.tees.ac.uk/study\\_well\\_OL](https://libguides.tees.ac.uk/study_well_OL)

On this website provided by Teeside University, you will find out what is expected from you before you register for an online course. It will help you understand what you are expected to achieve when taking an online course, academic and personal skills you need to develop, and how to recognise in what ways you learn best.

The above links are our suggestions to start you on your way. At the time of writing, these web links were active. If you want to find more, go to your preferred search engine and type “self-study basics,” “self-study tips,” “self-study skills,” or similar.

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## Need help?



### Help

This has been set up as a self-directed course.

Your open school may provide a facilitator if the course is offered in blended or online mode, so find out how and when you can communicate with that person.

If a discussion forum has been set up for the course, you can reach out to others that way.

You might be working completely independently. If this is the case, we suggest that you sometimes talk about your learning and responses to learning activities with a family member or friend.

We have, in most cases, chosen short videos in case there are Internet bandwidth or accessibility issues. Your school may provide technical support if there is a person to address these issues for you.

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## Assignments



### Assignments

There are eight assignments, one for each unit.

All assignments must be posted on the COL platform.

Each assignment must be submitted before starting the next unit.

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## Assessments



### Assessments

















A certificate of completion at the end of the course is available for those who complete every quiz in the online version.

# Getting around this course

## Margin icons

While working through this course, you will notice the frequent use of margin icons. These icons serve to “signpost” a particular piece of text, a new task, or a change in activity; they have been included to help you find your way around this course.

A complete icon set is shown below. We suggest that you familiarise yourself with the icons and their meaning before starting your study.

			
Activity	Assessment	Assignment	Case study
			
Discussion	Group activity	Help	Note it!
			
Outcomes	Reading	Reflection	Study skills
			
Summary	Terminology	Time	Tip



# Unit 1

## Community inclusiveness for climate change

### Introduction

Climate change is a current global issue with environmental, social, economic, and educational consequences. Since the Industrial Revolution, our planet has experienced an increase in the atmospheric concentration of greenhouse gases (GHGs). This increase causes the rise of global temperatures, accompanied by impacts and catastrophic consequences resulting from climate change. Many initiatives are being implemented to mitigate or adapt to climate change impacts to reduce people's vulnerability. However, these efforts may not be successful if climate change awareness, mitigation, and adaptation are known about by only a handful of people. The purpose of this unit is, therefore, to define community inclusiveness for climate change and explain its importance.

Upon completion of this unit, you will be able to:

- describe aspects of initiatives for climate change action
- explain inclusive community engagement for climate action



#### Outcomes



#### Watch

#### Unit 1:

<https://youtu.be/q2hZ66-muSg>



#### Terminology

#### Community:

A group of people living in the same place or having a particular characteristic in common.

#### Community engagement:

The process of involving people who live and interact in an area — for instance, a city, a village, a district, or a province — in its development.



<b>Inclusive community engagement:</b>	An approach used to provide people with opportunities to participate in an activity by reducing barriers and engaging with them in meaningful and supportive ways.
<b>Climate change action:</b>	Efforts taken to combat climate change and its impacts



### *Activity 1.1*

*Before proceeding to section 1.1, note down what inclusive community engagement means for you, without consulting any written or online reference. You will then compare your first idea with the definition provided in this course or other definitions you may find in other online materials.*

## 1.1 Definitions of key terms

### **Inclusive community engagement**

Community engagement is the process of involving people who live and interact in an area — for instance, a city, a village, a district, or a province — in its development. The members of the community who should be involved in the practice of engagement are any or all who have an interest or influence or are impacted by a local plan, policy, or action. In the process of engagement, the needs and issues of all parties forming the community are identified and understood and can be addressed to achieve positive change.

### **Inclusive community engagement for climate action**

Climate action refers to efforts taken to combat climate change and its impacts. These efforts involve reducing greenhouse gas emissions (climate mitigation) and/or taking action to prepare for and adjust to both the current effects of climate change and the predicted impacts in the future (climate adaptation). In the previous section, we defined community engagement as the involvement of the community in the plans to develop an area. Therefore, inclusive community engagement for climate change action means taking into account the needs and issues of all the members in the community to mitigate or adapt to climate change impacts.



### **Activity 1.2**

*Read the following case study and then answer the questions related to it.*

#### **Low Carbon's Solar Farm Engagement<sup>1</sup>**

A powerful tool in the fight against climate change is renewable energy, one of the main players being solar farms. Low Carbon is a British sustainable investment and asset management company. In early 2020, they collaborated with Commonplace<sup>2</sup> to gather the views, thoughts, and opinions of the community on the development of solar farms across the UK. Involving the community from the outset can play a huge part in educating them on the benefits of solar energy and ultimately get them involved in helping to deliver a low-carbon future. Currently, Low Carbon's portfolio of sites has the potential to power 660,000 homes with clean energy and save more than 440,000 tonnes of CO<sub>2</sub> each year!

#### **Questions:**

- a. *Identify the stakeholders of the project described in this case study.*
- b. *Are all the stakeholders involved in this project?*
- c. *Describe in no more than five lines how the stakeholders are included in this project.*

*You will use this description to compare with the levels of community engagement we are going to discuss in section 1.2.*

---

<sup>1</sup> <https://www.commonplace.is/blog/community-engagement-in-climate-action>

<sup>2</sup> <https://www.commonplace.is/about>: Commonplace is an online citizen engagement platform with artificial intelligence integration.



## 1.2 Levels of community engagement

Community engagement is a continuum of practices that inform, involve, and empower citizens and communities. According to Arnstein (1970), the classic levels of community member participation, from the lowest degree of involvement (non-participation) to the highest, are manipulation, therapy, informing, consultation, placation, partnership, delegated power, and citizen control. Let us consider the role of the community at these different levels.

**Manipulation:** Manipulation occurs when public institutions, officials, or administrators mislead citizens into believing they are being given power in a process that has been intentionally manufactured to deny them power.

**Therapy:** Participation as therapy occurs when public officials and administrators create pseudo-participatory programmes that attempt to convince people they are the problem, when in fact it is the institutions and policies that are creating the problems for citizens.

**Informing:** This is a participation of community members characterised by a one-way flow of information from officials to citizens, without channels provided for feedback and with no power for citizen negotiation.

**Consultation:** The ideas, issues, and views of community members are collected through attitude surveys, neighbourhood meetings, and public hearings. Community involvement is less important. Most of the time, public institutions or officials may not consider information gathered from these consultation meetings when developing and implementing climate change action projects or any development project.

**Placation:** Participation as placation occurs when citizens are granted a limited degree of influence in a process, but their participation is largely or entirely insincere: citizens are merely involved to demonstrate that they were involved.

**Partnership:** Public institutions, officials, or administrators allow community members to negotiate better deals, refuse decisions they do not like, share funding, or make inquiries about actions that are partially fulfilled.

**Delegated power:** Participation as delegated power occurs when public institutions, officials, or administrators give up at least some degree of control, management, decision-making authority, or funding to citizens. A citizen board or corporation that is tasked with managing a community

programme, rather than merely participating in a programme managed by a city, would be an example of delegated power.

**Citizen control:** Participation as citizen control occurs when community members can govern a programme or an institution at both policy and managerial levels and can negotiate the conditions under which they can be influenced.

More recently, the International Association for Public Participation (IAP2) has developed a model of community engagement levels and stages, informed by an extensive international consultation with community engagement practitioners and policy makers (IAP2, 2018). This model has five levels, in order of increasing public impact on the decision: inform, consult, involve, collaborate, and empower. These levels are comparable to the informing, consultation, partnership, delegated power, and citizen control levels in Arnstein’s model.



### **Activity 1.3**

*Climate initiatives are programmes aimed at stopping global warming. Identify two examples of initiatives that may stop Earth’s temperature increase, and provide a science-based explanation of their effectiveness.*

## **1.3 Aspects of initiatives for climate change action**

Climate initiatives are programmes that aim to stop the increase of Earth’s temperatures. Governments, businesses, and civil society members are connecting in climate initiatives to speed the pace of climate action. Climate initiatives aim to reduce emissions, tackle critical concerns such as jobs and gender equality, unlock finance, build sustainable infrastructure, use nature-based solutions, and advance adaptation and climate resilience. These initiatives may be international (e.g., the Paris Agreement), regional (e.g., New England Governors and Eastern Canadian Premiers, NEG-ECP), national (e.g., Buffelsdraai Landfill Site Community Reforestation Project in South Africa), or local (Global Warming Solutions Act in California, USA).

Climate initiatives address different sectors and themes and use a variety of approaches. The following are more examples in various sectors.

### **Energy**

- ***Accelerating Renewable Energy Transition in Small Island Developing States:*** The initiative brings together 40 small island developing states (SIDS) from the Caribbean, the Pacific, and the Atlantic, Indian Ocean, and South China Sea (AIS) regions, as well as 37 other partners, including developed countries, regional and international organisations, development partners, private



companies, research institutes, and non-profit organisations. In 2022, Curacao, Australia, the Netherlands, Akuo, the Caribbean Climate-Smart Accelerator, and the Organisation of African, Caribbean and Pacific States joined as new partners. The initiative promotes all renewable sources, including geothermal and ocean energy, and step-up work to integrate solar photovoltaic cells and wind power.

- ***Climate Action for Jobs***: This initiative has developed a roadmap and regional strategies for climate action that puts people's jobs and well-being at the heart of the transition to a green economy. It was initiated at the United Nations Climate Action Summit 2019, when some 46 countries made commitments to support a just ecological transition. They would do so by formulating national plans for a just transition through social dialogue, and creating decent work as well as green jobs, thus enabling ambitious action toward a sustainable future of work. This work was co-led by Spain and Peru.

### **Industry and transport**

- ***Action towards Climate-Friendly Transport***: Over 100 organisations have forged the largest coalition ever dedicated to shifting all forms of transport to zero emissions. It researches issues like rural access and making the economics of decarbonisation work. An online course helps urban leaders develop sustainable urban mobility solutions.
- ***Leadership Group for Industry Transition***: Aimed at net zero carbon emissions from industry by 2050, the initiative has established industry groups and developed road maps for heavy industries where carbon emissions are difficult to abate. A transition tracker profiles industries in various countries.

### **Business and finance**

- ***Business Ambition for 1.5°C***: This coalition of business and industry leaders calls on companies to set ambitious and science-based emissions reduction targets, aiming for net zero in line with a 1.5°C future. Over 700 companies with more than \$13 trillion in market capitalisation have signed on so far.

### **Resilience and adaptation**

- ***Least Developed Countries Initiative for Effective Adaptation and Resilience***: The group works for a climate-resilient future in the least developed countries. It has made strides in devising standards for climate adaptation in local communities, along with a financing mechanism.

### Nature-based solutions

- **Campaign for Nature:** This growing coalition of more than 100 conservation organisations calls on policymakers to commit to a science-driven, ambitious new deal for nature. It hinges on protecting at least 30 per cent of the planet by 2030, backed by sufficient financial resources and the full realisation of indigenous leadership and rights.

### Urban planning

- **Leadership for Urban Climate Investment (LUCI):** A coalition of governments, financial institutions, climate funds, city networks and think tanks has developed the LUCI framework to help 2,000 cities prepare and finance climate projects. So far, LUCI has achieved 20 per cent of this target. A City Climate Finance Gap Fund supports the process, drawing on collaboration with multilateral development banks and bilateral donors.



#### Activity 1.4

*Using concrete examples of climate change action projects, justify why it is important to include community members in climate change action.*

## 1.4 Importance of community inclusiveness for climate change action

Inclusive climate action starts with an inclusive process where everyone's voice is represented. This leads to the delivery of equitable climate policies and promotes the fair distribution of their benefits among all community members. The absence of an inclusive engagement process can worsen the vulnerability of communities through their regular and systematic exclusion. Community inclusiveness has the following benefits:

- **Tackling intrinsic societal inequality:** Involving communities for climate change action allows decision makers to reach solutions that take into consideration the needs and aspirations of all the categories of community members.
- **Building individual and social capital:** Involving communities in addressing the impacts of climate change allows communities members to contribute local knowledge, skills, and capacity to the development of new cost-effective solutions. This partially relieves financial and political demands on governments.
- **Reducing unintended consequences and building community trust:** Climate action may be challenging for communities, as they have the potential to create unintended consequences, particularly



for low socio-economic groups if their needs and aspirations are not taken into consideration. Through community inclusiveness, stakeholders can choose the best scenario for all community members.

- **Changing behaviour:** Climate change action does not just require altering government policies; in some instances, community members are called upon to change their lifestyles. Their involvement in the process will ease this task.

---

## Unit summary



### Summary

In this unit, you learned that climate change action is the set of efforts to fight against climate change and its impacts. Inclusive community engagement for climate action, on the other hand, is considering the needs and issues of all the members in the community to mitigate or adapt to climate change. Levels of communities' involvement are, from the lowest to the highest degree of involvement, manipulation, therapy, informing, consultation, placation, partnership, delegated power, and citizen control. Communities may be involved in climate actions targeting different sectors, such as energy, transport, industry, finance, and business. Reducing societal inequalities, building individual and social capital, reducing the unintended consequences of climate change actions, and behaviour change are the benefits of community involvement in climate change actions.

---

## Assignment 1



### Assignment

Conduct an observation or discussion with your peer teachers and identify whether there is a climate change action project taking place in your local area. If there is none, use your preferred search engine to identify one. Gather information about the selected objectives and procedures used for its conception and implementation. From this analysis, assess whether the project involves the community members, and identify the level of their involvement. Justify why you think the community members are involved and the rationale for the level of involvement you selected.

---

## Assessment



### Assessment

#### Quiz: Multiple choice questions

1. What is the definition of community engagement?
  - a. the involvement of individuals in personal development
  - b. the process of involving people in the development of an area
  - c. the participation of community members in therapy sessions
  - d. the communication between community leaders and government officials
2. What does inclusive community engagement for climate change action involve?
  - a. focusing on the needs of influential community members
  - b. considering the needs of all community members to address climate change impacts
  - c. ignoring the impact of climate change on vulnerable communities
  - d. implementing climate change actions without community involvement
3. According to Arnstein's (1970) levels of community participation, which level grants citizens the most power?
  - a. manipulation
  - b. therapy
  - c. partnership
  - d. citizen control
4. What is the key principle of inclusive community engagement, according to the International Association for Public Participation (IAP2)?
  - a. delegated power
  - b. consultation
  - c. empowerment
  - d. placation
5. What are some aspects of initiatives for climate change action?
  - a. energy, industry, and transport
  - b. finance, nature, and urban planning
  - c. climate action for jobs and resilience
  - d. All the answers are correct.
6. What is the goal of the Business Ambition for 1.5°C initiative?
  - a. promoting sustainable urban mobility solutions
  - b. setting science-based emissions reduction targets
  - c. supporting a just ecological transition
  - d. establishing standards for climate adaptation in local communities
7. Why is community inclusiveness important for climate change action?
  - a. It helps maintain societal inequality.



- b. It promotes the exclusion of vulnerable communities.
  - c. It leads to equitable climate policies and the fair distribution of benefits.
  - d. It restricts the decision-making power to influential community members.
8. How does inclusive community engagement help address societal inequality?
- a. by ignoring the needs of certain community members
  - b. by prioritising the needs of influential community members
  - c. by considering the needs of all community members
  - d. by excluding vulnerable communities from the decision-making process
9. What is the role of community members in inclusive climate action?
- a. to manipulate climate change initiatives for personal gain
  - b. to act as therapy providers for individuals affected by climate change
  - c. to inform and consult on climate change decisions
  - d. to control and make policy decisions regarding climate change actions
10. What are the benefits of community inclusiveness for climate change action?
- a. increased vulnerability of communities
  - b. distribution of climate change benefits unfairly
  - c. tackling societal inequality and building individual and social capital
  - d. exclusion of community members from climate change initiatives

---

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## Unit 2

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# Enablers of inclusive community engagement for climate change action

### Introduction

Our planet is under pressure because of climate change and its impacts. All around the world, some populations are more affected by climate change impacts than others. Different international, regional, and international initiatives have been put in place to adapt to or mitigate climate change impacts. Despite renewed attention in recent years, the call for public participation in climate action is not new. From the 1992 Rio Declaration to the 2015 Paris Agreement, giving citizens a voice in climate change-related decision making has long been recognised and championed by intergovernmental organisations and bodies. However, involving communities in climate action is not an easy task. The purpose of this unit is, therefore, to explain climate vulnerability, and to examine strategies to effectively involve communities in climate change actions.

Upon completion of this unit, you will be able to:

- analyse the vulnerability of a community vis-à-vis climate change impact
- discuss enablers of inclusive community engagement for climate change action



Outcomes



Watch

Unit 2:

<https://youtu.be/70U1m4R2GU0>



### Terminology

<b>Enablers:</b>	things or people that make something possible
<b>Climate change vulnerability:</b>	the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes



### Activity 2.1

- Distinguish climate change vulnerability from a climate vulnerability index.*
- Summarise a climate vulnerability index developed for your country.*

## 2.1 Climate change vulnerability

According to the IPCC (2007) definition, vulnerability in the context of climate change is “the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes.” Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity. For instance, agricultural vulnerability to climate change can be described in terms of exposure to elevated temperatures, the sensitivity of crop yields to the elevated temperature, and farmers’ ability to adapt to the effects of this exposure and sensitivity by, for example, planting crop varieties that are more heat-resistant or switching to another type of crop.

## 2.2 Climate vulnerability index

A climate vulnerability index is constructed as the unweighted average of three subindices:

- exposure to climate change
- sensitivity
- coping capacity

**Exposure** depends upon long-term changes in temperature and precipitation; the frequency of extreme weather events; and weather-related disasters in each ecological zone.

**Sensitivity** depends upon the extent to which the region’s population relies on natural resources for their livelihoods; the demographic structure (e.g., children and elders would be more susceptible); the current health status of the population; and the health and sanitation facilities available to the population.

**Coping capacity** refers to the population’s ability to adapt to circumstantial changes brought about by climate change. It depends upon the socio-economic conditions of the population exposed to climate change, as well as public and private institutions (technology, infrastructure, financial capacity, and skills).



### *Activity 2.3*

- a. *Community members suffer differently from climate change impacts. Do you agree with this statement?*
- b. *In not more than ten sentences, and using clear examples, justify the answer you provided in a.*

## 2.3 Characteristics of communities that are more vulnerable to impacts of climate change

Climate change affects all communities no matter who they are or where they live. However, some communities may be more affected than others. The characteristics of these communities depend on their economic status and geographical location. In addition, some members of communities are more vulnerable to climate change than others, including specific groups such as those in the bottom income bracket, women, the elderly, children, and people with disabilities; these people may have limited coping capacities due to social and economic barriers.

