CASCADE project:
Community Safety Action for Supporting Climate Adaptation and Development

Overcoming barriers to climate adaptation

CASCADE
COMMUNITY SAFETY ACTION FOR SUPPORTING CLIMATE ADAPTATION

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Project note

CASCADE – Community Safety Action for Supporting Climate Adaptation and Development project is a unique, innovative project bringing together civil protection specialists and climate change adaptation experts to fight the impacts of climate change jointly. As an EU Strategy for the Baltic Sea Region's Flagship project under Policy Area Secure, CASCADE operates as a pilot example for cross-sectoral cooperation in the region.

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INTRODUCTION

It has been acknowledged that even though countries are increasingly adapting to climate change at the local level, there are considerable limits and barriers to adaptation, which can hinder a society from dealing with climate change effects (Weyrich 2016). The aim of this report is to provide resources for municipal officers and experts to deal with the barriers to adaptation. The report first gives a background to the topic by introducing the potential barriers to adaptation. The second chapter is about stakeholder engagement and how to involve stakeholders to help support progress in climate adaptation. In the third chapter a method is presented to identify the most important barriers at local adaptation work. The fourth chapter provides various resources to facilitate overcoming those barriers.

This document is prepared as a part of the CASCADE[1] project and supplements the Guidelines on Integrated Climate Change and Disaster Risk Response Management. The guidelines aim to support a common understanding, integrated and complex approach to risk management measures with the inclusion of climate change adaptation aspects for local-level public administrations.

[1] Project “CASCADE Community Safety Action for Supporting Climate Adaptation and Development” (2019-2020) funded by the European Union Civil Protection and Humantarian aid, **http://www.cascade-bsr.eu/**.

1. BARRIERS TO CLIMATE ADAPTATION

1.1. Climate adaptation as a cyclical process

The climate adaptation process has nine main phases which cover understanding, planning and managing adaptation (Moser and Ekstrom 2014). These phases form a continual management cycle for adaptation where learning from one cycle informs the next. The first six phases – those relating to the understanding and planning of adaptation are included in the process of climate risk assessment (see Figure 1)[2].

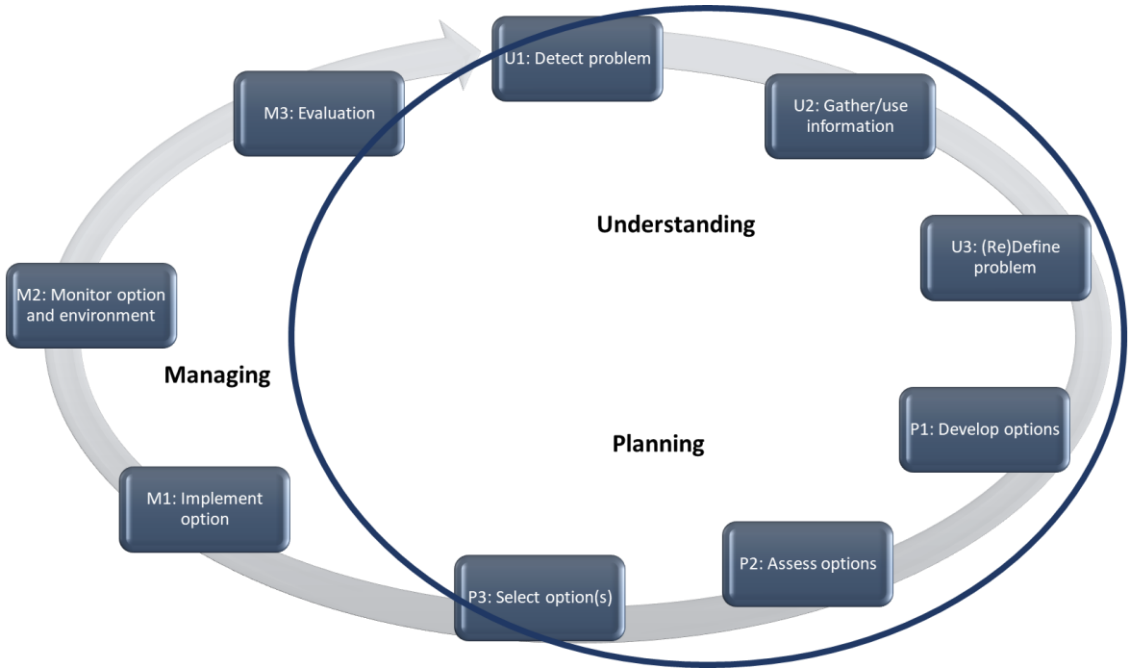

Figure 1 Phases and stages of the adaptation decision-making process

Source: adapted by authors from Weyrich et al. 2016, based on Moser and Ekstrom, 2014.

1.2. The barriers to climate adaptation

In the Baltic Sea region, local and regional climate adaptation strategy development has been slower than expected and varies between countries. Climate adaptation planning has moved forward in each country but to different extents. This is due to differences in regulation between the countries, as well as how the various areas have been impacted by climate change. Furthermore, based on literature, Weyrich (2016) identifies nine categories of general barriers to climate adaptation implementation. Below, we have identified the obstacles that are relevant to the climate risk

[2] For more information on this process itself, see the Guidelines for integrated climate change and risk reduction management for local authorities http://www.cascade-bsr.eu/sites/cascade-bsr/files/publications/cascade_guidelines_0.pdf

assessment process and grouped them into eight categories. The ninth category “politics” was placed under “conflicting timescales and conflicts of interest”. It should be noted that barriers not sufficiently addressed in the first phase of the process (detecting the problem, gathering and using information and re(defining) the problem) often continue to be barriers in the subsequent stages of climate adaptation planning (Weyrich et al. 2015).

1. Conflicting timescales and conflicts of interest

Barriers related to conflicting timescales relate to the short-termism in decision making, policies, and political cycles and the pressure to show short-term results (Biesbroek et al., 2011). This can conflict with the need for long-term actions, such as investments into infrastructures with longer lifespans and potential lock-in effects. It requires thinking about projected climate impacts in the future and how investments will hold up against those projections. Private sector actors have specific business cycles for which results are expected. Politicians also have political cycles (elections, etc.) that influence when the evidence of results needs to be visible to the people they represent (Ekstrom & Moser, 2014). Furthermore, within the local authority, different departments work according to their own management cycles – often 1-5 years long.

Conflicts of interest can arise from trying to manage their conflicting timescales, but they can also occur due to conflicting goals and visions of how to develop. For example, developing an area for commercial purposes or conservation purposes has different outcomes – in terms of economic profits, but also potentially in terms of exposure to disaster risks.

