

# The Inclusive Policymaking Toolkit for Climate Action: Appendices





# 1. Links to further resources

- [Inclusive Governance outline](#), from the Government of Canada
- [Guide to Deliberative Engagement](#), by Ipsos
- [People and Participation handbook](#), by Involve
- [Framework for Meaningful Engagement](#), by Society Inside and European Center for Not-for-Profit Law (ECNL)
- [Quality in Dialogue, An Evaluation Framework](#), by Sciencewise
- [Deliberative Democracy Toolbox](#), by OECD
- [Sortition Foundation](#), a global organisation that specialises in sortition for deliberative research and citizen participation.
- [Participedia](#), A global network with resources about methods for public participation - this is a library of case studies of participation from across the world



# 2. Citizen engagement models

Some different citizen engagement methods to consider include:

Method	Format	Type of insight	Best suited when
<p><b>Deliberative workshops</b></p> <p><i>(used in the pilot studies)</i></p> <p>Typically falls under the 'Involve' or 'Collaborate' categories of the engagement spectrum.</p>	<p>This approach consists of group discussions within workshops with participants, over a period of time. Participants are given the information, access to experts, guidance and time needed so that they can explore the subject matter in-depth and considering different perspectives.</p>	<p>Participants will share their priorities, concerns, and hopes about the best way forward. Hearing from other participants helps them develop their views through the process, by considering other perspectives. They will work together to form principles articulating how a solution should be selected, implemented and managed.</p>	<p>When the subject matter is technical or unfamiliar, and therefore an accurate and unbiased 'informing' stage and access to experts is needed.</p> <p>When you want to explore the wider systems surrounding the subject matter, gaining rich nuanced citizen views.</p>
<p><b>Online communities</b></p> <p>Typically falls under the 'Involve' category, as group discussion opportunities are limited.</p>	<p>A hosted online platform which participants can access to view stimulus, complete activities, and interact with each other.</p>	<p>Depending on the activities, you can explore responses to information or media, discussion between participants in forums, ranking activities, and picture or video responses uploaded by participants.</p>	<p>The subject matter is accessible enough that participants can engage with it without in-person dialogue and support.</p> <p>Participants need flexibility in when/where they engage.</p>

Method	Format	Type of insight	Best suited when
<p><b>Citizen assemblies</b></p> <p><i>Typically falls under the 'Involve' or 'Collaborate' categories of the engagement spectrum.</i></p>	<p>A citizens' assembly is a microcosm of the public (50-100) selected by sortition (selection by lot) to be representative of the wider population. It meets over a set period to discuss an issue and make recommendations based on deliberation. It is usually addressed towards a policy or political audience.</p>	<p>Citizen assemblies are particularly useful for addressing complex and contentious issues that lack simple solutions. They provide a structured and inclusive platform for citizens to engage with intricate policy questions, weighing trade-offs, and exploring different possibilities. Their insights can shed light on the complexities of these issues and inform the development of more nuanced policies.</p>	<p>The topic is complex, and requires time to discuss and explore numerous issues; when the issue is highly contentious and divisive, requiring the balancing and engagement of a wide range of stakeholders; and when there is need to ensure that there is dialogue between political representatives, policymakers and citizens.</p>
<p><b>Citizen juries</b></p> <p><i>Typically falls under the 'Involve' or 'Collaborate' categories of the engagement spectrum.</i></p>	<p>A citizens' jury is a microcosm of the public (15-25) recruited to reflect a diversity of views within the wider population. It meets over a set period to answer a specific policy question defined by the policymaker, and advise on that question. It is usually addressed towards a policy or political audience.</p>	<p>Citizen juries are particularly useful for addressing complex and contentious questions that lack simple solutions and aiding policy implementation. They provide a structured and inclusive platform for citizens to engage with intricate policy questions, weighing trade-offs, and exploring different possibilities. Their insights can shed light on the complexities of these issues and inform the development of more nuanced policies.</p>	<p>When there is a clear and precise policy question that the policy commissioner would like answered, and a clear remit for input from citizens – for instance, specific policy areas or levers that require broad societal and community buy in from citizens and communities if they are likely to be effective. Juries are more effective when the scope of the question is clearly bounded.</p>



Method	Format	Type of insight	Best suited when
<p><b>Participatory budgeting / governance</b></p> <p><i>Typically falls under the 'Collaborate' and 'Empower' categories of the engagement spectrum.</i></p>	<p>Participatory budgeting (PB) is a type of citizen engagement in which ordinary people decide how to allocate part of a municipal or public budget through a process of democratic deliberation and decision-making.</p>	<p>Participatory budgeting allows residents to propose and prioritize projects or initiatives that they believe will benefit their community.</p> <p>Participatory budgeting aims to involve a broad cross-section of the community, including traditionally marginalised or underrepresented groups. PB also promotes transparency by making the budgeting process more visible and accessible to citizens.</p>	<p>There is a clear pot of money to be allocated, and early stage community engagement and participation will help identify the best routes and most 'value for money' approaches to spending that money and resources. This method is particularly usefully for approaches that aim to equitably distribute money to marginalised groups and communities.</p>



# 3. Example workshop plan

## Seychelles Citizen Engagement: Workshop design

**Overall policy question:** What climate smart technologies and practices are available to support an integrated approach to landscape management that addresses the interlinked challenges of food security and climate resilience?