A community that is economically vulnerable to climate change impacts is ill-prepared for the effects of climate change because it lacks the necessary financial resources — for instance, communities living in urban slums located in high-risk zones on mountains characterised by high slopes, or in areas prone to floods, such as wetlands. Thus, communities in developing countries can be affected the most by climate change and are the most vulnerable because they will have the least resources to invest in resiliency infrastructure.

The second type of climate change vulnerability is geographical. The most geographically vulnerable locations are those that will be impacted by side effects of natural hazards such as rising sea levels and by dramatic changes in ecosystem services, including access to food. Communities susceptible to severe climate change impacts include those living on islands; rural communities that depend heavily on rain-fed agriculture and natural



resources for their livelihood; women; communities living in drylands including smallholder farmers; pastoralists; and fishing communities of small islands.



**Activity 2.4**

The table below has two columns. Column A contains a story, and Column B presents elements that boost community members' involvement in climate change action. Match the story's parts to the elements. You are advised to do this activity before reading about the enablers of community involvement for climate change action.

<b>Column A</b>	<b>Column B</b>
<p><b>Instituto Chaikuni/Peru<sup>3</sup></b>  <b>(Story by Milton López Tarabochia, Communications Coordinator)</b></p> <p>In the Peruvian Amazon, many farmers use slash-and-burn practices, an unsustainable way to quickly clear the forest to cultivate food. Leaders like Gimena, an Achuar Indigenous woman, and a tourism student, are looking for a better way, and Climate Action Fund leader Instituto Chaikuni is ready to help them find it. By providing education and other resources in rural Amazonian communities, Instituto Chaikuni is helping build environmentally friendly food systems called <i>chacras integrales</i>. These sustainable food systems, based on Indigenous knowledge and community wisdom, offer vital nutrition and medicines year-round. “What I like the most about <i>chacras integrales</i> is that they will be a great option to live in harmony with nature and the environment,” Gimena shared. “They also allow eating healthier, revaluing the biodiversity of the Loreto region, and having economic solvency.”</p>	<p>Transparency and realism</p> <p>Inclusiveness and fairness</p> <p>Integrity</p> <p>Partnership with community members to deliver changes</p> <p>Diverse and inclusive engagement strategies</p> <p>Community capacity building</p> <p>Community engagement as a process</p>

<sup>3</sup> <https://www.globalgiving.org/learn/community-based-climate-action-stories>

## 2.4 Enablers of inclusive community engagement for climate change action

This section presents critical success factors for involving community members in climate action. You are, however, advised to read additional materials to learn about other success factors being used in climate change action.<sup>4,5,6,7</sup>

- **Transparency and realism:** From the very beginning of the project, the objectives of the engagement process should be clearly communicated to stakeholders. Avoid over-promising actions where possible. This will be crucial to maintaining a positive and constructive long-term relationship.
- **Inclusiveness and fairness:** Climate change is unfair, disproportionately affecting some communities more than others. Recent IPCC reports highlight that climate change is already producing dramatically unequal impacts across social groups. To be successful, climate change action must therefore consider not only influential members of the community but also members who are more vulnerable to the impact of climate change than others due to their particular risk exposure.
- **Integrity:** Making sure that an engagement strategy is led and delivered with integrity requires upholding the key principles of transparency, collaboration, and accessibility throughout the engagement process. This can be done during the application of an approach through regular evaluation against the strategy's vision and outcomes, and through being responsive to any issues as they arise.
- **Partnership with community members to deliver changes:** The ability to promote and implement action lies in a critical mass of people who bring with them diversity in culture, knowledge, and innovation — crucial to developing new ideas for climate change action. Most effective innovative and impactful climate change actions are developed only through involving communities in the

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<sup>4</sup> Mannke, F. (2011). Key themes of local adaptation to climate change: results from mapping community-based initiatives in Africa. *Experiences of climate change adaptation in Africa*, 17-32.

<sup>5</sup> Akrofi, M. M., Antwi, S. H., & Gumbo, J. R. (2019). Students in climate action: A study of some influential factors and implications of knowledge gaps in Africa. *Environments*, 6(2), 12.

<sup>6</sup> Sibiyi, N., Sithole, M., Mudau, L., & Simatele, M. D. (2022). Empowering the voiceless: Securing the participation of marginalised groups in climate change governance in South Africa. *Sustainability*, 14(12), 7111.

<sup>7</sup> Akrofi, M. M., Antwi, S. H., & Gumbo, J. R. (2019). Students in climate action: A study of some influential factors and implications of knowledge gaps in Africa. *Environments*, 6(2), 12.



project. This involvement brings community members ownership of the project.

- **Diverse and inclusive engagement strategies:** Communities are composed of different social classes, and adaptation to cater for each class is key to successful inclusion. Adaptation is achieved using a variety of engagement channels to communicate with different audiences, who have varying experiences and needs, whilst ensuring consistent messaging. Factors like geographic location, language, age, sex, race, and income, and other intersectionalities of an individual or group's identity, all need to be considered when designing an inclusive engagement strategy.
- **Engagement as a process, not an end point:** Community engagement should not be seen as a means to an end; it should form part of a wider programme of relationship building and co-development practices. New initiatives should build on previous community engagement and improve the relationship with a community over time. This can be achieved through tracking, measuring, and reporting on stakeholder engagement to understand what is effective and what is not working well.
- **Community capacity building:** Working with the community can present challenges for governments due to existing mistrust from local groups and a lack of internal capacity. Staff should be offered training opportunities to empower and support them in the delivery of any engagement. Encouraging the active involvement of the community within an engagement programme, through co-ownership and design practices, can build capacity, upskill members of the community, and enable greater personal investment in driving climate action forward.

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## Unit summary



### Summary

In this unit, you learned that our planet is under pressure from climate change and its economic, social, and environmental impacts. Fortunately, there is widespread agreement that all nations and populations should adapt to existing climate impacts and mitigate future ones. Effective implementation of mitigation or adaptation measures depends on the involvement of communities. Transparency, realism, inclusiveness, fairness, integrity, partnership with community members to deliver changes, diverse and inclusive engagement, and community capacity building are strategies to effectively involve communities in climate change actions.

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## Assignment 2



### Assignment

Using the climate change action project you identified in your local area or one identified from online sources, analyse again its objectives and the procedures used in its implementation to identify enablers that might have been used effectively to involve community members.

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## Assessment



### Assessment

#### Quiz: Multiple choice questions

1. What does vulnerability refer to in the context of climate change?
  - a. the ability of a system to cope with adverse effects of climate change
  - b. the likelihood of extreme weather events occurring
  - c. the sensitivity of a system to changes in temperature and precipitation
  - d. the ability of a community to adapt to climate change impacts



2. What are the three sub-indices used to construct the climate vulnerability index?
  - a. exposure, sensitivity, and coping capacity
  - b. temperature, precipitation, and population density
  - c. economic status, geographical location, and health status
  - d. financial resources, reliance on natural resources, and demographic structure
3. Which communities are more vulnerable to climate change impacts?
  - a. communities with high financial resources
  - b. urban communities located in low-risk zones
  - c. rural communities with diverse livelihoods
  - d. communities lacking financial resources and living in high-risk zones
4. Which characteristic makes a community economically vulnerable to climate change impacts?
  - a. lack of financial resources
  - b. high population density
  - c. access to resilient infrastructure
  - d. dependence on rain-fed agriculture
5. Which groups are considered more vulnerable to climate change impacts due to limited coping capacities?
  - a. influential community members
  - b. individuals with disabilities
  - c. young adults
  - d. wealthy individuals
6. Which enabler of inclusive community engagement emphasises the importance of transparency and clear communication?
  - a. inclusiveness and fairness
  - b. integrity
  - c. partnership with community members to deliver changes
  - d. transparency and realism
7. What is the key principle of engagement that requires consistency and collaboration throughout the process?
  - a. transparency
  - b. inclusiveness
  - c. integrity
  - d. partnership

8. Which one of the following does not pertain to partnering with community members for effective climate change action?
  - a. It ensures diverse and inclusive engagement strategies.
  - b. It brings ownership to the project.
  - c. It brings innovation to the project.
  - d. It helps build community capacity.
  
9. What factor should be considered when designing an inclusive engagement strategy?
  - a. geographic location
  - b. financial resources
  - c. political affiliation
  - d. education level
  
10. How should community engagement be viewed in the context of climate change action?
  - a. as a one-time event
  - b. as a means to an end
  - c. as a separate programme from climate action
  - d. as a process and ongoing relationship building

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## Unit 3

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# Steps and strategies for inclusive community engagement in climate change action

## Introduction

Community engagement has been identified as a key mechanism for climate action.<sup>8</sup> However, some researchers have expressed concern over the ineffective and uncertain involvement of local communities in climate action plans.<sup>9,10</sup> When to involve local communities in climate action plans and what strategies to use to gain their involvement are questions to consider if officials want to effectively involve their communities in climate action plans.

The purpose of this unit is therefore to discuss when and how to involve communities in climate action plans. Factors influencing this process will also be explained. Upon completion of this unit, you will be able to:



### Outcomes

- describe the steps in achieving inclusive community engagement for climate change action
- analyse different strategies to achieve inclusive community engagement for climate change action

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<sup>8</sup> Wiseman, J., Williamson, L., & Fritze, J. (2010). Community engagement and climate change: Learning from recent Australian experience. *International Journal of Climate Change Strategies and Management*, 2(2), 134–147. <https://doi.org/10.1108/17568691011040399>

<sup>9</sup> Dodd, S., Butterfield, S., Davies, J., Furbo, M. K., Morris, A., & Brown, H. (2023). Assessing the barriers and facilitators of climate action planning in local governments: A two-round survey of expert opinion. *BMC Public Health*, 23(1), 1932.

<sup>10</sup> Fine, J. C. (2022). Closing the concern–action gap through relational climate conversations: Insights from US climate activists. *Climate Action*, 1(1), 1–15.



Watch

Unit 3:

<https://youtu.be/JP-qIb3Z2uE>



Terminology

**Outreach activities:** activities meant to engage a large audience and to bring knowledge and expertise on a particular topic to the public

**Public consultation:** a process that involves actively seeking the opinions of interested and affected groups

**Public deliberation:** the discussion and choice-making that are necessary before solving problems that affect communities



**Activity 3.1.**

- a. *Have you ever been involved in an activity involving your community members?*
- b. *If yes, note down the stages that were used to involve community members in that activity.*
- c. *If no, search for online resources discussing community involvement in projects, and use these to identify steps for community involvement in projects.*

*You will compare your ideas with the ones that will be discussed in this section.*

### 3.1 Steps for inclusive community engagement in climate change action

In Unit 1, we defined community engagement as public involvement in local planning and decision making. In this course, we are focusing on climate change actions, and we are therefore analysing the best practices to involve communities in measures geared towards addressing the side effects of climate change impacts. The following are the four steps in community engagement.

### **Vision setting**

This step seeks to establish a set of goals or a mission statement for the climate action. The vision developed by a nation, province, or district should be composed of measurable objectives that can be tracked and updated throughout the process. The vision should be aligned with the overall vision for the climate policy or plan that will involve all stakeholders in the community. In other words, the community's needs and aspirations should be taken into consideration when setting the vision for the climate change action.

### **Mapping and analysing**

This step implies the existence of an effective process to identify all the groups in the community and understand their needs and vulnerability in relation to climate change. The focus is to identify the marginalised groups that are hard to reach. This is the first step for public authorities to document existing channels of communication and, where necessary, create new ways to communicate with the community throughout the process. The channels may differ and depends on the level of community involvement and the strategy vision.

### **Designing and implementing**

This is a step through which community members are involved in the design and implementation of climate action plans. Community involvement success in this step depends on the tools and techniques used to involve the community members. These tools include preliminary ones referred to as “myth busters,” as well as the main engagement tools. Myth busters are used as introductory tools to dispel misconceptions among stakeholders. For example, some people still do not believe climate change is occurring, so myth busters on this topic will aim to demonstrate that the phenomenon is indeed happening.

The main engagement tools are designed to meet the levels of community engagement — i.e., to inform, consult, collaborate, and co-design. Informing consists of using outreach events to pass on information about an action or policy. Consulting involves using surveys to gather feedback from stakeholders. Collaboration consists of using, for example, interviews or vox pops to work with community members. Co-designing consists of involving community members at all stages of the action plan's activities. Co-design requires providing training to community members beforehand. An example would be co-mapping activities.

### **Feedback and evaluation**

This step enables public officials to assess whether activities undertaken for climate change action have achieved their objectives, and to foster relationships between the government and the local community. Tools such as a stakeholders database, a lessons learned log, outcome evaluation, process-based evaluation, and participatory evaluation are used to gather qualitative and quantitative data from both government officials and community members.



### **Activity 3.2**

*Suppose you are appointed as an environmental specialist at the district level. One of your tasks is to increase the number of community-based initiatives to reduce GHG emissions from all economic and social activities in your district. Suggest three strategies to effectively involve community members in your district.*

## **3.2 Strategies for inclusive community engagement in climate change action**

There are three main types of public engagement strategies that can be used to inform the public about climate change and involve them in developing climate action policies, programmes, and plans. Usually, all three are combined to achieve effective community involvement in climate action.

### **Public information and outreach activities**

The use of this strategy helps to convey information to the general community or targeted groups. Explaining the science of climate change and ways to reduce greenhouse gas emissions are examples of information that can be shared using this strategy. Media such as websites, publications, blogs, courses, workshops and seminars may be used to inform community members.

### **Public consultation**

This strategy allows officials to offer opportunities for individual opinions or feedback from community members on an upcoming issue, climate action plan, or decision. The opinions are collected through surveys that use questionnaires (web-based or paper based) or by face-to-face interviews for people who cannot be accessed via email. The aim of these surveys is to prioritise options for inclusion in a proposed climate action plan, based on the community's choices and ranking. It is more than informing the community.

### **Public deliberation**

This strategy takes a further step beyond public consultation by allowing community members to participate in discussions during which decisions about climate action plans to be implemented are taken. This means that after public deliberation, the analysis of the results from the surveys are shared with the community members, and they select which actions to be prioritised, with the opportunity to present the rationale for their choices.

During such discussions, the order of priorities may change, whereas in public consultation, the ranking is based only on the survey results.



### **Activity 3.3**

*Mr A and Mrs B were discussing whether it is worth getting involved in any climate change action projects. Mr A was of the view that it is not important to be involved in such projects, while Mrs B believed it is of paramount importance to be part of such projects. Present and analyse three reasons for these two people to have different views.*

## **3.3 Factors motivating community members to get involved in climate action**

Much has been published about community members' motivations for becoming involved in climate change adaptation and mitigation. The motives vary based on economic activity, area of settlement, and level of education.

### **Environmental concern**

People who possess pro-environmental attitudes are more ready to embrace climate action initiatives than those who do not care about current environmental issues. For instance, people with environmental awareness use less air conditioning in summer and less heating in the winter than people with lower environmental awareness. Environmental concern also influences their consumption behaviour and willingness to pay for green products.

### **Climate change awareness**

Although awareness and acceptance of climate change is increasing, most people believe that its impacts will not be experienced soon. This delays behavioural changes that could counteract the perceived future impacts of climate change. Therefore, improving people's understanding of what causes climate change would increase their awareness of the connections between their activities and the changing climate and thus their support for climate change action. For instance, it has been observed that farmers who believe climate change is attributable to human activities are more likely to support climate change action. It can be concluded that people who believe in human-caused climate change are more likely to be aware of the importance of reducing their emissions.

### **Perceived risk**

People who perceive that climate change is likely to impact their household or who have experienced climate change effects are more willing to



address climate change and support climate change policies. For example, one of the perceived risks of climate change is a rise in sea levels. People living in small islands of the Pacific Ocean who have seen parts of their islands disappearing may be more willing to support climate change policies and actions than people living in continental African highlands. It is also worth noting that not all people perceive climate change as a major risk. For instance, people in developing countries generally perceive climate change to be a greater risk to themselves and their families than do people in developed countries.

### **Perceived knowledge**

Education and information campaigns about climate change can impact people in different ways — for example, by affecting their concern, willingness to act, or acceptance of climate policies. For instance, it has been noticed that action-related knowledge was positively associated with a willingness to engage in energy-saving behaviours after households received information about their energy use. This indicates that information and understanding about climate change could be important factors for facilitating action.

### **Financial self-efficacy**

Financial self-efficacy and willingness to address climate change go hand in hand. Increased household welfare permits the execution of measures related to climate change. Poor households need financial support to implement measures related to climate change adaptation or mitigation. For example, some projects help people in rural areas acquire better cooking stoves to reduce deforestation.

### **Social capital**

Social capital is the network of relationships between people who work and live in a particular society, enabling that society to function effectively. Communities are made of individuals and households possessing social networks made of relationships between family members, friends, neighbours, and others. These networks serve as sources of support, knowledge, and security, and sometimes they facilitate collective action among households. They can be used to increase climate change awareness and are important during and after natural disasters, as they may enable faster recovery by facilitating the sharing of information and resources.

### **Socio-demographic characteristics**

Gender, age, level of education, income, household size, and location in terms of rural or urban setting are various socio-demographic variables that influence community readiness to be involved in climate action.

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## Unit summary



### Summary

In this unit, you learned that community engagement has been identified as a key mechanism for climate action. However, it is not an easy task to achieve effective and efficient community engagement for climate action. During this unit, we saw that to achieve this, community members should be involved at each stage of climate action plans, starting from vision setting to evaluation and feedback. The main types of strategies to use in this process are public information and outreach activities, public consultation, and public deliberation. Environmental concern, climate change awareness, perceived risk, social capital, perceived knowledge, financial self-efficacy, and sociodemographic characteristics are community features that determine the level at which members are ready to embrace climate action plans and policies.

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## Assignment 3



### Assignment

Note down the characteristics of your community and assess whether it is vulnerable to climate change. Discuss factors that may increase community members' willingness to be involved in a climate change initiative project that could be started in your local area.

