Climate adaptation and democracy support: Learning from one another

Report

Sam Greene

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Author

Sam Greene, International Institute
for Environment and Development

Contributors

Emmanuel Taiwo, Climate Change and Environment
Adviser, British High Commission, Nigeria

Anne N Angwenyi, Climate Change and Environment
Adviser, British High Commission, Kenya

Vincent Gainey, Climate Resilience Adviser,
UK Foreign and Commonwealth Development Office

David Pertaub, Researcher, International Institute for
Environment and Development

Rafael Jiménez Aybar, Environmental Democracy Adviser,
Westminster Foundation for Democracy

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“Strong democratic practices form the bedrock of effective climate adaptation.”

Foreword by Julia King, Baroness Brown of Cambridge, Chairperson of the UK Climate Change Committee’s Sub-Committee on Adaptation

Even though countries around the world are already seeing severe impacts of climate change, the question of how we adapt to climate change has not had enough international or political attention. We need adaptation now. Governments need to set out a vision for adaptation and targets which they back up with policies, standards, and robust monitoring.

Our response to climate change needs to be swift and effective. But it also needs to be consistent with democratic principles. Indeed, democracy and climate stability are interdependent: democracy will not flourish in societies destabilised by the runaway consequences of climate change, and evidence shows a correlation between climate action and high democratic standards.

It is therefore with great pleasure that I introduce this timely and highly relevant publication, which delves into the crucial intersection of climate change adaptation and democratic governance.

The authors make clear the interconnectedness between the principles of environmental democracy, the principles for locally-led adaptation, and the components of climate-resilient development. They identify a wealth of entry points to exploit these synergies through adaptation and democracy support programming.

In doing so, they provide a crucial bridge between two communities of practice that need to work together more closely. In this age of escalating climate risks, adaptation must be tailored to the specifics of its geographical and social context to be effective. Extensive consultation and co-design are necessary to develop solutions and it is particularly important that individuals and groups who could be negatively impacted by climate change or adaptation actions are included in this process. Transparent, accountable, and inclusive practices form the bedrock of both environmental democracy and effective adaptation.

The last Intergovernmental Panel on Climate Change (IPCC) report recognised implicitly that democratic principles are enablers of effective climate action. However, participation in climate adaptation is not merely a practical option. It is an ethical necessity.

This paper, and the related assessment tool, help us envisage a future where democratic ideals inform innovative climate adaptation action. The analysis and recommendations are essential reading for policymakers, and adaptation and democracy support practitioners alike. I extend my appreciation to Westminster Foundation for Democracy (WFD) and the authors for their dedication to this critical topic and their efforts in producing this discussion paper.

“We need to reform completely much of how development aid has worked in the past.”

Foreword by Professor Saleemul Huq, who was Director of the International Centre for Climate Change and Development (ICCCAD) and Professor at the Independent University Bangladesh (IUB) until he passed away in October 2023. He was also chair of the Expert Advisory Group for the Climate Vulnerable Forum (CVF) and Senior Adviser on Locally Led Adaptation with Global Centre on Adaptation (GCA).

WFD was truly saddened to learn of the death of Professor Saleemul Huq in October 2023. We are honoured that he wrote this foreword in September 2023.

The current systems of overseas aid and development finance are not coping with the poverty, climate, food supply, and biodiversity crises we face. To be fair, they were not designed to be able to deliver the fundamental large-scale change that these interlocking crises demand. We need to reform completely much of how development aid has worked in the past. But we also need a profound enhancement of climate adaptation investment to make it as democratic as possible. For adaptation to work out we need additional financing flows, and invigorated democratic governance to plan and deliver resilience.

The adaptation community has long understood the importance of the principles of transparency, participation, and accountability for successful adaptation, which resonate with the three pillars of environmental democracy. Also, we realise that the climate crisis is first and foremost a governance crisis, as the solutions are no secret. Facing the growing evidence that higher levels of democratic practice are conducive to greater environmental governance outcomes, it follows that better democracy will deliver better adaptation, and that, in fact, good adaptation can strengthen democracy. This is a virtuous circle that we cannot afford to ignore, because the reverse is also true – it will be very hard to advance resilience in societies with weak environmental democracy and rule of law.

The paper prepared by International Institute on Environment and Development (IIED) and WFD makes a momentous contribution, identifying systematically the overlaps and synergies between democracy strengthening and successful adaptation efforts as we get ready for the expected adoption of the Global Goal on Adaptation at COP28. It opens perspectives on how official development aid donors, recipients, and sectoral practitioners can play a role in catalysing this transformative synergy. As we delve into the intricate interplay between climate adaptation and democracy support, we will unveil entry points that can inform both adaptation policy and programme design, as well as resource allocation.

The paper concludes with a list of practical recommendations and an Assessment Framework of Democracy in Adaptation, in annex, that can be applied across the project cycle. I hope that this paper serves as a beacon of guidance, inspiring stakeholders to recognise and act upon the powerful nexus between climate change adaptation and democracy. Together, we can forge a more resilient and just world, where democratic ideals not only endure but thrive in the face of climate adversity.

Executive Summary

Climate change and other environmental threats pose grave and sometimes existential threats to countries globally. Vulnerable countries have less capacity to mobilise adaptation responses, a result of extractive colonial and post-colonial development policies, an unbalanced global trade system and spiralling debt crises. Comparatively higher levels of corruption, less established institutions and weak regulatory enforcement also undermine adaptation and mitigation efforts.

Climate adaptation, action that adjusts to current and future impacts of climate change, is now recognised through the Paris climate agreement as equal in importance to emissions reductions. Development that integrates ongoing adaptation to climate risks with low carbon or emissions-reducing efforts is known as Climate Resilient Development (CRD).

Climate adaptation is a complex and fundamentally local challenge, because different climate risks interact with dynamic context-specific conditions, including ecologies, political arrangements, and the age, gender, caste, ethnicity, physical ability and incomes of communities, households and individuals. Adaptation ranges from the incremental to the transformative, with the latter focusing on addressing unequal power relationships.

The Intergovernmental Panel on Climate Change (IPCC) is clear that CRD requires "societal transformation" rather than fragmented interventions. This transformation implies changes in relationships of power between different actors and groups that must also be reflected in approaches to planning, resource allocation and technology application.