### Research questions:

- *What climate smart technologies can be adopted to build resilience in the Seychelles food production system?*
- *Which resilience building climate smart technology exists and should be scaled up?*
- *Which climate smart technology building resilience exists in other Small Island Developing States and could apply to the Seychelles?*
- *What are the key enabling factors contributing to a successful implementation?*

- *What are the main barriers and challenges hindering a successful implementation?*

### The citizen engagement will aim to explore:

#### What are the Seychelles citizens' priority issues related to climate smart technologies?

- What climate hazards in the Seychelles affect or concern citizens the most in relation to food production?
- How do Seychelles citizens relate to food security, how important is this issue to them?
- What trade-offs do citizens feel are acceptable or unacceptable when addressing priority issues?

#### What climate smart technologies do citizens feel are most appropriate?

- How do citizens respond to the benefits and drawbacks of different technologies?
- Do citizens consider there are any barriers that could affect the effective implementation of technologies?

- How do citizens prioritise potential climate smart technologies: For example, by the degree to which it impacts specific climate hazards, by implementation cost, by implementation ease/feasibility, by Net-Zero impact?

**What do citizens feel is needed for climate smart technologies to be successful?**

- How can practical, financial or social obstacles be overcome in the Seychelles?
- How can farmers be supported in adopting climate smart technologies?

**Design: Session outline**

12 hours’ of live group discussions, divided over 2 separate workshop sessions, to enable adequate time for Q&A, specialist presentations, discussion in plenary and small breakout group discussions.

**Session 1: Introduction and learning**

Set-up:

- Three tables to fit 10 participants each, with a facilitator and note-taker.
- A presentation screen and room at the front for the chair to present during plenary sessions
- Post-it note stations around the room with: post-it notes and pens provided, flipcharts or poster to stick them to, with the theme written on each one:
  - Climate hazards and challenges that affect food production in the Seychelles
  - Importance of food security
- Table with tea/coffee/water and cups/glasses

Printed materials:

- Definitions sheet: Resilience, food security and imports, carbon emission and Net-zero
- Info sheets on each climate smart technology (CST)

Arrive – settle in  
9.00am-9.30am

**Participants arrive, are welcomed and settled into the room**

Plenary

9.30am-9.50am

**Welcome. Why are we here? (5 mins)**

- These workshops are to discuss food production in the Seychelles, what climate change challenges affect food production, what technologies and practices may improve resilience against these challenges, and what solutions may improve food security and lower carbon emissions.
- You have all been invited because the experiences and opinions of people who live and work in Seychelles, who grow or buy local food, and who are connected to the landscape, are important when deciding what solutions are most appropriate.
- During these workshops we will have group discussions at our tables, with a facilitator to guide the conversation and ask questions. There are no wrong or right answers, as we are looking to understand the experiences, concerns, and priorities that citizens of Seychelles have about these issues.
- We will take comfort breaks and provide lunch on both days of the workshop.
- You will see areas on the wall where you can write on post-it notes (or ask a facilitator to do so) and add your views there.

**Context: Climate challenges and hazards facing Seychelles food production (15 mins)**

- Later on, we will get more information about technologies and practices that may improve the resilience of Seychelles food production, but to begin with we will discuss the key challenges and hazards that we face.
- Outline of key hazards: Drought and tropical cyclones and heavy rainfall causing severe flooding, landslides, and rockfalls, resulting in serious damage to homes, public buildings, roads, bridges, drainage systems, water and sanitation systems, crops, and farms.
- You may have experiences other challenges; it would be very helpful to hear about those in your group discussions. And please feel free to add them to the wall too (point to area of the wall for adding hazards and challenges).



<p>Table discussions 9.50am-10.10am</p>	<p><b>Welcome and introductions (5 mins)</b></p> <p>We will be having many of our discussions at this table, so it would be great to introduce ourselves and welcome each other.</p> <ul style="list-style-type: none"> <li>• Facilitator goes first, introduces name.</li> <li>• Facilitator goes around the table and asks each name, and how/if they grow or buy local food.</li> </ul> <p><b>Discussion on climate challenges and hazards (15 mins)</b></p> <ul style="list-style-type: none"> <li>• What did you think about the climate hazards and challenges discussed in the presentation just now?</li> <li>• CLARIFY: We are focusing on challenges that affect food production in the Seychelles. <ul style="list-style-type: none"> <li>• Which of the challenges discussed do you experience most?</li> <li>• Which are you most confident will be resolved? What gives you this confidence?</li> <li>• Which are you most worried won't be resolved? Why do you have this worry?</li> <li>• Are there any other challenges or hazards that affect food growth or production here? (Facilitator writes any new ones down on post-it notes to be added to the wall)</li> </ul> </li> <li>• Out of all of these challenges, which is the one you think needs to be addressed as a priority?</li> <li>• FACILITATOR GOES AROUND THE GROUP TO ASK ALL <ul style="list-style-type: none"> <li>• Why is that? Probe: immediate impacts, long-term impacts, cost to food growers.</li> </ul> </li> </ul>
<p>Plenary 10.10am-10.25am</p>	<p><b>Context: Link between resilience, food security and carbon emissions (15 mins)</b></p> <ul style="list-style-type: none"> <li>• Now that we have had an overview of the challenges that face food production here, we will look at how these affect food security, resilience, and carbon emissions in the Seychelles.</li> <li>• Presentation on how hazards affect food resilience, and in turn food security, explaining the link to reliance on imports, and carbon emissions.</li> </ul>