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## Assessment



### Assessment

#### Quiz: Multiple choice questions

1. The first step of inclusive community engagement in climate change action is
  - a. vision setting
  - b. mapping and analysing
  - c. designing and implementing
  - d. feedback and evaluation



2. Which tool is used during the "designing and implementing" step to involve community members in climate action plans?
  - a. media publications
  - b. questionnaires
  - c. stakeholders database
  - d. outcome evaluation
  
3. The three main types of public engagement strategies for climate change action are
  - a. vision setting, mapping and analysing, designing and implementing
  - b. public information and outreach activities, public consultation, public deliberation
  - c. environmental concern, climate change awareness, perceived risk
  - d. financial self-efficacy, social capital, socio-demographic characteristics
  
4. How is the "public consultation" strategy different from "public deliberation"?
  - a. public consultation involves surveys, while public deliberation involves interviews
  - b. public consultation informs the community, while public deliberation involves discussions and decision making
  - c. public consultation is based on the opinions of community members, while public deliberation uses feedback from government officials
  - d. public consultation focuses on individual opinions, while public deliberation prioritises community choices and rankings
  
5. How does perceived risk impact community members' willingness to support climate change policies and actions?
  - a. People who perceive higher risks are less likely to support climate change policies.
  - b. People who have experienced climate change effects are more willing to support climate change policies.
  - c. People in developed countries perceive higher risks and are more willing to support climate change policies.
  - d. Perceived risk does not have any impact on community members' willingness to support climate change policies.
  
6. Which of the following statements about social capital is true?
  - a. Social capital refers to the financial resources available in a community.

- b. Social capital facilitates collective action among households.
  - c. Social capital has no impact on climate change awareness.
  - d. Social capital is mainly influenced by gender and household size.
7. \_\_\_\_\_ is one of the tools used during the “feedback and evaluation” step of community engagement for climate change action
- a. vision statement
  - b. climate change workshop
  - c. outcome evaluation
  - d. main engagement tools
8. What is the main concern expressed by some researchers regarding community engagement in climate action plans?
- a. lack of financial resources for climate change initiatives
  - b. ineffective and uncertain involvement of local communities
  - c. overemphasis on urban communities in climate action plans
  - d. miscommunication between government officials and community members
9. The purpose of the “vision setting” step in community engagement in climate action is
- a. to involve community members in designing and implementing climate action plans
  - b. to establish measurable objectives for climate action
  - c. to assess the effectiveness of climate action plans
  - d. to prioritise options in a proposed climate action plan
10. Which of the following is NOT a tool used in the “feedback and evaluation” step of community engagement in climate action?
- a. stakeholders database
  - b. public consultation surveys
  - c. outcome evaluation
  - d. participatory evaluation
11. What is the purpose of the “mapping and analysing” step in community engagement in climate action?
- a. to develop a vision for climate action plans
  - b. to gather feedback from the community through surveys
  - c. to identify and understand the needs and vulnerability of local communities
  - d. to involve community members in all stages of action planning
12. Which of the following best describes the “public information and outreach activities” strategy for community engagement in climate action?
- a. allowing community members to participate in discussions and decision making



- b. conveying information to the general community or targeted groups through media and workshops
  - c. collecting individual opinions and feedback from the community through surveys and interviews
  - d. prioritising options included in a proposed climate action plan based on the community's choices
13. Which factor is most likely to motivate community members to get involved in climate action based on their perceptions of the impacts?
- a. environmental concern
  - b. climate change awareness
  - c. perceived risk
  - d. perceived knowledge
14. Which strategy for community engagement in climate action involves allowing community members to participate in discussions and decision making?
- a. public information and outreach activities
  - b. public consultation
  - c. public deliberation
  - d. all three strategies combined
15. How does perceived knowledge about climate change impact community members' willingness to act?
- a. It positively influences their concern about environmental issues.
  - b. It increases their awareness of the connections between their activities and the changing climate.
  - c. It directly leads to improved financial self-efficacy.
  - d. It determines the level of social capital within the community.

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## Unit 4

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# Opportunities and challenges for inclusive community engagement in climate change action

### Introduction

Nowadays, there is a worldwide trend for governments and policymakers to invest in community engagement as one strategy for dealing with socioeconomic and environmental issues. Effective community involvement is important for informed and democratic decision making to optimise opportunities for all citizens to have a say about challenges that affect their lives. When developing strategies to involve the community in climate change action, it is important to engage them in informed discussions about climate change and its impacts. In this regard, all opportunities have to be explored for them to contribute to debate about climate change issues and mitigation strategies. However, involving communities in climate change mitigation is often met by challenges in terms of planning and implementation, frequently linked to local conditions, information processes, and resources. In this unit, various opportunities and challenges related to community engagement for climate change mitigation will be discussed to identify strategies for overcoming these challenges and maximising opportunities.

Upon completion of this unit, you will be able to:

- identify, describe, and analyse opportunities for community engagement in climate change action
- indicate, describe, and analyse challenges for community engagement in climate change action
- suggest strategies for overcoming challenges and maximising opportunities to achieve inclusive community engagement in climate change mitigation



#### Outcomes



Watch

Unit 4:

<https://youtu.be/gqEh2Ex8gfl>



Terminology

**Opportunities:** factors and benefits associated with initiating and planning for climate change action by fully engaging the community

**Challenges:** factors and conditions that hinder effective community engagement for climate change action

## 4.1 Opportunities for community engagement in climate change action

### Established policies framework

Most governments in both developed and developing countries have defined policies and established institutions to address climate change and its impact. As in other sectors of development, such as governance, agriculture, education, etc., policies are clear about promoting and involving the whole community, including youths and all genders, for effective implementation.

### Funding opportunity

As part of the United Nations 2030 Agenda for Sustainable Development, most public governments, in collaboration with partners, have allocated budgets for projects that implement various activities connected to climate change mitigation. In addition, there are national, regional, and international government partners that often provide sufficient funding through open calls to support projects and other initiatives related to addressing climate change issues. In most cases, the funding agencies ask applicants to demonstrate the inclusivity of their proposed project, with priorities on gender balance and youth involvement.

### Ownership in finding solutions to climate change-led development challenges

Climate change and its consequences affect citizens, not only by directly endangering their lives but also by hindering their economic development.

Involving communities in various activities for climate change action provides opportunities for them to be aware and plan together for addressing future challenges. In this way, they are enthusiastic about participating, and they own the task of finding solutions to current problems. With the involvement of their communities, individuals become proactive and empowered in relation to issues that affect them.

#### **Social benefits**

Engagement of communities for climate change action fosters a sense of belonging and of working together for community services. There is also the opportunity for social interaction by making new friends and learning from one another through co-operation and sharing.

## **4.2 Challenges for inclusive community engagement in climate change action**

There are multiple challenges that may affect effective community engagement in climate change action. These challenges may be at the individual level or due to local social conditions.

#### **Illiteracy and lack of relevant information about climate change issues**

The majority of the challenges affecting effective engagement of the community result from lack of access to relevant and reliable information about climate change trends and issues. In general, the community receives information from various sources, often inadequate and conflicting, which can generate confusion for citizens. The lack of adequate and relevant literacy about climate change issues and mitigation strategies is often combined with societal and cultural norms that do not favour easily changing lifestyles to achieve climate change mitigation. Illiteracy and lack of relevant information generate community resistance; often, people are wrongly convinced that climate change issues are only problems for the rich or in industrialised societies.

#### **Lack of support by leadership**

Effective mitigation strategies must comprise a global effort, with full support from governments and private sectors. Effective planning for mitigation strategies is often challenged by the lack of strong, supportive leadership, and by policies that do not prioritise climate change action. This lack of full support from local or regional governments and private sector development may lead to insufficient funding and other resources for effective community engagement.



## 4.3 Strategies to overcome challenges and maximise opportunities for inclusive community engagement in climate mitigation

### **Provision of accessible and reliable information**

In order to maximise community participation and trust, it is important to engage members in mitigation activities that include simple, focused information. For example, in cases where citizens have to make choices about the use of their time and resources, it is important to carefully and accurately represent events and activities to manage participants' expectations properly.

Effective strategies for communicating reliable information include, among others: (i) ensuring that the development and delivery of climate change literacy is appropriate in terms of the particular community's common interests (e.g., farmers, females, youths, etc.); (ii) research, collect, and communicate updated information about local and regional climate change trends, risks, impacts, and the actions required for mitigation and adaptation; (iii) communicate information about climate change through frameworks that are appropriate for diverse audiences, such as via workshops, toolkits, reports, websites, and multiple languages.

To effectively communicate information, it is also important to consider that different segments of the community will have various levels of understanding about the science of climate change, its impacts, and related mitigation and adaptation actions. Therefore, communication strategies and information should be inclusive through the use of informal and formal social networking and expertise.

### **Supportive government leadership**

The urgency of addressing climate change through inclusive community engagement should receive full support from leaders in government. Not only do some leaders not have clear policies, but government media communications can also be confusing, with variable messages on the need to respond to climate changes impact. The same goes for messaging about appropriate actions and strategies to use. Hence, there is a need for strong government leadership that has a clear approach for supporting community engagement in setting and achieving climate change goals.

### **Respecting and promoting contextualised knowledge and ownership**

Effective engagement of the community for climate change action begins by contextualising the plan and activities in connection with local conditions and resources. It is important to carefully analyse and understand local socioeconomic circumstances and networks, involve local leaders, and take into consideration the cultural factors. Governments

should develop and support systems for capacity building on climate change issues via training programmes and related resources, such as tool kits, manuals, and guides for identifying and monitoring climate change issues to ensure proper actions are taken.

**Establishing relationships based on mutual trust and respect**

For successful and sustainable community engagement in climate change action, government leaders, partner organisations, funding agencies, and stakeholders implementing activities should build trustful and respectful relationships among themselves and with community participants.

Effective community engagement in climate change strategies must recognise and respect the diversity of local backgrounds, knowledge, and priorities.



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## Unit summary



### Summary

In this unit, you learned both individual and government benefits of inclusively involving the community in climate change actions. Engaging communities effectively in actions to mitigate and adapt to climate change impacts requires a well-informed understanding of the urgency and collective actions required at all levels. Effective strategies for climate change community engagement include, among others:

- strong government leaders who understand the urgency and have a clear approach
- strategies and systems that respect and promote local knowledge and ownership
- communication of information that is accessible, focused, and reliable
- relationships based on mutual trust and respect

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## Assessment



### Assessment

#### Quiz: Multiple choice questions

1. What is the key emphasis of established policies for climate change action?
  - a. promoting and involving the whole community, including youths and all genders
  - b. exclusively targeting urban communities
  - c. focusing on industrial development
  - d. prioritising technological solutions over community involvement
2. What is the primary purpose of funding opportunities related to climate change mitigation projects?
  - a. supporting luxury lifestyle changes
  - b. allocating resources for community-based projects
  - c. funding only government initiatives
  - d. encouraging industrial growth without concern for the environment

3. How does involving communities in climate change activities empower them?
  - a. It restricts their decision-making abilities.
  - b. It discourages proactive thinking.
  - c. It makes them aware and engaged in addressing their own challenges.
  - d. It isolates them from global climate change issues.
4. Besides environmental benefits, what additional advantage does community engagement for climate change offer?
  - a. creating social divisions
  - b. decreasing social interaction
  - c. encouraging individualistic behaviours
  - d. fostering a sense of belonging and co-operation
5. What major factor contributes to the challenges for community engagement in climate change action?
  - a. illiteracy and inadequate information
  - b. lack of government interest
  - c. excessive funding opportunities
  - d. overwhelming community involvement
6. Why is lack of support from leadership a challenge for effective climate change engagement?
  - a. It results in excessive government intervention.
  - b. It prevents local communities from participating.
  - c. It hinders funding opportunities.
  - d. It leads to insufficient resources and funding.
7. What is a crucial aspect of effective communication for community engagement in climate change activities?
  - a. using complex scientific language
  - b. avoiding direct communication with communities
  - c. providing accurate and accessible information
  - d. ignoring community interests and concerns
8. What role does government leadership play in enhancing community engagement for climate change?
  - a. It should discourage community involvement to avoid confusion.
  - b. It is unnecessary for climate change action.
  - c. It should focus solely on industrial development.
  - d. It should provide clear policies and support for engagement.
9. What is an important step in engaging communities for climate change action?



- a. ignoring local conditions and resources
  - b. isolating local leaders from the planning process
  - c. contextualising plans and involving local leaders
  - d. prioritising national policies over local needs
10. What is a key requirement for building successful relationships for community engagement?
- a. maintaining an authoritative approach
  - b. ignoring the diversity of local backgrounds
  - c. establishing mutual trust and respect
  - d. prioritising funding agencies over partner organisations

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## Assignment 4

Think about your school or the schools around yours and discuss each of the following three items, then write one page on each.

- a. Are there teacher- or student-led initiatives with objectives that address climate changes issues? How inclusive are those initiatives?
- b. To what extent are those initiatives supported by local school leaders? Discuss the factors determining their successes and challenges.
- c. What strategies could be employed to overcome the challenges and make these initiatives (more) successful?

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## Unit 5

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# Community engagement for climate change action through adaptation to clean, green, and efficiency energy use

### Introduction

The 2015 Paris Agreement on climate change recommends decarbonising the energy economy by shifting to using environmentally clean forms of energy. For this reason, clean energy has become the future for meeting humanity's power needs across the globe, given that reliance on fossil fuels continues to diminish.

Most governments are now recognising the environmental and economic benefits of shifting to the use of clean and renewable energy. The latter comes from sources or processes that are constantly replenished, including solar energy, wind energy, and hydroelectric power. Furthermore, the environmentally clean energy shift goes together with energy efficiency measures to lower the required energy supply in the system, as well as the primary energy demand. A green community should actively strive to minimise its energy consumption and use energy from renewable resources.

As the need for renewable and green energy sources accelerates, so does the demand for local communities' involvement in renewable energy programmes. One among several strategies is the introduction of education-related programmes. This unit provides teachers with basic knowledge on sustainable energy technologies for more efficient energy conversion systems and devices, and strategies to get the community effectively involved.



### Outcomes

Upon completion of this unit, you will be able to:

- describe types of renewable energy and their advantages over other sources of energy
- identify and describe strategies and techniques for efficient and clean energy use by communities



### Watch

Unit 5:

<https://youtu.be/1ViHQYUkJtQ>



### Terminology

**Renewable energy:** energy derived using processes that can constantly regenerate faster than they are depleted

**Greenhouse gases:** pollutants and other gases from various human activities and industries that increase the normal greenhouse effect of the atmosphere and induce global warming

## 5.1 Types of common renewable sources for community use

Renewable energies are alternatives to the most commonly used non-sustainable sources, such as coal and fossil fuels. Renewable energies, also known as alternative energies, can be obtained from sources already available in nature. They are inexhaustible and have a limited environmental impact. Renewable energy also means energy derived using processes that can constantly regenerate faster than they are depleted. One key advantage of using renewable energy sources is that they are readily available within most communities' reach, whereas non-sustainable energy sources like fossil fuels are limited to certain sites on the planet, can run out, and present challenges in terms of supply and related high costs. The following are examples of renewable energy sources.

### Solar energy

The Sun is the most abundant and freely available energy source. The solar radiation that reaches the Earth's surface in one hour surpasses the total global energy demand for a whole year. However, the amount of solar

energy we can use depends upon the time of day, season, and geographical location.

Photovoltaic solar power technology is able to convert solar radiation into direct current (DC), which is then converted to alternating current (AC) using an inverter. The collection of solar rays is done using solar panels made of silicon cells, which are semi-conductor materials. In addition to photovoltaic technology, the Sun's energy is also converted via a solar-thermal process, used mainly for domestic heating. The technology is still based on solar panels, but instead of generating electricity, it collects solar energy in the form of heat and transfers it to domestic water for use.

### **Wind energy**

The wind is another source of clean energy. In the process of wind power generation, a wind turbine converts wind energy into electricity using the force from aerodynamic rotor blades. These work similarly to helicopter rotor blades. The rotor is connected to the generator, and this translation of aerodynamic force to the rotation of a generator creates electricity.

### **Hydroelectric power**

A hydroelectric power plant uses energy released by waterfalls, flowing rivers, or streams and converts it into electricity via pipelines and turbines. A hydroelectric power plant is constructed by building a barrier or dam, which makes a large reservoir of water, and then creating a controlled flow of water that will drive the turbine. This energy source is more reliable than either wind or solar power and allows for easy storage of the energy generated, for use in line with demand.

### **Biomass energy**

Biomass energy consists of converting waste from agricultural, industrial, and domestic sources into electricity. Although this energy still requires the burning of organic materials, it is cleaner and more energy efficient than fossil fuels. Biomass energy is not only economical but also has environmental benefits. Trees, crops, and municipal solid waste are consistently available and can be managed sustainably.

## **5.2 Advantages of adapting to renewable energy versus relying on fossil fuels**

### **Importance of shifting to clean energy use**

The use of clean energy is associated with multiple environmental and economic benefits, including a reduction in greenhouse gases emissions. Clean energy production and supplies also reduce the dependence on imported fuels, with the associated financial and environmental costs. Plus, clean energy sources are renewable.

### **Options in the use of clean energy by communities**



With the world population ever growing, there is an increasing demand for renewable, sustainable energy solutions as we strive to protect the planet from climate change.

There are multiple applications for clean energy, depending on the source. For example, solar energy can be used for generating electricity, heating and lighting buildings, heating or cooling water directly, and more. Solar panels are often used for small electric tasks, such as charging batteries. Larger panels can be used to provide power for entire towns.

Water provides another source of clean energy with multiple applications. Given that there is more and more water running through pipes in homes every day, there is the possibility of harnessing this energy to meet domestic and other power needs.

Onshore and offshore, wind energy can be used in farming, but it can also be used on a much smaller scale to produce electricity — for example, to recharge mobile telephones.

### **Benefits of community involvement in renewable energy projects**

Governments across the world are striving to reduce the reliance on fossil fuels by initiating renewable energy projects in collaboration with stakeholders. To achieve the successful implementation of such projects, it is important to engage local communities, due to associated benefits for them.

Engaging the local community in a renewable project requires facilitating a smooth transition from the planning of the project to its implementation. By involving local community members in the project, you help them understand the project and its purpose better, and they will be more likely to support it.

Having community members on board also increases the chances of successful project completion. If community members are involved in the planning and development process, they can provide valuable input on how the project can best be implemented. This input can help reduce the risks associated with the project and can help to ensure that it is completed on time and within budget.

Involving the community in the project provides an opportunity for education and awareness. Throughout project implementation, members of the local community learn about renewable energy and its benefits for them. They will then share the knowledge with other members of the community, encouraging its positive acceptance.

