



Climate Change Adaptation in a Multi-Level Governance Context: A Perspective from Subnational Governments



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EXECUTIVE SUMMARY

Climate action is undertaken by multiple actors across multiple levels of governance and for this reason climate governance has been established as a *multi-level governance* (MLG) process. But to what extent is MLG delivering climate-resilient outputs? What are the challenges that MLG brings, and how can subnational governments deal with and further address these challenges?

This report examines the MLG of climate adaptation action, focusing on the policies and processes that subnational governments are undertaking. It outlines the main findings of a survey with 33 subnational governments, one local and one national government, carried out by Regions4 and RegionsAdapt. The analysis reveals common challenges and highlights achievements experienced by subnational governments in (i) planning, (ii) implementing, and (iii) monitoring, reporting and evaluating climate change adaptation policies and action.

With regards to *adaptation planning*, most subnational governments had an adaptation plan or strategy in place. Also, participants reported having partial or full competences in most of the sectors related to adaptation. Vertical coordination is one of the areas with largest room for improvement. Mechanisms, such as bi- and multi-lateral meetings exist and most of the subnational governments have participated in the national adaptation planning processes. However, 20% of them had not participated, and more than 30% reported having received little or no support for their planning process.

Coordination mechanisms for *implementing adaptation* was found to work better from the subnational perspective, but joint implementation is relatively rare. Financing adaptation and accessing funds was found to be one of the main constraints, together with weak technical capacities. These are two areas in which national governments could support subnational adaptation.

Finally, *monitoring, evaluation and reporting processes* are present in 50% of cases. Some subnational governments with longer adaptation planning experience are moving from measuring implementation towards outcome-oriented strategies. This shift in adaptation tracking is very relevant to understanding if we are making progress towards more resilient societies. However, it presents a number of challenges, especially related to the lack of common metrics and approaches, an area in which national governments could contribute to by coordinating MER data and processes across all levels.

In all phases of the adaptation policymaking process, initiatives like RegionsAdapt can play a major role in supporting subnational governments and fostering horizontal cooperation, capacity building and benchmarking.

National governments should adopt policies in their areas of competence, but also need to provide funding for initiatives led by subnational governments, facilitate exchange of knowledge and expertise, and coordinate adaptation policies and measures that address challenges shared by different regions. The exact way in which MLG should be practiced in different contexts will invariably differ based on the division of responsibilities and capacities between different levels of government.

1. INTRODUCTION

The broad array of over 22,000 climate actions reported to the United Nations Framework Convention on Climate Change (UNFCCC) *Global Climate Action* portal includes 11,088 actions taken by 9,465 cities, 6,609 by 2,688 businesses and 756 by 278 subnational governments¹ (Global Climate Action, 2019). The pledges range from directly reducing own greenhouse gas emission footprints, to developing strategies for adaptation and resilience, to providing private finance.

This ensemble of climate action, including mitigation and adaptation, by subnational governments, cities and businesses is vital for achieving national and global climate change goals.

Their climate *mitigation* actions can help countries deliver and, in some cases, over-achieve current national pledges under the Paris Agreement (New Climate Institute, 2019). As for climate adaptation actions, they are key in promoting resilience to the impacts of climate change, helping to reduce weather and climate-related vulnerability in urban and rural areas (Adriazola et al. 2018).

The fact that climate action is undertaken by multiple actors, across *multiple levels of governance*, characterises climate governance as a multi-level governance (MLG) process. The MLG of climate change is now a well-established paradigm in policymaking, treaty-making and research. This system offers opportunities for learning and flexibility, as well as presenting various types of coordination challenges, both vertically and horizontally.

¹ Subnational governments represent the first immediate level of government below the national and above the local. This level involves governments such as states, provinces, regions, domains, territories, lander, cantons, autonomous communities, oblasts, etc. depending on the country. Subnational governments are distinct from “local governments”, which include all levels of government below the subnational, such as cities. Often called “regional governments”, we opt here for the term “subnational government” as the former is commonly used to refer to a scale above the country level, for instance, in the Paris Agreement (article 7) and IPCC assessments.



This important role of non-Party and other stakeholders to address climate change was reaffirmed by the Paris Agreement, adopted in 2015 at the 21st Conference of the Parties (COP21) to the UNFCCC. Particularly in relation to subnational and local governments, the Paris Agreement exceeded previous agreements by explicitly recognising their role in promoting emissions reductions and adaptation actions (Galarraga et al., 2017). Furthermore, the IPCC's 1.5 Special Report² recognised that addressing climate change requires 'accountable *multilevel governance*' including a variety of state and non-state actors and institutions from government, industry, civil society and scientific institutions.

In addition to helping achieve the goals of the Paris Agreement and address climate change, subnational action can support the delivery of other Sustainable Development Goals (SDGs) by 2030. Given the increased attention to synergies and potentially negative impacts between climate action and other SDGs, subnational and local governments can help ensure that global climate efforts are implemented in a way that supports local sustainable development (Chan et al., 2019).

But to what extent is MLG delivering climate-resilient (adaptation) outputs? What are the challenges that MLG brings, and how can subnational governments deal with and further address these challenges?

This report examines **multilevel governance in climate adaptation action**, and therefore analyses only a subset of this wider universe of climate action. It zooms in on policies and processes that **subnational governments** are undertaking, and some of the challenges they face while establishing vertical and horizontal integration to promote climate adaptation in their territories.

This report outlines the main findings of a survey with 33 subnational governments, one local and one national government, carried out by **Regions4** and **RegionsAdapt**³. The survey aimed at exploring to what extent, from subnational governments' perspective, adaptation is being addressed as a multi-level challenge.

This report features an analysis of the results. It expands on the results of the survey into what could constitute good practice in climate change adaptation in an MLG context, drawing upon a framework proposed by the OECD (Corfee-Morlot et al., 2009). For the analysis the report also considers data obtained through the CDP States and Regions questionnaire as part of the RegionsAdapt annual disclosure process.

The report aims to explore the understanding of climate adaptation as an MLG effort. In doing so, the report:

- Reveals common challenges regarding MLG in adaptation
- Highlights good practices and experiences of subnational governments in addressing climate change adaptation within an MLG context
- Provides recommendations for policymakers, including national governments, that could be used to guide national and subnational adaptation plans
- Constitutes a source for subnational governments who seek collaboration with national counterparts

2 IPCC 2018 Special Report "on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty" (SR15). The reference to the role of subnational governments addressing climate change is also made in the SR15's Summary for Policy Makers. Available at <https://www.ipcc.ch/sr15/>

3 Launched at COP21, RegionsAdapt is the first global initiative supporting regional governments to take concrete action, collaborate and report on climate adaptation. More information available at: www.regions4.org/project/regionsadapt



2. MULTI-LEVEL CLIMATE GOVERNANCE WITH A FOCUS ON SUBNATIONAL GOVERNMENTS AND CLIMATE ADAPTATION

Multi-level governance (MLG) has become a mainstream approach to explain, establish and implement climate change action. The concept of MLG refers to steering mechanisms involving increasing connectivity between spheres of governance. MLG recognizes the influence of government institutions operating at different scales, as well as diversification of actors from the private sector and civil society intervening in public issues (Westman et al., 2019, p. 14). In a nutshell, MLG of climate change shares the responsibility for action between government levels and sectors, as well as across the traditional public-private divide. This report focuses on the governmental sphere, and particularly on the perspective of subnational governments. For an overview of key actors, functions and tools for multilevel climate change governance across the local, regional, national and international levels, please see the table in the Annex.