2. Leadership

Local leadership is seen as crucial for the initial and continued recognition, mainstreaming, further development and long-term funding of adaptation at the local level (Jensen et al. 2016). Leadership is vital in the initial planning phase and contributes to the understanding of climate adaptation (Weyrich 2016). Issues with leadership that create barriers to climate risk assessment include both the lack of leaders and the problem of too many leaders (Ekstrom & Moser, 2014; Eisenack et al. 2014). Influential leaders are needed both to start the process of the climate adaptation process and to create action spaces for other actors.

3. Resources

Local authority resources required for climate adaptation include staff, capacities, time, and funding. Resources are essential in each planning and management stage (Moser and Ekstrom 2010; Weyrich 2016) and long-term allocation, especially of financial resources, is a signal of recognition by leadership that these issues are prioritised. Gaps in resources – either lack of resources or inaccessible resources - at the local government level means that external support is needed. This can be especially relevant for small municipalities (Jensen et al. 2016). Gaps can occur for a specific part of the climate risk assessment process, such as data collection, or the overall process.

4. Scientific data and knowledge

Studies have identified explicitly that science-related obstacles are especially relevant to the 2nd stage of the adaptation planning phase (see figure 1): gathering and using information (Weyrich 2016). They include lack of information, lack of access to information (Biesbroek et al., 2011), and weak understanding or guidance on what to do with and how to understand the information (Ekstrom & Moser, 2014). There are challenges dealing with uncertainty that is inherent in the scientific projections related to long-term climate change impacts. This can be especially true for local authorities where climate change impacts have not yet been felt, and thus impacts remain theoretical and intangible (Weyrich 2016).

Furthermore, climate risk assessments may not be holistic enough in covering a sufficient set of climate risks, including cascading risks. Many risk assessments focus on flood risks, as traditionally reduction of risks from extreme weather events has been focused on water management. However, emerging hazards, such as heat, flash floods from sewage overloads, erosion (Wamsler and Brink 2014), and cascading risks related to the interconnected urban system and critical infrastructure are less often considered.

5. Governance and institutional constraints

This category of barriers covers legislation, coordination and cooperation and spans the full adaptation cycle, meaning it can be a barrier for all the climate risk assessment phases, as well as the following implementation phase. Regulatory requirements, such as those for insurance or permitting (McGuire 2018) or the lack of legal basis for actions or official remit by specific actors can impede movement on adaptation issues (Burch 2010; Measham et al. 2011). Barriers can also arise from a lack of formal or informal processes to collaborate. The cross-disciplinary, cross-sectoral, and multi-level work required for successful climate adaptation presents a challenge to institutions that traditionally work in silos (Eisenack et al. 2014). This refers to internal collaboration across sectors, but also to the involvement of a broad spectrum of stakeholders, such as the private sector, non-governmental sectors, and the public. Sufficient cooperation is often limited by the utilisation of practices such as one-way communication, rather than participatory engagement (Wamsler and Brink 2014). This can also link with other barriers, such as resources. The most important strategies to overcome governance and institutional constraints involve small, incremental policy, planning and management changes, as well as efforts to change existing governance structures to create space for continuing the adaptation process (Ekstrom and Moser 2014).

6. Lack of awareness and communication

This category of barriers relates to the lack of awareness about climate change and its implications (Biesbroek et al. 2010); the role that actors, assets (e.g. infrastructure) or activities play in determining the consequences of climate change impacts on society; the timescales in question; the costs, or the adaptation options. Lack of awareness can stem from a lack of communication or miscommunication (Ekstrom and Moser 2014) or even mistrust (Huggel et al. 2013). Communication influences how different actors understand climate change and perceive climate risks. Communication to stakeholders, including the public, is key throughout the adaptation process,

even during the climate risk assessment process. The communication should be tailored to actors' needs and enable them to be aware of their role in efforts.

7. Attitudes, values, and motivations

This cluster of barriers covers social and culturally derived obstacles such as cultural values (Huggel et al. 2014), beliefs, motivations (Moser and Ekstrom 2010), social norms, trust in science and risk perceptions. This is especially critical when dealing with decision makers, influencers and those who are expected to make changes in their behaviour as a part of the solution. According to Klein et al. (2014), personal factors such as the role of traditional knowledge, political affiliation, educational background, and trust placed in different information sources affect risk perception and subsequent decision making. This category of barriers is crucial for the first three phases of the climate risk assessment (Figure 1) of adaptation processes and is likely to manifest itself in other forms, such as the lack of political will, in the later implementation phases if not overcome in the beginning (Weyrich 2016).

8. Adaptation process

One category of barrier links to the adaptation process itself and challenges around how to start, how to select the scope, criteria, etc. Municipalities might need guidance on how to start the process or they might struggle with identifying long-term and holistic thinking when trying to identify the most suitable and efficient approach (Klein et al., 2014). One challenge with adaptation is that the transferability of adaptation measures is limited. This is because local solutions should be based on risk assessments tailored to that area in terms of the specific geography and landscape, but also the local stakeholders, regulation and financial and other resources available.

1.3. Barriers within the Baltic Sea Region

At CASCADE project workshops, we used this framework and the survey (see section 3.2) to identify which barriers were relevant to local level emergency management and spatial planners in the Baltic Sea region (BSR). Our survey results show which sub-categories of barriers are considered to be most challenging in the represented local authorities. Note, the results here are resulting from workshops conducted with a group of 15 emergency management practitioners from across the BSR and a group of 26 spatial planners from across the BSR.

Overall, spatial planners rated the barriers to be more challenging than emergency management representatives. For emergency management representatives, the challenge receiving the highest score was climate skepticism while the lack of awareness of climate change was seen as the least challenging. This seemingly contradictory result may be explained by the diversity of situations in local authorities in the workshop, but also across the BSR. In the BSR, adaptation-related guidance is available for local governments in the national language in 7/11 countries. In five countries there was a CCA information web portal for local governments, while in other countries, information was less available (Lahtvee 2018).

Spatial planners rated the lack of financial resources as the biggest challenge. As a higher level of financial resources can be used to secure both expertise and allocate staff time to climate adaptation-related processes, the general lack of funding may also be linked to the other highly scored challenges: lack of expertise and technical skills as well as staff time. The lack of financial resources, which is listed as a top challenge by both spatial planners and emergency management practitioners, has been noted by Lahtvee (2018) as an issue that differs from country to country. According to Lahtvee, 5/11 BSR countries have climate change adaptation (CCA) funding for local governments and an additional three countries provide partial funding, meaning that external funding will need to be provided. The top 10 challenges for each group are listed below in Table 1 with those in bold being shared by both groups.