Furthermore, initiators of renewable projects must involve the community to ensure the project has a positive impact on them. For example, the projects will help the community access electricity and thereby improve public services. Because renewable energy sources are usually better for the environment, local communities can benefit from cleaner air and water. When the initiators of projects work closely with local businesses and community organisations, they create job opportunities, leading to economic growth in the area.

### **Techniques and strategies for community involvement in clean and efficient energy projects**

Driven by the necessity to reduce dependence on fossil fuels and mitigate the impacts of climate change, communities across the world are initiating renewable energy projects such as wind farms, solar panels, and hydroelectric dams. Projects for clean energy solutions often face objections from local residents and businesses. Communities might object to the appearance or the ecological impact of renewable technologies, or they may consider renewable energy to be something only available to wealthy people and not worthy of public support in comparison to other local challenges, such as education or healthcare. Below are summaries of strategies that can be adopted to build a base of local support.

### **Strategies for community engagement in renewable energy projects**

In order to ensure successful implementation of renewable energy projects, members of the local community have to be included in the decision-making process. This requires full community engagement by considering local voices and ensuring transparency during the development and implementation of the projects. Local communities have to be involved in all the planning and implementation stages. The local community can, for example, contribute by providing input on the project design through participating in public meetings and hearings. Furthermore, communities can take an active role in monitoring and advocating for the project's success.

For the local community to be well engaged in renewable energy projects, it is necessary to encourage a sense of ownership. This means that communities should be given a space to provide input on the project and to benefit from any economic gains. Local communities should, in addition, be informed about the potential risks associated with renewable energy projects. Public involvement also ensures that renewable energy projects are designed and implemented in an equitable and sustainable manner. In the planning and implementation, project initiators must understand and consider the local context and work to ensure that the project meets the needs of the local community.

Renewable energy project initiators must also allow community ownership of renewable energy projects for a better outcome for all stakeholders. This is because when people have an interest in the success of a project, they are likely to support its development and implementation. This leads to increased efficiency, improved project performance, and sustainability.



## 5.3 Engaging communities in the use of clean and efficient energy

Engaging communities for energy conservation not only can help keep our planet clean by reducing greenhouse gas emissions but also helps to save money. Below are some tips that can be taken into consideration to improve energy efficiency in communities.

### Clean and efficient energy use in transportation

In general, two approaches can be adopted by the community to reduce transportation emissions: (i) cleaner vehicles strategies that reduce per-mile emission rates and (ii) vehicle travel reduction strategies that reduce total vehicle mileage.

Examples of cleaner vehicles strategies:

- shifts to more efficient and alternative fuel vehicles (e.g., hybrid, electric, and hydrogen)
- high-emission vehicle scrappage programmes
- efficient-driving and anti-idling campaigns
- switching to lower carbon and cleaner fuels
- inspection and maintenance programmes
- resurfacing highways
- roadside “high-emitter” identification

Examples of travel reduction strategies:

- multimodal planning (improve walking, bicycling, public transit, ridesharing, etc.)
- smart growth policies that create more compact and multimodal communities
- transportation demand management programmes (commuter trip reduction, freight transport management, etc.)
- more efficient road parking and vehicle pricing
- vehicle parking policy reforms

### Everyday energy-saving tips

- Turn off and unplug all electronic devices and appliances not in use, such TVs, computers, phone chargers, coffee makers, etc.
- Use smart power strips, and turn off the power strip during a long period of inactivity.
- Wash full loads of laundry, using cold water.
- Install energy-saving showerheads, faucets, and flow restrictors.
- Replace traditional light bulbs with energy-efficient bulbs. Light-emitting diode bulbs (LEDs) use less electricity and last longer.

### **Energy saving during warmer temperatures**

- Minimise dryer use; let clothes air dry by hanging them outside.
- Keep the heat out of homes by using an outdoor grill instead of indoor ovens.
- Open windows and let cooler air flow into homes in the morning and at night.
- Servicing air conditioner by cleaning air filters can lower the cooling system's energy consumption.
- Set a programmable thermostat to a higher setting when not at home to help reduce your energy costs.
- Wait until cooler times of the day to do tasks such as laundry and cooking.

### **Energy saving tips during cooler times**

- Open the curtains and blinds during the daytime to take advantage of the greenhouse effect and allow the sun to naturally heat your home.
- Turn down the heater when using the fireplace.
- Set the furnace thermostat lower while at home, health permitting. Three to five percent more energy is used for each degree the furnace is set higher.

### **Energy saving tips in the kitchen**

The home kitchen hosts many energy-consuming appliances that are in daily use, including refrigerators, dishwashers, and stoves. To reduce their energy consumption, it is important to purchase the most efficient units possible.

- Avoid the automatic ice maker and drink dispenser for refrigerators, since they cause more breakdowns, leaks, and energy use.
- Select the most efficient stove. Induction stoves are now the most efficient and provide features not available with traditional electric or gas stoves.



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## Unit summary



### Summary

In this unit, you learned how the entire world is striving to reduce the reliance on fossil fuels and mitigate the effects of climate change. Renewable energy and related technologies are becoming increasingly important. In this regard, the innovation and expansion of renewable sources of energy are key to maintaining a sustainable level of energy and protecting our planet from climate change. This unit provided examples of renewable energy sources and their benefits for the local community when citizens are well engaged in the renewable energy projects. Communities need to be aware of their energy consumption and the steps they can take to be proactive in reducing their energy use and creating green communities for their own benefit and to combat climate change.

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## Assessment



### Assessment

#### Quiz: Multiple choice questions

1. Which of the following is NOT an example of renewable energy sources?
  - a) coal
  - b) solar energy
  - c) wind energy
  - d) hydroelectric power
2. What is a key advantage of renewable energy sources over fossil fuels?
  - a) They have higher greenhouse gas emissions.
  - b) They are limited in supply.
  - c) They are more expensive.
  - d) They are readily available and replenishable.
3. Which renewable energy source relies on the conversion of solar radiation into electricity through photovoltaic technology?
  - a) wind energy
  - b) biomass energy
  - c) hydroelectric power
  - d) solar energy

4. How does a wind turbine generate electricity?
  - a) by converting geothermal energy
  - b) by harnessing solar radiation
  - c) through the rotation of rotor blades driven by wind
  - d) by extracting energy from ocean currents
5. Which renewable energy source can be harnessed using hydroelectric power plants?
  - a) geothermal energy
  - b) solar energy
  - c) wind energy
  - d) flowing water from rivers or streams
6. What environmental benefit is associated with the use of renewable energy sources?
  - a) increased greenhouse gas emissions
  - b) dependence on imported fuels
  - c) reduction of greenhouse gas emissions
  - d) limited availability of resources
7. How does the use of renewable energy sources impact the need for fuel extraction and transportation?
  - a) It increases the need for fuel extraction.
  - b) It decreases the need for fuel extraction.
  - c) It has no impact on fuel extraction.
  - d) It only impacts coal extraction.
8. What is a significant advantage of community involvement in renewable energy projects?
  - a) It increases greenhouse gas emissions.
  - b) It decreases project risks.
  - c) It limits economic growth.
  - d) It hinders public awareness.
9. Why is involving local communities important for successful renewable energy projects?
  - a) to increase the project's cost
  - b) to gather opposition against the project
  - c) to provide valuable input and support
  - d) to delay the project's implementation
10. What is one strategy to build local support for renewable energy projects?
  - a) exclude local voices from decision making
  - b) maintain a lack of transparency



- c) engage local communities in decision making
  - d) ignore economic gains for the community
11. Why is community engagement important for ensuring the success of renewable energy projects?
- a) It is unnecessary and only complicates the process.
  - b) It helps to increase dependence on fossil fuels.
  - c) It reduces project efficiency.
  - d) It ensures a smooth transition from planning to implementation.
12. How can renewable energy projects be designed in an equitable manner for local communities?
- a) by excluding local input and involvement
  - b) by focusing solely on economic gains
  - c) by considering the local context and needs
  - d) by prioritising energy generation over community needs
13. Which of the following is an example of cleaner vehicle strategies?
- a) increasing vehicle mileage
  - b) using less fuel-efficient vehicles
  - c) implementing anti-idling campaigns
  - d) scrapping high-emission vehicles
14. What can communities do to reduce transportation emissions?
- a) encourage more vehicle use
  - b) promote fossil fuel consumption
  - c) increase total vehicle mileage
  - d) improve public transit and ridesharing
15. How can communities save energy in the kitchen?
- a) use automatic ice makers more frequently
  - b) choose less-efficient appliances
  - c) opt for high-emission cooking methods
  - d) purchase energy-efficient appliances

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## Assignment 5

This assignment is about initiating and implementing a waste management plan and energy savings in your school community

Does your school have and implement (i) waste management plans and (ii) energy-saving strategies? If yes, indicate how existing plans and strategies could be improved. If not, indicate steps that you will follow to initiate and implement them, working at both the individual/class level and the whole school level.

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## Unit 6

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# Community engagement for restoring ecosystems and adapting to climate-resilient agriculture

## Introduction

Environmental degradation is not only a severe aspect of current environmental change but also the consequence of several generations depleting or destroying natural resources faster than nature can restore them. This degradation directly endangers human health and affects socio-economic development, particularly in communities within developing countries.

Increasingly, ecological restoration mechanisms are being promoted worldwide to restore degraded and destroyed ecosystems. Ecological restoration also has enormous potential to improve population health and socioeconomic well-being. Indeed, in recognition of the critical role of restoration in ecosystem health, the United Nations declared 2021–2030 as the Decade on Ecosystem Restoration.

This unit provides teachers with fundamental knowledge about various aspects of ecological degradation and restoration mechanisms. The unit also offers strategies for involving communities in initiatives to resist and adapt to climate disasters, including through practising climate-resilient agriculture and fostering sustainable ecosystems.

Upon completion of this unit, you will be able to:

- identify and describe strategies and techniques appropriate for community action on ecosystem conservation
- identify and describe community practices for climate-resilient agriculture



### Outcomes



Watch

Unit 6:

<https://youtu.be/op8bTD5RMWs>



Terminology

<b>Ecosystem:</b>	An ecosystem (or ecological system) consists of all the organisms in an area and the physical environment with which they interact.
<b>Ecological degradation:</b>	Ecosystems are constantly destroyed by natural phenomena like wildfires, flooding, etc. or by human activities, including agriculture, industry, etc.
<b>Ecological restoration:</b>	Activities or initiatives that restore damaged ecosystems so they function again and the species compositions return to near their original statuses.
<b>Climate-smart agriculture (CSA):</b>	A strategy that helps manage farmlands, crops, livestock, and forests to counteract the negative impacts of climate change on agricultural productivity.

## 6.1 Climate change and human-driven ecosystem degradation

### Types of ecosystems degradation and their impact

The main types of ecosystems include the following:

- **Farmlands:** Farmlands can be degraded by soil erosion, over-intensive use, and the overuse of fertilizers and pesticides.
- **Forests:** As the world's population continues to rise, forests and trees are being destroyed for farming, logging, and other resource activities. Forests are also damaged by wildfires, firewood cutting, invasive pests, and pollution.
- **Savannahs and grasslands:** Due to human activity and the search for more agricultural land, grasslands and savannahs are being eroded or invaded by alien species.

- **Mountains:** In mountainous regions, human activities such as making slopes for farming or new habitation can cause dangerous erosion and pollute rivers at their sources.
- **Oceans and coasts:** Marine ecosystems are mostly affected by the consequences of climate change and overexploitation, which trigger marine and coastal pollution.
- **Peatlands:** Peatlands contain huge stores of water and carbon, which are potential resources for communities to resist climate change and its impacts. However, peatlands are being drained to create new agricultural space. Peatlands are also degraded by pollution, overgrazing, and fire.
- **Urban areas:** As more people leave rural areas to inhabit cities, new business buildings, houses, apartments, roads, and factories are built every day. These urban areas leave no space for vegetation, creating ecological deserts. City waste and related pollutants endanger air, waterways, and soils.

## 6.2 Techniques and strategies for ecosystem restoration

### Mechanisms of ecosystem restoration

The objective of ecological restoration is to restore ecosystems that are damaged until they are functional again and their species composition returns to near their original statuses. Ecosystems are constantly degraded by natural phenomena like wildfires, flooding, etc. In most cases, such degradations driven by natural phenomena are followed by succession and natural ecological restoration to sustain biodiversity. In contrast, human-driven ecosystem degradation through, for example, overuse for agriculture, deforestation, pollution, and overgrazing often fails to recover without community intervention.

Nowadays, the main objective of restoration plans and projects is to re-establish ecosystems that can support good health and sustainable socioeconomic development, as well as better wildlife management, the maintenance of carbon sequestration, and minimal grazing by livestock.

### Approaches to ecological restoration

Approaches to ecological restoration include:

- **Natural regeneration:** For this approach, degraded areas such as scorched or logged land are allowed to naturally return to grasslands or forests. This approach can be adopted if, for example, active restoration is very expensive.
- **Rehabilitation:** This consists of improving a degraded ecosystem by changing it into a different ecosystem type — for example, by replenishing the old ecosystem with a few or many species.
- **Partial restoration:** In this process, some ecosystem functions and species that were characteristic of the ecosystem are restored.



For example, grassland restoration may initially involve replanting a few species that contribute to ecosystem functioning, while delaying the restoration of rarer species.

- **Complete restoration:** Where an existing ecosystem has been degraded by hazards, complete restoration consist of introducing new species of vegetation different from the previous ones. It is an experiment in trialling a new ecosystem. This process may require an active programme to modify the site, reintroduce native species, and reduce the factors that degraded the ecosystem.

### Proposed techniques for ecological restoration by communities

Depending on the type of degraded ecosystem, various techniques can be adopted. For example, degraded **farmlands** can be restored by communities via reducing tillage, using more natural fertilizers, and growing a variety crops, even trees. These techniques can rebuild the stored carbon in soils and thereby make them more fertile. If the community is responsive to adopting these restoration mechanisms, they not only profit by producing enough without requiring more land, but also contribute to creating habitats for wildlife.

Communities can be encouraged to restore **forest** ecosystems by either replanting trees or removing some of the old species to allow trees to re-grow naturally. In general, forests are lost via human agriculture. If communities reconsider the way they grow and consume food, this can reduce the pressure on forests.

Communities can restore **grasslands** and **savannahs** by re-seeding the land with native grasses. They can also reintroduce and protect lost plants and animals until they are restored to stability. Farmers and pastoralists must play a big part in the planning to manage and sustain these ecosystems.

**Mountain** ecosystems can be restored by their communities by planting new trees for forests and protecting the mountains against landslides and floods. In the face of climate change, populations can adopt more resilient agroforestry techniques.

Communities can restore **oceanic** and **coastal** ecosystems by engaging in sustainable fishing. They need to properly treat sewage and other waste, including the prevention of plastic trash from entering the water. Communities must also carefully manage coral reefs and mangroves, and sea grasses must be actively restored.

Good protection of **peatlands** by communities is important to avoid dangerous climate change. Indeed, peatlands constitute wet carbon

reservoirs maintained in the ground. Protection includes halting their evaporation and conserving the plants and animals that live on them.

In **urban areas**, communities are encouraged to clean up waterways, allow bee-friendly plants to grow, and develop urban woodland and other wildlife habitats in parks, schools, and other public spaces. In cities, it is recommended that grass be mowed less frequently and nature be permitted to thrive. Sidewalks must be constructed and urban wetlands protected against flooding and pollution. Polluted industrial areas can be rehabilitated and changed into places for nature and recreation.

### 6.3 Community waste management plans to restore and maintain ecosystems

Waste management is now a global concern. Better standards of living and higher consumption rates have increased waste. We urgently need to properly manage this waste, otherwise it will endanger human health and cause serious environmental problems. Waste is produced by households, construction sites, factories, refineries, nuclear power plants, and numerous other human sources.

#### **Importance of waste management**

Population growth has led to a drastic increase in waste, making disposal very difficult. Current waste includes both non-biodegradable and inorganic elements. When waste is left in landfills, it can take a long time to decompose. A waste management plan allows users to efficiently and properly dispose of all kinds of waste. Efficient and proper management of all kinds of waste is important, as it serves to protect the environment from the toxicity of both biodegradable and inorganic materials present in waste. Otherwise, human health will be endangered by soil erosion, water contamination, and air pollution.

**Importance of food waste management:** Food waste left out in landfills is a good producer of methane gas because it decomposes without oxygen. Methane is a greenhouse gas even more dangerous than carbon dioxide. Like most greenhouse gases, it absorbs sunlight and contributes to global warming.

**Importance for the economy:** Businesses may save money by recycling the materials they produce rather than paying waste disposal costs. It is important to have a good knowledge of the various kind of waste produced by the business, to facilitate finding the most appropriate waste management for reducing its waste transportation costs.

#### **Waste management approaches proposed to communities**

Governments, public institutions, and industries are not the ones to bear sole responsibility for waste management. It is everyone's responsibility. The following are some of approaches that can be adopted by communities for efficient management of waste.



**Waste reduction:** Firstly, it is important and makes sense to reduce waste at the source. This can be done by encouraging communities to minimise the waste they produce every day. It is important that communities be aware of what products they need to use and how the waste from these can be disposed of. As an example, in restaurants, it is important to order only the food you can eat so food isn't thrown away.

**Waste reutilisation:** Often, items can be used for the same purpose many times or even be used for other purpose. For example, communities can be encouraged to donate clothes or books to the needy rather than sending them to landfills.

**Waste recycling:** Communities must be aware and make use of facilities that specialise in recycling waste. Biodegradable wastes such as food, wood, or paper can be decomposed organically to make compost or fertilizers for plants.

**Energy recovery:** This method involves the combustion of non-recyclable waste to reduce the amount of solid waste that would otherwise end up in landfills. Through this process, renewable energy is produced with minimal carbon dioxide production. This method also has the advantage of minimising the release of methane gas produced by landfills.

## 6.4 Agricultural practices for community adaptation to climate-driven disasters

Climate change and global warming have produced health and socioeconomic development challenges, including for the most important industry: farming. Agriculture has therefore become a key area for adaptation and mitigation measures. Farmers across the world now need to adapt their farming practices to the changing climate in their area.

### Climate-smart agriculture

The overall objective of climate-smart agriculture (CSA) is to make agricultural systems more resistant to the effects of climate change, including global warming. CSA manages farmlands, crops, livestock, and forests in ways that counteract the negative impacts of climate change on agricultural productivity. Its three main objectives are the following:

- i. **Increased productivity:** CSA works to raise overall agricultural productivity and provide greater food security by enhancing crop and livestock production and farm profitability.
- ii. **Promote adaptation mechanisms:** CSA aims to improve agricultural infrastructure against the destructive effects of global warming. This includes mechanisms and measures to minimise

susceptibility to climate-related threats like floods, drought, and extreme heat.