The concept of multi-level climate governance assumes that a country's different levels of government are mutually dependent and contribute to complementary outputs when it comes to implementing the Paris Agreement. However, while the principles of MLG remain widely applicable to establish climate change governance, this is not to say that there are no challenges involved in its application. In practice, existing multi-level frameworks may support, or obstruct, local climate action (Adriazola et al., 2018). Coordination between multiple actors and levels is a complex process, even when there is common agreement about its need. There are also instances where the MLG lens might not be helpful to promote action in particular jurisdictions. For example, whereas MLG might be an adequate framework to promote climate action in the European context, some cities in the global South have less ability to retain global capital and access resources, and many average-sized cities are rendered invisible (Westman et al., 2019).

Before assessing the results of the survey, this report defines the scope of the analysis by clarifying **(2.1)** why subnational governments are important players in the MLG of climate change adaptation, **(2.2)** how subnational climate action takes place across vertical and horizontal linkages, and **(2.3)** key characteristics of subnational climate adaptation action.

2.1. SUBNATIONAL GOVERNMENTS

Subnational governments engaged in climate action represent a significant proportion of the world economy and population (Hale, 2016; Hsuet al., 2017). Even where central governments retain major responsibilities, the jurisdiction of certain mitigation and, especially adaptation policies, might still be the responsibility of subnational levels of governance.

Subnational governments, in particular, can play an important and strategic role in addressing climate change and ensuring concrete results from adaptation actions (see Setzer et al., Forthcoming).

First, they have **authority** to act on legal domains that are important for climate change adaptation and mitigation, such as energy, transportation, land use, housing, disaster management and natural resources (see Table 1 for examples). Some subnational governments can legislate in the absence of federal legislation (Hofsmeister, 2012). They can collaborate with other subnational governments, countries and jurisdictions. An example of subnational collaboration across national borders is California's Intergovernmental Climate Action Team (ICAT, 2018) and Québec-California Carbon Market partnership through the Western Climate Initiative, which notably contributes to financing adaptation measures.

Table 1. Examples of subnational mitigation and adaptation policies across sectors (adapted from Corfee-Morlot et al., 2009, p. 30)

SECTOR	MITIGATION	ADAPTATION
Building	Energy efficiency measures	Adaptability in extreme climates
Electricity Generation and Distribution	Energy demand management; renewable energy use	Cooling and heating infrastructure
Waste Disposal	Shipping of waste; Methane emissions mitigation (capture/cogeneration)	Develop screening tools for vulnerability assessment (e.g. increased risk of flooding and heat) at site level
Transportation	Modal mix; Vehicle efficiency	Effects of climate on infrastructure (roads, mass transit systems); Changes in use patterns
Land-use planning	Land-use regulation (increased density, forestry); Energy efficient development	Land-use regulation (reduce development vulnerability)
Water provision	Emissions related to pumping	Long-term availability studies; water use measures

Subnational governments have an important role in contributing to “fill in the gap” left by national climate action (Farber, 2014), particularly in the bottom-up context established by the Paris Agreement. Moreover, with regards to adaptation, subnational governments have the knowledge, expertise, capacity and competences to design and implement adaptation policies tailored to their territory. As for mitigation, there is evidence that they are committing to ambitious emission reduction goals, often beyond national pledges. Galarraga et al. (2017) found 101 subnational governments with emissions reduction targets equal to or greater than 80 per cent by 2050. In general, in the case of the European Union, subnational pledges match the national ambition, while in the USA and Australia, they go well beyond national commitments. In other cases, there is a combination of higher and lower ambition across national and subnational targets.

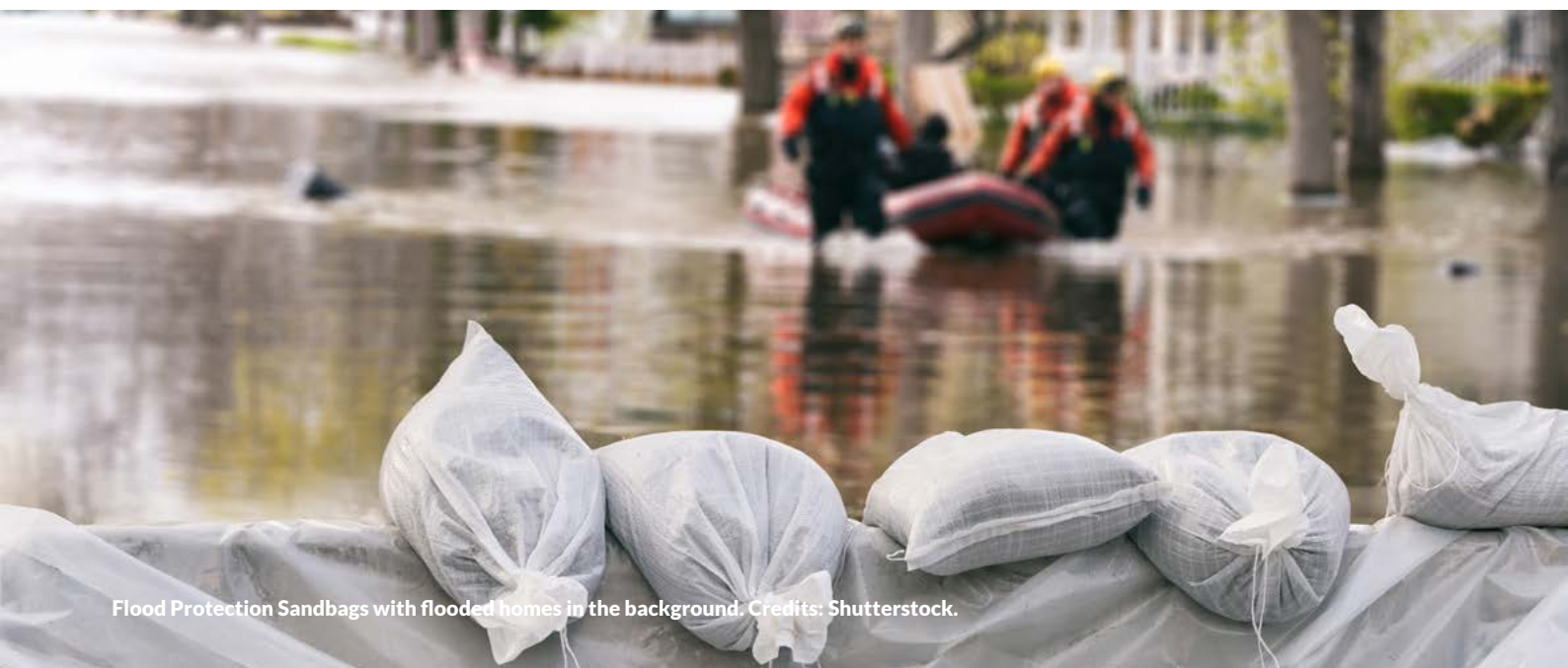
Second, subnational governments constitute a key **nexus between national and local** governments. Galarraga et al. (2011) refer to the ‘paradox of the lent target’ to describe situations in which national governments design and agree upon climate goals that subnational governments are in charge of implementing.

Therefore, critical to ensuring effective climate policy across scales is the existent architecture and coordination between national or federal governments on one side, and states or regional governments on the other side.

Similarly, subnational approaches can provide a scaling-up factor to local climate actions. Subnational, as opposed to municipal, approaches to climate change mitigation and adaptation can accomplish structural changes that would not be possible at the city level, including avoiding carbon leakage. Greater technical and financial capacity and environmental know-how may exist at the subnational level than in individual municipalities. In this regard, subnational governments are an essential player in mainstreaming climate adaptation actions at the local level, while also taking rural and urban realities into account.

Third, subnational governments play a fundamental role in **ensuring concrete results** from adaptation actions. This capacity for implementation arises from the entrepreneurship of subnational governments (Anderton and Setzer, 2018), and their capacity to foster policy innovation by experimentation and capacity building (Chan et al., 2015). Many state, regional and city governments have started to report their mitigation and adaptation actions as a means of tracking progress against ambition.⁴

⁴ The CDP makes hundreds of data sets publicly available on how cities, states and regions are reducing GHG emissions and tackling risks (CDP, 2018). Climate adaptation action is reported to CDP via the RegionsAdapt initiative (RegionsAdapt, 2019). More about this initiative and horizontal cooperation for planning, implementation and monitoring action is included in the next section.