Principles for effective climate adaptation

Transformative adaptation is seen as increasingly necessary, given the scale of climate risks.

The latest IPCC report identifies four key conditions for adaptation effectiveness, including "recognitional", "procedural", "distributive" justice and equity. When met, these conditions ensure participation of climate-vulnerable people in planning, implementation and subsequent learning. These conditions seek to respect their agency and voice while ensuring that their direct experience of climate risks and their locality influences decision making.

Functioning institutions – including local government authorities, NGOs or informal and customary community led meetings – which enable flexibility in response to climate hazards are key. The following features are essential for enabling conditions for adaptation:

- governance that facilitates multi-sectoral planning across scales
- functioning accountability mechanisms
- adequate finance
- technical capacity for understanding uncertain climate risks
- robust strategies tested against multiple climate scenarios

Finally, the sharing of scientific knowledge with local and indigenous communities is a key factor in more effective adaptation.

These conditions point towards collaborative decision making, shared financial, physical and informational resources, interventions co-produced with communities and transparent, accountable processes at multiple scales that challenge power structures that generate vulnerability.

Climate adaptation and environmental democracy

Environmental Democracy (ED) is a concept that seeks to enshrine citizens' rights in relation to environmental issues. Environmental democracy rests on three pillars (Westminster Foundation for Democracy, 2020):

- transparency of information about the environment
- public participation in decision making
- the right to legal justice or redress for environmental damages

In the context of adaptation, the pillar of transparency must incorporate support for the use of weather and climate information, informing people about climate risks. Climate information must be in formats accessible to users and co-produced with community representatives to ensure context specificity and accuracy. Integrating indigenous forecasting and local lived experience can reveal how climate risk affects a locality without resorting to often unreliable datasets.

Participation in climate adaptation must go beyond mere consultation, and towards enabling climate-vulnerable people to actively decide what adaptation should look like in their context, how to implement it, what success looks like and how to learn from it. The nature of participation in a project creates the conditions for recognitional, distributive and procedural justice.

Implementation of distributive justice – just allocations of resources and opportunities across society – also requires transparency of information about project outcomes, who has benefited, and how, to facilitate public understanding and review of the appropriateness of adaptation interventions. Opportunities for people to identify and articulate their grievances about an adaptation project and seek redress, as well as to use climate justice as an argument for transformative adaptation, speak to the principle of access to justice.

A framework for locally led adaptation

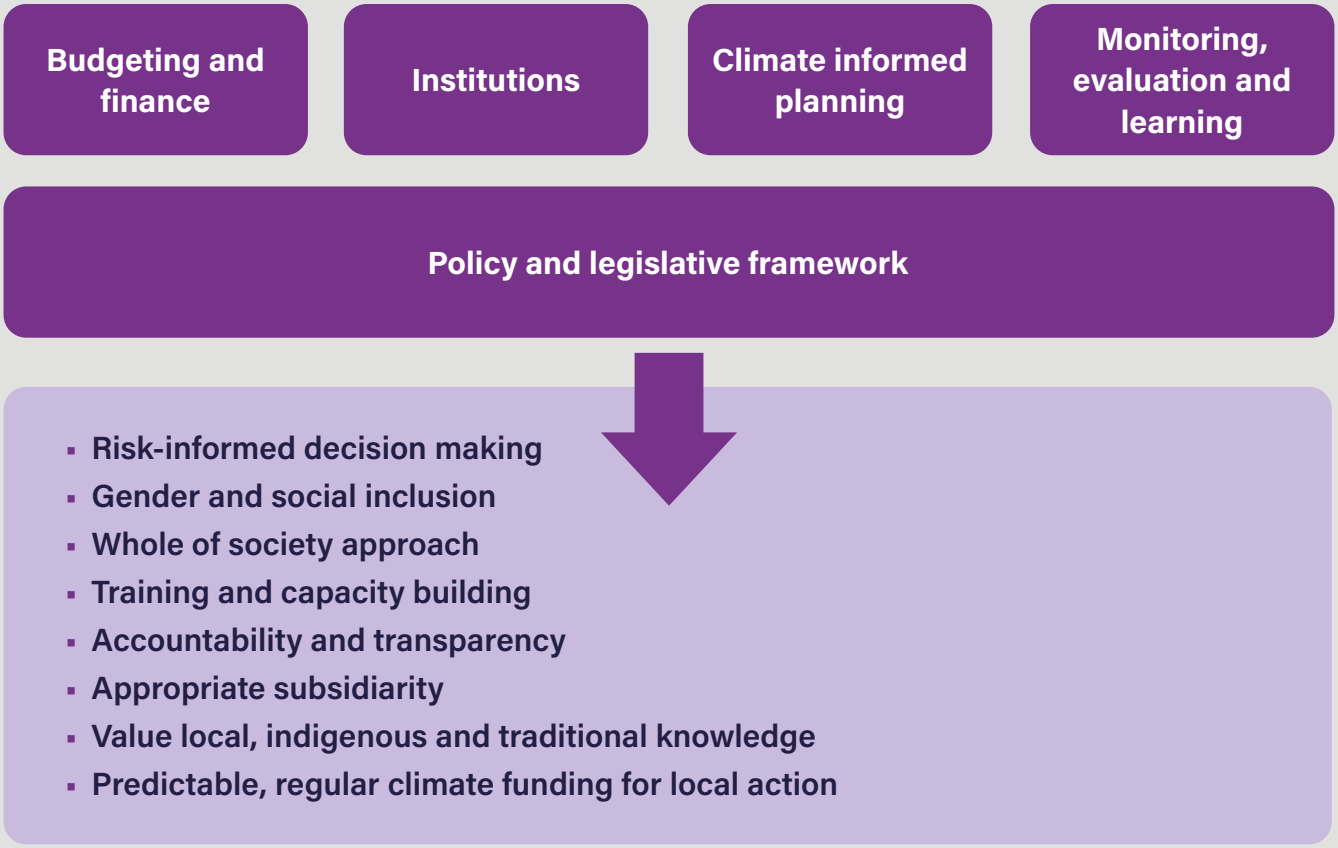
Drawing on emerging evidence and case studies, this paper articulates the conceptual and practical overlaps between the three pillars of environmental democracy and effective adaptation. This illuminates practical implications for proponents of deeper democratic practices globally. It does so by presenting a framework designed to guide practitioners to support climate adaptation through a lens of environmental democracy. The framework highlights five "building blocks" for climate resilient development (CRD) processes, including policy and legislative frameworks; budgeting and finance; institutions; climate informed planning; and monitoring, evaluation and learning (MEL). Each building block offers opportunities to deepen democratic practice.