- iii. **Mitigation mechanisms:** CSA also focuses on farming activities that reduce the amount of greenhouse gases released into the atmosphere, such as methane emissions from livestock and synthetic fertilizers.

CSA requires the use of innovative strategies and new technologies. Farmers in local communities need to learn practices such as soil conservation, agroforestry, and water management.

### Benefits and challenges related to CSA practices

The adoption of CSA by farmers reduces environment pollution, improves farmers' livelihoods, and opens up new economic opportunities. Specifically, CSA practices help in the following ways:

- i. **Improving productivity:** CSA methods increase crop production by optimising the use of water and fertilizers. In practising CSA, farmers also prevent water and heat stress on their crops, keep the soil healthy and rich in nutrients and moisture, and reduce pest and disease damage. Overall, CSA raises productivity as well as resiliency to climate change.
- ii. **Reduction of GHG emissions:** Some recommended CSA methods that reduce greenhouse gas emissions include conservation tillage, planting cover crops, using biochar in rural areas, and employing well-planned, precise fertilizer application.
- iii. **Reducing pollution and other environmental hazards:** CSA helps to mitigate environmental damage by using eco-friendly methods. For example, conservation farming is important to keep soils from eroding, preserve land fertility, and save local plant and animal life. It also consists of smart water management, which conserves water supplies by lowering unnecessary consumption. Finally, CSA practices help remove carbon dioxide from the atmosphere and store it in agroforestry systems, thereby mitigating climate change.

### Challenges associated with CSA farming

Despite the many benefits resulting from CSA practices, farmers in most developing countries, particularly in rural areas, often encounter difficulties in implementing it, including the following:

- i. **Lack of knowledge and awareness:** Farmers might have the good will to switch to CSA but have trouble doing so because they lack the necessary information and access to appropriate approaches in their local communities.
- ii. **High costs at the outset:** CSA practices may require expensive technology and infrastructure that are unreachable for many farmers.



- iii. **Market barriers:** There is still a small market for CSA products, so farmers face challenges in finding customers; hence, they may not be able to recuperate the cost of implementing CSA and make the switch profitable.

### Common CSA practices proposed for farmers

The **soil resilience** method is good to improve soil health, which is most important in building crop resilience to climate change. To improve the soil resilience, applied CSA techniques focus on building soil carbon, reducing erosion, and increasing the soil's water retention capacity.

The second applied CSA strategy is **adaptation in crop varieties**. This consists of introducing seed varieties that are drought-, heat-, and flood-resistant in order to achieve consistency in yields and better productivity. This is often done in collaboration with the farming community at a local level, depending on weather projections and planning.

The third practice is **water management**. This technique mostly consists of recycling rainwater, together with reducing groundwater pollution using a host of methods — for example, creating new or restoring traditional rainwater harvesting structures such as percolating ponds, and checking dams. The main objective is to enhance water storage and availability at the farm level.

The fourth method is **conservation tillage**. This technique consists of adapting conservation tillage practices for minimal physical loosening of the soil. This method increases the soil's organic matter and creates an ecosystem for crops to thrive. The overall result is a reduction in greenhouse gas emissions.

**Farm equipment hiring** is another CSA practice. Hiring centres are created for farmers to hire farming machines and associated new technologies that speed up farming tasks like planting and sowing. Accessible and affordable machines help farmers deal with challenges such as erratic rainfall patterns.

The last proposed CSA method is the **adaptation of livestock systems**. This process allows the creation of water reservoirs and investment in heat-tolerant breeds to enhance adaptation to heat stress. The method also promotes rotational grazing and reduces overgrazing to help in areas subjected to degradation. The approach further contributes to building resilience by reducing disease through animal spacing, feed supplements, and preventative vaccinations.

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## Unit summary



### Summary

In this unit, you learned that environmental degradation is a result of both current environmental change and the global population increase, as humans use up or destroy natural resources faster than nature can restore them. This degradation directly endangers human health and affects socioeconomic development, particularly for communities in developing countries. This unit covered various aspects of ecological degradation, as well as mechanisms and strategies whereby ecosystems can be restored. The unit also highlighted the principals of waste management, an important aspect of limiting environmental pollution and restoring degraded ecosystems. Farming and animal agriculture are the leading human activities contributing to environmental degradation, including emissions of pollutants and greenhouse gases. This unit also provided teachers with information about climate-smart agriculture, including its fundamental mechanisms and benefits, and strategies for its adoption by local communities.

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## Assessment



### Assessment

#### Quiz: Multiple choice questions

1. What is the primary consequence of human generations using up or destroying natural resources faster than nature can restore them?
  - a) increased biodiversity
  - b) economic development
  - c) environmental degradation
  - d) technological advancement
2. Why is ecological restoration important for ecosystem health?
  - a) It helps in controlling population growth.
  - b) It reduces the need for natural phenomena like wildfires.
  - c) It restores ecosystems to their original state.
  - d) It enhances biodiversity and ecosystem functions.
3. What is the United Nations Decade on Ecosystem Restoration's time frame?
  - a) 2001–2010
  - b) 2011–2020
  - c) 2021–2030
  - d) 2031–2040



4. What are the main types of ecosystems mentioned in the text?
  - a) forests, oceans, and deserts
  - b) farmlands, forests, and mountains
  - c) urban areas, grasslands, and wetlands
  - d) deserts, savannahs, and wetlands
5. What is the primary human activity responsible for the degradation of forests?
  - a) wildfires
  - b) logging
  - c) hunting
  - d) pollution
6. Which ecosystem contains significant stores of water and carbon and can help resist climate change impacts?
  - a) forests
  - b) grasslands
  - c) oceans
  - d) peatlands
7. What approach to ecological restoration involves allowing degraded areas to naturally return to their original state?
  - a) natural regeneration
  - b) rehabilitation
  - c) partial restoration
  - d) complete restoration
8. In the context of ecological restoration, what does CSA stand for?
  - a) community support and assistance
  - b) climate-smart agriculture
  - c) carbon storage and adaptation
  - d) conservation of sustainable agriculture
9. What is the primary objective of climate-smart agriculture?
  - a) to reduce agricultural productivity
  - b) to increase greenhouse gas emissions
  - c) to counteract the negative impacts of climate change on agriculture
  - d) to promote unsustainable farming practices
10. How does CSA aim to mitigate greenhouse gas emissions in agriculture?

- a) by promoting the use of synthetic fertilizers
  - b) by encouraging deforestation
  - c) by reducing emissions from livestock
  - d) by increasing water usage in farming
11. What is the primary challenge faced by farmers in implementing CSA practices?
- a) lack of knowledge and awareness
  - b) low productivity
  - c) overreliance on traditional methods
  - d) excessive funding from the government
12. Which CSA strategy focuses on introducing crop varieties resistant to climate-related threats?
- a) soil resilience
  - b) adaptation in crop varieties
  - c) water management
  - d) conservation tillage
13. What does the text recommend for mitigating environmental damage through CSA?
- a) conservation tillage
  - b) increased use of synthetic fertilizers
  - c) land development for urbanisation
  - d) smart water management
14. What is the purpose of creating hiring centres for farm equipment in CSA?
- a) to increase the cost of farming
  - b) to promote traditional farming methods
  - c) to provide farmers with access to affordable machines
  - d) to encourage overgrazing
15. How does CSA contribute to building resilience in livestock systems?
- a) by reducing vaccination
  - b) by promoting overgrazing
  - c) by creating water reservoirs and investing in heat-tolerant breeds
  - d) by increasing disease outbreaks through animal spacing

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## Assignment 6

Looking around your area of residence or your schools, identify and briefly describe (in two pages): (i) clear examples of ecosystem degradation; (ii) efforts by the local community, with or without local government support, to restore degraded ecological systems; and (iii) opportunities for further



restoration/mitigation that could take place to enhance biodiversity and the ecosystem generally.

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## Unit 7

### Case studies of successful community involvement in climate change action

#### Introduction

In the previous units, we discussed what community involvement in climate action means and explored drivers of its effectiveness. Those units focused on theories, principles, and approaches to be used for effective involvement by communities, including women and youths. Units 7 and 8 are more practice oriented. In this unit, you will analyse three cases in places where communities have been successfully involved in projects to mitigate and adapt to climate change impacts. You will be able to identify what made these success stories that can provide inspiration when we work as change agents in our local areas.

Upon completion of this unit, you will be able to:

- identify and describe case studies of successful community involvement for climate change action
- assess factors influencing case studies of successful community involvement for climate change action



#### Outcomes



#### Watch



#### Terminology

#### Unit 7:

<https://youtu.be/0OjTr1dy8IE>

#### Reduce:

Waste reduction or source reduction is the practice of preventing waste by decreasing or eliminating the number of materials initially used.

#### Reuse:

Reuse is the practice of using a material over and over again in its current form. It consists of finding alternative uses for an item rather than disposing of or recycling it.



**Recycle:** Recycling is any recovery operation by which waste materials are reprocessed into products, materials, or substances, whether for the original or other purposes.

## 7.1 Case studies of community involvement in climate change action

In unit three, we learned that the success of inclusive climate action depends on different factors, such as:

- level of community involvement (partnership, delegated power, citizen control)
- drivers of community involvement (transparency and realism, inclusiveness and fairness, partnership with community members to deliver changes, diverse inclusive engagement strategies, community capacity building)
- number of project stages that involve the community (goal setting, mapping and analysing community needs, designing and implementing the project, feedback and evaluation)
- strategies used to involve communities (public information and outreach activities, public consultation, public deliberation)
- community characteristics (environmental awareness, climate change awareness, perceived risk, perceived knowledge, financial self-efficacy, social capital)

In this section, three case studies of climate change action projects were selected for you to read and analyse. Your task is to identify factors that contributed to the success of these case studies. These cases were selected to inspire you. You may compare them with climate action projects going on in your place or even generate ideas of what you can do in the future. ***You are therefore asked to do the following activity before studying section 7.2.***



### ***Activities 7.1 & 7.2***

*Critically analyse the following three cases describing projects in which members of the beneficiary community were involved. Through this analysis, point out the elements in the table below, and provide a basis of your conclusion.*

***Please do not skip this activity. Note down your responses and compare them with the content of this section after its completion.***

<i>Project name:</i>	
<i>Project objective:</i>	
<i>Critical success factors for involving community members in the project</i>	<i>Justification of your conclusion</i>
<i>Project name:</i>	
<i>Project objective:</i>	
<i>Critical success factors for involving community members in the project</i>	<i>Justification of your conclusion</i>
<i>Project name:</i>	
<i>Project objective:</i>	
<i>Critical success factors for involving community members in the project</i>	<i>Justification of your conclusion</i>



## “Let’s Build a Home Together” project with the most vulnerable Roma families in Belgrade, Serbia

This project was designed in line with international standards on the right to adequate housing and based on a fully participatory model. The City of Belgrade provided the land and infrastructures, while the European Union Delegation provided the money to construct houses. Participatory decision making and planning with the beneficiaries guided the project in order to create shelter solutions that were needs responsive and culturally adaptive. Women participated actively in the decision-making process. The project team conducted a socioeconomic survey of the beneficiaries to gather comprehensive information about their professional skills, education levels, and work experience and the overall needs and interests of the community. The beneficiaries were also provided with reconstruction materials, appliances, and livelihood equipment. In addition, the project integrated climate action measures. Multiple workshops were organised to help raise awareness of environmental issues and empower both children and adults to act in the interest of healthy and safe living. The project constructed durable and sustainable housing, with full tenure, for 170 families and enabled social inclusion of disadvantaged Roma families in non-Roma communities. It also provided long-term decent living conditions, freedom, and security against eviction to 110 Roma beneficiary families (with a total of 512 family members) by awarding them full tenure<sup>11</sup> of their homes.

## Sustainable waste management programme in Sri Lanka

Waste management is a critical issue in Sri Lanka, with improper disposal causing environmental degradation and health hazards. To address this concern, Caritas Sri Lanka, in collaboration with USAID’s Clean Cities Blue Oceans (CCBO), initiated programmes for waste management in Sri Lanka. The programme approach was to elicit help from the community by targeting and co-operating with women’s associations, youth associations, schools, and other community organisations. Women were targeted for participation, and their knowledge was used to improve project planning. Women-led families and young women were involved in making new products from waste materials.

The integration of climate action measures in the programmes with the local community helped build their capacity in sustainable waste management, including waste segregation and the 3R concept of *reduce, reuse, recycle*. A modern tracking system was established with a mobile service provider to improve efficiency in the waste collection process. Among the outputs of the programme were the development of solid waste management programmes, including an Internet-based tracking system;

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<sup>11</sup> Full rights of ownership over that property and the land it sits on.

cluster engineered landfill; wastewater treatment plants; and drainage canals for flood prevention. Sixty per cent of the waste received from the beneficiaries was biodegradable and used to enhance compost operations; 15 per cent was recyclable, and 25 per cent was residual waste of low economic value, which was diverted to the landfill facility. The project improved public services through 14,400 m of drainage lines and 3,000 trained administrative and waste management workers, benefiting over 616,000 people directly and indirectly.

## Water storage in Ladakh, India

The Ladakh water storage project presents a unique case of community-based initiatives for climate adaptation rooted in traditional knowledge, community ties, and socio-natural relationships. This project was funded by non-governmental organisations that work with Northern India populations to help them adapt to the social and economic changes taking place in their remote rural regions.

Ladakh is in the northernmost part of India and is characterised by the Himalayan mountain range, with altitudes reaching 7750 m. The region has a cold and arid climate, and temperatures drop to as low as  $-45^{\circ}\text{C}$  in winter. The area receives very little precipitation (less than 150 mm annually), and much of this is in the form of winter snowfall. The landscape is barren, with limited vegetation — which is cultivated by villagers — and patches of greenery near glacial streams and rivers. Seventy-seven per cent of the population lives in rural areas and relies on subsistence farming and livestock rearing for their livelihood. Despite the region's abundance of water resources in rivers, lakes, glaciers, and permafrost, many settlements experience water scarcity, as it is not accessible during times of need. Recently, there has been increased pressure on traditional socio-ecological systems owing to the intensification of water scarcity. The region is experiencing changes in weather patterns with increasing temperature trends, reduced and irregular winter snowfall, and receding glaciers. Moreover, water demand in Ladakh is increasing due to a rising population, changes in lifestyle, and a large floating population of tourists during the summer months (the agricultural season). This added pressure from changing weather patterns and socioeconomic conditions has a significant impact on villagers who practise subsistence farming. The impact of this intensified water scarcity resulted in:

- **Reduction in cropped areas:** Villagers are compelled to leave parts of their fields uncultivated for lack of water during the planting period.
- **Conflict in villages due to water scarcity:** Owing to increasing scarcity, some villages have modified their traditional water distribution methods.
- **Migration to urban centres and other places for off-farm jobs:** For subsistence farmers with small landholdings, it is difficult to survive under such conditions. Most migrate to search for off-farm



jobs in the army or to serve in the region's growing tourism industry.

- **Food insecurity:** The region is already heavily dependent on other parts of India for food. Demand has substantially increased recently, owing to the growing population and inflow of tourists. In this situation, decreasing local production has led to a surge in dependency on other regions.

To adapt to and mitigate these impacts, the population are using their traditional techniques of water storage. These measures have arisen in different parts of Ladakh and been modified to suit varying needs.

- **Stream blocking:** In this age-old practice, villagers put dry plants into the stream to create a temporary blockage. In winter, when the stream flow is slow and temperatures drop below freezing, ice forms on the surface of these dry plants and gradually increases in size. A large amount of ice is formed at these points throughout the winter months and melts earlier in spring to provide water.
- **Snow fencing walls:** In this method, villagers construct dry-stone walls at higher altitudes within a watershed. These stone walls are constructed perpendicular to the prevailing wind direction at that location. During winters, these walls collect snow because deposition occurs on their leeward side.
- **Artificial glaciers:** This technique is similar to the stream-blocking method. Water flow in a glacial stream is blocked using gabion<sup>12</sup> walls. During the winter months, the flow in glacial streams is slow, and these gabion walls cause the water to further lose momentum and freeze, resulting in ice formation. The villagers' knowledge of the terrain in their watershed plays a key role in determining the location of such artificial glaciers.
- **Ice stupa:** In this method, water is collected from a high-altitude point on a glacial stream through a gravity-fed pipe. The bottom end of the pipe is attached to a sprinkler on top of a vertical pole. As water is sprinkled at subzero temperatures, it freezes to form a conical volume of ice. Owing to its conical geometry, a smaller surface area is exposed to the sun; thus, melting is reduced.
- **Ice fall glacier:** This method involves directing water through a gravity-fed pipe and releasing it onto a cliff; water is allowed to pour down the cliff face, freezing due to cold conditions, and ice is formed. Layer by layer, ice is added, and the structure takes the form of a frozen waterfall.

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<sup>12</sup> A basket or container filled with earth, stones, or other material and used in civil engineering works.

The implementation of different technique is based on the topography of the village watershed, community involvement, and collaboration with NGOs. When implementing these adaptation methods, it is crucial to involve a range of actors, including innovators, technical specialists, community leaders, funding sources, and especially villagers and farmers. This collaborative effort involves the planning, building, and management of structures.

## 7.2 Analyses of selected case studies showing successful community involvement for climate change action

This section presents the results of the analyses of the three cases. Compare the results of your analyses and the ones given here.

### **“Let’s Build a Home Together” project with the most vulnerable Roma families in Belgrade**

The success of this initiative was based mainly on:

- an assessment of beneficiaries’ skills, needs, and interests
- inclusiveness and fairness
- public deliberation
- enhanced financial self-efficacy
- capacity building through workshops on environmental awareness

### **Sustainable waste management programme in Sri Lanka**

The success of this project was based on:

- building on the community’s existing social capital
- income generation from waste management
- enhancing social capital through introducing new technologies for waste management and providing funds
- partnership with community members to deliver changes

### **Water storage in Ladakh**

The success of this project was based on:

- building on the community’s existing social capital (traditional water storage techniques)
- partnership with the community to deliver changes
- community members’ involvement in project conception and implementation
- the improvement of community know-how with innovative technologies
- perceived risks (community members were aware of water shortages when irrigation was needed)
- involving various actors: innovators, technical specialists, community leaders, funders, villagers, and farmers



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## Unit summary



### Summary

In this unit, you learned that inclusiveness is of paramount importance for successfully implementing climate action activities. Although it is not easy to achieve, we saw it is possible to involve communities in climate change initiatives. We analysed three case studies and saw that the following factors were the pillars for effectively including community members:

- perceived risks
- building on social capital
- capacity building
- provision of financial support
- project outcomes

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## Assignment 7



### Assignment

The following is a project aiming at reducing greenhouse gases from the operations of Dallas Fort Worth International Airport, in Texas, USA. Identify and discuss factors that made it a successful project and efficiently involved community members in its conception and implementation.