Flood Protection Sandbags with flooded homes in the background. Credits: Shutterstock.

2.2. VERTICAL AND HORIZONTAL INTEGRATION

Vertical and horizontal integration are central to MLG processes. Vertical integration avoids policy gaps between subnational action plans and national policy frameworks. Horizontal integration encourages learning across relevant departments or institutions, as well as across local and subnational governments.

Vertical and horizontal integration arguably allows two-way benefits: bottom-up where subnational initiatives influence national action, and top-down where enabling national frameworks empower subnational players. The most promising frameworks combine the two into hybrid models of policy dialogue where the lessons learnt are used to modify and fine-tune enabling frameworks and disseminate horizontally, achieving more efficient implementation of climate strategies (Corfee-Morlot et al., 2009, p. 2).

However, the relationships between subnational and national governments can be highly diverse, depending on each country's constitutional arrangements, party politics, competitive landscape and openness to collaboration at any given moment (Duggan, 2019). Major barriers to cross-level communication and collaboration between national and subnational levels are due to power imbalances across governance levels, with powerful communities operating at the national level hampering cross-level interactions (Di Gregorio et al., 2019).

2.3. SUBNATIONAL ACTION ON CLIMATE ADAPTATION

The adverse effects of climate change differ across countries and regions. Different exposures, vulnerabilities, attitudes, and capabilities to deal with climate change risks will determine the magnitude of the impacts, which may vary greatly across countries, regions and localities. Because adaptation is typically location-specific, adaptation strategies need to consider the specific territories where adaptation challenges occur (Adger et al., 2005).

Action to address these problems and vulnerabilities is found in subnational policies dealing with land planning, biodiversity protection, transport, research and development, education, water management or agriculture. It is also necessary that this action is observed in the three phases of the policy process: planning, implementation, and monitoring/evaluation (Dazé et al., 2016).

The planning, implementation and evaluation of adaptation action constitute a multilevel governance challenge, which requires vertical and horizontal integration. Research suggests that this system of divided powers can benefit adaptation policies (Casado-Asensio and Steurer, 2016; Steurer and Clar, 2018). For instance, it is now recognised that, to be effective, National Adaptation Plans (NAPs) must reflect local and subnational dimensions and the critical role of subnational authorities and local organizations in advancing implementation of adaptation.

A recent survey of framework laws and policies governing adaptation and climate-related disaster risk management in 100 countries, shows that in about half of these countries local and subnational governments have some responsibility for managing adaptation (Nachmany et al., 2019). In practice, this means that there is a real need and expectation for subnational governments to lead on climate adaptation action. Not only does adaptation action have a strong local component by nature, but also national governments rely on subnational governments to establish and implement action to address the impacts of climate change, such as floods, droughts, storms, heatwaves, and sea level rise. In some cases, these responsibilities can only work if national and supranational institutions support adaptation processes by providing resources, building capacities, promoting inter-institutional coordination or sharing information and knowledge. In other cases, subnational governments act according to their constitutional competency without having the national government assign or delegate responsibilities. Even then, both levels of government can still coordinate actions and share information and knowledge.

3. HOW ARE DIFFERENT SUBNATIONAL GOVERNMENTS CURRENTLY ENGAGING IN MULTI-LEVEL CLIMATE GOVERNANCE? RESULTS FROM THE SURVEY

This report aggregates the answers given by 35⁵ respondents; mostly [Regions4](#) and [RegionsAdapt](#) members. The survey aimed at exploring to what extent adaptation is currently being addressed as a multi-level challenge, involving local, subnational and national governments, with a focus on the perspective of subnational governments.

The questionnaire was aimed at both revealing common challenges for MLG in adaptation, and identifying good practices and experiences from subnational governments. The questions were organized considering: (i) adaptation planning

processes, (ii) implementation processes, including capacity building and support, and (iii) monitoring and evaluation.

The online questionnaire was sent to more than 80 subnational governments in July 2019, and by September 2019 a total of 33 subnational governments from 18 countries, submitted their answers. Most of them are from the Global South: Latin America (10 regions), Africa (9 regions) and Asia (1 region). There were 9 European, 2 Australian and 2 North American regions that participated.

5 As explained before, the sample includes the responses of the 33 regional governments, 1 municipal and 1 national government who took part in the survey.



It is important to emphasise that the survey reflects a considerable **diversity across subnational governments**, and this diversity is observed particularly regarding *governance arrangements, strategies and priorities* across jurisdictions.

The diversity of *governance arrangements* is related to the diverse sectoral competences. African subnational governments have the least full or partial sectoral competences that are relevant for addressing climate change. Latin American, European and North American respondents, on the contrary, have full competences for many of the sectors included in the survey.

The diversity of *strategies* is related to the fact that jurisdictions find themselves in different phases of the policy process. For instance, the first adaptation planning process tends to focus on groundwork. Governments prioritise measures aiming at increasing knowledge, governance and, to some extent, actions which pursue new policies or changes in existing policies and programmes (a finding consistent with previous research; see Lesnikowski et al., 2013, 2011). The second adaptation planning process relies on an existing knowledge base and targets the improvement, implementation and more sophisticated monitoring systems that evaluate outcomes (building resilience) rather than the implementation of the plan itself (outputs) (e.g. Scotland, Québec, Catalonia). The diversity of strategies may also respond to the specific climate risks the different governments need to deal with.

The diversity of *priorities* seems to confirm that developing and fast-growing subnational governments prioritise governance and finance issues, whereas in Europe and North America they focus on sectoral policies, particularly coastal areas and disaster risk management (Olazabal et al., 2019). This is not specific to adaptation, it may occur with other sectoral policies that require subnational-national coordination, but it also has an effect on adaptation.

The nature of climate risks and their urgency relative to other challenges is likely shaping the priorities for action as well (Lesnikowski et al., 2013).

In the following subsections we delve into the results of the survey considering three stages of adaptation processes: **(3.1)** planning, **(3.2)** implementation and **(3.3)** monitoring, reporting and evaluation.

3.1. PLANNING FOR ADAPTATION

Planning for adaptation efforts involves analysing vulnerabilities, identifying adaptation options, and laying the foundations for implementation, monitoring and evaluation of adaptation. Adaptation efforts might be integrated into existing plans or strategies, and/or can be established in new and specific documents. Vertical integration in planning aims to ensure that planning processes at national and subnational levels are mutually supportive, with dialogue among actors at different levels throughout the process (Dazé et al., 2016).

National adaptation planning processes have been initiated in all 18 countries where the respondents are located, even though not every country has already adopted a National Adaptation Plan (NAP). When asked about their participation in the developing process of the NAP, **most subnational governments (71%) were involved, while 20% had no involvement in the development of the NAP**. Those who responded negatively, generally have competences for planning and implementation of most sectoral policies related to adaptation, such as land-planning, disaster risk reduction, water management, agriculture or biodiversity (Table 2).

This was the case of the State of Sao Paulo (in Brazil), Campeche and Jalisco (in Mexico) and the Consortium of Provincial Governments of Ecuador (CONGOPE)⁶.

⁶ However, there is an apparent inconsistency across subnational governments, as others in these same countries responded that they were involved in the development of NAPs (e.g. Ceará and Rio de Janeiro, in Brazil; and Santa Elena and El Oro, in Ecuador).

At the same time, **most respondents (75%) have or are developing their own Subnational Adaptation Plans (SAP)**. Half of the respondents reported that subnational characteristics and/or other aspects of the SAPs had been incorporated into NAPs, while the other half said these had not been considered.