Cutting across all five building blocks are eight "locally led adaptation" principles, drawn from evidence and experience and endorsed by over 100 institutions including governments, NGOs and private sector organisations. Operationalising the principles into adaptation and indeed development plans, programmes and financing should lead to the transformational changes needed for climate resilience. They include the need for subsidiarity, whole-of-society approaches and long-term funding time frames that allow space for learning and flexibility, among other conditions.

This paper articulates entry points within each building block for democracy-building practitioners which enable them to support climate adaptation through an environmental democracy lens. A summary of recommendations for those considering democratic and adaptation support interventions is presented below each entry point.

Figure 1: Framework for climate-resilient development

Source: Crick (2021)



Budgeting and finance

Finance delivery mechanisms

- Channel funds through already established finance delivery mechanisms.
- Where mechanisms (or viable systems through which they can be established) don't currently exist, support local institutions to establish them.
- Provide specific capability support to in-country institutions who support these mechanisms.
- In line with Locally Led Adaptation principles, consider more "patient" funding cycles of 10 years or more.

Bottom-up transparency and accountability to reduce fiduciary risk

- Ensure community representatives can participate in procurement processes as observers or voters, or by offering a veto, to reduce risk of corruption in identification of service providers.
- Empower local actors with tools and skills to monitor quality and provision of services by public or private service providers to create bottom-up accountability.
- Make accountability processes more transparent and easier to implement.

Institutions

Subsidiarity as a pathway for environmental democracy

- Integrate the wide range of formal and informal institutions that permeate the lives of marginalised people into adaptation programming.
- Support efforts to devolve decision making to the lowest appropriate level and the funds needed to support those decision-making processes.
- Support the devolution agenda by facilitating improvements in public financial management systems, and accountability systems (both top-down and bottom-up).

Environmental democracy through the project cycle

- Apply a democratic lens to each stage of an intervention's development, seeking opportunities for participatory engagement.
- Integrate communities into the monitoring of progress and use local intelligence and understanding of context to shape how decisions are made and how modifications to the approach should be made.

Climate-informed planning

Climate information services

- Consider how climate information is explained in advisories to communities, including the languages and formats needed.
- Work with governments to move beyond rhetoric and integrate indigenous knowledge into climate service delivery through co-production approaches.
- Consider technology-driven approaches as part of the solution such as mobile or SMS based apps which could be provided through state mechanisms or private sector providers.

Customary and local knowledge

- Local and customary knowledge may hold the key to nature-positive adaptation that is sustainable – meeting the needs and worldviews of vulnerable groups. Facilitate participation through tools such as resilience assessments or digital resource mapping that articulate the rationale behind local livelihood strategies.
- Start by understanding how formal and informal knowledge systems can work together over time. Assess how informal systems can complement formal ones.
- Create systems throughout a project to understand both knowledge and ongoing changes at the local level, in order to inform flexible adjustment.

Equitable gender outcomes

- Support women's organisations at local levels that are championing access to formal and informal decision-making spaces.
- Ensure funds are available in advance of programme implementation to properly identify how power is allocated within and between communities.

Monitoring, Evaluation and Learning (MEL)

- Support the establishment of MEL systems, which are central to transparency and future innovation.
- Consider how MEL frameworks for adaptation interventions can build on and integrate local participation – enable communities to decide and assess the achievement of key indicators for resilience.
- Avoid the temptation to develop new adaptation frameworks that burden already stretched government institutions, when existing national MEL frameworks may already include relevant indicators for climate adaptation.
- Communicate MEL in accessible formats to facilitate both learning and understanding of how benefits of adaptation interventions are distributed.

Legislation and policy frameworks

Environmental democracy in international processes

- Encourage MEL national frameworks that feed into the GGA to draw on indicators that already reflect transparency and participation in practice.
- Provide guidance documents for adaptation-related communications to the United Nations Framework Convention on Climate Change (UNFCCC), such as the Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs) and other documents, which can be another opportunity to encourage a focus on environmental democracy principles.

Engaging parliamentarians and the institutions of government

- Seek opportunities to engage MPs as well as sub-national elected officials to raise understanding of uncertain climate risks, as well as evidence demonstrating the value of environmental democratic principles in effective adaptation decision making.
- Strengthen the functioning of parliamentary systems and support parliamentary innovation so that top-down policy making can be built on regular communication and understanding of local level realities.
- Work through schools of local government that specialise in training local officials: this may be more efficient than going district to district or region to region.

Environmental democracy in National Adaptation Plans and policies

- National climate policies create the enabling environment for locally led adaptation. Ensure that the process of national climate policy development is participatory, and its priorities reflect local needs.
- Support ministries to develop strategies that create an enabling environment for locally led decision making while still supporting national targets.

Policy, legislation and the private sector

- Consider how to support informal smallholders to lobby for greater control of adaptation interventions that affect their area – recognising that devolution and financial management policies can have a significant impact.
- Identify and support home-grown micro, small and medium-sized enterprises (MSMEs) with an interest in both establishing sustainable businesses and supporting the rights and ambitions of the community.
- Work with an awareness of vested interests that may seek to undermine environmentally democratic principles in order to protect existing investments and commitments.

Climate adaptation can be seen as a major opportunity for environmental democracy proponents as global attention, funding and expertise is mobilised to respond to ever increasing climate risk. Not only are environmental democracy principles key to successful interventions – but the converse is also true. Failure to integrate them is likely to lead to maladaptive outcomes, of which the adaptation community is increasingly aware. Contributing to forward thinking and transformative adaptation can be a key aspect for the work of environmental democracy proponents.