	<ul style="list-style-type: none"> <li>• Include definitions of resilience, food security, carbon emissions and Net-Zero:</li> <li>• Why (globally) we are aiming for net zero, and the challenges climate change has on global food systems, as well as other impacts – Ukraine war, energy prices, economic crisis etc.</li> <li>• Since the Seychelles primarily imports their food, it is important to build resilience to any pressures of this by focusing on local produce too.</li> <li>• Presentation on the Seychelles aims to adapt food production to improve resilience. The limitations to Seychelles reaching Net-Zero, but the targets it has.</li> </ul>
<p>Table discussions 10.25am-10.45am</p>	<p><b>Citizen responses to food security and carbon emissions (20 mins)</b></p> <ul style="list-style-type: none"> <li>• That presentation outlined some key challenges and aims. I'm interested to hear about how you feel about each one. Let's start by looking at food security: <ul style="list-style-type: none"> <li>• How important is it to you that the Seychelles is able to rely on food grown domestically, rather than on imports?</li> <li>• Why is/isn't that important to you?</li> <li>• What impacts do you think poor food security has for the Seychelles/the world?</li> <li>• What benefits are there for the Seychelles to improve food security?</li> </ul> </li> <li>• Now let's discuss carbon emissions: <ul style="list-style-type: none"> <li>• How important is it to you that the Seychelles reduces its carbon emissions?</li> <li>• Why is/isn't that important to you?</li> </ul> </li> </ul>
<p>Comfort break (10 mins) 10.45am-10.55am</p>	<p><b>Now we are going to have a ten-minute comfort break.</b></p> <p><b>If you like, please have a look at the walls, and see if you have any thoughts to add on the posit-it notes.</b></p>

Table discussions

10.25am–10.45am

**Welcome back and thank you for all of your input so far!**

**Now we are going to introduce a range of possible solutions for some of these challenges.**

- Some are technologies, some are practices.
- Some have been used in the Seychelles before, and some have only been used in other countries and island nations.
- During this session we will look at them with just a little detail, and later on and in the next workshop we will look at a few of them in much more detail.

**Presentation on climate smart technologies and practices:**

- What is a ‘climate smart technology/practice’, and what do they aim to achieve.
- Which are already used/trialled in the Seychelles?
- Which are used elsewhere that may help in the Seychelles?
- Full list of climate smart technologies and practices to present:
  - Anti-erosion arrangement
  - Use of organic manure and mulch
  - Water control through irrigation / drip irrigation
  - Rainwater harvesting
  - Use of weather information
  - Use of climate adapted or improved seeds or breeds
  - Wind break and shelter
  - Integrated crop–livestock system
  - Integrated pest and disease management
- **Video stimulus about climate smart technologies and practices in Seychelles**
- **During the rest of the workshops we are going to focus on four of the solutions:**
  - Contour farming
  - Weather information
  - Drip irrigation/rain harvesting
  - Climate resilient crop varieties



<p>Table discussions 11.20am-12.00pm</p>	<p><b>Initial responses to climate smart technologies and practices (15 mins)</b></p> <p>We heard about quite a few solutions in the presentation. I have printed summaries of each one on the table, so please do pass them around as we discuss.</p> <ul style="list-style-type: none"> <li>• Are any of these familiar to you? What have you heard/ experienced of this solution?</li> <li>• Where any very interesting to you? Why? Do you feel positive or negative about this solution?</li> <li>• Do you have any concerns about any of these?</li> </ul> <p><b>Ranking exercise (25 mins)</b></p> <ul style="list-style-type: none"> <li>• Thinking about the hazards and challenges you think are most important, and the information about each of these solutions, which would be the THREE solutions you would prioritise in the Seychelles?</li> <li>• FACILITATOR ASK EACH PERSON AND ASK THEM WHY THEY HAVE CHOSEN THESE.             <ul style="list-style-type: none"> <li>• Important that the reasoning is properly probed, as this is the useful data, more so than the number of people who chose each solution.</li> </ul> </li> </ul>
<p>Lunch 12:00pm-1:00pm</p>	
<p>Table discussions 1.00pm-1.40pm</p>	<p><b>CST 1: Water irrigation and harvesting</b></p> <p><i>Type of irrigation system that delivers water slowly and directly to the plant roots through a network of tubes and pipes.</i></p> <ul style="list-style-type: none"> <li>• <u>More info given to participants (Fact sheet, informed by Ricardo):</u> <ul style="list-style-type: none"> <li>• <b>Hazards addressed:</b> Drought, changing rainfall patterns</li> <li>• <b>Current status in Seychelles:</b> Drip irrigation has been implemented in Val Dendor as part of a UNDP-funded project</li> <li>• <b>Cost profile:</b> HIGH. Drip irrigation is a costly technology, also associated costs such as water storage facilities</li> <li>• <b>Pros:</b> Reduces water use by 60-70%, improves soil quality, reduces weeds/pests, already tested in the Seychelles.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Cons:</b> If pumps are not powered by green energy, may be cheaper to implement than solar, but have negative impact on carbon emissions. Possible reliance on planning permission for water storage.</li> <li>• Probing questions             <ul style="list-style-type: none"> <li>• What support/incentives do farmers need for successful implementation of this technology?</li> <li>• What barriers do they foresee to implementing this technology?</li> </ul> </li> </ul>
<p>Table discussions 1.40pm-2.20pm</p>	<p><b>CST 2: Use of weather information</b></p> <p><i>Offering smallholder farmers free climate information services warning them about possible risks such as unfavourable weather conditions, onset or offset of the dry season, high degree days, etc.</i></p> <ul style="list-style-type: none"> <li>• <u>More info given to participants (Fact sheet, informed by Ricardo):</u> <ul style="list-style-type: none"> <li>• <b>Hazards addressed:</b> advanced warning about risks to crops, such as timings of dry seasons, high degree days, or more extreme weather conditions, conditions likely to increase pests/diseases</li> <li>• <b>Current status in Seychelles:</b> Seychelles have extensive weather stations across archipelagos. The change would be implementing advanced software and creating communication networks.</li> <li>• <b>Cost profile:</b> HIGH. Cost would be the software: developing critical skills to develop and maintain the software, managed by specialists not farmers</li> <li>• <b>Pros:</b> Improved preparedness for bad weather conditions or for pests. Not too much burden on farmers themselves.</li> <li>• <b>Cons:</b> requires investment in software skills, without effective communication of information, investment may not see success.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"><li>• Probing questions<ul style="list-style-type: none"><li>• What level of info do farmers have at the moment, what works what doesn't, what more</li><li>• How could information from this service best be communicated to farmers? E.g. WhatsApp?</li><li>• What support/incentives do farmers need for use this technology effectively?</li><li>• What barriers do they foresee to implementing this technology?</li></ul></li></ul>
<p>Plenary 2.20pm-3.00pm</p>	<p>Thank participants</p> <ul style="list-style-type: none"><li>• Hear from facilitators from each table what some key themes were</li><li>• Q&amp;A with expert/stakeholder (if we can secure one)</li><li>• Encourage to add more post-it notes to the walls, and chat to each other and facilitators as they do</li></ul>