Table 1 Top 10 barriers to successful climate risk assessment and adaptation option selection based on CASCADE workshops with two emergency management representatives and spatial planners. *The scoring is based on average ratings, with shared challenges highlighted in bold.*

SAFE CITIES COMMISSION (N=15)	PLANNING CITIES COMMISSION (N=26)
• Climate skepticism / Insufficient concern • Lack of guidance on how to start and follow the process • Competition with other priorities • The uncertainties related to climate scenarios are too high • There are powerful interests invested in maintaining the status quo • **Short-term political cycles lead to a lack of political will** • Institutional fragmentation (“silo-thinking”) limits mainstreaming across departments and sectors in terms of responsibilities, without a holistic overview • **Lack of leaders moving the climate adaptation process forward (“all talk and no walk”)** • Lack of / or high level of competition for local government capacities / resources: staff capacities / knowledge • **Lack of funding for external support to gain technical capacities / expertise**	• Lack of / or high level of competition for local government resources: finances • Lack of legislation creating a mandate for action • A lack of leadership on climate issues • Conflicts between short and longterm needs • Lack of effort to communicate the links between climate change and other issues • **Lack of leaders moving the climate adaptation process forward (“all talk and no walk”)** • Lack of / or high level of competition for local government resources: staff time • Lack of / or high level of competition for local government capacities / resources: methods or tools • **Lack of funding for external support to gain technical capacities / expertise** • **Short-term political cycles lead to a lack of political will**

Other literature has also looked at challenges to adaptation across the BSR. For example, the CAPS TO GAPS project assessed the level of capabilities in the BSR to deal with a storm scenario according to EU Guidelines. The assessment report of national capabilities identified barriers to risk assessments are similar to adaptation-related barriers in that risk assessments are one part of the adaptation process, namely U1 and U2 in Figure 1. The CAPS to GAPS assessment highlighted the following barriers (Ministry of the Interior of the Republic of Lithuania 2016).

The lowest rated capabilities belonged to three main categories of barriers: resources, governance and institutional constraints, and adaptation process. Other categories such as issues with leadership, science and values were regarded as less relevant. The participants of the project

saw the lack of finances and knowledge as the most important obstacles, which is similar to the top 10 barriers identified in the CASCADE workshops. However, the CAPS TO GAPS participants saw more distinct problems with the lack of capabilities related to the adaptation process. For example, low scoring questions (reflecting lowest-rated capabilities) reflected specific methodologies that the responsible entities have developed for risk management planning, or about the process of development and preservation of knowledge. Similar to the results of the CASCADE workshops were the low scores in the area of governance, namely the lack of communication across sectors or “silo-thinking” and the insufficient inclusion of different stakeholders, especially the private sector. Overall, the ratings of CAPS TO GAPS questions show the missing links between the different parts of the risk analysis and adaptation process that the local authorities need to work on and the missing resources that would assist this process.

2. STAKEHOLDERS

2.1. Why stakeholder work is important

Working with stakeholders is crucial for the success of the risk assessment and climate adaptation process. Involving the groups and organisations that are affected by or have interests in the actions of local authority makes the overall process of decision-making more democratic. Creating a dialogue with affected groups and other involved may bring valuable contributions, as well as necessary criticism from viewpoints that policymakers alone could not have discovered. It is important to note that stakeholder involvement does not stop at informing participants – a deeper level of involvement is needed to create wide-level support for decisions and build trust between citizens and policymakers. The benefits are mutual because more input also creates better and more comprehensive solutions. Keeping up a constant information flow with the stakeholders helps keep the process open and transparent, also preventing conflicts. The end goal of stakeholder involvement should be a shared vision that empowers citizens and makes them feel part of the process.

2.2. Who are your stakeholders?

In the identification of stakeholders, it is important to structure them according to different criteria, for example, the level to which they are affected by decision-making, the knowledge that they hold, whether they have or lack resources or power, or whether they operate at the local or national level. Stakeholders can include groups such as other municipal departments, other levels of government, NGOs, neighbouring cities or areas, local or national businesses, media, and citizens, etc. It is also important to diversify the stakeholders to not be overshadowed by one perspective or interest.

The analysis of stakeholders can be done from many perspectives, depending on the aim of the exercise. The stakeholder identification process should also be repeated during different points of the adaptation process and with other stakeholders to ensure necessary stakeholders and perspectives are being covered.

Potential methods for finding stakeholders could be brainstorming, asking advice from experts, scanning existing stakeholder relations, asking suggestions from existing stakeholders (‘the snowball method’), or thinking about the different vertical and horizontal levels (‘think big’).

Further info on stakeholder mapping and analysis:

Resources
RAMSES Training Package (4.3.1 Worksheet no. 1: Stakeholder mapping and engagement)
Engage your Stakeholders toolkit (UBC 2009)

2.3. Engaging your stakeholders

There are a variety of ways to engage your stakeholders which your stakeholder mapping and analysis activities can help you plan. The survey introduced in Chapter 3 can help you identify the barriers which are problematic in your situation. Then for each identified relevant barrier, the re-sources and “Critical questions for stakeholder discussion” in Chapter 4 serve as a good starting point for taking initial steps to overcome these barriers.

3. IDENTIFYING BARRIERS IN YOUR LOCAL AUTHORITY

3.1. Activity aim

The barrier identification survey can be used as a self-evaluation process within a local authority to identify the main current or expected barriers to successful climate risk assessment and adaptation option selection. The survey uses the same eight categories as described above: (1) conflicting timescales and conflicts of interest, (2) leadership, (3) resources, (4) science, (5) governance and institutional constraints, (6) lack of awareness and communication, (7) attitudes, values and motivations, and the (8) adaptation process. It identifies altogether 39 specific barriers under those eight categories.

To identify the main barriers and from different perspectives, circulate the survey to several people in several departments relevant to climate adaptation work.

The survey should take around 20 minutes to complete. Ensure participants that the responses will be anonymous.

Once the responses have been tallied, identify the main barriers, which are the ones that are considered the most important by the majority of respondents. These main barriers then need to be further discussed among stakeholders (see further chapter 4). Chapter 4 provides potentially helpful resources (videos and guides) to read more about the specific barriers and presents some guiding questions that can help support the discussions with the departments or stakeholders.