Chittagong, Bangladesh, August 9, 2023: Pedestrians, vans and bicycles are walking along the road flooded with chest and waist level water in Satkania Upazila of South Chittagong, Bangladesh.

Introduction

Since the establishment of the United Nations Frameworks Convention on Climate Change (UNFCCC) in 1992, climate adaptation has grown in prominence. From a niche interest in the early annual UNFCCC Conferences of the Parties (Climate "COPs"), it is now recognised as equal in importance to emissions reductions. The recognition of adaptation as a vital part of global climate finance, planning and investment reflects the increasing scale and harmful social, environmental and economic consequences of climate change.

At the time of writing, a multi-season drought is driving intense food insecurity across East Africa. Across the continent, growing urbanisation will create significant exposure to sea level rise – up to 120 million people will be exposed by 2030 (IPCC, 2022). Economic effects are already significant – Bangladesh estimates costs of US$3.72bn between 2000-19, and Tanzania estimates that climate impacts cost 1-2% of GDP each year (United Republic of Tanzania, 2021). Small island states such as Tuvalu, Vanuatu and Fiji face existential challenges – rising sea levels and severe storms risk making them uninhabitable, and climate emergencies undermine tourism and other industries which sustain their economies. Dramatic flooding and wildfires worldwide are annual events with national and global economic consequences. The growing severity of impacts and their consequences require urgent, coordinated, and scaled up responses from actors across society.

But climate adaptation is a complex and deeply political process. Climate impacts are experienced in distinct ways by different people depending on overlapping factors including their surrounding environment, age, gender, physical abilities, caste, indigenous connection to the land, livelihood and political context. Adaptation is therefore a process that must be grounded in local realities – built on an understanding of changing specific contexts, the people in those contexts, and carried out in the knowledge that there will be winners and losers, successes, and failures. The integration of adaptation and climate risks into development planning has implications for the nature of governance, development strategies and private investment.

Discussions about adaptation cannot reasonably be separated from the fact that the most vulnerable countries – often the Least Developed Countries (LDCs) – are former colonies or territories of countries whose failure to stem their emissions is driving the climate crisis. A history of extractive colonial development policies, an unbalanced global trade system, debt conditionalities and ineffective development interventions has left the most vulnerable countries without the sufficient financial and technical capabilities needed to facilitate large scale adaptation. Yet those same countries find themselves still dependent on their former colonisers and other economically advanced countries who are often reluctant to offer assistance. This reluctance is reflected in the growing gap between the funds needed and the funds available for adaptation. The UN Environment Programme (UNEP) Adaptation Gap report notes that adaptation finance flows to developing countries are 5-10 times below estimated needs (UNEP, 2022). A further indicator is the failed 2009 commitment by developed countries to provide $100bn per year to support developing country climate responses by 2020.

Alongside these challenges, many vulnerable countries have limited media freedom, weak accountability mechanisms, comparatively higher levels of corruption and weak oversight and regulatory enforcement. Indeed, the growing recognition of risks and their cascading consequences may tempt decision makers to act with hasty, top-down, or authoritarian modes of planning and implementation of adaptation in response (IPCC, 2022). These approaches are less likely to be effective, entrench existing vulnerabilities and inequalities, and may led to negative unintended consequences.

Environmental democracy and adaptation

Evidence suggests that strong democratic institutions support more effective environmental performance and decision making (Averchenkova, Plyska & Wahlgren, 2022). The availability of data and the freedom of speech to discuss it facilitates wider public knowledge, informed yet accountable private sector investment and accountability of decision makers. These can be facilitated by regulatory frameworks, compulsory and voluntary reporting initiatives, as well as by investigative journalism. Appropriate legislation ensures that judiciaries can enact legal justice for government, civil society or private sector negligence, misguided action, or wilful neglect of the rights of specific groups (Averchenkova, Plyska & Wahlgren, 2022).

However, democracy is widely considered to be in a state of sustained regression, exacerbated by the COVID-19 pandemic (Economist Intelligence Unit, 2021). Spaces for civil society in many parts of the globe have contracted. "Fake news" and government censorship pervades public engagement and undermines public understanding of challenging issues. Environmental defenders, many of them community representatives challenging environmental injustices and defending the integrity of their homes and territories, face physical threats. Yet environmental issues more obviously influence all aspects of social and economic policy than ever before, and their interaction with the daily lives of billions of people is finally being recognised. Few sectors of government are immune to the negative consequences of climate change or the related biodiversity crisis.

The concept of environmental democracy, which offers a set of principles that seek to enshrine citizens' rights in relation to environmental issues, is therefore prescient. Yet, despite the co-existence of the concepts of adaptation and environmental democracy for some time, to date there has been little focus on their conceptual linkages and overlaps. In practice, environmental democracy is often confined to the governance departments of development agencies and NGOs, while adaptation is taken on elsewhere. This separation may be problematic because adaptation is a socio-political process as much as a technical one. Its application in inherently uncertain contexts and climate futures, and its relevance across government sectors, means that the processes by which adaptation decisions are made and legitimated matter. Potential synergies and shared objectives between governance and adaptation initiatives may be lost due to this separation. Indeed, there is much the two disciplines can learn from each other.

This discussion paper will explore how the conditions required for effective adaptation overlap with the principles for environmental democracy, and discuss implications for organisations focusing on democratic governance and adaptation. The next section will chart the growth in prominence of the concept of adaptation, reviewing its application in international negotiations and in climate finance. Section 3 will present the pillars of environmental democracy and review the latest literature on effective climate adaptation. It will identify implications for how environmental democracy principles should be interpreted and applied in practice. Section 4 draws on case studies and the previous discussion to make practical recommendations on how environmentally democratic adaptation can take shape. Section 5 offers concluding thoughts on key areas of focus going forward.

Planting of thousands of mangrove seedlings by youth and student conservation activists on the beach of Blekok village, Situbondo, Indonesia, 11 June 2022.

Climate adaptation in policy and practice

This section outlines international processes that shape the adaptation agenda today. An exhaustive review of each process is beyond the scope of this paper, so this section identifies the institutions where environmental democracy and adaptation processes have most capacity to overlap in policy and practice.