<b>Session 2: CST focus discussions</b>	
Arrive – settle in 9.00am–9.30am	<b>Participants arrive, are welcomed and settled into the room</b>
Plenary 9.30am–10.00am	<p><b>Welcome back and introduction (30 mins)</b></p> <ul style="list-style-type: none"> <li>• Recap of last session</li> <li>• Common themes from discussions</li> <li>• Common themes from the post-it notes</li> <li>• Recap of the two solutions focused on last time</li> <li>• Outline of today’s workshop</li> </ul>
Table discussions 10.00am–10.40am	<p><b>CST 3: Climate resilient seeds (40 mins)</b></p> <p><i>Varieties of seeds that have been specifically selected or developed for their ability to grow in a particular climate or environment, affected by particular hazards (e.g., drought-resistant varieties)</i></p> <ul style="list-style-type: none"> <li>• <u>More info given to participants (Fact sheet, informed by Ricardo):</u> <ul style="list-style-type: none"> <li>• <b>Hazards addressed:</b> Drought, variable temperatures, changing rainfall patterns</li> <li>• <b>Current status in Seychelles:</b> In Seychelles, climate-resilient crops are mainly imported and tested at the ‘crop research station’ of the Seychelles Agricultural Agency. Globally there is the FAO, an international org that select seeds that are suited to certain hazards</li> <li>• <b>Cost profile:</b> MEDIUM. Costs for researching and testing crop varieties in Seychelles climate. Also costs for training farmers on how to best grow these varieties, as they may be different.</li> <li>• <b>Pros:</b> Growing more resilient crops may reduce the reliance on imports of produce, lowering carbon emissions. Productivity up, so same energy used in farming, but for a better yield.</li> <li>• <b>Cons:</b> May be challenges for acceptability if new crops are different to traditional/familiar ones. Risk of failure: Some new seeds may be more vulnerable to pests and diseases.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• Probing questions</li> <li>• What support/incentives do farmers need for successful implementation of this technology?</li> <li>• What barriers do they foresee to implementing this technology? Probe on acceptance (from farmers and consumers) – may be different crops, a move away from traditional national crops.</li> </ul>
<p>Comfort break 10.40am–10.50am</p>	
<p>Table discussions 10.50am–11.30am</p>	<p><b>CST 4: Contour farming (40 mins)</b></p> <p><i>Contour farming is established by following the natural contours when ploughing the soil and cultivating the crops. It is best practiced on hills and slopes (land inclined 15–20°).</i></p> <ul style="list-style-type: none"> <li>• <u>More info given to participants (Fact sheet, informed by Ricardo):</u> <ul style="list-style-type: none"> <li>• <b>Hazards addressed:</b> Landslides, floods and storms</li> <li>• <b>Current status in Seychelles:</b> Contour farming has been trialled out in the Seychelles with success.</li> <li>• <b>Cost profile:</b> LOW. Requires only ploughing operators to create and maintain the contour ridges</li> <li>• <b>Pros:</b> Already trialled successfully in the Seychelles. Only requires ploughing to create and maintain contour ridges. Reduces soil loss and run-off. Naturally retains rainwater.</li> <li>• <b>Cons:</b> Applies to sloping/hillside farms, but less so to flat farmland. Requires training and support for implementation. More burden on farmers than the state, as involves changing farm layout.</li> </ul> </li> <li>• Probing questions <ul style="list-style-type: none"> <li>• What support/incentives do farmers need for successful implementation of this technology?</li> <li>• Are they already doing it to some extent?</li> <li>• What barriers do they foresee to implementing this technology? Low national risk, but the burden of implementing falls on farmers changing the layout of their land, training may be needed.</li> </ul> </li> </ul>