Most reported that climate hazard related information had been considered in the NAP process, followed by vulnerability issues. Data about resilience, governance or the coping capacity at the subnational level is often not accounted for. This could be explained by the fact that in most cases first wave adaptation plans focus on collecting and producing information. Nonetheless, responses varied strongly, and no pattern was identified.

Table 2. Policy domains related to climate change in which the subnational governments have partial or full competence.

POLICY DOMAIN	PLANNING	IMPLEMENTATION	BOTH PLANNING & IMPLEMENTATION		NO COMPETENCES
Land planning	5	1	28	80%	1
Health	3	2	23	66%	6
Education	5	4	23	66%	2
Coastal management	6	1	12	34%	13
Agriculture	5	1	27	77%	2
Forestry	3	1	24	69%	4
Biodiversity	5	1	27	77%	0
Water management	3	1	26	74%	5
Energy	8	2	18	51%	6
Transport	4	1	22	63%	8
Industry	6	0	17	49%	9
Research and innovation	7	0	21	60%	6
Finance	3	2	21	60%	8
DRR	4	2	22	63%	7

The governments that took part in the NAP process reported that the NAPs follow a sectoral approach, which makes it difficult to consider their characteristics and priorities. Hazards and vulnerability were the characteristics most often considered in NAPs. Some European respondents reported that governance and resilience issues had also been considered.

The diversity subnational governments' characteristics, interests and priorities were found to be a constraint for vertical integration. Jurisdictional issues were also mentioned (some not having full jurisdiction on adaptation as a constraint), including policy gaps between national and subnational policies, as a constraint for effective vertical integration.

General constraints were also identified, mainly the lack of funding and financial resources but also weak technical and coping capacities. Lack of national leadership or support was mentioned, as well as scarce data.

Finally, subnational governments were asked to report which policy instruments were used in the context of adaptation and at which level (see Table 3).

Most common instruments, at both subnational and national levels, were climate change programmes, information and training, regulation and voluntary agreements, while taxes, cap and trade and certifications or labels were the instruments least used at any government level.

Table 3. Instruments used by subnational or national governments.

INSTRUMENTS	SUBNATIONAL LEVEL	NATIONAL LEVEL	BOTH LEVELS	NEITHER	DON'T KNOW
Taxation fees	2	5	6	17	5
Tax exemptions or reductions	1	9	3	19	3
Subsidies, loans or reimbursements	1	9	11	9	5
Cap and trade	1	3	1	13	17
Regulation and legislation	4	5	25	1	0
Voluntary agreements	3	3	23	3	3
Standards	2	6	12	9	6
Certifications and labels	1	10	6	12	6
Prizes and awards	3	5	11	9	7
Information and training	2	5	27	1	0
Public procurement	5	1	12	8	9
Public system	4	1	16	4	10
Climate change programs	3	5	27	0	0
Others	0	1	3	3	28



BOX 1: ENABLING SUBNATIONAL ADAPTATION PLANNING CAPACITIES IN KAZAKHSTAN

As Kazakhstan is initiating its National Adaptation Plan (NAP) process, with support from the Green Climate Fund (GCF), the engagement of subnational actors, along with improved collaboration across government levels, have emerged as priorities. Specifically, enabling subnational adaptation planning capacities through strategic linkages between the national and provincial levels has been identified as a key step for improved subnational adaptation action. The Ministry of Energy leads all climate-related efforts in the country—focusing on agriculture, emergencies, water management and health—including the NAP process. In parallel, the Ministry of National Economy coordinates the Territorial Development Program which requires provincial governments to develop action plans based on specific guidelines. The Program reflects key priorities and guidelines set out in Kazakhstan’s high-level strategic documents (e.g. Kazakhstan’s Strategic Development Plan 2050). As such, it plays a crucial role in linking national and provincial plans and goals. Constructive and effective collaboration across these two ministries, therefore, is a key determinant of the success in enabling climate-resilient development at the subnational level.

In order to enhance the effectiveness of these efforts, the Ministry of Energy initiated a round table with the Ministry of National Economy and other stakeholders to discuss the integration of climate adaptation into subnational development planning. The following potential key entry points for vertical integration of climate action were discussed:

- 1 Identified climate risks and the need to adapt should be integrated into high-level 10-20-year strategic planning documents. Given the hierarchy of national planning processes in the country, this could facilitate the integration of climate change, with respect to both mitigation and adaptation, in subnational discussions and planning exercises (although, to date, the focus has predominantly been on mitigation). Existing inter-agency working groups, boosted by the ongoing SDG process, can facilitate a cross-sectoral framing of climate change responses and build a strong link to national level priorities and plans.
- 2 At present, the mandate for provincial authorities to plan, implement and monitor Territorial Development Plans does not require them to incorporate climate risks. Overturning this inadequacy is fundamental for the effectiveness of the NAP process and climate-resilient development across government levels. To do so, it will be necessary to consider climate risks in the design of plans and actions, and to accompany these newly climate-responsive measures with quantifiable indicators that assess progress. In this scenario, the provincial governments would play a key role in identifying and prioritizing adaptation options based on risk and vulnerability assessments and in line with national-level adaptation plans.

Attaining these goals will require improvements in information sharing, e.g., between the Ministry of Energy and the Ministry of National Economy, but crucially also with subnational levels of government, as well as enhanced resources for capacity building, including on identifying, analysing and responding to climate-related risks and vulnerabilities.

FURTHER READING: Entry Points for Vertical Integration of Climate Action in Kazakhstan

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MECHANISMS FOR PARTICIPATION, COORDINATION AND SUPPORT

Coordination meetings between national and subnational representatives is the main mechanism used for adaptation planning across levels of government. Respondents also indicated additional mechanisms, such as regional data and bilateral consultations.

Some jurisdictions include other stakeholders in participation and coordination mechanisms. Canada's Climate Change Adaptation Platform⁷ gathers not only the national and provincial and territorial governments but also other representatives from the private sector, NGOs and indigenous groups.

When asked about the type of support received from national governments in the adaptation planning phase, most respondents received technical support, followed by capacity building and financial support and investments. Other types of support were national guidelines for adaptation, information sharing (e.g. through platforms), monitoring and evaluation and participation in research programmes. However, more than 30% of the respondents reported little or no support.

In terms of **horizontal cooperation**, initiatives such as RegionsAdapt support planning for adaptation at the state and regional level (Setzer et al., forthcoming). In the first two years of joining the initiative, members agree to review their strategic approach to adaptation or adopt a new one. The reporting process takes place annually and uses the CDP States and Regions questionnaire.

In 2019, 28 RegionsAdapt members reported their RAP (19 already had an adaptation plan and 3 were ongoing)⁸. By reporting their RAP, members across the world can share and learn about different vulnerabilities, and plans for implementation, monitoring and evaluation of adaptation.

3.2. IMPLEMENTING ADAPTATION

Implementing adaptation means putting adaptation plans and policies into action. Implementation of adaptation actions will be undertaken by a wide range of actors at different levels, including government line ministries, local and subnational authorities, civil society organizations, the private sector and communities. Vertical integration in implementation focuses on ensuring that subnational actors have the information, resources and capacity they need to implement adaptation, and that national and subnational actors are coordinating their respective efforts (Dazé et al., 2016).

More than 80% of the respondents reported that there is some kind of coordination mechanism between national and subnational governments for implementing adaptation policies. Most refer to mechanisms used in the planning phase, such as national level working groups, committees or observatories. These committees might be specific for adaptation or be already existing ones devoted to national-subnational coordination. Other mechanisms reported are information and best practice exchange platforms.