3.2. The barrier identification survey

Please rate the following barriers under each category on a scale of 1-5 (1 represents no challenge, 5 represents significant challenge). Please leave the answer blank ONLY if you feel that you do not know. Your answers will be anonymous.

CASCADE

1. **CONFLICTING TIMESCALES AND CONFLICTS OF INTEREST**	**1**	**2**	**3**	**4**	**5**
1. There are powerful interests invested in maintaining the status quo					
2. Short-term political cycles lead to a lack of political will					
3. Competition with other priorities					
4. Conflicts between short and long-term needs					
5. Adaptation competes with other more immediate priorities					
6. Other (please specify):					

2. **LEADERSHIP**	**1**	**2**	**3**	**4**	**5**
1. A lack of leadership skills in local government					
2. A lack of leadership on climate issues					
3. Too many leaders on climate change (leaders in different departments; leaders on multiple levels, public and private sector leaders, etc.)					
4. Lack of leaders moving the climate adaptation process forward (“all talk and no walk”)					
5. Other (please specify):					

3. **RESOURCES**	**1**	**2**	**3**	**4**	**5**
1. Lack of / or high level of competition for local government resources: finances					
2. Lack of / or high level of competition for local government resources: staff time					
3. Lack of / or high level of competition for local government capacities / resources: staff capacities / knowledge					
4. Lack of / or high level of competition for local government capacities / resources: methods or tools					
5. Climate adaptation competes with Climate mitigation for resources					
6. Lack of funding for external support to gain technical capacities / expertise					
7. Other (please specify):					

4. **SCIENCE**	1	2	3	4	5
1. Lack of data for risk assessment					
2. Lack of easy to understand scientific data and knowledge					
3. Lack of guidance on how to use the scientific data and knowledge (e.g. overload of information, how to deal with contradicting information, etc.)					
4. The uncertainties related to climate scenarios are too high					
5. The uncertainties related to adaptation interventions are too high					
6. Other (please specify):					

5. **GOVERNANCE AND INSTITUTIONAL CONSTRAINTS**	1	2	3	4	5
1. Lack of legislation creating a mandate for action					
2. Institutional fragmentation (“silo-thinking”) limits mainstreaming across departments and sectors in terms of responsibilities, without a holistic overview					
3. Inability to find agreement between actors [specify]					
4. Lack of internal collaboration across the local government departments to collect information					
5. Lack of external collaboration with stakeholders [multi-level] to understand stakeholder perspectives and needs					
6. Other (please specify):					

6. LACK OF AWARENESS AND COMMUNICATION	1	2	3	4	5
1. Lack of awareness related to climate change					
2. Lack of understanding of how things relate to climate change / narrow perspective					
3. Lack of effort to communicate the links between climate change and other issues					
4. Inability to effectively communicate the need for adaptation internally in local government					
5. Inability to effectively communicate the need for adaptation externally to stakeholders					
6. Other (please specify):					

7. ATTITUDES, VALUES AND MOTIVATIONS	1	2	3	4	5
1. Climate skepticism / Insufficient concern					
2. Public mistrust of local government					
3. A difference in risk perception between governing authorities and public					
4. A difference in cultural values					
5. Other (please specify):					

8. ADAPTATION PROCESS	1	2	3	4	5
1. Lack of guidance on how to start and follow the process					
2. Challenge to figure out which risks to include in risk assessment					
3. Challenge in selecting criteria and assessing options					
4. Lack of guidance on which actions to take					
5. Other (please specify):					

4. RESOURCES FOR OVERCOMING BARRIERS

This short guide has been put together to help local actors overcome the barriers they face with moving forward in their climate adaptation process. It is based on eight main categories of barriers used in the survey and explained in chapter 1.

Once you have used the survey in chapter 3.2 to identify the barriers which are most relevant to your local authority, check out the resources specifically related to those.

The guide brings together existing resources organised according to the categories and provides resources such as video clips, guides, and critical questions relevant to each of the 39 barriers. Video clips and guides provide different perspectives and inspiration on how to deal with barriers. They also link to the critical questions, which are meant to be used as a basis for discussions with stakeholders around key topics.

The main resources used in this guide include the following:

- **Guidelines for reviewing plans to achieve equitable disaster resilient development (SEI 2019)**
- **Engage your Stakeholders toolkit (UBC 2009)**
- **Assess Climate Risk (RESIN)**
- **Adaptation Resources (Covenant of Mayors)**
- **RAMSES - Science for Cities in Transition**
- **Integrated Management – Towards local and regional sustainability (UBC 2009)**

4.1. Conflicting timescales and conflicts of interest

4.1.1. There are powerful interests invested in maintaining the status quo

Video clips:
Political commitment, a sine qua non in cities adaptation (On Urban Resilience)
Challenges to the Status Quo - Margaret Walsh (Metcalf Institute)
Challenging the Status Quo: Addressing Climate Change - Xu Kuangdi (Carnegie Endowment)
Guides:
Guidelines for reviewing plans to achieve equitable disaster resilient development (SEI 2019) in Section 1.2 (p12)
Developing Business Cases (RESIN 2017)

Critical questions for stakeholder discussion:
Whose needs do the goals of the plan address? Who is likely to benefit from the planned intervention? Who is likely to be negatively affected?
Do any of the goals in this planning process compete or conflict with each other?
Do some stakeholders have vested interests that discourage them from extending participation to less represented groups? If so, how does this affect the final outcome of the plan? How is this dealt with in the plan?
Are there some elements or practices in the planning process that promote competition rather than collaboration, for example among sectors, departments, or organisations?

4.1.2. Short-term political cycles lead to a lack of political will

Video clips:
Climate change: The Hard Part is Political Will (The Aspen Institute)
Just go for it (On Urban Resilience)
Guides:
Guidelines for reviewing plans to achieve equitable disaster resilient development (SEI 2019), in Sections 1.2 (p12) and 1.4 (p16)
Developing Business Cases (RESIN 2017)
Critical questions for stakeholder discussion:
What accountability mechanisms are in place for decisions made during this process?
Who can be held accountable for the consequences of decisions made and over what time period?
Can a business case be built which appeals to the public long-term in a way that can ensure continued political support?
Which other external actors (outside of the local authority) can be engaged to support the continuation of actions despite potential changes in politics? Could multi-level governance be strengthened through strengthening links between local policies or their links to higher-level policies?