<p>Plenary 11.30am-12.00pm</p>	<p>Review of the four climate smart technologies and practices (30 mins)</p> <ul style="list-style-type: none"> <li>• Now you have discussed four of the key solutions in detail at your table, we will recap on those, as well as the longer list of solutions presented in Workshop 1.</li> <li>• Presentation:             <ul style="list-style-type: none"> <li>• Recap of the key challenges and hazards, and themes from Workshop 1 about which are highest priority</li> <li>• Recap of the 4 CST's, the fact sheet for each one, and common themes from the table discussions.</li> <li>• Followed by a reminder of the other CST's, which are in Seychelles, and which are not</li> </ul> </li> </ul>
<p>Lunch 12.00pm-1.00pm</p>	
<p>Table discussions 1.00pm-2.00pm</p>	<p><b>Reviewing the solutions (60 Mins)</b></p> <ul style="list-style-type: none"> <li>• Listening back to the presentation before lunch, did you have any thoughts about the solutions available?             <ul style="list-style-type: none"> <li>• Which do you have most hope in being successful? Why do you think it would be successful? What outcome would you consider 'successful'?</li> <li>• Which do you have least hope would be successful? Why do you think it may not work?</li> </ul> </li> <li>• I have the fact sheets for the four solutions that we have discussed in detail over the last two days. Please take 5-10 minutes to look over them, and then choose two which you would prioritise if it was up to you. Please write down which ones on the paper provided:             <ul style="list-style-type: none"> <li>• Please keep in mind why, as we will discuss this shortly</li> <li>• GIVE 5-10 MINUTES OR UNTIL THEY HAVE ALL DECIDED</li> </ul> </li> <li>• Facilitator goes around the group and asks about which two each person would choose, probing:</li> </ul>



	<ul style="list-style-type: none"> <li>• Why these two? Cost, urgency of challenge it addresses, likelihood of success, additional benefits?</li> <li>• Why not the other two? Cost, likelihood of success, negative impacts, social challenges (tradition, training, acceptability?)</li> <li>• IF A PARTICIPANT CHANGES THEIR MIND, ASK WHAT THEIR ORIGINAL CHOICE WAS AND WHY, THEN ASK FOR WHAT LED THEM TO CHANGE THEIR MIND.</li> </ul>
<p>Comfort break 2.00pm-2.20pm</p>	
<p>Table discussions 2.20pm-2.50pm</p>	<p><b>Wrap up discussion (30 mins)</b></p> <ul style="list-style-type: none"> <li>• What are the most urgent needs to be addressed for food production resilience?</li> <li>• How important is food resilience for the Seychelles?             <ul style="list-style-type: none"> <li>• What compromises are/are not acceptable to improve resilience?</li> </ul> </li> <li>• How important is it for the Seychelles to reduce carbon emissions?             <ul style="list-style-type: none"> <li>• What compromises are/are not acceptable to lower carbon emissions?</li> </ul> </li> <li>• What do is needed for success of solutions?             <ul style="list-style-type: none"> <li>• Funding, training, research, public awareness?</li> </ul> </li> </ul>
<p>Plenary 2.50pm-3.00pm</p>	<p><b>Thank and close (10 mins)</b></p>

# 4. Case Studies:

## The pilot studies

### 4.1. Pilot study overview

**Why did we do pilot studies?** The methodology aims to be applicable within different contexts, and replicable at an international scale. The pilot stage aimed to test and demonstrate the potential of the methodology, as well as learning ways in which the methodology should be adapted or improved.

**Pilot overview:** Over the course of 2022–2023, citizens, scientists and government representatives from three pilot countries (Colombia, Kenya and the Seychelles) worked to address one key policy and engagement challenge in national food and agriculture systems. In each pilot country, the partnership convened:

- A community of stakeholders including national and international academics and experts, who signpost and review the scientific evidence which addresses one key policy and engagement climate-related challenge in national food and agriculture systems.

- Deliberative “mini public” workshops convening members of the public.

Scientific evidence and outputs of the deliberative workshops informed the community of experts and national governments on potential policy recommendations and solutions to the identified challenge.

**Why food systems:** The decision to centre the pilot research around ‘low emission food systems’ was agreed in the first meeting of the Global Science Partnership Steering Group, attended by senior champions from all partner countries. This theme was chosen as an umbrella topic for the pilot phase of the methodology as it is:

- Applicable to all partner countries and is a shared challenge
- A specific and genuine challenge that can utilise the principles of the partnership of expert study and citizen engagement

- Has relevance to long-term strategies and/or climate policy development
- Is a scientific challenge relating to climate action
- Is multi-disciplinary and multi-institutional

All pilot countries selected face a net zero challenge in low emission food systems. However, as specific elements within

this topic vary between countries (e.g., areas of the food system mostly affected, local challenges, national circumstances and policy needs), specific research questions were formed for each of the pilot countries.

The methodology would be suitable for many other climate challenges, for example renewable energy, transport and mobility, or nature-based carbon capture, utilisation and storage.

## 4.2. Case Study 1: Colombia

Cattle farming contributes to 35% of GHG emissions in Colombia. Thirty-three percent from these emissions originate from enteric fermentation and 67% from deforestation and land-use change. This posits a great challenge for the country to meet its commitments against fighting climate change, namely reducing emissions by 51% relative to the projection of emissions in 2030 and decreasing its deforestation rate by 50,000 hectares per year in 2023.

The study took place in the region of Meta, in Orinoquia due to the strong presence of livestock rearing in the area.

The following partners were involved in the development of the pilot in Colombia:

- The Foreign, Commonwealth and Development Office (FCDO),

- Ministry of Science, Technology and Innovation (Minciencias),
- British Embassy in Colombia,
- Ipsos Colombia.

### **Colombia policy question:**

*How should the implementation of the public policy of social appropriation of CTI (Ministry of Sciences) be oriented to support the construction and adoption of a comprehensive management system that allows achieving the sustainability of livestock landscapes in the face of neutrality in carbon emissions, GHG, food security and resilience to climate change?*

A simplified version of this is: How can we combine citizen and science insights to support the construction and adoption

of an integrated management system that achieves sustainable livestock landscapes – considering greenhouse gas emissions neutrality, food security and resilience to climate change?