7 <https://www.nrcan.gc.ca/climate-change/impacts-adaptations/adapting-our-changing-climate/10027>

8 See also RegionsAdapt 2019 Brief Report, available at: <https://www.regions4.org/publications/regionsadapt-brief-report-2019/>

BOX 2: ENGAGING SUBNATIONAL ACTORS IN ETHIOPIA'S NATIONAL ADAPTATION PLAN (NAP) PROCESS

Ethiopia submitted its National Adaptation Plan (NAP-ETH) to the UNFCCC's NAP Central website in March 2019. This represents an important milestone in the country's NAP process; however, the completion of a NAP document is only one step in the ongoing, iterative NAP process. Recognizing this, Ethiopia's Environment, Forest and Climate Change Commission (EFCCC) has been working on a number of different approaches to create the conditions for its NAP to be implemented in an efficient and effective manner.

Over the course of 2018-2019, the government pursued two key strategies to engage subnational stakeholders in the NAP process:

- **Engaging subnational stakeholders in prioritization of adaptation actions:** A series of regional workshops was organized as an initial step in rolling out the NAP-ETH at subnational levels. These three-day events brought together regional and local government representatives, private sector actors and civil society organizations working in the region on relevant initiatives. The main purpose of the workshops was to introduce NAP-ETH and undertake a participatory process to identify regional priorities among the 18 adaptation options identified in the national-level plan. However, it was recognized that in order for the stakeholders to effectively participate in this process, they would require a better understanding of climate change and adaptation. So, the first day and a half of the workshops were spent in a learning process, which yielded a common understanding of climate change impacts and vulnerabilities in the region and how adaptation actions can be used to reduce these impacts. This created a foundation for the prioritisation process, which focused on priorities for the specific region. These priorities have been incorporated in the implementation roadmap for the NAP.
- **Putting in place guidelines for integrating adaptation in subnational development planning:** Alongside the stakeholder workshops, EFCCC was undertaking an update to the guidelines for integrating the Climate-Resilient Green Economy (CRGE) strategy in sector, regional and district-level planning. The CRGE is the overarching climate policy for Ethiopia, while NAP-ETH has further elaborated the adaptation options and strategic priorities that will enable climate-resilient development. The guidelines, which are a core planning tool for regional and district governments, have now been updated to increase the focus on adaptation, in line with NAP-ETH. This provides subnational authorities with a practical tool to integrate adaptation, as well as mitigation, in their development plans.

These workshops and guidelines represent critical steps towards involving subnational stakeholders in the NAP process. As Ethiopia shifts into the implementation phase of its NAP process, regional and local authorities, as well as communities, organizations and the private sector, will be increasingly involved in making the plan a reality. This will require additional financial resources, as well as investments in capacity development, to ensure that these essential actors have the knowledge, skills and resources needed to engage in adaptation action.

* The regional workshops and the update of the guidelines were supported by the NAP Global Network.

A large share of the respondents (70%) considers this mechanism useful, 17% declare they are not useful, and the number of blank responses rises to 14%. Some respondents valued the coordination function of such mechanisms, acknowledging the importance of dialogue and information-sharing not only with the national government but among their subnational counterparts, as a benchmarking tool. Among the limitations of vertical coordination **limited access to funding and limited technical support** provided by the national level were reported.

JOINT IMPLEMENTATION

Only **one third of the respondents reported sharing or jointly implementing adaptation actions or instruments with their national governments, while more than 40% declared joint implementation mechanisms are inexistent.**

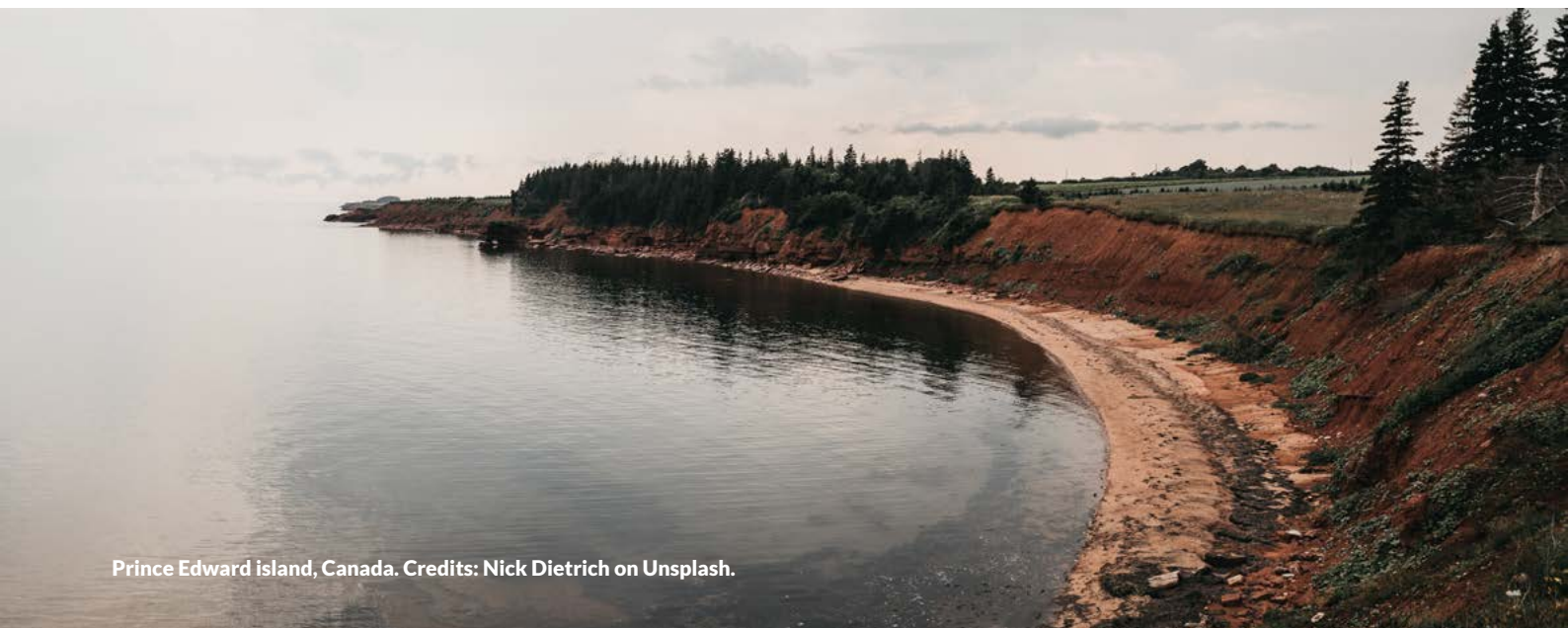
Joint collaboration takes place mostly at planning stage (during the national or subnational adaptation plan/strategy development) and via specific projects.

This is the case of the PIMA Adapta Costa⁹ in Spain, where the national government supported the assessment of coastal vulnerability and development of risk tools in some regions.

In Lombardy, there is a specific programme for environmental integration within which some actions were developed jointly with the national government. In Ethiopia, projects supported by the Global Climate Fund (GCF) are implemented jointly between national and subnational governments. Another example of joint implementation is a bilateral agreement adopted by Québec and the federal government of Canada regarding federal financing in green infrastructure. In Brazil, there are national funds to implement adaptation measures at the subnational level.

In terms of **horizontal cooperation**, RegionsAdapt also supports the implementation of adaptation plans and policies at the state and regional level (Setzer et al., forthcoming). After the first two years that members are part of the initiative, they are expected to identify opportunities or gaps in their existing adaptation plans or strategies and increase the sectoral scope for action. Again, progress in policy implementation takes place annually and uses the CDP States and Regions questionnaire. In 2019, 19 RegionsAdapt members reported being involved in the planning or implementation of national adaptation plans and policies, while 9 said they had not participated. By reporting the adaptation action that they have implemented, members across the world can share and learn about what actions are being taken on the ground to reduce vulnerability in different territories.

⁹ Available at: <https://www.miteco.gob.es/es/cambio-climatico/planes-y-estrategias/PIMA-Adapta.aspx>



FINANCING ADAPTATION

Half of the respondents reported that national governments support them in accessing climate adaptation funds, but only one-third of them declared that a national financial mechanism exists to support subnational implementation.