#### Renewable Natural Gas Initiative

As the first carbon-neutral airport in North America, Dallas Fort Worth International Airport (DFW) continues to explore innovative ways to reduce its carbon footprint. In August 2017, DFW implemented the Renewable Natural Gas Initiative and began transitioning its compressed natural gas (CNG) vehicle fleet to renewable natural gas (RNG) produced from local landfill gas. Through this initiative, DFW has dramatically reduced vehicle fleet emissions — the second-largest segment of its carbon footprint. The RNG Initiative embodies DFW's approach to sustainability because it demonstrates financial, operational, environmental, and social benefits for the airport and surrounding communities.

#### Key facts

- As of June 2020, 70 per cent of the natural gas used in DFW's vehicle fleet is RNG.
- To date, DFW's RNG Initiative has eliminated the emission of 16,820 tonnes of CO<sub>2</sub>, which is equivalent to removing over 3,600 passenger vehicles from the road for one year.
- The transition from CNG to RNG lowers DFW's operations and maintenance costs by USD 1 million per year.

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## Assessment



### Assessment

#### Quiz: Multiple choice questions

1. What was the primary goal of the “Let’s Build a Home Together” project in Serbia?
  - a) promoting tourism
  - b) reducing unemployment
  - c) providing shelter solutions for vulnerable Roma families
  - d) enhancing education in Belgrade
2. What played a significant role in guiding the project for vulnerable Roma families in Belgrade?
  - a) international regulations
  - b) the government’s directives
  - c) participatory decision making and planning with beneficiaries
  - d) financial investments
3. How did the Belgrade project integrate climate action measures?
  - a) by organising cultural events
  - b) through the construction of durable and sustainable housing
  - c) by providing financial support to families
  - d) by conducting academic research
4. How did the Sri Lankan programme involve the community in waste management?
  - a) by targeting and co-operating with women’s associations and youth associations
  - b) by exclusively involving government agencies
  - c) by conducting research without community involvement
  - d) by imposing waste management practices on the community
5. What do the 3Rs stand for in the Sri Lankan case study?
  - a) reduce, replace, recycle
  - b) reuse, recycle, reinvent
  - c) recover, rebuild, renew
  - d) reduce, reuse, recycle
6. How did the Ladakh community adapt to water scarcity?
  - a) by importing water from neighbouring regions
  - b) by modifying traditional water distribution methods
  - c) by constructing dams and reservoirs
  - d) by practising desert agriculture



7. Why is Ladakh experiencing intensified water scarcity?
  - a) excessive rainfall and flooding
  - b) increasing temperature trends and glacier recession
  - c) abundance of water resources
  - d) decreasing population and tourism
8. What is the main factor determining the location of artificial glaciers in Ladakh?
  - a) availability of labour
  - b) government regulations
  - c) villagers' knowledge of the terrain
  - d) the presence of tourists
9. How does the Ladakh community contribute to the implementation of water storage techniques?
  - a) by relying solely on government support
  - b) by involving a range of actors, including community members
  - c) by importing technology from foreign countries
  - d) by conducting academic research
10. What factors contributed to the success of the Ladakh water storage initiatives?
  - a) abundance of water resources and government funding
  - b) traditional knowledge, community involvement, and collaboration
  - c) high levels of precipitation and modern technology
  - d) climate change awareness and international support

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## Unit 8

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# Developing and monitoring inclusive community engagement activity for climate change action

### Introduction

In previous units of this course, we discussed what climate action is and how to include community members, especially women and youths, in climate action plans. We also discussed levels of inclusion, factors, and strategies for successful inclusive climate action plans. In addition, we analysed some successful case studies that enabled us to realise it is possible to conceive and implement inclusive climate change mitigation projects. During the course of project implementation, an assessment of the on-time achievement deliverables is regularly carried out. In this unit, you will learn steps to design a small climate action project and how to monitor its progress. You will also design a project adapted to your residential area, prepare a presentation about it, and highlight components that should make it a successful community-inclusive project for climate change impact mitigation.

Upon completion of this unit, you will be able to:

- develop an activity for inclusive community engagement in climate change action
- discuss with peers the effectiveness of the developed activity to boost inclusive community engagement for climate change action



Outcomes



Watch

Unit 8:

<https://youtu.be/VoN8-cap79s>



### Terminology

#### Monitoring and evaluation:

the processes set up by organisations with the goal of recording, reporting, and improving their management of outputs, outcomes, and impact



#### *Activity 8.1*

##### *Forum discussion:*

*Have you ever applied for a project grant? If yes, who was the funder and what were the main components of the proposal? If not do not worry, there is always a first time for everything. **Post your answer in the forum section. You will have access to the subsequent sections after this forum activity.***

## 8.1 Simple procedure to design an activity or project to mitigate climate change impact

When designing a project, the following steps are used:

1. Carry out a needs and feasibility assessment in your neighbourhood.
2. Determine a suitable site for your activity/project after meeting key persons in the community.
3. If needed, meet with technical experts to finalise the details of the project and write the proposal.
4. Approaching sponsors to secure funds, if needed.
5. After the funding is generated, organise a meeting with all the stakeholders and select a committee that will co-ordinate the implementation of the project.
6. Implement the project, and organise regular meetings to evaluate progress and receive feedback from the stakeholders.

#### **Community needs and feasibility assessment**

Communities are typically defined by a geographic area; however, they can also be based on shared interests or characteristics, such as religion, race, age, or occupation. People within a community come from different backgrounds and have unique cultures, customs, and values. Utilising this

wide range of ideas and wisdom is critical for assessing the community's needs and strategising about areas for improvement. Therefore, a community needs assessment provides community leaders with a snapshot of local policy, systems, and environmental change strategies currently in place and helps to identify areas for improvement. With these data, communities can map out a course for improvement by creating strategies to make positive and sustainable changes.

### ***Components of a needs and feasibility assessment***

The main outcomes of the assessment fall into three main categories: environmental change, policy change, and systems change. In this course, environmental change is the expected outcome for our community needs and feasibility assessment.

**Environmental change.** This type of change relates to the physical, social, or economic factors designed to influence people's practices and behaviours. Examples of alterations or changes to the environment include:

- ***Physical changes:*** These are structural changes or the presence of programmes or services, including soil erosion control measures, improvements in the built environment to promote GHG emissions mitigation (e.g., the construction of green buildings), and the presence of comprehensive school environmental education curricula in schools.
- ***Social:*** These are positive change in attitudes or behaviours about policies that promote environmental concerns, or an increase in supportive attitudes regarding environmental issues. They include more favourable attitudes in community decision makers about the importance of environmental protection, or an increase in the nonacceptance of irresponsible natural resource use. For instance, the touristic overuse of natural pristine resources (the Himalayan Nepalese Mountains) or UNESCO heritage sites (the City of Venice, Italy) are being questioned nowadays.
- ***Economic:*** Economic changes are exemplified by, for instance, the presence of financial disincentives or incentives to encourage a desired behaviour, including charging higher taxes for petrol cars to decrease their use, or the provision of zero taxes for hybrid and electronic cars.

### ***Steps for conducting a successful needs and feasibility assessment***

There are different approaches to conducting community needs assessments. In this section, you will learn how to gather and assess data on community assets and determine areas for improvement. You will learn a process that involves the following main steps:

#### **Step 1: Plan for a community needs assessment**

This step aims at:

- identifying and assembling a diverse community team
- developing a team strategy



- defining the community to assess (e.g., region, village)
- identifying community sectors to assess (e.g., agricultural sector, settlement)
- identifying community components to assess (e.g., flooding, soil erosion, waste management)
- developing questions to ask for each community component
- selecting the sites and number of sites to visit within each sector
- determining existing data to use or methods for collecting new data
- identifying key informants to contact

### **Step 2: Conduct the needs assessment**

During this step, interviews or focus group discussions are carried out to collect data in order to identify community needs. Questionnaires or interview guides developed in step 1 are used for this purpose.

### **Step 3: Analyse the data and produce a consolidated report**

During this step, the collected data are explored, cleaned, and analysed. A narrative report of identified community assets and needs is produced. Texts, tables, and/or graphs are used to produce it. This report develops a rating scale and ranks the community's needs in descending order of priority. An example of a community needs assessment report can be found at the following link:

<https://cgspace.cgiar.org/rest/bitstreams/80786/retrieve>

### **Step 4: Develop a community action plan**

This step involves:

- developing and prioritising strategies for improvement
- creating an action plan for top-priority strategies

For instance, if you read the report shared with you in step 3, you noticed that the farmers of Pailom Village in Laos prioritised their needs and provided the rationale for their choices. The prominent ones were:

- water and drought management
- crop diversification.
- development of plantations
- establishment of a farmers' association in the village
- more involvement of women in agriculture extension activities

This report concluded by indicating interventions to be initiated in the village to tackle these needs identified by the villagers. Suggested interventions included:

- financing agricultural activities through partnerships between the villages and NGOs or other financing agencies available in the country

- building the local community’s capacity by establishing farmer groups (livestock group, irrigation group)
- characterising the natural resources
- providing information on climate and existing practices that can enhance the resilience of households in the face of climate change and extreme weather events

After the production of the report, the next stages are project conception, funds mobilisation, implementation, and evaluation of the project achievements.

### **Project proposals**

Project proposals can take on different formats, based on the requirements of the funder and the size of the project. As we are beginners, we will focus on small project grants. Once you have more experience, you might aim for bigger projects or collaborate with universities in your region or your former university to write big grant project proposals.

### ***Tips for writing a winning grant proposal***

- **Make sure the grant is a fit**

You’re much more likely to be awarded a grant if you align well with the organisation’s and funder’s goals. For example, if you’re looking to fund a climate change mitigation or adaptation project, try to find a grant focused on climate change action. Make sure you’re eligible for the grant, by reading through the requirements in detail. It’s also a good idea to confirm that the grant’s funding is in line with your needs. Furthermore, you should ensure that the grant’s timeline is in line with your plans.

- **Read successful proposals**

One great resource for hopeful grant writers is successful past proposals. Ideally, find past proposals for the same grant you’re applying to. However, you can also use proposals for similar grants to help guide you as you work on your own. Don’t reinvent the wheel.

- **Follow the instructions exactly**

Don’t get filtered out before the review process because your proposal doesn’t follow the application instructions and guidelines. For example, some funders require physical paper proposals, while others may require you to use a special online form. Follow all instructions and ask any questions you can’t find the answers to.

- **Focus on goals, objectives, and outcomes**

When writing your proposal, the most important areas to communicate are your goals, objectives, and outcomes. Your goals may also be called a needs statement. This section tells exactly why you need the funding and what it will change in your community, school, or district. In this section, you should also



include data to support your argument that you need the funding. Objectives detail exactly what the funding will do, and they include things like the timeline. Finally, provide realistic and precise outcomes that will be achieved if you are granted the funding. List specific, measurable outcomes, such as improvement in erosion control or increased crop production.

- **Be concise**

Funders often have to read through hundreds of applications. So stay within any word count limits and try to be as concise as possible.

- **Get an objective opinion**

Before sending in your grant proposal, ask a trusted friend or colleague to read over your application. This process can help you make sure your project and its goals are easy to understand. In addition, this will help you find out whether you've made a compelling case for your project.

- **Ask for feedback**

If you are not given a particular grant, then if possible, ask for feedback from the organisation. This will help you get closer to your goal of having a grant proposal approved. But do not do so if the funding organisation informed the applicants that only successful projects will be contacted due to the sheer number of applicants. Finally, don't ever give up! As you apply for grants, you'll learn more about the process and what funders are looking for. With some effort and determination, you'll eventually find the right grant for you.

A sample grant proposal form is provided on the following pages.

**Canada Fund for Local Initiatives (CFLI) – Preliminary Application for Funding**

*All text in blue is intended to provide assistance in filling out the project application. You may delete all blue writing and replace with your project proposal information.*

**A) APPLICANT INFORMATION**

1. **Applicant contact person** (name/title):

2. **Applicant e-mail:**

3. **Organization name**

4. **Organization description** (2-3 sentences)

*e.g. mandate, mission statement, membership, etc.*

5. **Is your organization legally registered?**

Yes     No

6. **Where is your organization based?** (city/village, district/state, country/territory)

7. **Is/has your organization been funded by Canada?** If yes – when, and for which project? (please respond with project duration and title, in point form)

- *E.g. 2015-2019 – Improving access to health, community, and other public services for minority groups.*
- [insert year(s) of Canadian funding and project title, if applicable]
- [insert year(s) of Canadian funding and project title, if applicable]

8. **Are other donor(s) funding your organization currently?** If yes, which donor(s)?



- [insert donor name and a short description of the funded initiative, if applicable]
- [insert donor name and a short description of the funded initiative, if applicable]

9. What type of organization do you have? Please check only one.

- Local, national or community-based organization (non-governmental and not-for-profit, including Local Faith Based organization)
- Local municipal, regional or national government institution or agency of the recipient country
- Local academic institution
- Canadian organization (non-governmental or not-for-profit) that is working on local development activities
- International or regional organization (non-governmental or not-for-profit) that is working on local development activities
- Intergovernmental or multilateral institution, organization or agency working on local development activities

10. Canada is committed to gender equality. All approved CFLI projects will therefore have to include a Gender-Based Analysis (GBA) in order to consider how women, girls, men and boys are affected differently by the problem their project is aiming to address. How familiar are you with the GBA process?

- Very familiar - My organization has conducted them before
- Somewhat familiar - My organization applies the principles but has not done a GBA before
- Not familiar - But my organisation would be prepared to do this for our project

Note: If you are unfamiliar with GBA, please see Government of Canada resources [here](#).

B) **PROJECT INFORMATION**

11. In 4-5 sentences (150 words maximum), please briefly describe your project. What is your objective? What problem do you hope to address? What are the main activities (point form)?

*e.g. The goal of the project is to enhance women's political participation in country X. Currently, women's political participation is only 26%. Long term expected result(s): 25 female political candidates will have run successful political campaigns with effective messaging, increasing their chances of being elected.*

- o Seminar with 50 women discussing barriers to their political engagement and the importance of female representation*
- o Workshop with successful local female leaders on running an effective political campaign*
- o A national campaign will be developed in order to encourage women to get involved in politics at the local and national level. The main goal of the campaign will be to raise awareness on women's role in politics and the importance of voting.*

**12. Which of Canada’s thematic areas will your project address?** (Select only the most relevant ones).

- Gender equality and the empowerment of women and girls
- Inclusive governance and diversity
- Democracy and the rule of law
- Protecting and promoting human rights
- Protecting and promoting LGBTQ2I rights
- Peace and security, with a focus on conflict prevention and peace building
- Environment and climate action focusing on adaptation and mitigation, as well as on water sanitation management

**13. Where will your project activities be carried out?** (Check all that apply)

Rwanda	Burundi
City of Kigali <input type="checkbox"/>	Bujumbura <input type="checkbox"/>
Other city <input type="checkbox"/>	Other city <input type="checkbox"/>
Rural area <input type="checkbox"/>	Rural area <input type="checkbox"/>

*Please specify in which city/cities or rural areas your project activities will be carried out:*

**14. Can your project be fully completed before 28 February 2025?**

- Yes
- Yes, but it is one part of a larger project
- No

*If no, when do you foresee your project being completed?*

**15. What are the risks that project activities will not be completed within project timelines, or that delays may occur? What are your mitigation measures?**



*For example, rain season impacting movement, limited/difficult access to necessary materials (including supply chain), delays seeking government approval for projects, complications with banking systems. If none, put N/A.*

16. Does your project include the construction of infrastructure?

- Yes  No

17. Finally, the average CFLI contribution is expected to be roughly \$35,000 CAD per project. Approximately how much funding are you looking for (in CAD)?

- \$20,000 CAD or less  
 \$20,001-30,000 CAD  
 \$30,001-40,000 CAD  
 \$40,001-50,000 CAD

Thank you for your application. Please return this form to: [cflirwandaburundi@gmail.com](mailto:cflirwandaburundi@gmail.com)

We will contact all applicants using your submitted e-mail address with information on the status of your application. If selected, we will invite you to complete out a full proposal.

### List of generic funders

Here are some examples of organisation that offer grants. The list is by no means exhaustive. Numerous others can be found using the search engine of your choice with phrases such as “grants for climate change action projects” or “grants for climate change community initiatives” as key words.

1. The Canada Fund for Local Initiatives.<sup>13</sup>
2. Future for Nature.<sup>14</sup>
3. Tools for Life Foundation.<sup>15</sup>
4. Another option is to find information on national regional institutions with a mandate to finance climate change action projects.

In Rwanda, for instance, a special financing agency, the Rwanda Green Fund (FONERWA), has been created by the Government of Rwanda.<sup>16</sup>

5. Sometimes ministries or institutions provide funds based on their mandate. The ministry of education or the ministry of environment may initiate competitions for teachers to promote action or increase awareness about climate change action.

<sup>13</sup> <https://www.international.gc.ca/world-monde/funding-financement/cflifcil/index.aspx?lang=eng>

<sup>14</sup> <https://futurefornature.org/apply>

<sup>15</sup> <https://www.toolsforlife-foundation.com/en/promotion.html>

<sup>16</sup> <https://greenfund.rw/adaptation>

## 8.2 Monitoring and evaluation of inclusive community projects for climate change action

Monitoring and evaluation (M&E) is a combined term for the processes set up by organisations to improve their management of outputs, outcomes, and impacts. Monitoring includes the continuous assessment of programmes based on early detailed information about the progress or delay of the ongoing assessed activities. The aim of M&E is therefore to regularly check whether the project is achieving its outcomes in the specified period. M&E also helps with self-assessment in order to identify the challenges that may be delaying the achievement of project goals, and how to overcome these hindrances. For this course, a simple table adapted from Oguz (2022) to record achieved project activities or deliverables is suggested.

**Table 1. Activities or deliverables completed**

	Activity name	Date completed	Observation	Stakeholders	Level of engagement
1					
2					
3					
...					