This question was supported by three subsequent research questions:

1. What are the elements that would make up a comprehensive management system to achieve the sustainability of livestock landscapes taking into account the CTI (Ministry of Sciences) Social Appropriation Policy, the Sustainable Bovine Livestock Policy, the National Reference Framework for Sustainable Livestock Landscapes and other complementary policies and instruments?
2. What and how should be the relationship between institutions, between institutions with society and between members of society for the successful implementation of intentional processes of transformation of realities, contexts, procedures and practices towards the sustainability of livestock landscapes, including citizen participation and as part of a comprehensive management system?
3. What are the tools and methodologies for the design and implementation of transition scenarios that lead to the sustainability of livestock landscapes, through the social appropriation of knowledge, exchange, evaluation and systematization of experiences and indicators, as part of the integral management, oriented to the transformation of realities, contexts, processes and practices towards the sustainability of livestock landscapes?



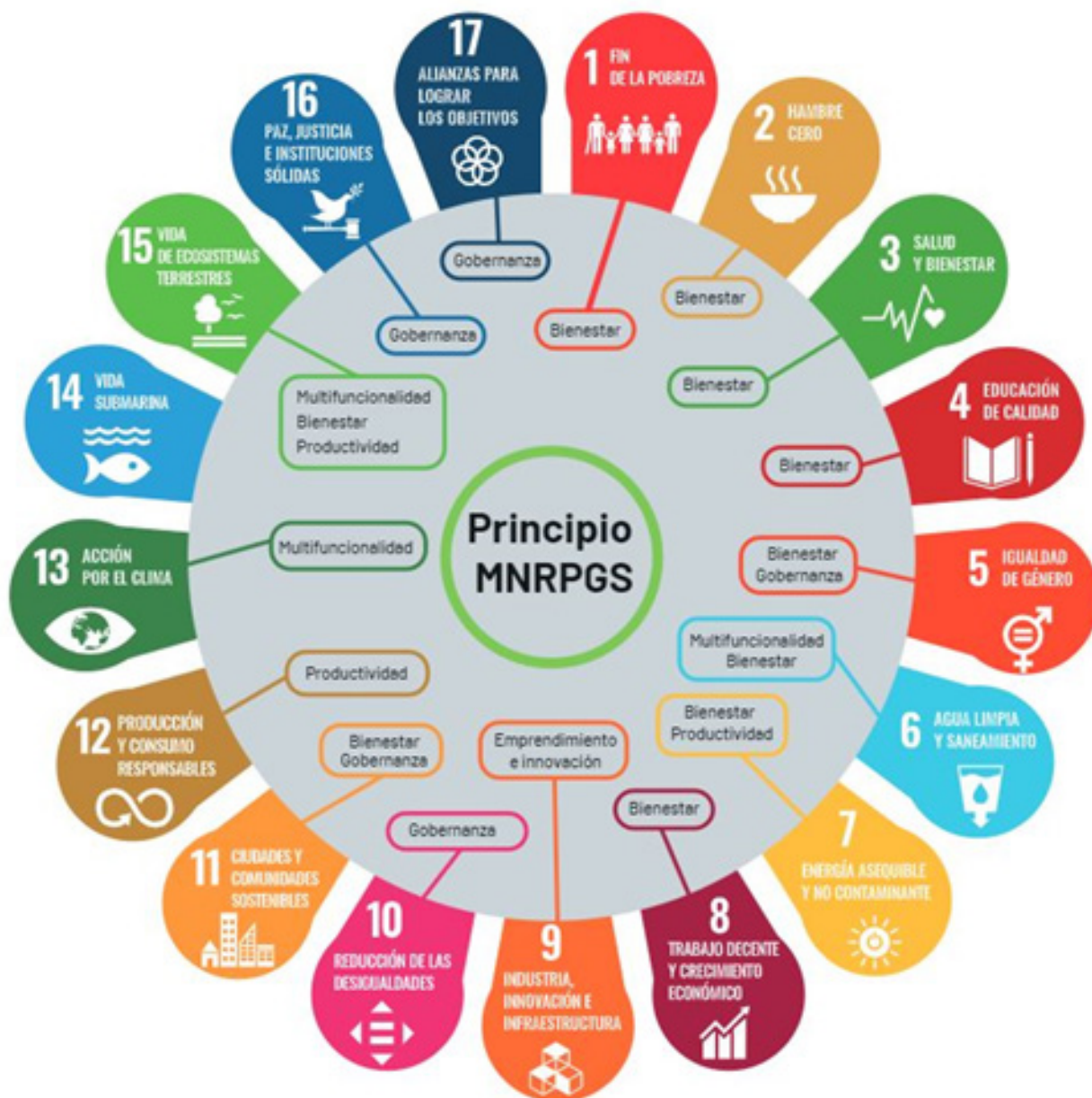


**The role of the expert group in Colombia:**

The expert group (*'Mesa de Ganadería Sostenible de Colombia'*) integrates 34 private and public institutions and the development of programmes, plans and projects related to sustainable livestock

in Colombia. Their framework document *'Marco Nacional de Referencia de Paisajes Ganaderos Sostenibles en Colombia'* constitutes the main document that contains the principles required to develop sustainable livestock landscapes in the country.