This could be a specific funding programme such as the ones existing in Canada in relation to disaster risk reduction (DRR), capacity building or developing risk assessments. Another method is via project proposals or subsidy programmes, as well as facilitating access to international (e.g. Green Climate Fund) or national (e.g. National Development Bank in Ecuador) funding programmes.

Nonetheless, most of the respondents declared that they use their own resources for implementation, even if it might not be the only source, but in combination with other national and international funding (e.g. in Europe, via European Commission programmes). Subnational governments in developing countries reported that donors are their main financial source, including in this group international organisations such as UNDP, development aid or NGOs.



Aerial view of Barcelona. Credits: Shai Pal on Unsplash.

BARRIERS TO ADAPTATION

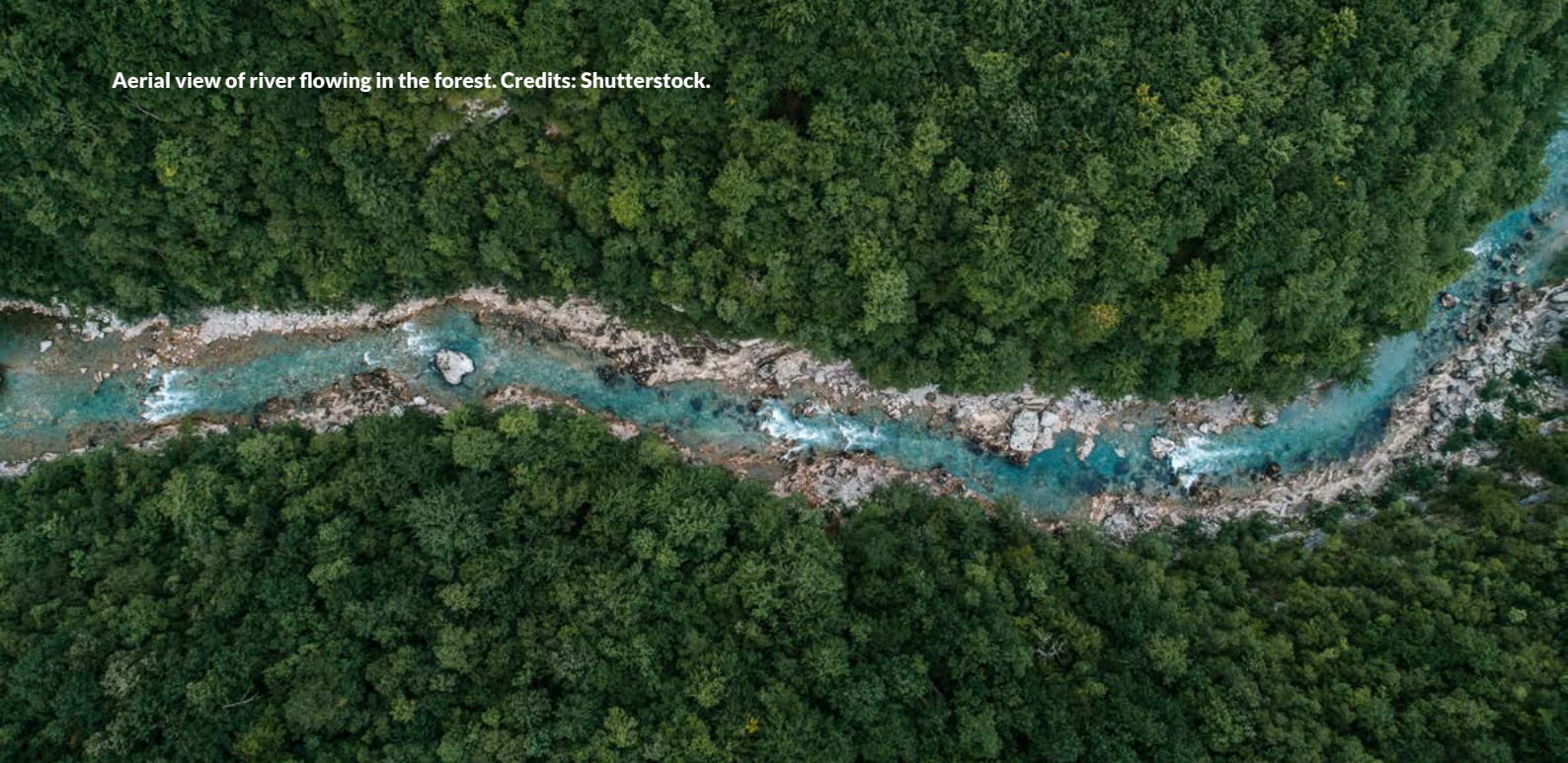
When asked about the main limitations for implementing adaptation, financial issues led the ranking, followed by the (lack of) technical capacity, institutional capacity and regulation (see Table 4).

Table 4. Main constraints identified by subnational governments for implementing adaptation.

CONSTRAINT	NUMBER OF RESPONSES
Institutional	15 (43%)
Technical (capacity)	27 (77%)
Financial	32 (91%)
Regulatory	14 (40%)
Other	1 (Knowledge)

In relation to financial constraints, respondents mentioned limited staff and difficulties in accessing funding, as explained previously. As for technical capacity, the complexity of climate change and its surrounding uncertainty was mentioned, as well as the absence of specialised personnel and the cross sectoral nature of adaptation. Interestingly, the Queensland Government Department of Environment and Science explains that small teams have led to collaboration with other government areas and stakeholders, turning a weakness into a strength. Under the Queensland Climate Adaptation Strategy collaboration is a core objective.

Other barriers were deficient national coordination (vertical and horizontal) and the absence of legal frameworks and binding regulations.



3.3. MONITORING, EVALUATION AND REPORTING (MER)

Monitoring, evaluation and reporting (MER) of adaptation aims to assess progress in implementing adaptation, looking at both process (i.e. achievements in terms of implementing adaptation policies, plans or actions) and outcomes (i.e. changes that result from these achievements, usually in relation to communities, ecosystems or vulnerable groups). However, the diversity of existing monitoring and reporting instruments might impede their relevance for multi-level climate governance. The lack of shared indicators, methodologies, etc. hampers the comparability of reported data. Moreover, many existing monitoring and reporting platforms also suffer from inconsistent or incomplete data collection. These shortcomings hamper the extent to which the aggregated impact of local climate action can be clearly demonstrated at the national and international level (Adriazola et al., 2018).

Over 50% of the respondents report having a MER process. This is lower than the evidence in other cases. For example, Olazabal et al. (2019) found that almost 90% of the coastal adaptation policies analysed in a sample of 136 cities in 68 countries included MER systems, but the implementation and effectiveness of those was not included.

Among the respondents that are measuring the progress of adaptation, the most common approach is developing periodic reports and indicators that measure the implementation of climate change adaptation plans or strategies. In those governments with more mature adaptation planning processes, a transition is observed from tracking the implementation of the adaptation plan towards outcome-based MER strategies.

This is the case of Scotland who in its first plan had a set of indicators that measured its implementation but is now developing a far more ambitious MER strategy. An outcome-based MER is also developed in Sardinia's Climate Change Adaptation Strategy. Another good example is Catalonia that developed a Global Indicator for Adaptation in 2014, which has recently been reviewed. The aim of this Global Indicator is to measure the adaptive capacity of the territory to climate change impacts and it is built based on 42 sectoral indicators. Progress is measured towards a baseline year (2005)¹⁰.