4.1.3. Competition with other priorities

Video clips:
Reimagining Climate Change: Why Climate Policy is a Priority
Guides:
Guidelines for reviewing plans to achieve equitable disaster resilient development (SEI 2019)
Developing Business Cases (RESIN 2017)
Integrated Urban Planning (RESIN 2017)

Critical questions for stakeholder discussion:
Is the plan complementary to or in conflict with other plans, including ones at different governance levels or in other sectors? If it does conflict with another plan, will this prevent the plan from being effectively implemented? How can conflicts be resolved?
Are there some elements or practices in the planning process that promote competition rather than collaboration, for example among sectors, departments, or organisations?
Which priorities compete or conflict with each other? Can synergies (co-benefits) between policies/strategies be found? Are there alternative ways of implementing strategies in a way that avoids conflicts?
What is the business case for adaptation? What are the long-term costs in the case where certain adaptation measures take place vs the costs without certain measures do not take place?
What are the costs related to preparing for climate impacts now vs. responding to climate impacts later?

4.1.4. Conflicts between short and long-term needs

Video clips:
Climate change and the challenge of long-term thinking - Adam Sobel (TEDxBroadway)
Guides:
Developing Business Cases (RESIN 2017)
Guidelines for reviewing plans to achieve equitable disaster resilient development (SEI 2019), Section 1.4
Critical questions for stakeholder discussion:
What are the timescales related to different measures in terms of impacts (risks, costs, benefits)? And which actors are they related to?
What is the business case for adaptation? What are the long-term costs in the case where certain adaptation measures take place vs the costs without certain measures do not take place?
What are the costs related to preparing for climate impacts now vs. responding to climate impacts later?

4.1.5. Adaptation competes with other more immediate priorities

Video clips:
Collaboration as a key factor for adaptation (On Urban Resilience)
Reimagining Climate Change: Why Climate Policy is a Priority
Guides:
Guidelines for reviewing plans to achieve equitable disaster resilient development (SEI 2019), Section 1.4
Developing Business Cases (RESIN 2017)
Integrated Urban Planning (RESIN 2017)

Critical questions for stakeholder discussion:
Which goals in this planning process compete or conflict with each other? Can synergies between policies/strategies be found? Are there alternative ways of implementing strategies in a way that avoids conflicts?
What is the business case for adaptation? What are the long-term costs in the case where certain adaptation measures take place vs the costs without certain measures do not take place?
What are the costs related to preparing for climate impacts now vs. responding to climate impacts later?

4.2. Leadership

4.2.1. A lack of leadership skills in local government

Video clips:
Climate change leadership – perspectives from science, industry and politics (Uppsala University)
Guides:
Transition Handbook & Training Package 4.3.1 Worksheet no. 1: Stakeholder mapping and engagement p 67-69 (Ramses Project)
RESIN Project Wiki for overcoming challenges related to involving stakeholders
Critical questions for stakeholder discussion:
What kind of mechanisms are in place to hold leaders accountable? What kind of accountability related mechanisms could be created?
Who can be held accountable for a lack of leadership on climate adaptation issues?
What kind of cooperation does the local government have with different stakeholders? Could better cooperation be facilitated to increase leadership capabilities and learn from leadership practices from partners? How could the local government better mobilize collective efforts?

4.2.2. A lack of leadership on climate issues

Video clips:
Climate change leadership – perspectives from science, industry and politics (Uppsala University)
Players in cities (On Urban Resilience)
Political commitment, a sine qua non in cities adaptation (On Urban Resilience)
Change agents can take adaptation to the next level (On Urban Resilience)
Guides:
Transition Handbook & Training Package 4.3.1 Worksheet no. 1: Stakeholder mapping and engagement p 67-69 (Ramses Project)
RESIN Project Wiki for overcoming challenges related to involving stakeholders

Critical questions for stakeholder discussion:
Are there other priorities that conflict with climate issues? How could these conflicts be resolved?
Which local stakeholders are taking leadership on climate issues? Is it possible or advantageous to collaborate with them?
Are there other local governments that could provide some good leadership models? Is it possible to arrange collaboration with them?
How could local government better mobilize collective efforts? Could sharing of responsibility and decision-making with other stakeholders be one way to develop/identify better leadership?
Is it possible to raise public awareness of climate issues so that it becomes an issue that the local government is pushed to take up as a priority?

4.2.3. Too many leaders on climate change (leaders in different departments; leaders on multiple levels, public and private sector leaders, etc.)

Video clips:
Collaboration as a key factor for adaptation (On Urban Resilience)
Many stakes are connected to water (On Urban Resilience)
Guides:
Transition Handbook & Training Package 4.3.1 Worksheet no. 1: Stakeholder mapping and engagement p 67-69 (Ramses Project)
Critical questions for stakeholder discussion:
Are there some elements or practices in the planning process that promote competition rather than collaboration, for example among sectors, departments, or organisations?
Is decision-making power shared among stakeholders, meaning all those who will be affected by the plan's decisions and activities? To what extent is decision-making shared? Has it been clearly communicated how the ultimate choices among competing trade-offs will be made and by whom?

4.2.4. Lack of leaders moving the climate adaptation process forward ("all talk and no walk")

Video clips:
Change agents can take adaptation to the next level (On Urban Resilience)
Four generations of climate adaptation (SEI)
Guides:
Transition Handbook & Training Package 4.3.1 Worksheet no. 1: Stakeholder mapping and engagement p 67-69 (Ramses Project)
RESIN Project Wiki for overcoming challenges related to involving stakeholders
Critical questions for stakeholder discussion:
What accountability mechanisms are in place for decisions made during this process?
Who can be held accountable for the consequences of decisions made and over what time period?

4.3. Various resources needed for adaptation

4.3.1. Lack of / or high level of competition for local government resources: finances

Video clips:
Change agents can take adaptation to the next level (On Urban Resilience)
Implementing climate adaptation (On Urban Resilience)
Naturvation - developing a business model for Nature-Based Solutions (multi-stakeholder)
Guides:
Developing Business Cases (RESIN 2017)
Naturvation Business Model Catalogue
Critical questions for stakeholder discussion:
Which stakeholders benefit from adaptation solutions? How can this be used to build a business model which enables local authorities to overcome financial constraints and implement solutions?
What kind of collaboration could be facilitated between different areas competing for government resources so as to minimise competition and strengthen synergies?

4.3.2. Lack of / or high level of competition for local government resources: staff time

Video clips:
Change agents can take adaptation to the next level (On Urban Resilience)
Implementing climate adaptation (On Urban Resilience)
Guides:
Developing Business Cases (RESIN 2017)
Critical questions for stakeholder discussion:
Are there areas of work that would benefit other stakeholders, such as the private sector? Could the work be shared with them? Which ones?
What kind of priorities compete with climate adaptation? How could synergies be found between them? What are the synergies between adaptation and other areas of work which are prioritised at the local level?