**Figure 1. Principles of the MNRPGS in relation to Sustainable Development Objectives**





Their project responsibilities included contributing to the formulation of the policy question and sub-questions. Additionally, they focused on the targeted communities in the region. The expert group supported the identification of information at the desk-based research stage, providing feedback on the case studies selected, as well as sharing information available on social appropriation of knowledge practices in other regions. Communication with the expert group was via Team meetings and emails on a regular basis.

The expert group defined the necessary information required for the citizen engagement workshops.

They attended the workshops carried out during the citizen engagement in Villavicencio (Meta) given their close relationship with some landowners associated to their institution. Besides, some of the farms in the region had implemented livestock sustainable practices contained within the Framework (*Marco Nacional de Referencia de Paisajes Ganaderos*). The role of La Mesa within the citizen engagement included dialogue with other political actors, aimed at the experiences with the social appropriation of knowledge and the knowledge of the key policies related to it.

### **Colombia focused research study:**

The research study was conducted to inform the citizen engagement in Villavicencio (Meta).

Several key documents were reviewed to provide an understanding of the Colombian context and implementation of needs and priorities associated with the appropriation of knowledge policy from the Ministry of Science, Technology and Innovation.

The findings guided a more targeted review of international literature, best practice and case studies specific to the agriculture sector in Colombia. Some key terms in the search included 'livestock landscape', 'sustainable management practices', social appropriation of knowledge' and 'agroforestry legal framework'.

The documents were systematically logged in an Excel database, and shared with the working and expert groups, who proposed additional case studies based on their local knowledge.

After the citizen engagement, additional case studies were added given their relevance to issues raised by communities involved.

### Colombia citizen engagement:

The citizen engagement activity in Colombia was divided into 2 parts: the first part was the **micro-ethnography** engagement, where the key objective was to document practices of social appropriation of knowledge on sustainable livestock farming in a livestock farming landscape to record ways of doing good practices and lessons learned that can be useful in the resolution of the policy question. This activity took place in Villavicencio and nearby towns in the Negro River basin, and the target population were cattle ranchers associated with the Sustainable Livestock Roundtable and the landscapes they inhabit, and two farms adjacent to the Rio Negro basin – initiatives that have implemented or are implementing sustainable livestock practices from the MNRPGS\*<sup>1</sup> or in interaction with the Sustainable Livestock Roundtable (Mesa de Ganadería Sostenible).

The second part was the mini-public engagement where the objective was to provide a collective space for citizens involved in practices of social appropriation of knowledge on sustainable livestock farming to learn, reflect, discuss and jointly build commitments, solutions and recommendations aimed at solving the policy question. This activity took place

in Agrosavia, and the target population was 27 inhabitants comprised of small and medium producers related to cattle activity, environmental managers and/or delegates of civil associations and community leaders.

### Colombia pilot study recommendations:

A summary of provisional recommendations extracted from the citizen engagement and liaison with the expert and working group is provided below, grouped into 'general recommendations', 'evaluation of the social appropriation of knowledge policy' and 'framework documents and policies managed by the expert group':

#### General

1. Greater awareness of policies and laws on social appropriation of knowledge and sustainable livestock farming is needed, among all key players in the livestock landscape. This applies to all stakeholders in sustainable ranching landscapes, not just farm owners, but also, for example, local officials responsible for implementing and enforcing sustainability laws and policies, who have the opportunity to support programs for the social appropriation of knowledge.
2. Any policy, in addition to being implemented, must be evaluated. In addition, the true impact must be measured and there must be a responsibility on the Ministry of Science, Technology and Innovation.

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<sup>1</sup> National Reference Framework for Livestock Landscapes (MNRPGS, by its Spanish acronym)

## Evaluation of the Social Appropriation of Knowledge Policy

1. There is an opportunity to ensure that the knowledge of these issues acquired by farm owners is appropriated by farm workers. This will help ensure greater farmworker support for the sustainable practices farm owners are trying to implement, and will also provide an opportunity to appropriate that knowledge more broadly across the sector (e.g. to other farms).
2. The social appropriation of knowledge can play a key role in reducing conflicts. However, even when all key stakeholders in ranching landscapes are aware of the basic requirements, conflicts can still arise regarding different levels of implementation. Practices of social appropriation of knowledge must be supported by mediation services to reduce conflicts.
3. The social appropriation of knowledge necessary to support these recommendations could be implemented through a decentralized observatory.
4. To overcome the lack of trust and risk aversion associated with a change of mindset by farmers and other communities, a bidirectional social appropriation of knowledge is needed.

5. Building of trust can be supported by getting farmers involved in decision making. This bidirectional appropriation of knowledge can be supported by celebrating sessions with farmers on a regular basis at a community level, after the decision-making process.

### Framework documents and policies managed by the expert group.

1. Increased awareness of sustainable practices and obligations is likely to reduce violations of sustainability-related legal requirements. This can help avoid conflicts between neighbours over different levels of implementation of legal requirements.
2. Risk aversion can be further reduced by government and university research programs (or local organizations such as Agrosavia) experimenting with new technologies and demonstrating their application in specific contexts. When this knowledge of local success is transferred to farmers, the perceived risk of being an early adopter of a new technology or approach is reduced.

You can see a blog post about this study on the Global Science Partnership website, [here](#).

## 4.3. Case study 2: Seychelles

The Seychelles is under threat by a number of extreme weather events and hazards, exacerbated by climate change. The National Integrated Emergency Management Plan (NIEMP) identifies floods, droughts, cyclones, coastal erosion, spontaneous forest fires, and landslides amongst others as natural hazards for management. This is alongside increases in sea temperature, changes in acidity, damage to marine ecosystems, and sea level rise. The agriculture sector in the Seychelles is extremely vulnerable to the impacts of climate change. Various climate smart technologies can support the agriculture sector to build resilience, reduce GHG emissions, and improve food security.