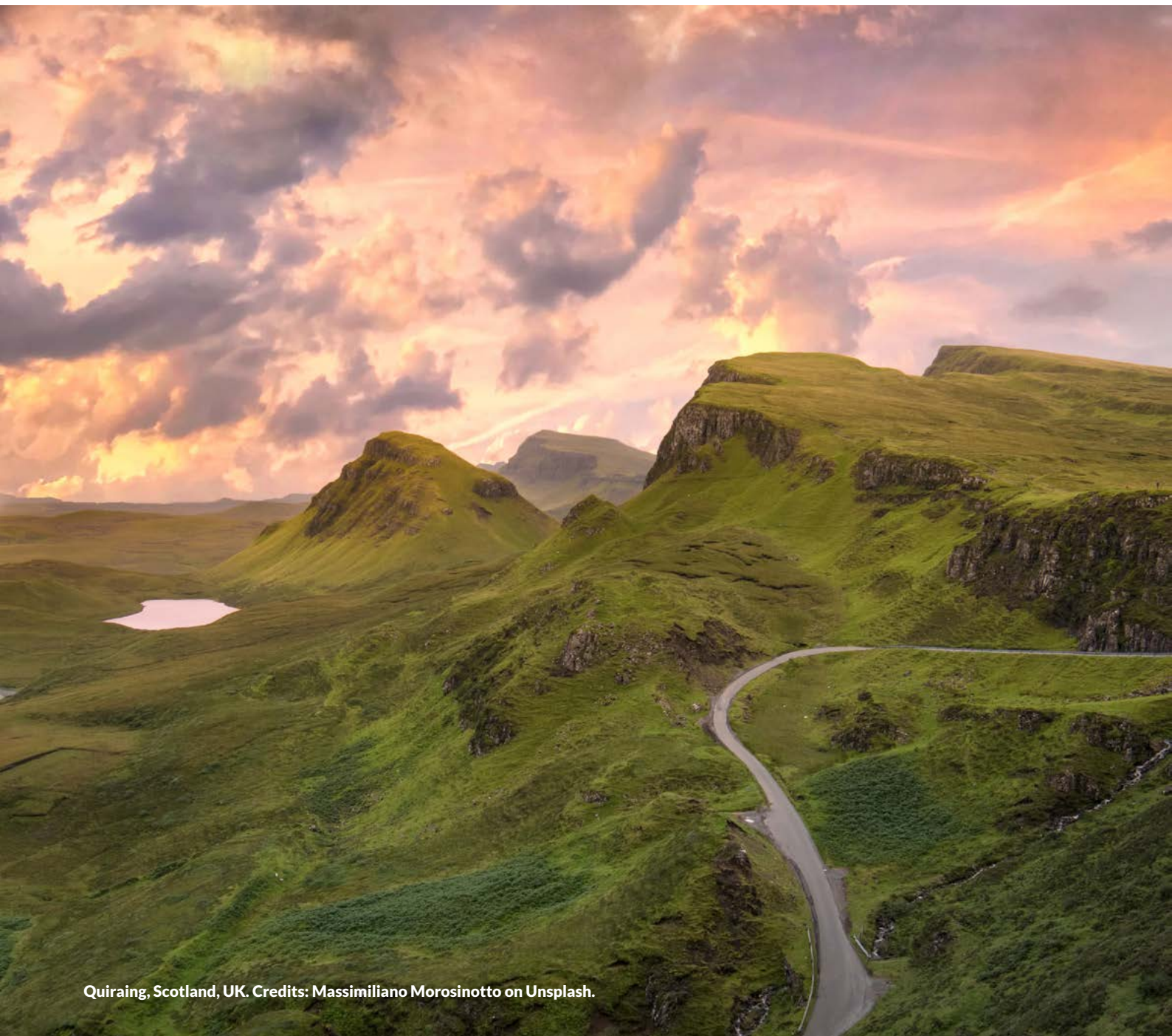
Under the Paris Agreement, all Parties are expected to measure and document adaptation progress, however adaptation tracking presents some challenges compared to measuring the progress on mitigation and there has been little progress so far (Berrang-Ford et al., 2019; Ford et al., 2015).

10 See also: https://canviclimatic.gencat.cat/web/content/03_AMBITS/adaptacio/Indicador_global/IGA-2018def-ENG.pdf

The results of the survey confirm this situation: while the respondents reported that all countries had a NAP, only 10 countries were known to have an adaptation monitoring system in place. Several subnational governments reported that they did not know. Some evidence was found of the existence of national-level reporting frameworks where subnational information can be taken into account.

Finally, in terms of **horizontal cooperation**, RegionsAdapt supports the monitoring, evaluation and reporting of adaptation plans and policies at the state and regional level (Setzer et al., forthcoming).

After being a part of the initiative for four years members are expected to provide evidence of action taken to address the gaps identified in their adaptation plans or strategies and report their progress via the CDP States and Regions questionnaire. This phase will coincide with the second round of higher ambition climate pledges (2020) under the Paris Agreement and is designed with the intent to provide data on the evaluation of adaptation action taken by members.





4. GOOD PRACTICE FOR MLG TO ADDRESS CLIMATE CHANGE ADAPTATION IN REGIONS

Ten years ago, the OECD published a ‘good practice’ guide in the area of MLG and climate change, with a particular emphasis on the role of subnational and local governments (Corfee-Morlot et al., 2009). The OECD report used a framework for MLG based on a combined vertical and horizontal dimension and concluded with a framework of good practices in multi-level climate change governance, which are summarised in four points. First, national policies are a central enabler of local action on climate change. Second, there is significantly greater potential for experimentation at subnational scales, which in turn can be a testing ground for national governments. Third, close collaboration between subnational and national authorities to build capacity on the climate change issue will improve the chances to exploit potential for cost-effective mitigation and adaptation to climate change. Fourth, some effective cross-sectoral regional or urban development strategies appear to be driven by the climate change

imperative, where climate change mitigation and adaptation is seen to be a potential source of regional economic development.

Ten years later, the MLG survey carried out by [Regions4](#) and [RegionsAdapt](#) with 33 subnational governments from the Global North and Global South suggests that vertical and horizontal integration to address climate adaptation continues to be necessary for the delivery of climate adaptation action, with some advancements observed.

While some of the obstacles for an effective cooperation across scales are still present, the application of the OECD conceptual framework in the context of this group of governments shows signs of improvement in how vertical coordination is helping subnational governments to plan, implement and monitor adaptation actions. We summarise the achievements observed in Table 5.

Table 5. Good practices in climate change multi-level governance contexts. Based on Corfee-Morlot et al. (2009).

GOOD PRACTICE	National policies are important
ACTION	National policies can powerfully enable subnational action on climate change adaptation and mitigation. National governments can and should take the lead on the design and implementation of broad cross-cutting instruments.
FINDINGS	National governments have been developing and adopting National Adaptation Plans (NAP). In most cases subnational governments have a chance to participate in the development process. Some NAPs have incorporated subnational characteristics or aspects of Subnational Adaptation Plans (SAP), but this is not the case in all countries. In implementation, subnational governments report some but limited possibilities to coordinate efforts vertically. Coordination is weakest at developing MER processes.
GOOD PRACTICE	Subnational policy can be a laboratory for larger-scale efforts
ACTION	Where successful, such experiments can provide an essential evidence base with new forms of policy and open the possibilities for diffusion. National policy should encourage, enable and possibly finance experimentation that goes beyond nationwide action.
FINDINGS	The importance of experimentation at the subnational level is now entrenched in the Paris Agreement and in national legislation. Particularly in relation to adaptation, several countries now have laws and policies that assign local and subnational governments with MLG responsibilities to establish and implement action to address the impacts of climate change, such as floods, droughts, storms, heatwaves, and sea level rise. Initiatives such as RegionsAdapt provide a platform for subnational governments to share practices, but also to report plans and targets as well as the status of their implementation.
GOOD PRACTICE	Collaboration
ACTION	With proper resources, subnational authorities can be a proactive force for action on climate change adaptation. They can consider climate risks in land use and zoning practices, coastal zone or disaster management, managing water stress or flood risk.
FINDINGS	Collaboration across different levels of government has been operationalised through coordination meetings and bilateral consultation between representatives from subnational and national governments, as well as through inter-regional organisations.
GOOD PRACTICE	Focus on synergies
ACTION	National and subnational authorities should focus on cross-sectoral strategies where climate change mitigation and adaptation is a potential source of regional economic development.
FINDINGS	The majority of subnational governments have planning and implementation competences in most sectoral areas for climate change adaptation. Some cross-sectoral synergies can be deduced from the responses in issues related to land planning or development. The deployment of economic instruments is very limited and while some funding opportunities were identified, via national or international funding programmes, adaptation to climate change is mostly perceived as a challenge that requires new capacities and additional resources.