## 8.3 Challenge: designing an activity for inclusive community engagement in climate change action

The result of this section will be a project or any activity you will develop to mitigate a climate change impact that is likely to happen in your area, or an action that may reduce GHG emissions or mitigate any practice that may cause harm to your environment. You are advised to choose a simple activity that will not require the use of high-level technologies or be too expensive to implement. Analyse your neighbourhood and identify an issue. Think of a small project that can even be done at your school or in your residential area, and develop it. Examples of such projects may be:

- a reforestation project to reduce downstream flooding
- restoration of buffer zones around lakes, rivers, and wetlands; buffer zones can be a source of fodder for cattle and other small animals if a zero-grazing policy is in place in your community
- planting vegetable gardens and fruit trees on the school grounds to support school meal initiatives



- construction and maintenance of biogas infrastructures for small farmers
- establishment of fish hatcheries and on-site fish feed production to reduce fishing pressure on wild fish

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## Unit summary



### Summary

Around the world, teachers are regarded as the individuals who can help to bring about positive changes in their communities. They are seen as charismatic leaders who can give advice on various community affairs. This course on climate change education was developed to equip teachers with the necessary knowledge and skills to take the lead on climate change actions in their communities. In this unit, we discussed the various steps in setting up and monitoring a project. You were given a chance to design a simple project that can be implemented in your residential area or school.

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## Assignment 8



### Assignment

#### Present the developed challenge to peers

Develop a PowerPoint presentation to describe challenge and explain why you think the community will effectively be involved in the project's implementation.

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## Assessment



### Assessment

#### Quiz: Multiple choice questions

1. \_\_\_\_\_ is one of the purposes of monitoring and evaluation (M&E) in inclusive community projects for climate change action.
  - a. securing funds from sponsors
  - b. assessing the feasibility of the project

- c. identifying challenges and overcome hindrances
  - d. finalising project details with technical experts
2. The purpose of conducting a needs and feasibility assessment in a community is to:
  - a. secure funds for the project
  - b. identify areas for improvement in the community
  - c. finalise project details
  - d. approach sponsors
3. The following are indicators of an environmental change as one of the expected outcomes of a community need assessment, EXCEPT
  - a. physical change
  - b. social change
  - c. system change
  - d. economic change
4. What section of a grant proposal communicates the exact reason for needing funding?
  - a. goals
  - b. objectives
  - c. outcomes
  - d. strategy
5. How can grant writers ensure their proposals are easy to understand?
  - a. by exceeding word count limits
  - b. by being overly technical
  - c. by being concise
  - d. by avoiding data and statistics
6. The following reasons for requesting feedback on a grant proposal are not true, EXCEPT:
  - a. to ignore suggestions for improvement
  - b. to improve the chances of success in future applications
  - c. to discourage further applications
  - d. there is no need to ask for feedback, as it is always provided after the grant selection process
7. In the context of designing a project to mitigate climate change impact, what is the first step to be carried out?
  - a. securing funds from sponsors
  - b. meeting with technical experts
  - c. implementing the project
  - d. conducting a needs and feasibility assessment in the area
8. What is the role of the committee selected during the implementation of the project?
  - a. to secure funds from sponsors
  - b. to evaluate progress and get feedback from stakeholders
  - c. to carry out a needs and feasibility assessment



- d. to determine suitable project sites
9. How can monitoring and evaluation help in inclusive community projects?
  - a. by involving technical experts
  - b. by organising regular meetings with stakeholders
  - c. by securing funds from sponsors
  - d. by continuously assessing the project's progress and identifying challenges
10. According to what you learned in this unit, what does M&E stand for?
  - a. management and enhancement
  - b. monitoring and evaluation
  - c. milestones and experiences
  - d. measurement and execution
11. What is the purpose of the simple table suggested in this unit?
  - a. to finalise project details with technical experts
  - b. to record achieved project activities or deliverables
  - c. to secure funds from sponsors
  - d. to meet key persons in the village
12. The fourth step in monitoring and evaluating climate change action projects focuses on:
  - a. carrying out a needs and feasibility assessment
  - b. determining a suitable site for the project
  - c. approaching sponsors to secure funds
  - d. implement the project and organising regular meetings
13. What is the role of stakeholders in the project design and implementation process?
  - a. to secure funds from sponsors
  - b. to carry out a needs and feasibility assessment
  - c. to provide feedback during regular meetings
  - d. to finalise project details with technical experts
14. What is the meaning of the term “level of engagement” used in the M&E table?
  - a. the level of funding secured from sponsors
  - b. the level of interest shown by stakeholders
  - c. the level of progress in achieving project outcomes
  - d. the level of expertise of technical experts involved
15. Which step of the project design procedures are technical experts involved in?
  - a. carrying out a needs and feasibility assessment

- b. determining a suitable site for the project
- c. finalising project details
- d. organising a meeting with stakeholders and selecting a committee to implement the project

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# Annexure

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## Answers

### Unit 1

1. What is the definition of community engagement?
  - a. the involvement of individuals in personal development (**not correct** because the target is not personal development)
  - b. the process of involving people in the development of an area (**correct** because the target is to include all the community members)
  - c. the participation of community members in therapy sessions (**not correct** because therapy is a level of community member involvement)
  - d. the communication between community leaders and government officials (**not correct**; community engagement is not only the communication between community leaders and government officials)
2. What does inclusive community engagement for climate change action involve?
  - a. focusing on the needs of influential community members (**not correct**, because the needs of all the community members should be catered for)
  - b. considering the needs of all community members to address climate change impacts (**correct**, because the aim of community involvement is to consider the needs of all its members)
  - c. ignoring the impact of climate change on vulnerable communities (**not correct**, because vulnerable communities are also part and parcel of the community)
  - d. implementing climate change actions without community involvement (**not correct**, because community engagement was conceived to fill this gap of ignoring the beneficiaries of climate change actions)
3. According to Arnstein's (1970) levels of community participation, which level grants citizens the most power?
  - a. manipulation (**not correct**, because community members are induced to think that they are involved whereas they do not have power to decide)
  - b. therapy (**not correct**, because therapy involves pseudo-participation of community members in projects)



- c. partnership (**not correct**, because partnership community members are only allowed to accept or reject the project plans but are not in full control of the whole process)
  - d. citizen control (**correct**, because the community members play a big role in all the stages of the climate change action project)
4. What is the key principle of inclusive community engagement according to the International Association for Public Participation (IAP2)?
- a. delegated power (**not correct**, because this level is not suggested in the IAP2's model)
  - b. consultation (**not correct**, because in consultation, community members provide only feedback on needs analysis)
  - c. empowerment (**correct**, because this level places the final decision making in the hands of the public)
  - d. placation (**not correct**, because this level is not suggested in the IAP2's model)
5. What are some aspects of initiatives for climate change action?
- a. energy, industry, and transport (**not correct**, as only three intervention sectors of climate change action are given.)
  - b. finance, nature, and urban planning (**not correct**, as only three intervention sectors of climate change action are given)
  - c. climate action for jobs and resilience (**not correct**, as only one intervention sector of climate change actions is given)
  - d. All the answers are correct. (**correct**, as all the sectors given can be part of climate change action initiatives)
6. What is the goal of the Business Ambition for 1.5°C initiative?
- a. promoting sustainable urban mobility solutions (**not correct**, as the reduction would be geared towards one economic sector only)
  - b. setting science-based greenhouse emissions reduction targets aiming for net zero (**correct**, because this is the goal of the initiative, involving business and industry leaders who have made the mitigation of global warming part of their daily business agenda)
  - c. supporting a just ecological transition (**not correct**, as the goal of Business Ambition for 1.5°C is beyond merely a just ecological transition)
  - d. establishing standards for climate adaptation in local communities (**not correct**, as Business Ambition for 1.5°C deals with the reduction of GHG emissions from business and industrial companies and not from communities)
7. Why is community inclusiveness important for climate change action?

- a. It helps maintain societal inequality. (**not correct**, as it promotes societal equality)
  - b. It promotes the exclusion of vulnerable communities. (**not correct**, as it takes into consideration the needs of vulnerable communities)
  - c. It leads to equitable climate policies and fair distribution of benefits. (**correct**, because its aim is to enable all community members to be able to cope with climate change impacts)
  - d. It restricts the decision-making power to influential community members. (**not correct**, as it reduces the dominance of influential community members in decision making)
8. How does inclusive community engagement help address societal inequality?
- a. by ignoring the needs of certain community members (**not correct**; community engagement does not exclude a fraction of the community members)
  - b. by prioritising the needs of influential community members (**not correct**; community engagement does not consider only a fraction of the community members based on their rank in the society).
  - c. by considering the needs of all community members (**correct**; community engagement considers all the community members equally)
  - d. by excluding vulnerable communities from the decision-making process (**not correct**; community engagement does not exclude a fraction of the community members in any of the levels of decision making)
9. What is the role of community members in inclusive climate action?
- a. to manipulate climate change initiatives for personal gain (**not correct**; a collective response is the goal)
  - b. to act as therapy providers for individuals affected by climate change (**not correct**; this is not the ideal role of community members in inclusive climate action)
  - c. to inform and consult on climate change decisions (**not correct**; this is not the ideal role of community members in inclusive climate action)
  - d. to control and make policy decisions regarding climate change actions (**correct**, as the ultimate goal of inclusive climate change action is to empower all community members to make informed decisions)
10. What are the benefits of community inclusiveness for climate change action?
- a. increased vulnerability of communities (**not correct**, as this has a negative connotation)



- b. distribution of climate change benefits unfairly (**not correct**, as the aim is a fair distribution of benefits among community members)
- c. tackling societal inequality and building individual and social capital (**correct**, as the aim of inclusiveness is to make sure all the members of the community receive benefits from climate change initiatives within their respective communities)
- d. exclusion of community members from climate change initiatives (**not correct**, as inclusion is the opposite of exclusion)

## Unit 2

1. What does vulnerability in the context of climate change refer to?
  - a. the ability of a system to cope with adverse effects of climate change (**not correct**; this statement refers rather to resilience or adaptation to climate change impacts)
  - b. the likelihood of extreme weather events occurring (**not correct**; this statement refers to the occurrence of climate change impacts, not their effect on community members)
  - c. the sensitivity of a system to changes in temperature and precipitation (**correct**; vulnerability to climate change means the extent to which community members are affected by climate change impacts)
  - d. the ability of a community to adapt to climate change impacts (**not correct**; this statement refers to the way community members find solutions to overcome climate change impacts)
2. What are the three sub-indices used to construct the climate vulnerability index?
  - a. exposure, sensitivity, and coping capacity (**correct**; community members become vulnerable if they encounter a climate change impact; that impact has negative consequences on them; and the degree to which resolving the side effects of that impact plays a role in their survival)
  - b. temperature, precipitation, and population density (**not correct**; these are weather elements and a population characteristic)
  - c. economic status, geographical location, and health status (**not correct**; these are used in other population indices)
  - d. financial resources, reliance on natural resources, and demographic structure (**not correct**; these are related to community livelihood and population characterisation)
3. Which communities are more vulnerable to climate change impacts?

- a. communities with high financial resources (**not correct**, because they have a high coping capacity)
  - b. urban communities located in low-risk zones (**not correct**, because a low-risk zone means there is no exposure to the side effects of climate change)
  - c. rural communities with diverse livelihoods (**not correct**, because diverse livelihoods enhance their capacity to cope with climate change impacts)
  - d. communities lacking financial resources and living in high-risk zones (**correct**, because these communities lack the financial ability to cope with climate change impacts)
4. Which characteristic makes a community economically vulnerable to climate change impacts?
- a. lack of financial resources (**correct**, because coping with climate change requires financial resources)
  - b. high population density (**not correct**, because high population density is not necessarily accompanied by poverty)
  - c. access to resilient infrastructure (**not correct**, because this is a strength to overcome adverse impacts of climate change)
  - d. dependence on rain-fed agriculture (**not correct**; although this is a weakness, this community may have other resources that allow them to import agricultural products)
5. Which groups are considered more vulnerable to climate change impacts due to limited coping capacities?
- a. influential community members (**not correct**, because influential community members are usually rich; remember the saying “money talks”)
  - b. individuals with disabilities (**correct**; some individuals with disabilities do not have income-generating activities)
  - c. young adults (**not correct**; young adults are economically active)
  - d. wealthy individuals (**not correct**; wealthy people have the ability to cope with climate change impacts and are the first ones to embrace mitigation measures)
6. Which enabler of inclusive community engagement emphasises the importance of transparency and clear communication?
- a. inclusiveness and fairness (**not correct**, as this refers to equitable consideration of all community members)
  - b. integrity (**not correct**, because this enabler refers to the quality of being honest and having strong moral principles)
  - c. partnership with community members to deliver changes (**not correct**, because this enabler refers to including all community members with their knowledge and innovative ideas)



- d. transparency and realism (**correct**; this refers to communicating the objectives clearly to the stakeholders from the very beginning of a project)
7. What is the key principle of engagement that requires consistency and collaboration throughout the process?
- transparency (**not correct**, as transparency involves sharing a project's objectives right from its beginning)
  - inclusiveness (**not correct**, as this refers to considering not only influential members of the community but also those who are more vulnerable to climate change impacts)
  - integrity (**correct**; integrity is expressed through upholding the key principles of transparency, collaboration, and accessibility throughout the engagement process)
  - partnership (**not correct**, as partnership implies that community members have a say in each aspect of the decision)
8. Which one of the following does not pertain to partnership with community members for effective climate change action?
- It ensures diverse and inclusive engagement strategies. (**not correct**, because partnership involves a diverse group of people with different characters, aspirations, and intellectual abilities, thus requiring different strategies)
  - It brings ownership to the project. (**not correct**, as partnership allows community members to feel that the project is theirs)
  - It brings innovation to the project. (**not correct**, as partnership allows community members to add innovative ideas — engineering, ecological, financial, research, indigenous knowledge, etc. — to its implementation)
  - It helps build community capacity. (**correct**; this is brought about by community capacity building)
9. What factor should be considered when designing an inclusive engagement strategy?
- geographic location (**correct**, because this is an inclusive factor — people within same community, located in the same geographical area)
  - financial resources (**not correct**, as all community members are considered, irrespective of their financial status)
  - political affiliation (**not correct**, as all community members are considered, irrespective of their political affiliation)
  - education level (**not correct**, as all community members are considered, irrespective of their education level)
10. How should community engagement be viewed in the context of climate change action?

- a. as a one-time event (**not correct**, as community engagement is a continuous process)
- b. as a means to an end (**not correct**, as community engagement is a continuous process)
- c. as a separate programme from climate action (**not correct**, as community engagement tackles different agendas of the community, including climate change action)
- d. as a process of ongoing relationship building (**correct**; community engagement is a continuous process: new initiatives should build on previous community engagement and improve the relationship with a community over time)

## Unit 3

1. The first step of inclusive community engagement in climate change action is...
  - a. vision setting (**correct**; every action calls for a vision and goals to determine the course of activities)
  - b. mapping and analysing (**not correct**; mapping and analysis are guided by the vision)
  - c. designing and implementing (**not correct**; designing and implementing are conceived and carried out to reach the vision)
  - d. feedback and evaluation (**not correct**; this is the last step)
2. Which tool is used during the “designing and implementing” step to involve the community members in climate action plans?
  - a. questionnaires (**correct**; questionnaires are used during the consultancy)
  - b. stakeholders’ database (**not correct**; a stakeholders’ database is created during mapping and analysing community needs, which is done before designing and implementing; it is also used during the feedback and evaluation phase)
  - c. outcome evaluation (**not correct**; this is used after the completion of the project)
  - d. none of the above (**not correct**, as a is the correct answer)
3. The three main types of public engagement strategies for climate change action are...
  - a. vision setting, mapping and analysing, designing and implementing. (**not correct**, as these are steps in community engagement)
  - b. public information and outreach activities, public consultation, public deliberation (**correct**)
  - c. environmental concern, climate change awareness, perceived risk (**not correct**, as these are factors motivating community members to be involved in climate change action)



- d. financial self-efficacy, social capital, socio-demographic characteristics (**not correct**, as these are factors motivating community members to be involved in climate change action)
4. How is the "public consultation" strategy different from "public deliberation"?
- Public consultation involves surveys, while public deliberation involves interviews. (**not correct**, as surveys and interviews are used in public consultation, whereas discussions are used in public deliberation)
  - Public consultation informs the community, while public deliberation involves discussions and decision making. (**not correct**, as the community is informed through public information and outreach activities)
  - Public consultation is based on the opinions of community members, while public deliberation uses feedback from government officials. (**not correct**, as deliberations are also engaged in by community members)
  - Public consultation focuses on individual opinions, while public deliberation prioritises community choices and rankings. (**correct**)
5. How does perceived risk impact community members' willingness to support climate change policies and actions?
- People who perceive higher risks are less likely to support climate change policies. (**not correct**, as people who perceive higher risks are the ones who support climate change policies)
  - People who have experienced climate change effects are more willing to support climate change policies. (**correct**)
  - People in developed countries perceive higher risks and are more willing to support climate change policies. (**not correct**; people in developing countries are the ones who perceive high risks, as they do not have sufficient coping or early warning mechanisms)
  - Perceived risk does not have any impact on community members' willingness to support climate change policies. (**not correct**; the opposite is true)
6. Which of the following statements about social capital is true?
- Social capital refers to the financial resources available in a community. (**not correct**; social capital refers to human capital and social networking)
  - Social capital facilitates collective action among households. (**correct**, social capital increase societal ties)
  - Social capital has no impact on climate change awareness. (**not correct**; the opposite is true)

- d. Social capital is mainly influenced by gender and household size. (**not correct**; social capital is influenced by societal ties and networking)
7. \_\_\_\_\_ is one of the tools used during the "feedback and evaluation" step of community engagement for climate change action.
- vision statement (**not correct**; this is used during vision setting)
  - climate change workshop (**not correct**; this is used during public information and outreach activities)
  - outcome evaluation (**correct**, as it enables public officials to assess whether engagements to undertake climate action achieve the set objectives and foster relationship between the government and the local community)
  - main engagement tools (**not correct**; these tools are used during designing and implementing)
8. What is the main concern expressed by some researchers regarding community engagement in climate action plans?
- lack of financial resources for climate change initiatives (**not correct**; financing agencies are available)
  - ineffective and uncertain involvement of local communities (**correct**; in many places, community members or stakeholders are not involved in projects developed for their respective communities)
  - overemphasis on urban communities in climate action plans (**not correct**; climate change does not impact urban areas only, and climate change action initiatives are for both urban and rural areas)
  - miscommunication between government officials and community members (**not correct**; rather, top-down decision making might be a problem)
9. The purpose of the "vision setting" step in community engagement in climate action is
- to involve community members in designing and implementing climate action plans. (**not correct**; this is done in the designing and implementing step)
  - to establish measurable objectives for climate action (**correct**; vision setting implies the establishment of measurable objectives that will help in the feedback and evaluation step)
  - to assess the effectiveness of climate action plans (**not correct**; this is the last step, whereas vision setting is the first step)
  - to prioritise options in a proposed climate action plan (**not correct**; this is done during the public information, deliberation, and outreach activities step)



10. Which of the following is NOT a tool used in the “feedback and evaluation” step of community engagement in climate action?
- stakeholders database (**not correct**, as a stakeholders database helps with knowing whom to contact to evaluate the outcomes of community engagement in climate action)
  - public consultation surveys (**correct**, this belongs to consultation, not to evaluation and feedback)
  - outcome evaluation (**not correct**; this is used in evaluation)
  - participatory evaluation (**not correct**; this is used in evaluation)
11. What is the purpose of the “mapping and analysing” step in community engagement in climate action?
- to develop a vision for climate action plans (**not correct**; this is for vision setting)
  - to gather feedback from the community through surveys (**not correct**; this is done during mapping and implementing)
  - to identify and understand the needs and vulnerability of local communities (**correct**; the aim of mapping and analysing is to identify all the groups in the community and understand their needs and vulnerability in relation to climate change)
  - to involve community members in all stages of action planning (**not correct**; this concerns the whole process of community engagement)
12. Which of the following best describes the “public information and outreach activities” strategy for community engagement in climate action?
- allowing community members to participate in discussions and decision-making (**not correct**; this is achieved during public deliberation)
  - conveying information to the general community or targeted groups through media and workshops (**correct**; the public information and outreach activities strategy helps to convey information to the general community or targeted groups)
  - collecting individual opinions and feedback from the community through surveys and interviews (**not correct**; this is achieved during public consultation)
  - prioritising options included in a proposed climate action plan based on the community’s choices (**not correct**; this is achieved during public deliberation)
13. Which factor is most likely to motivate community members to get involved in climate action, based on their perceptions of the impacts?