The main Partner in this pilot study was the Ministry of Investment, Entrepreneurship and Industry with the focal point within that ministry coming from the Division of Science, Technology and Innovation (DSTI), and the Experts.

### **Seychelles policy question:**

*What climate smart technologies and practices are available to support an integrated approach to landscape management that addresses the interlinked challenges of food security and climate resilience?*

This policy question was supported by five subsequent research questions:

- What climate smart technologies can be adopted to build resilience in the Seychelles food production system?
- Which climate smart technology building resilience exists and should be scaled up?
- Which climate smart technology building resilience exists in other Small Island Developing States and could apply to Seychelles?
- What are the key enabling factors contributing to a successful implementation?
- What are the main barriers and challenges hindering a successful implementation?

### **The role of the expert group in the Seychelles**

This was a mix of experts from academia, farmers associations, and external consultants provided to us by the DSTI. Since voluntary, their availability was limited and as such each virtual engagement with them was designed to extract key information from them and gain validation for plans for the research. This included requesting of any sources of data to review, gaining feedback on the longlist of technologies we had identified, and sharing a design of the technology assessment slide to

determine if this was the right approach (see below). Once the assessment was completed along with the CE, we shared the interim report with the experts for review and sought their feedback for refinement. We then set them the task during a workshop to develop recommendations, building on the evidence from the interim report, which asked them to frame their recommendations around these three topics:

1. The technologies to take forward and implement on a wider scale.
2. The policies required to overcome the identified barriers and increase uptake of each of the prioritised technologies.
3. Steps to improve citizens awareness of and access to the prioritised technologies

### **The Seychelles focused research study**

The research identified grey literature papers to assess a longlist of different technologies against key criteria related to the policy question. Through a collaborative approach with the DSTI and expert group, this list was refined to 16 which were deemed the most appropriate to present. The research also involved an assessment of peer-reviewed papers to further build and complement the analysis of the chosen technologies. All evidence was logged in an Excel template and underwent a QA process at Ricardo and then verified with the experts, as mentioned above.

After internal discussion and validation with external stakeholders three key issues were identified:

1. Examples of climate smart technologies in food production in the Seychelles and in other small-island developing states
2. General overview of key enabling factors contributing to a successful implementation
3. Main barriers and challenges hindering a successful implementation in the Seychelles

Ricardo collected evidence from grey literature and project reports/proposals and mapped it against these three issues.

- Grey literature: research papers from international institutions (FAO, IFAD, UNEP, UNDP, World Bank). Retrieved with a keyword search in internal database (FAO, IFAD) or with a keyword-based Internet search
- Project reports and proposals: documents from GCF, Adaptation Fund and GEF project databases. Filtered by country and/or sector.

The evidence collected was initially screened based on title and abstract/executive summary and included in an Excel spreadsheet. Over 50 total grey literature documents or project reports were collected for the analysis. Ricardo developed an Excel Document to categorise and extract evidence from



the identified documents, based on the climate smart agriculture technology and how it relates to the 3 key issues previously set out. This allowed to develop a preliminary list of technologies relevant to the Seychelles' context, which was further elaborated upon by collecting and extracting peer reviewed papers from the Web Of Science and Google Scholar.

**Seychelles citizen engagement:**

The citizen engagement in the Seychelles brought together members of the public into the discussion to understand their priorities and views of potential solutions to the policy question. Various methods were used to prepare and to conduct the two-day workshop:

- Desk-based research to frame the conceptual framework of the theme of the workshop and to consult the normative literature on the key subjects that would be discussed during the workshop.
- Purposeful sampling to select the 30 participants.
- Plenary sessions which consisted of presentations on the following contexts:
  - An overview of the project
  - Climate challenges and hazards facing Seychelles food production
  - Links between resilience, food security and carbon emissions

- Climate smart technologies and practices

The workshop included 30 individuals from different occupations and regional districts within the Mahé Island. The participants were farmers, farm workers, householders engaged in backyard farming, and students from the Institute of Agriculture and Horticulture.

**The Seychelles pilot study recommendations:**

The research and CE found that the main barriers to the uptake of climate smart agriculture centred around the following:

- Lack of investment and high costs of implementation
- Regulatory and institutional framework challenges
- Lack of training and farmers' technical knowledge on CSA technologies
- Lack of incentives for farmers to implement new technologies and practices

A policy workshop held in August 2023 and led by Ipsos and Ricardo brought together key officials from the agriculture sector, members of the expert group, and local farmers to break these barriers down and identify policy solutions.

These are all influenced by government commitment and coordination, the culture/mindset of farmers (unwillingness to change), investment in

research and capacity building, and the overall profile of agriculture (its role in the economy and careers in the area) and the value placed on local food. Many of the key actions to address the barriers are fairly fundamental, with some requiring structural and infrastructural change, and notably involving numerous actors (multiple ministries, private sector, banks, civil society, education institutions, farming community). The key recommendations were for the following to be introduced:

- Improved regulation and policy framework;
- Improved access to finance/ technological equipment/training for farmers;
- Action to enhance the profile of local food, agriculture as a career, and the overall role of agriculture in the economy; and,
- Improved research, data, and evidence.

You can see a blog post about this study on the Global Science Partnership website, [here](#).



## 4.4. Case study 3: Kenya

**The pilot study in Kenya is still ongoing. Once it is completed in late 2023, we will update this document with this case study.**