4.3.3. Lack of / or high level of competition for local government capacities / resources: staff capacities / knowledge

Video clips:
What can science advise to cities (On Urban Resilience)
Co-creation of knowledge (On Urban Resilience)
Embedded Researchers provide a missing link (Fractal)
Guides:
Climate Adaptation Training (WeAdapt)

Critical questions for stakeholder discussion:
What other local government workstreams or departments could benefit from strengthening the needed skills?
Where do those skills currently exist? Do those skills exist elsewhere in the local government or with other stakeholders?
How could knowledge be shared between different stakeholders? How can sharing knowledge benefit both/all parties and create synergies?
How could researchers cooperate with local government to provide missing knowledge? What prevents cooperation and can this be addressed?

4.3.4. Lack of / or high level of competition for local government capacities / resources: methods or tools

Video clips:
Tools for cities and citizens (On Urban Resilience)
The RAMSES policy toolkit (On Urban Resilience)
Science policy interface (On Urban Resilience)
Guides:
Adaptation resources (Covenant of Mayors)
Critical questions for stakeholder discussion:
Are there other local governments that could jointly implement methods or tools? Are there research or capacity building projects to support such work?
Could different stakeholders work together to get access to tools?
Could local government collaborate with businesses to implement methods or access tools? Could local government work with researchers to implement methods or access tools?

4.3.5. Climate adaptation competes with climate mitigation for resources

Video clips:
Understanding the business case for adaptation (On Urban Resilience)
Incorporating the adaptation perspective (On Urban Resilience)
Guides:
Integrating mitigation and adaptation: Opportunities and challenges (Cambridge University Press 2018)
Developing Business Cases (RESIN 2017)
Integrated Urban Planning (RESIN 2017)
Synergies between Adaptation and Mitigation (WeAdapt)
Critical questions for stakeholder discussion:
What is the business case for adaptation?
What are the costs related to preparing for climate impacts now vs. responding to climate impacts later?
What are the potential conflicts between adaptation and mitigation? How can ignoring them impact the local authority long-term? Can they be resolved through working together or at a higher planning or governance level?
What are the co-benefits of adaptation projects?

4.3.6. Lack of funding for external support to gain technical capacities / expertise

Video clips:
Implementing Adaptation Finance (UN Climate Change)
Guides:
Towards a more effective, efficient and fair climate finance regime (WeAdapt)
Economics of climate adaptation (WeAdapt)
Identifying and obtaining financing and funding (Climate Adapt)
Critical questions for stakeholder discussion:
What kind of programs could government employees apply to for increasing their expertise?
How could the local government form partnerships with private organisations or research organisations to gain missing technical capabilities?
How could higher policy level authorities (regional or national) help with the acquiring of technical capabilities? What kind of obstacles are preventing vertical collaboration in this domain and can they be circumvented?
Are there projects or collaborations that could fund external expertise?

4.4. Science

4.4.1. Lack of data for risk assessment

Video clips:
Climate data for regions (On Urban Resilience)
Collaboration as a key factor for adaptation (On Urban Resilience)
Locally relevant data for health policies (On Urban Resilience)
Guides:
Risk Analysis (REISIN Wiki)
Critical questions for stakeholder discussion:
Does it exist elsewhere and the issue is access to the data? What is preventing collaboration with different kinds of stakeholders to acquire relevant data?
Why is the existing data lacking? Is it available at a higher resolution or in an incorrect format?
How could information be shared between cities or at the regional level? or even across borders (where relevant)?
What is preventing regions and cities from funding researchers to collect local data? How could risk assessment and collection of data be prioritized?

4.4.2. Lack of easy-to-understand scientific data and knowledge

Video clips:
Local climate change models (On Urban Resilience)
Understanding communication (On Urban Resilience)
The value of audiovisual media (On Urban Resilience)

Guides:
Innovative ICTs for Communicating Climate Risk (WeAdapt)
RAMSES Communicating The Urgency Of Adaptation And Local Accomplishments (RESIN Wiki)
Critical questions for stakeholder discussion:
How could creating easy to understand data and knowledge be shared between cities or at the regional level? or even across borders (where relevant)?
What is preventing regions and cities from funding researchers to collect or interpret local data? How could risk assessment and collection of data be prioritized?
How can you facilitate collaboration between scientists or experts and the local government? What is hindering the collaboration? Can the expertise be outsourced or hired in-house?
Could science communication specialists be hired?
Which tools and media aids could be used to simplify the information? Could you generate a discussion about what kinds of information stakeholders want to see?
Could the use of boundary organisations help to facilitate and extend partnerships between decision-makers and scientists (organisations that assist interactions and bridge and broker knowledge)?

4.4.3. Lack of guidance on how to use the scientific data and knowledge (e.g. overload of information, how to deal with contradicting information, etc.)

Video clips:
What can science advise to cities (On Urban Resilience)
Embedded researchers provide a missing link (Fractal)
Guides:
Climate Information Platform
Critical questions for stakeholder discussion:
Does the local authority have adequate collaboration with researchers? Is there a way to link researchers who hold scientific knowledge and city level decision-makers? How to establish working partnerships with researchers?
What are the sources of conflicting information? Can you evaluate the credibility of the sources? Can you build alternative future scenarios that are based on the current trends and drivers?
Regarding the overload of information, how could information be classified into different categories? Could the information be categorized by relevance and urgency? Who needs to receive what information? Are there specific actors that only need access to specific levels or types of information?

4.4.4. The uncertainties related to climate scenarios are too high

Video clips:
Uncertainty can be a good thing (On Urban Resilience)
Communicating uncertainty (On Urban Resilience)
Local climate change models (On Urban Resilience)
Implementing climate adaptation (On Urban Resilience)

Guides:
RESIN Project Wiki on the challenges of dealing with uncertainty and complexity in Climate Adaptation Policy
Critical questions for stakeholder discussion:
Which aspects related to uncertainties are problematic for you, e.g., no clear (positive or negative) direction of the change signal, too large spectrum of the change signal (small to very large changes) etc.?
Which methods would you suggest to present uncertainties in a way that improves understanding?
Where exactly do you find large uncertainties problematic in your workflow?
Do you understand the origin of those uncertainties – and would you like to understand them? Would it help you with a better judgment of climate model outputs?