Rise of adaptation within the UNFCCC

Climate adaptation has grown in prominence within the UNFCCC and in climate change discourse more generally. The scale of the climate crisis has become as obvious as the collective inability to address it. Early Conferences of the Parties (COPs) focused almost entirely on greenhouse gas emissions management and reduction, with some delegates questioning the need for or even the possibility of adaptation (Adaptation Committee, 2019, p. 11). The third IPCC report triggered greater focus on adaptation by COP parties, with funds made available through a newly established Least Developed Countries Fund (LDCF) to support those countries to develop National Adaptation Programmes of Action. It was not until 2010 that parties established adaptation as having equal priority to mitigation, and established the Cancun Adaptation Framework to enhance cooperation and action.

While the concept grew within the UNFCCC, separate initiatives focused on thematically similar issues – specifically disaster risk reduction (DRR) and the role human action could take in reducing socioeconomic vulnerability. The Yokohama Strategy (1994) and later the Hyogo Framework for Action (2005-15) sought to ensure that DRR was a strong national and local priority and to assess and monitor disaster risk while strengthening preparedness. These initiatives also articulated the linkages with the UNFCCC and the Convention on Biodiversity, proposing ecosystem-based DRR approaches that have inter alia facilitated the institutional mainstreaming of DRR into biodiversity conservation. The Hyogo Framework for Action has now been succeeded by the Sendai Framework for DRR, which set 15-year targets and priorities for action to reduce disaster risk – many of which are intensified by rising global average temperatures.

These ongoing programmes share objectives with the adaptation agenda. Subsequent IPCC reports have highlighted the urgency of systemic transformations in order to ensure resilience to climate risks. The foundation for adaptation within UNFCCC processes is now the Paris Agreement, ratified by most countries in 2016. Article 7 commits countries to "enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate response in the context of the temperature goal" (UNFCCC, 2015).

The Global Goal on Adaptation

The Global Goal on Adaptation (GGA) is intended to support the goal of holding global average temperature rises to "well below 2 and to 1.5 degrees" established in 1990. Average temperature rises and carbon emissions offer a concrete indicator for global progress on emissions reductions. But condensing progress on adaptation across multiple countries and diverse contexts into one metric for resilience, adaptive capacity and reduced vulnerability is far more challenging, if it is desirable at all. The Glasgow-Sharm el Sheikh work programme (GLaSS) has been established to explore how a goal or set of goals might be established. The GLaSS has completed a series of exploratory workshops, with a draft framework for further discussion agreed at COP27. The framework will structure further workshops, with dimensions including assessing impact, vulnerability and risk planning, implementation, and MEL (Beauchamp & Qi, 2023).

Delegates also emphasised the need to consider key sectors including: water, food, cities, and health, as well as cross-cutting issues including the need to be participatory and fully transparent, country-driven and cognisant of traditional and indigenous peoples and their knowledge (Townend & Harris, 2023). The aim is to adopt a framework for the GGA by COP28.

The GGA will influence the focus of funding, country strategies and development actor priorities (Beauchamp et al., 2021). It may focus on tracking the integration of equity or justice considerations in adaptation approaches; or it could track practical adaptation action and progress and seek to amalgamate this into a global metric relating to reduced risk; others assert that it should be a forum for communicating adaptation needs (Beauchamp & Motaroki, 2022). The goal might also cover "loss and damage", the idea of compensating countries for the irreversible or unrecoverable losses caused by climate hazards. Ensuring the goal is practicable and does not increase the burden on developing countries is a major consideration.

Box 1: Additional Supporting initiatives within the UNFCCC

A number of initiatives contribute to this objective, including:

- The Nairobi Work Programme on impact vulnerability and adaptation to climate change, focused on information and knowledge sharing that can inform and support adaptation policies and practice.
- The Marrakech Partnership for Climate Action which aims to enhance governments' collaboration with the many actors from public, private or voluntary sectors who are engaged in addressing climate risk. The Marrakech Partnership links NGOs, investors, municipalities and national governments to coordinate, report and track progress. The focus is on "environmental, economic and social system transformation" (UNFCCC, 2022).

Figure 2: Local government officials, traditional leaders and civil society organisations map environmental resources in Lushoto and Handeni, Tanzania. Photo credit: ILRI

Adaptation in national plans and strategies

The earliest efforts to support countries to consider practical responses to climate risk culminated in National Adaptation Programmes of Action (NAPAs) and a Least Developed Countries Fund (LDCF). They were intended to direct action towards countries' most immediate needs. As of 2017, only 51 countries had developed NAPAs (UNFCCC, n.d.), and the experience of implementation has been mixed across countries. For example, Tanzania's 2007 NAPA shows little sign of implementation, while Uganda's interventions appear to have been unsustainable (Greene, 2015; Nyasimi et al., 2016). However, Uganda appears to have taken learning from the successes or failures of their NAPAs to inform their National Adaptation Plans (NAPs) (Nyasimi et al., 2016).

National Adaptation Plans (NAPs), launched in 2019, are intended as expansive, medium- to long-term strategic documents identifying adaptation priorities. NAPs should be developed in an inclusive, participatory, transparent way, recognising gender sensitivities, and grounded in existing country priorities as articulated in national development plans. NAPs are beacons for development partners and investors as they include country priorities, assessments of climate vulnerabilities and risks over the long term, and plans for integrating their management into institutional capacities and systems. NAPs can include information on how countries plan to institutionalise participatory processes or share key information across sectors and with citizens. For example, Ethiopia's NAP-ETH is tied explicitly to its overarching climate-resilient green economy strategy. Monitoring, evaluation and learning (MEL) strategies and capacity gap assessments are also included. NAPs are complex documents to develop, and countries are supported by technical experts in a Least Developed Countries Expert Group (the LEG), and a NAP Global Network to facilitate a community of practice. Only 26 countries have completed a NAP, including only seven from the group of Least Developed Countries.

It is worth noting that other globally coordinated processes have a bearing on country adaptation plans and strategies. The 2020 Kunming-Montreal Global Biodiversity Framework established targets with global import that are explicit about inclusion of environmental democracy principles. The Global Platform for Disaster Risk Reduction and the Sustainable Development Goals are all in the process of producing and revising objectives closely linked to the adaptation objectives of the Paris Agreement. The historic separation of these processes is only now being addressed.