- a. environmental concern (**not correct**; this is a characteristic of people who possess pro-environmental attitudes)
  - b. climate change awareness (**not correct**; this refers to people's understanding of what causes climate change)
  - c. perceived risk (**correct**; perceived risk motivates people who think that climate change is likely to impact their household or who have experienced climate change effects)
  - d. perceived knowledge (**not correct**; this is relevant to education and information campaigns about climate change)
14. Which strategy for community engagement in climate action involves allowing community members to participate in discussions and decision making?
- a. public information and outreach activities (**not correct**; this serves only to convey information to community members)
  - b. public consultation (**not correct**; this strategy allows officials to offer opportunities for individual opinions or feedback from the community members on an upcoming issue, climate action plan or decision)
  - c. public deliberation (**correct**; this strategy takes a further step ahead of the public consultation and allows the community members to participate in discussions during which decisions about climate action plans to be implemented are taken)
  - d. all the alternatives are correct (**not correct**; as public deliberation is the correct answer)
15. How does perceived knowledge about climate change impact community members' willingness to act?
- a. It negatively influences their concern about environmental issues. (**not correct**; rather, it positively influences their concern about environmental issues)
  - b. It increases their awareness of the connections between their activities and the changing climate. (**correct**; education and information campaigns about climate change can impact people in different ways and are positively associated with willingness to change behaviour to promote climate change actions)
  - c. It directly leads to improved financial self-efficacy (**not correct**; education and information campaigns about climate change can impact people in different ways but do not provide financial means for climate change actions)
  - d. It determines the level of social capital within the community. (**not correct**; education and information campaigns about climate change can impact people in different ways but do not foster networks of relationships between people within communities)



## Unit 4

1. A. Policies should be inclusive in all aspects.
2. B. Funding should provide the needed resources for the local communities.
3. C. Effective involvement of the communities must ensure their awareness and full engagement.
4. D. Additional advantages include social belonging and co-operation.
5. A. It is crucial for communities to be aware and well informed.
6. B. The primary support leaders provide is to set conditions that allow the participation of local communities.
7. C. Correct and accessible information is key.
8. D. Government leadership should provide support with clear policies that do not isolate the engagement of local leadership.
9. C. The main step is to consider a local context and work with local leaders.
10. C. It is important to respect and trust the local community.

## Unit 5

1. A. Renewable energy sources (RES) are natural sources that are constantly replenished and do not produce greenhouse gases when used.
2. D. Unlike fossil fuels, RES cannot be exhausted; they are naturally available and replenishable
3. D. Photovoltaic technology is used in the production of solar energy.
4. C. The wind provides mechanical energy that turns the rotor blades of the turbine.
5. D. Hydroelectric power plants use flowing water from rivers to generate electricity.
6. C. RES do not produce greenhouse gas emissions.
7. B. Using RES limits the continuous extraction of fossil fuel and their related environmental risks.
8. B. When communities are effectively involved in RE projects, project implementation risks are highly limited.
9. C. Successful RE projects require input and support by local communities
10. C. An effective strategy to engage communities in RE projects is to involve them in decision making.
11. D. Involving communities in RE projects is key for the smooth planning and implementation of such projects.
12. C. Equal inclusion of local communities in RE projects involves the consideration of local context and needs.

13. D. An example of a cleaner vehicle strategy is to scrap high-emission (fossil fuel) vehicles.
14. D. Transportation emissions can be reduced by improving public transit and through ridesharing.
15. D. Communities can save energy in kitchens by purchasing energy-efficient appliances.

## Unit 6

1. C. Environmental degradation is caused by the destruction of natural resources by humans.
2. C. Ecological restoration brings ecosystems to their original state.
3. C. The time frame is 2021–2030 as defined in the UN SDGs agenda 2030.
4. B. Farmlands are ecosystems mostly used for agricultural activities.
5. B. In most cases, forests are degraded by logging for constructing human habitation.
6. D. Peatlands contain large reservoirs of water and carbon that mitigate climate change.
7. A. Through natural regeneration, ecosystems return to their original state.
8. B. CSA stands for climate-smart agriculture.
9. C. CSA practices reduce the negative impact of climate changes due to agriculture.
10. C. CSA mitigates GHG emissions by reducing emissions from livestock.
11. A. Farmers often lack the awareness and knowledge to implement CSA.
12. B. CSA mainly focuses on introducing crop varieties that adapt to climate change-related threats.
13. A. CSA practices conservation tillage that mitigates environmental damage.
14. C. In CSA, centres are hired that allow farmers to access affordable machines.
15. C. CSA builds resilience in livestock systems by creating water reservoirs and in heat-tolerant breeds.

## Unit 7

1. What was the primary goal of the “Let’s Build a Home Together” project in Serbia?
  - a. promoting tourism (**not correct**; the project provided houses to vulnerable Roma families living in Belgrade)
  - b. reducing unemployment (**not correct**; the project provided houses to vulnerable Roma families living in Belgrade)
  - c. providing shelter solutions for vulnerable Roma families (**correct**; the project was designed in line with international standards on the right to adequate housing)



- d. enhancing education in Belgrade (**not correct**; the project provided houses to vulnerable Roma families living in Belgrade)
2. What played a significant role in guiding the project for vulnerable Roma families in Belgrade?
- international regulations (**not correct**; this is not among the enablers of community engagement)
  - the government's directives (**not correct**; this is not among the enablers of community engagement)
  - participatory decision making and planning with beneficiaries (**correct**; this was the enabler of community engagement that was applied to make this project a success).
  - financial investments (**not correct**; this is not among the enablers of community engagement)
3. How did the Belgrade project integrate climate action measures?
- by raising awareness of environmental issues and empowering both children and adults to act in the interest of healthy and safe living (**correct**; perceived knowledge was enhanced among the Roma families in Belgrade)
  - through the construction of durable and sustainable housing. (**not correct**; the construction of durable and sustainable houses is not a climate action measure)
  - by providing financial support to families (**not correct**; the mere provision of financial support to families is not a climate action measure)
  - by conducting academic research (**not correct**; research was not mentioned in this project, nor does all research result in climate change action)
4. How did the Sri Lanka programme involve the community in waste management?
- by targeting and co-operating with women's associations and youth associations (**correct**; women, youths, schools, and other community members were used as partners in the implementation of this project)
  - by exclusively involving government agencies (**not correct**; communities were also involved)
  - by conducting research without community involvement (**not correct**; the programme's approach was to elicit help from the community by targeting and co-operating with women's associations, youth associations, schools, etc.)
  - by imposing waste management practices on the community (**not correct**; women were targeted for participation, and their knowledge was used to improve project planning)

5. What do the 3Rs stand for in the Sri Lanka case study?
  - a. reduce, replace, recycle (**not correct**)
  - b. reuse, recycle, reinvent (**not correct**)
  - c. recover, rebuild, renew (**not correct**)
  - d. reduce, reuse, recycle (**correct**)
  
6. How did the Ladakh community adapt to water scarcity?
  - a. by importing water from neighbouring regions (**not correct**; they are in mountains, and they use snow water)
  - b. by modifying traditional water distribution methods (**correct**; they innovated to optimise their traditional knowledge about water management)
  - c. by constructing dams and reservoirs (**not correct**; these were some of the techniques used)
  - d. by practising desert agriculture (**not correct**; sustaining their desert agriculture was one of water needs addressed by the project)
  
7. Why is Ladakh experiencing intensified water scarcity?
  - a. excessive rainfall and flooding (**not correct**; excessive rainfall and flooding cannot lead to water scarcity)
  - b. increasing temperature trends and glacier recession (**correct**; increased temperature accelerates glacier melting, hence reducing the water reserves relied on during the dry season and leading to water shortages in the region)
  - c. abundance of water resources (**not correct**; scarcity is the opposite of abundance)
  - d. decreasing population and tourism (**not correct**; the population and tourism are increasing in the region, hence the increasing demand for water)
  
8. What is the main factor determining the location of artificial glaciers in Ladakh?
  - a. availability of labour (**not correct**; this is not related to water engineering)
  - b. government regulations (**not correct**; the initiative was not from governmental officials)
  - c. villagers' knowledge of the terrain (**correct**; this was an age-old technique in place for a long time)
  - d. the presence of tourists (**not correct**; tourism is a recent source of income in the region)
  
9. The Ladakh community contributed to the implementation of water storage techniques mainly:
  - a. by relying solely on government support (**not correct**; the support came from NGOs)



- b. by using their traditional water storage techniques (**correct**; community members used their traditional techniques to mitigate climate change impacts)
  - c. by importing technology from foreign countries (**not correct**; traditional knowledge was the foundation of the water storage techniques used in the project)
  - d. by conducting academic research (**not correct**; the community members did not need research to apply their ancestral knowledge)
10. What factors contributed to the success of the Ladakh water storage initiatives?
- a. abundance of water resources and government funding (**not correct**; the region is characterised by low precipitation)
  - b. traditional knowledge, community involvement, and collaboration (**correct**; the project was a result of collaborative efforts among innovators, technical specialists, community leaders, funding sources, and especially villagers and farmers)
  - c. high levels of precipitation and modern technology (**not correct**; the region has a low level of precipitation)
  - d. climate change awareness and international support (**not correct**; water scarcity was exacerbated by climate change, but water management had been in place for a long time)

## Unit 8

1. \_\_\_\_\_ is one of the purposes of monitoring and evaluation (M&E) in inclusive community projects for climate change action.
- a. securing funds from sponsors (**not correct**; funds are secured before M&E)
  - b. assessing the feasibility of the project (**not correct**; the feasibility of the project is carried out before M&E)
  - c. identifying challenges and overcoming hindrances (**correct**; M&E is carried out during project implementation to check whether things are going as planned)
  - d. finalising project details with technical experts (**not correct**; this is carried out during conception and project proposal development)
2. The purpose of conducting a needs and feasibility assessment in a community is to:
- a. secure funds for the project (**not correct**; funds are secured after project proposal development)

- b. identify areas for improvement in the community (**correct**; needs assessment is carried out to prioritise areas that need intervention)
  - c. finalise project details (**not correct**; the project is conceived to address the gap identified during the needs assessment phase)
  - d. approach sponsors (**not correct**; sponsors are approached after full project proposal development)
  
3. The following are indicators of an environmental change as one of the expected outcomes of a community needs assessment EXCEPT
  - a. physical change (**not correct**; physical changes are part of environmental change, and they are made to adapt to or mitigate impacts of environmental changes)
  - b. social change (**not correct**; social changes are part of environmental changes, as they lead to positive change in attitudes or behaviour about policies that promote environmental concerns or an increase in supportive attitudes regarding environmental issues)
  - c. system change (**not correct**; system change is not a focus of environmental changes; system change involves change that affects all the components of a community, including the social norms of an organisation, institution, or system)
  - d. economic change (**not correct**; economic changes are part of environmental changes; they are exemplified by the presence of financial disincentives or incentives to encourage a desired behaviour)
  
4. What section of a grant proposal communicates the exact reason for needing funding?
  - a. goals (**correct**; goals may also be called a needs statement; this section tells exactly why funds are needed and what the project will change in the community)
  - b. objectives (**not correct**; objectives detail exactly what the funding will do and includes things like the timeline)
  - c. outcomes (**not correct**; outcomes are specific measurable achievements expected from the project)
  - d. strategy (**not correct**; strategy refers to procedures that will be used to implement the project)
  
5. How can grant writers ensure their proposals are easy to understand?
  - a. by exceeding word count limits (**not correct**; not exceeding word count limits is being concise in writing)
  - b. by being overly technical (**not correct**; projects are not purely scientific; they should be written in a language understandable)



- by the non-academic public, such as policymakers, business people, and public officers)
- c. by being concise (**correct**; being concise means staying within any word count limits, being brief and clear, and expressing what needs to be said without unnecessary words)
  - d. by avoiding data and statistics (**not correct**; data and statistics are needed to clarify why the project is worthy of being addressed)
6. The following statements about asking for feedback on a grant proposal are not true, EXCEPT:
- a. Ignore suggestions for improvement. (**not correct**; feedback is requested to identify what went well and what went wrong to improve the proposal in subsequent drafts)
  - b. It will improve the chances of success in future applications. (**correct**; information provided in feedback is used to improve future applications to win a grant)
  - c. It discourages further applications. (**not correct**; feedback helps to identify where improvements are needed in future applications)
  - d. There is no need to ask for feedback, as it is always provided after the selection process for grant applications. (**not correct**; feedback is not always given)
7. In the context of designing a project to mitigate climate change impact, what is the first step to be carried out?
- a. securing funds from sponsors (**not correct**; you cannot secure funds before designing a project)
  - b. meeting with technical experts (**not correct**; experts are met after having the idea for a project, while designing it)
  - c. implementing the project (**not correct**; implementation occurs after designing it and obtaining funding)
  - d. conducting a needs and feasibility assessment in the neighbourhood (**correct**; the needs and feasibility will guide the course of the project)
8. What is the role of the committee selected during the implementation of the project?
- a. to secure funds from sponsors (**not correct**; the committee is selected after securing the funds)
  - b. to evaluate progress and get feedback from stakeholders (**correct**; the committee is selected to co-ordinate the implementation of the project)
  - c. to carry out a needs and feasibility assessment (**not correct**; the committee is selected at a later stage of project development)

- d. to determine suitable project sites (**not correct**; the committee is selected at a later stage of project development)
9. How can M&E help in inclusive community projects?
- by involving technical experts (**not correct**; technical experts are involved during project conception if there is a need)
  - by organising regular meetings with stakeholders (**correct**; M&E includes reporting progress to all stakeholders)
  - by securing funds from sponsors (**not correct**; the role of is not to secure funds)
  - by continuously assessing the project's progress and identifying challenges (**not correct**; identifying challenges is not the role of M&E)
10. According to what you learned in this unit, what does M&E stand for?
- management and enhancement (**not correct**)
  - monitoring and evaluation (**correct**)
  - milestones and experiences (**not correct**)
  - measurement and execution (**not correct**)
11. What is the purpose of the simple table suggested in this unit?
- to finalise project details with technical experts (**not correct**; the table is meant to report the results of project activity evaluations)
  - to record achieved project activities or deliverables (**correct**; the table is meant to report the results of project activity evaluations)
  - to secure funds from sponsors (**not correct**; the table is meant to report the results of project activity evaluations)
  - to meet key persons in the village (**not correct**; the table is meant to report the results of project activity evaluations)
12. The fourth step in monitoring and evaluating climate change action projects focuses on:
- carrying out a needs and feasibility assessment (**not correct**; this is the first step)
  - determining a suitable site for the project (**not correct**; this is the second step)
  - approaching sponsors to secure funds (**correct**; this is the fourth step)
  - implementing the project and organising regular meetings (**not correct**; this is the last step)
13. What is the role of stakeholders in the project design and implementation process?
- to secure funds from sponsors (**not correct**; not all the stakeholders are part of project design)



- b. to carry out a needs and feasibility assessment (**not correct**; not all the stakeholders carry out the needs and feasibility assessment)
  - c. to provide feedback during regular meetings (**correct**; all the stakeholders are invited to regular meetings of the project)
  - d. to finalise project details with technical experts (**not correct**; only a team is selected to design the project)
14. What is the meaning of the term "level of engagement" as used in the M&E table?
- a. the level of funding secured from sponsors (**not correct**; it describes the extent to which stakeholders are participating in the evaluated activity)
  - b. the level of interest shown by stakeholders (**correct**; it describes the extent to which stakeholders are participating in the evaluated activity)
  - c. the level of progress in achieving project outcomes (**not correct**; it describes the extent to which stakeholders are participating in the evaluated activity)
  - d. the level of expertise of technical experts involved (**not correct**; it describes the extent to which stakeholders are participating in the evaluated activity)
15. Which step of the project design procedures involves technical experts?
- a. carrying out a needs and feasibility assessment (**not correct**; this is done to identify gaps; experts may be needed later on, based on the type of expertise needed)
  - b. determining a suitable site for the project (**not correct**; the site is selected before experts are consulted, although they may suggest the site be changed)
  - c. finalising project details (**correct**; if needed, experts ensure the quality of the project)
  - d. organising a meeting with stakeholders and selecting a committee (**not correct**; committee selection occurs after project approval)



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**November 2024**