4.4.5. The uncertainties related to adaptation interventions are too high

Video clips:
Adaptation as a driver of city transformation (On Urban Resilience)
Climate Change, Risk, and Uncertainty - Chad Briggs (Environmental Change and Security Program)
How to love uncertainty in climate science - Tamsin Edwards (TEDxCern)
Guides:
RESIN Project Wiki on the challenges of dealing with uncertainty and complexity in Climate Adaptation Policy
Critical questions for stakeholder discussion:
What methods does the local authority use to deal with uncertainty of other issues in its policy processes?
Can learning to deal with uncertainty be thought of as a central component of increasing local resilience?
Is there a way for experimenting prior to making larger investments? Is monitoring of pilots taking place? Is there a way of learning from pilots implemented elsewhere?

4.5. Governance and institutional constraints

4.5.1. Lack of legislation creating a mandate for action

Video clips:
Political commitment, a sine qua non in cities adaptation (On Urban Resilience)
Change agents can take adaptation to the next level (On Urban Resilience)
Guides:
The politics of climate change at the city level (Climate Development Knowledge Network)
Transforming Governance (WeAdapt)

Critical questions for stakeholder discussion:
Which legislative changes need to be made to create a mandate for action? Can adaptation be integrally linked to something that does have a mandate?
Which stakeholders or branches of government (both local and national) are holding back legislative changes? What needs to change in the actions of stakeholders to facilitate legislative change?
Are there local authorities in other countries that have solved a similar problem? How can you learn from the legislative changes that have taken place elsewhere?

4.5.2. Institutional fragmentation ("silo-thinking") limits mainstreaming across departments and sectors in terms of responsibilities, without a holistic overview

Video clips:
Collaboration as a key factor for adaptation (On Urban Resilience)
Understanding the business case for adaptation (On Urban Resilience)
Flooded cities (On Urban Resilience)
Social adaptation policies (On Urban Resilience)
Guides:
4.3.1 Worksheet no. 1: Stakeholder mapping and engagement p 67-69 (Ramses Project).
RESIN Project Wiki for overcoming challenges related to involving stakeholders
Critical questions for stakeholder discussion:
What are the interests, responsibilities and positions of different sectors in the beginning of the adaptation planning process? How could they be integrated or reconciled? What kind of overarching structures or mechanisms could be created to further collaboration?
Are there ways to improve the trust and joint commitments between departments and sectors? How could the communication channels between departments be improved to facilitate collaboration and synergistic thinking?

4.5.3. Inability to find agreement between actors

Video clips:
From understanding to action (On Urban Resilience)
Adaptation challenges political routines (On Urban Resilience)
Guides:
4.3.1 Worksheet no. 1: Stakeholder mapping and engagement p 67-69 (Ramses Project).
RESIN Project Wiki for overcoming challenges related to involving stakeholders
Critical questions for stakeholder discussion:
How could science be communicated better?
Have there been efforts to create trust and commitment between departments and sectors?
What are the similarities between the priorities of different actors? Are there common priorities or can they be created? Can you take a step back to a higher priority level to identify shared goals? Could shared visions be created?

4.5.4. Lack of internal collaboration across the local government departments to collect information

Video clips:
Collaboration as a key factor for adaptation (On Urban Resilience)
Adaptation challenges political routines (On Urban Resilience)
Implementing climate adaptation (On Urban Resilience)
Guides:
4.3.1 Worksheet no. 1: Stakeholder mapping and engagement p 67-69 (Ramses Project).
RESIN Project Wiki for overcoming challenges related to involving stakeholders
Critical questions for stakeholder discussion:
Can shared goals or visions be created across different departments?
Do the local government departments have enough information on how climate change affects their communities? Do different departments feel common responsibility? Do less active but highly relevant departments understand their relevance to climate adaptation? How can the understanding of common responsibility be increased?
How can accountability be improved?

4.5.5. Lack of external collaboration with stakeholders [multi-level] to understand stakeholder perspectives and needs

Video clips:
Collaboration as a key factor for adaptation (On Urban Resilience)
Stakeholder involvement for successful adaptation in cities (On Urban Resilience)
Stakeholder involvement (On Urban Resilience)
Understanding the business case for adaptation (On Urban Resilience)
Guides:
4.3.1 Worksheet no. 1: Stakeholder mapping and engagement p 67-69 (Ramses Project).
RESIN Project Wiki for overcoming challenges related to involving stakeholders
Critical questions for stakeholder discussion:
Has local authority undertaken stakeholder analysis and mapping? Have they identified relationships between stakeholders and differentiated between stakeholders?
Have supporting tools and methods been used, such as influence matrix, stakeholder mapping and engagement, institutional analysis, etc been used?
Who is also benefitting from adaptation measures? Is there a business case for adaptation that can be demonstrated to interest other stakeholders?

4.6. Lack of awareness and communication

4.6.1. Lack of awareness related to climate change

Video clips:
Communication to citizens (On Urban Resilience)
Communicating adaptation (On Urban Resilience)
Adaptation strategy for a city - how to start (On Urban Resilience)
Guides:
RESIN Project Wiki on creating awareness of the problem and a shared need for action.
Communicating adaptation to different target audiences (Climate Adapt)
Critical questions for stakeholder discussion:
What is the level of awareness related to relevant climate issues in the community? How could the need for climate adaptation measures be better communicated? What is the specific information that is relevant to communicate to motivate action?
Which stakeholders could be invited to collaborate to raise awareness? Could public campaigns be held to raise awareness?
Can the involvement of researchers help raise awareness? What about NGOs?

4.6.2. Lack of understanding of how things relate to climate change / narrow perspective

Video clips:
Adaptation as a driver of city transformation (On Urban Resilience)
Communicating adaptation (On Urban Resilience)
Adaptation to heat impacts (On Urban Resilience)
Climate change and health (On Urban Resilience)
Guides:
RESIN Project Wiki on creating awareness of the problem and a shared need for action.
Critical questions for stakeholder discussion:
What are the cascade effects of climate change across society? What are the total costs of climate change if cascading effects into other sectors are accounted for?
Which actors need to understand the relationships of climate impacts to their activity?
How could similar cases in other countries help explain the relationships?

4.6.3. Lack of effort to communicate the links between climate change and other issues

Video clips:
Understanding communication (On Urban Resilience)
Adaptation as a driver of city transformation (On Urban Resilience)
Adaptation challenges political routines (On Urban Resilience)
Climate change and health (On Urban Resilience)
Adaptation to heat impacts (On Urban Resilience)
Guides:
RESIN Project Wiki on creating awareness of the problem and a shared need for action.
Critical questions for stakeholder discussion:
What kind of positive impacts could climate adaptation measures have on the general development of cities? Could adaptation bring positive transformation in other aspects apart from climate?
Which stakeholders could bring their unique experience to the table to communicate the impacts climate change has on different sectors?
What are the best practices in climate communication? How could they be transferred or adapted to the local situation?