Adaptation and civil society

Adaptation has increasingly become the focus of civil society organisations with objectives to reduce poverty, address the climate and biodiversity crises, and build resilience. Environmental NGOs play a key role in global environmental governance, with larger international NGOs able to span local, national and international spaces (Partelow, Winkler & Thaler, 2020). They have significant influence, as practitioners delivering interventions at local level, as advocates for both community and government interests, and as official observers to UNFCCC and other international processes.

Such institutions, typically based in the global north, have been criticised for dominating a space that could be owned by organisations from the countries spread across the global south on the receiving end of the worst climate impacts. With access to the lion's share of adaptation funding available for CSOs, environmental NGOs act as intermediaries – passing funds through to local actors while extracting their own share of the finance for the services and 'expertise' provided. This enables them to influence policy discussions at multiple levels, while crowding out highly capable civil society and government voices from the most affected countries – who have a deeper understanding of local challenges – who wish to show leadership and set the agenda (Soanes et al., 2019).

For example, social movements are typically overlooked. Drawing resources from the organising and mobilising of their community members, social movements represent the interests of large groups of people directly facing locally relevant issues. Examples include Slum and Shack Dwellers International, with federations in over 30 countries whose members live in informal settlements, and the Huairou Commission network of over 101 member organisations, each with strong ties to multiple grassroots networks of women. The networks are increasingly focused on climate adaptation as their members experience impacts that undermine their wellbeing. The challenges faced by these organisations in shaping the agenda and leading decision making has led to calls to "decolonise" climate adaptation and its funding streams – addressing the historic injustices that have led NGOs from the global north to claim the greatest influence and resources.

The Great Green Wall is one of the most inspirational and urgent movements of our times. This African-led initiative aims to grow an 8000km new world wonder across the entire width of the Continent to transform the lives of millions living on the frontline of climate change.
Photo credit: thegreatgreenwall.org

Environmental democracy and adaptation

Principles for effective climate adaptation have significant overlaps with the pillars of environmental democracy. This section discusses those pillars and reviews emerging evidence for effective or successful adaptation. It will highlight how effective adaptation is inseparable from the need to transform societies and actively challenge existing power structures that drive and maintain vulnerability. The implication for environmental democracy is the need for transformative forms of participation and transparency, and a consideration of justice that reaches beyond a purely administrative or official context.

Environmental democracy

"Environmental democracy" gained prominence through its inclusion in the United Nations "Earth Summit" Rio Declaration (1992) and in article 6 of the climate COP agreement in the same year. More recently, it has been widely mainstreamed in the Kunming-Montreal Global Biodiversity Framework adopted in December 2022. Environmental democracy rests on three public rights or pillars identified in Box 3 (Westminster Foundation for Democracy, 2020):

The pillars are open to interpretation. Emerging from a liberal environmentalist conceptual background, they are typically considered in relation to how they influence reform of existing liberal democratic institutions. This may be seen in contrast to more radical ecological approaches that see dominant capitalist modes of production and consumption (facilitated by those same liberal institutions) as at the root of current environmental challenges (Pickering,

Box 3: Pillars of environmental democracy

Pillars of environmental democracy

Transparency

to help stakeholders across society to understand what is happening in relation to their environment because of public or private sector activity, and how responses are being organised.

Participation

through which the public who are affected by environmental degradation can voice their perspectives, influencing and offering legitimacy to policy.

Justice

to enable mechanisms for challenging the action or inaction of governments relating to their influence on and responsibility for the environment.

Backstrand & Schlosberg, 2020). Other perspectives on environmental democracy question the assumption of a westernised, legalistic, representative and individualistic rights-based framing of democratic principles, asking, "whose concept of democracy are we talking about?" (Pickering, Backstrand & Schlosberg, 2020). Many (often indigenous) communities around the world may prefer direct and consensual rather than representative forms of democratic decision making, and traditional or indigenous forms of justice and redress over administrative or official channels. These alternative approaches can still be considered both participatory and supportive of transparency. The situation is complicated by the fact that many of these communities are minorities in their own countries, often marginalised from influencing formal political power, and marginalised from controlling and managing resources they have traditionally used as their own.

A more detailed articulation of these issues is beyond the scope of this paper – but throughout it is recognised that democratic arrangements can be many and diverse, with plenty of scope for innovation and integration of non-European democratic models. This paper assumes that representative liberal democratic models will remain dominant in the short to medium term, while recognising that alternative and more radical democratic approaches are being trialled in many cities across the world. The challenge therefore is to enable these alternative democratic approaches to decision making to become formally recognised as part of existing systems. As this paper will demonstrate, the quality of participation and transparency matters for the outcomes of adaptation projects. While participation, transparency and justice rhetoric is almost universal across adaptation and development, adaptation projects continue to be criticised for their failure to put them into practice.

Climate adaptation in the context of environmental democracy

Adaptation has been described as lacking definitional clarity (Owen, 2020). The concept has been written about in a variety of ways, often depending on the specific positionality of the people writing about it. The context-specific nature of adaptation, and its need to be sustained over time in ever changing contexts makes a universal indicator for its achievement illusive (Owen, 2020). Chandni Singh et al. identify 11 overlapping "framings" of the concept, spanning imperatives towards "reducing vulnerability" or "enhancing resilience" through to process-based framings of delivery that applies rights and justice or uses community-based approaches (Singh et al., 2022). While adaptation and resilience are often used interchangeably, it is more appropriate to say that adaptation is a process or action taken to change in response to a new environment, while resilience describes the capacity to anticipate, absorb and subsequently adapt further to environmental changes, risks and hazards (Mehryar, 2022).

Adaptation can take place before, during or after climate hazards, be planned through external interventions or independently driven by those affected using their available resources. Distinctions are also made between incremental and transformational adaptation. Transformational adaptation has been defined in different ways, ranging from transformations that address the root causes of vulnerability through to systemic changes in the properties of social and ecological systems (Fedele et al., 2019). The Independent Panel on Climate Change (IPCC, 2022), pulling together multiple definitions, places incremental and transformational adaptations on a continuum based on the extent to which they drive change in social or ecological systems, changes in the agency of an actor or actors, and changes in the way learning takes places and is shared (IPCC, 2022). The focus on changes in agency

and social systems is particularly important as it speaks to a central concern about how environmental democracy principles should be interpreted. Transformed systems offer greater agency, information access and learning opportunities to actors who are currently structurally marginalised from those resources, leaving them less able to respond to climate risks and hazards.