5. CONCLUSION AND RECOMMENDATIONS FOR FURTHER ADVANCEMENT OF MLG MECHANISMS IN CLIMATE ADAPTATION

Subnational governments have established their expertise, resources, and mandate to deal with adaptation challenges, which will differ based on the environmental, social, and institutional context and the nature of the climate impacts.

In this context, national governments should adopt policies in their areas of competence, provide support and funding for initiatives led by subnational governments, facilitate the exchange of knowledge and expertise between subnational and local governments, and coordinate adaptation policies and measures that address challenges shared by different regions.

That said, the exact way in which MLG should be practiced in different contexts will also invariably differ based on the division of responsibilities and capacities between different levels of government. Nevertheless, based on an assessment of the present experiences shared by the subnational governments that replied to the survey, combined with what the literature has considered good practice in MLG (Corfee-Morlot et al., 2009; Dazé et al. 2016), it is possible to provide recommendations for both national and subnational governments to improve vertical and horizontal integration. This list of recommendations focuses on the perspective of subnational governments and on the different conditions for and phases of establishing adaptation action.



5.1. RECOMMENDATIONS FOR GOOD MLG PRACTICE (VERTICAL AND HORIZONTAL)

INSTITUTIONAL ARRANGEMENTS

- National and subnational governments should identify existing decentralisation processes.
- National and subnational governments should establish mechanisms for dialogue, coordination and information sharing.
- National and subnational governments should delineate roles and responsibilities according to jurisdiction, capacity and potential contribution.

INFORMATION SHARING

- Subnational governments should consider the information needs.
- National and subnational governments should establish mechanisms for ongoing information sharing and tracking.
- National governments should provide information at the appropriate scale and timeframe.
- National governments should facilitate dialogue between actors at different levels.
- Subnational governments should promote learning across relevant departments or institutions, as well as across other subnational and local governments.

CAPACITY DEVELOPMENT

- Subnational governments should identify capacity needs.
- National governments should support capacity building and development of technical knowledge at the subnational level. This may also include (financial) support for trained personnel that are able to collect and analyse relevant data.
- National governments should ensure that relevant available data (e.g. national statistics or climate scenarios) is spatially disaggregated to allow for comparisons of progress at the subnational level.

PLANNING

- National governments should integrate subnational perspectives into the NAP.
- Subnational governments should integrate adaptation into subnational planning.

IMPLEMENTATION

- National governments should consider how adaptation options can be promoted and implemented at subnational levels.
- Subnational governments should consider what type of support (including financial) is necessary.
- National governments should leverage existing mechanisms.

MONITORING & EVALUATION

- National and subnational governments should determine how data on M&E will be collected, aggregated and synthesized.
- National governments should link M&E systems across different levels.
- Subnational governments should report adaptation plans and action across borders, through platforms and initiatives such as RegionsAdapt.



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ANNEX

KEY ACTORS, FUNCTIONS AND TOOLS FOR MULTILEVEL CLIMATE CHANGE GOVERNANCE

(adapted from Corfee-Morlot et al., 2009)

	Government functions and roles
LOCAL/CITY	<ul style="list-style-type: none"> - Implement national and/or regional law. - Where authority exists, establish laws and policies (e.g. roads, urban planning, flood control, water supply, green spaces, waste). - Incorporate mitigation and adaptation efforts into permitting procedures. - Characterise risk at a regional scale and define risk management. - Develop measures within public-private partnerships and local public procurement policies.
SUBNATIONAL (E.G. STATES, PROVINCES OR REGIONS)	<ul style="list-style-type: none"> - Implement national laws. - Where authority exists, develop regional laws and policies in key climate-related sectors (e.g. air pollution, water). - Incorporate mitigation and adaptation efforts into permitting procedures. - Characterise risk at a regional scale and define risk management. - Provide incentives and funding to enable local action on climate change.
NATIONAL	<ul style="list-style-type: none"> - Establish national climate laws, policies and standards (broad and with a focus on key sectors), with budgets, targets and mechanisms to monitor performance. - Establish a national inventory system which takes into consideration regional and local emissions and mitigation actions. - Incorporate mitigation and adaptation efforts into permitting procedures. - Characterise risk at a regional scale and define risk management. - Provide regional and local governments with funding and information to support mitigation and adaptation efforts.
INTERNATIONAL	<ul style="list-style-type: none"> - Set out priorities and timeframes for cooperative action. - Provide resources to guide national and subnational action. - Monitor and review performance. - Facilitate sharing of experiences.

	Key institutions and actors
LOCAL/CITY	<ul style="list-style-type: none"> - Public: city, county or other public authorities. - Private sector: local industry and business, tourists, households. - Local environmental or consumer organisations. - Local and regional experts.
SUBNATIONAL (E.G. STATES, PROVINCES OR REGIONS)	<ul style="list-style-type: none"> - Public: state or provincial governmental authorities, semi-autonomous public or public-private institutions (e.g. school boards or issue-based commissions). - Private sector: regional industrial federations; major corporations. - Environmental organisations. - Academic networks, universities. - Worker unions.
NATIONAL	<ul style="list-style-type: none"> - Public: national governmental authorities. - Semi-autonomous public or public-private institutions (e.g. school boards or issue-based commissions such as for water or air pollution management). - Private sector: national industrial federations; major corporations. - Environmental organisations. - Academic networks, universities. - Worker unions.
INTERNATIONAL	<ul style="list-style-type: none"> - Public: intergovernmental organisations and institutions. - Private: multinational companies, e.g. insurance, energy, and telecommunications. - Major environmental and development NGOs.

	Tools for decision making
LOCAL/CITY	<ul style="list-style-type: none"> - Deliberative or participatory policy processes. - Local GHG inventories: standardised and linked with national inventory methods, urban vulnerability mapping or risk assessment (e.g. flood risk and key infrastructure).
SUBNATIONAL (E.G. STATES, PROVINCES OR REGIONS)	<ul style="list-style-type: none"> - Funding for research. - Regional climate modelling building on national research. - Impact science: regional centres of expertise. - Policy research: regionally tailored. - Harness academic resources and facilitate networks. - Regional GHG inventories. - Project funding structures to support regional and urban scale action.
NATIONAL	<ul style="list-style-type: none"> - Funding for research. - Climate modelling: national research. - Support for centres of expertise. - Policy research. - Harness academic resources and Networks. - National GHG inventories. - Project funding structures to support national, regional and urban scale action.
INTERNATIONAL	<ul style="list-style-type: none"> - International research. - Collaboration and science-policy networks (e.g. IPCC). - Harmonised GHG inventory methods. - Harmonised reporting systems to provide oversight for international carbon markets. - Funding for research.

ABOUT



Regions4 (formerly known as the nrg4SD) is a global network that solely represents regional governments (states, regions and provinces) before UN processes, European Union initiatives and global discussions in the fields of climate change, biodiversity and sustainable development. Regions4 was established in 2002 at the World Summit in Johannesburg and currently represents over 40 members from 20 countries in 4 continents. Through advocacy, cooperation and capacity building, Regions4 empowers regional governments to accelerate global action.

For further information visit: www.regions4.org

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