4.6.4. Inability to effectively communicate the need for adaptation internally in local government

Video clips:
Adaptation strategy for a city - how to start (On Urban Resilience)
Social adaptation policies (On Urban Resilience)
Barriers to adaptation in city administration (On Urban Resilience)
Guides:
RESIN Project Wiki on creating awareness of the problem and a shared need for action.
Critical questions for stakeholder discussion:
Does shared awareness exist for actors? Is there a common understanding of the problem and how it relates to different departments? How can common understanding be created?
Can a higher-level authority communicate the need for adaptation?

4.6.5. Inability to effectively communicate the need for adaptation externally to stakeholders

Video clips:
From understanding to action (On Urban Resilience)
Stakeholder involvement for successful adaptation in cities (On Urban Resilience)
Understanding the business case for adaptation (On Urban Resilience)
Understanding communication (On Urban Resilience)

Guides:
RESIN Project Wiki on creating awareness of the problem and a shared need for action.
RESIN Project Wiki for overcoming challenges related to involving stakeholders
Critical questions for stakeholder discussion:
Is there a business case for adaptation?
What are the costs related to preparing for climate impacts now vs. responding to climate impacts later?
Has stakeholder analysis been done? Who is affected directly and indirectly by climate impacts? Who needs to act in order for adaptation to take place?
Is there a thought-out communication strategy to involve stakeholders? Is the target group defined? Have different communication strategies been developed for different stakeholder groups?

4.7. Attitudes, values, and motivations

4.7.1. Climate skepticism / Insufficient concern

Video clips:
From understanding to action (On Urban Resilience)
The value of audiovisual media (On Urban Resilience)
How to love uncertainty in climate science - Tamsin Edwards (TEDxCern)
Guides:
RESIN Project Wiki on creating awareness of the problem and a shared need for action.
Critical questions for stakeholder discussion:
How could collaboration with stakeholders lead to the creation of new tools and visual aids to answer stakeholder needs? Do we understand the basis for the skepticism or lack of concern?
Could new communication strategies be created, which approach different groups differently? Can we look to research around behavior change to inform our communications?
How can other countries give examples of good awareness efforts?

4.7.2. Public mistrust of local government

Video clips:
Open government initiatives that combat citizen distrust - Sanjay Pradhan (Devex)
Guides:
Communicating adaptation to different target audiences (Climate Adapt)
Critical questions for stakeholder discussion:
What are the methods for accountability? How can accountability be improved?
How could multi-level governance be created to share the decision-making process? How can coordination and integration be improved between the different levels of authority in a state?
Could local government gain trust by taking part in transnational projects and bringing transformation to local communities? Could climate adaptation be an instrument that facilitates local change in other areas as well?
Can local participation be used to increase trust?

4.7.3. Difference in risk perception between governing authorities and public

Video clips:
Participatory mapping for disaster risk reduction (UN Office for Disaster Risk Reduction)
Guides:
RESIN Project Wiki on creating awareness of the problem and a shared need for action.
Critical questions for stakeholder discussion:
Can participatory risk assessment methods be used as a part of the risk assessments used by local authorities? How can the results of risk analyses be communicated to the public?
Could stakeholders have better communication and create public awareness through collaboration on different projects?

4.7.4. Difference in cultural values

Video clips:
Creating the culture of living with water (On Urban Resilience)
Guides:
Communicating adaptation to different target audiences (Climate Adapt)
Critical questions for stakeholder discussion:
How can climate issues be tied with local issues in public communication? What are the common values between seemingly conflicting understandings? How can climate be tied to social issues?
How can the change in public perception in other countries be used to bring about change in perception here?

4.8. Adaptation process

4.8.1. Lack of guidance on how to start and follow the process

Video clips:
Adaptation strategy for a city - how to start (On Urban Resilience)
How Copenhagen started its adaptation journey (On Urban Resilience)
Embedded researchers provide a missing link (Fractal)
From understanding to action (On Urban Resilience)
Just go for it! (On Urban Resilience)
Guides:
INSERT LINK TO CASCADE Integrated risk assessment guidance RESIN Project Wiki on creating awareness of the problem and a shared need for action.
Critical questions for stakeholder discussion:
How can inexperienced actors learn from experienced stakeholders?
Which unilateral relations between other experienced countries have already been established? How can those connections be used to learn from other's experiences?
How can successful partnerships be established between scientists and local government?

4.8.2. Challenge to figure out which risks to include in risk assessment

Video clips:
High level versus detailed risk assessment (On Urban Resilience)
Undertaking a climate risk assessment (CSIRO)
Risk analysis explained (On Urban Resilience)
Guides:
Conducting risk and vulnerability assessments (Climate Adapt)
Assessing climate change risks and vulnerabilities (Climate Adapt)
Guidelines for planning equitable disaster resilient development (SEI 2019)
Critical questions for stakeholder discussion:
Which risks are most impactful, will cause the most harm to local communities in the long-term view?
Are different experts included in the process and is their opinion involved in the choice? Is participatory risk assessment an option to ensure that risks are relevant to the community?

4.8.3. Challenge in selecting criteria and assessing options

Video clips:
Nature-based approaches and urban development (On Urban Resilience)
Climate change and health (On Urban Resilience)
Guides:
Select Adaptation Approaches (Resin Wiki)
Assessing and selecting adaptation options (Climate Adapt)
Critical questions for stakeholder discussion:
How can scientists partner with local government in assessing options? Is there enough collaboration?
What criteria are important for assessing the actions? How will they be weighted? Which experts should be engaged in assessing the actions according to set criteria? To what extent is are stakeholders involved in selecting criteria and assessing options?
How can examples of prior research help?

4.8.4. Lack of guidance on which actions to take

Video clips:
Nature-based approaches and urban development (On Urban Resilience)
Embedded Researchers provide a missing link (Fractal 2020)
Guides:
Identifying adaptation options (Climate Adapt)
Guidelines for planning equitable disaster resilient development (SEI 2019)

Critical questions for stakeholder discussion:
What criteria are important for assessing the actions? How will they be weighted? Which experts should be engaged in assessing the actions according to set criteria?
What has been learned from the monitoring of actions and measures in other similar local authorities? Are there some “no-regret” and “low-regret” solutions?

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