Adaptation efforts also need to consider uncertainty and constant change, which are inherent in both local contexts, and in our own understanding of climate risks and how they will materialise. Variability and unpredictability are a given. Climate models offer probabilities rather than certainties, and downscaling climate data to local levels is risky due to unreliable data quality and limited capacity of local actors to interpret it. Therefore, it is common for adaptation projects to refer to "low regrets" or "robust" interventions that will be effective across a range of possible future climate scenarios (Conway & Schipper, 2011; Wilby & Dessai, 2010).

Whatever the definition, many current incremental adaptation strategies will not be sufficient as climate impacts become more severe and unpredictable, testing social and ecological systems to their limits (Wilby & Dessai, 2010). Incremental adaptations may even be locking in pathways that undermine livelihoods over the medium to long term, labelled as maladaptation – detailed further below (Clark & Mitchell, 2021).

The concept of transformation is therefore important when we consider implications for environmental democracy and adaptation approaches. Transformations imply changes in relationships of power between different actors, in the way resources, people or the environment are governed, and in who applies technologies and how. Where transformation is needed, governance will need to be flexible enough to respond to uncertain future climate impacts (labelled "deep uncertainty" by the IPCC (2022)). The conditions for creating positive transformations matter when considering how environmental democracy is applied. Considerations of what should be transformed – and how – are central in shaping meaningful climate risk management. Applying the strongest forms of participation and transparency will, in the long run, probably mean transformation of decision-making and governance systems, with real implications for how citizens and states relate to each other.

Adaptation is also closely tied to the concept of climate-resilient development (CRD). Where adaptation refers to actions that respond to or anticipate unavoidable climate impacts, climate-resilient development processes offer tools and capacities for the ongoing tracking and management of climate risks. An implication of CRD is that social choices need to be made about what outcomes to prioritise – economic or environmental, or beneficial to some societal groups over others (IPCC, 2022, p. 2661). A variety of pathways exist towards CRD, built on a range of strategy types, the strengths and weaknesses of which must be decided by societies that will be affected by them. The IPCC is clear that CRD will require "societal transformation" – rather than fragmented interventions (IPCC, 2022). This will require innovation across political, social, environmental and economic spheres of thinking.

Conditions for successful adaptation

With an ever-increasing number of adaptation interventions taking place globally, a growing evidence base and a wealth of practitioner insight is now available. Many guidelines, toolkits and articles exist to guide adaptation practitioners, too many to cover in this paper.

The latest IPCC report identifies four conditions as key to adaptation success (see Box 4).

Adaptation is explained as an iterative process – not just an outcome. Adaptation as a process implies the need for ongoing learning about the effectiveness of adaptation interventions and risk assessments to gauge their robustness in the face of changing conditions. One example of an approach that attempts to tie these elements together in practice is the Devolved Climate Finance approach, piloted in Mali, Tanzania, Senegal and now being funded at scale by the government of Kenya. The approach integrates participatory risk assessments, decision making and MEL with regular, predictable finance to create the conditions for iterative adaptation through enhanced, existing institutions. A more detailed account is outlined in Box 1 and Annex 1. The IPCC also pick out "enabling" and "catalysing" conditions for adaptation.

Box 4: Key conditions for adaptation success

1. Recognitional equity and justice – including integration of indigenous and local community knowledge. Recognitional equity is concerned with questions of whose rights and priorities are considered legitimate.

2. Procedural equity and justice that focuses on the participatory processes integrated into adaptation that redress power imbalances in decision making.

3. Distributive equity and justice that ensures that interventions do not exacerbate inequalities and that benefits are distributed. Distributive equity is focused on the outcomes of adaptation, rather than the process of implementing it.

4. Flexible and strong institutions that integrate climate risk management with other policies and address long-term risk reduction goals. Such institutions can change course based on monitoring, evaluation, and learning, and make decisions that incorporate knowledge and priorities across sectors, spatial scales and jurisdictions.

Figure 3: A group in Mpigi District, Uganda, begin a process of participatory mapping. Photo credit: ILRI

Enabling conditions

Enabling conditions include "governance", "finance" and "knowledge" and capacity (IPCC, 2022, p. 2546).

- In relation to governance, legally enforced policies, plans and regulations enable governments to be held more to account for environmental failings or failures to adapt, while enforcing or incentivising different behaviours. Governance also refers to the nature of governmental decision making – the architecture that shapes how institutions across scales organise and collaborate to share knowledge, reduce conflict and innovate. Enabling environments in each context must recognise local political economies and specificities.
- Knowledge incorporates both scientific knowledge as well as local and indigenous forms of understanding. This can include information about climate impacts, upcoming threats, as well as knowledge of different kinds of responses. The process of making knowledge available in formats that can contribute to decision making is therefore an enabling condition.
- Capacity refers to the technical capacity for understanding the various aspects of climate and environmental risk and to apply appropriate tools and strategies in response. This goes beyond simply the availability of knowledge, to that of human resources, technologies and resources.
- For obvious reasons, adequate finance is needed to ensure adaptation takes place at scale. Most vulnerable countries will not be able to adapt without additional financial support from wealthier countries. Finance is no guarantee of effective adaptation, requiring in-depth understanding of the drivers of vulnerability to be effective.

Box 5: Devolved climate finance (DCF) mechanisms: Iterative and community-driven decision making

DCF mechanisms use the structures of devolution to channel funds to the local level, where transparent, accountable and community-led institutions are established to make decisions about how funds are allocated for resilience building. The approach has been piloted in Tanzania, Mali and Senegal, with Kenya's iteration – known as the "Financing Locally Led Climate Action" programme – in the process of scaling up nationwide with World Bank support (DCF Alliance , 2019). As of 2019, DCF programmes had made over 250 public good investments across the four countries at a cost of £6.5m, including community allocating of funding to livestock and water infrastructure, customary land management institutions and flood prevention for crops and buildings.

DCF mechanisms work through four interlinked components:

- Finance: 70% of the funds channelled through the mechanism are prioritised by local communities in line with a set of strategic criteria and the principle of subsidiarity. Communities are allocated an annual budget.
- Institutions: Community-level committees are given a budget to operate independently, consult communities and make funding allocation decisions.
- Resilience planning: Participatory planning tools identify strategic resilience, building investments that reflect local priorities. CIS is integrated with support of government institutions.
- Monitoring, Evaluation and Learning (MEL): Participatory MEL assesses progress against community determined indicators.

Strategic criteria that limit decision making include the need to invest in public goods that benefit many people, to demonstrate how they will build resilience, to meet local needs and national priorities, to foster peace and stronger social relations, and to have realistic work plans that seek value for money.

Participation and transparency

Community-elected committees including a minimum quota of women and other representatives of marginalised groups are responsible for consulting communities and choosing and advising on design of resilience-building local investments, with technical support of LGAs and or NGOs. They enact procedural justice by making decisions on procurement – working with existing government regulations, MEL processes and funding. Corresponding cross-sectoral committees within the LGA integrate the investments into broader development strategies. Typically, LGA committees have no veto over adaptation investment choices made by communities, assuming strategic criteria are met.

Climate information is supported by meteorological agencies, and through resilience assessments which assess lived experience of climate risk and use it to identify key local resilience priorities. Both have proven challenging to institutionalise, yet have demonstrated clear benefits to planning. Resilience assessments have continued to inform County Integrated Development Plans in Makueni and Isiolo, Kenya. These processes "bridge the knowledge held in customary natural resource management approaches into formal planning processes" (DCF Alliance, 2019 p. 26).

Intersection with formal political processes

Community institutions can overlap with local elected councils, without undermining their own work. In some cases, local councillors have observer status on the community level institutions, to ensure inclusion in local discussions. The distinction between councils and community institutions is the focus on the specific climate funds available, and lower conditions for entry. Typically, community institutions in DCF mechanisms do not require members to read and write, focusing on their trustworthiness and ability to represent the community, and reducing risk of elite capture.

Catalysing conditions

Catalysing conditions overcome inertia to adaptation action – such as perceived urgency to respond to a risk or a crisis, or windows of opportunity created by socio-political or economic contextual changes, or made by specific policy actors and entrepreneurs. These types of conditions may be fleeting – key moments where the potential for transformative change is greatest and more likely to be realised.

Two reviews that have shaped the IPCC perspective both looked across a wide range of adaptation effectiveness studies and articles. Looking across several types of adaptation intervention across sectors including fisheries, agricultural extension work, and livestock, Owen (2020) highlights that: "Common attributes of activities that were effective across multiple indicators include collaborative decision-making; sharing physical, financial, and informational resources; and techniques that simultaneously enhance human wellbeing, institutional relations, and environmental security. These activities tended to be synergistic and to build upon each other; no single activity was effective in isolation." (Owen, 2020 p.11).

Singh's review (2022), looking across 11 adaptation frames, picks out 11 corresponding principles for adaptation including the need to "co-produce" interventions with communities, orient towards transparency, accountability and representation in governance through multi-scale, participatory and inclusive processes, be "socially just and equitable in processes and outcomes", and "overtly challenge power structures that generate vulnerability to its impacts".

Another set of principles, endorsed by over 140 institutions including 16 governments, as well as the development agencies of the UK and the Netherlands and the government of Nepal, are the Locally Led Adaptation (LLA) Principles. Drawing on dialogues with adaptation practitioners and research, the principles were developed in response to the ongoing failure of climate finance to support adaptation effectively and at scale. Their principles respond to the fact that typically "adaptation decisions are made far away from local contexts, missing vital insights and innovation" (Soanes et al., 2021, p. 4).

The LLA principles take a "locally led" approach to the premise that building adaptation interventions around local, context-specific knowledge and priorities is more likely to be effective and to engage with the complex specificities that maintain vulnerability in different locations. While targeted predominantly at how finance should facilitate adaptation, they encourage devolving decision making to the lowest appropriate level (subsidiarity), addressing structural inequalities faced by typically marginalised groups, providing accessible and predictable funding, building local capabilities, building a "robust understanding of climate risk and uncertainty", flexible programming and learning, transparency and accountability of financing and delivery of adaptation programmes (Soanes et al., 2021).

Figure 4: Summary of the Locally Led Adaptation Principles

Source: Summary shared via IIED (2020), Twitter: https://twitter.com/IIED/status/1405122565501300737/photo/1

Other practitioner-focused guidelines reinforce some, but not all, of the themes above. The World Bank's Adaptation Principles guide emphasises the need for widely available, accessible and easy to use information on climate threats and hazards, and localisation of land use planning (Hallegatte, Rentschler & Rozenberg, 2020). However, their approach differs by focusing more on inclusive economic growth and the development of markets, rather than on the need to incorporate forms of distributive, procedural or recognitional justice. Stakeholder engagement is encouraged, but without emphasis on the need for collaboration or co-production.

Maladaptation

Maladaptation is an action "taken ostensibly to avoid or reduce vulnerability to climate change that impacts adversely on, or increases the vulnerability of other systems, sectors or social groups" (Barnett & O'Neill, 2013, p. 88). The impacts of maladaptation may spill beyond the initial target population or space of the intervention, and it may take place sometime after the intervention began, or after the main expenditure or activities are completed. Maladaptation adds a particular risk for adaptation practitioners due to the potential to create greater exposure or vulnerability for already at-risk populations or environments.

Maladaptation can take many forms. Elite capture of political or social systems and increased marginalisation of already vulnerable people can be both causes and outcomes of maladaptive interventions – for example, through creation of unequal labour relations or deepening divides over access to resources. Eriksen et al. (2020) identify maladaptive interventions that reinforce, redistribute, or introduce new sources of vulnerability, in some cases deepening conflict tension. Barnett and O'Neill (2013) further identify risks of higher emissions and higher opportunity costs of other adaptation interventions. However, the IPCC also highlights that maladaptation and adaptation are not binary outcomes – this depends on who is judging the outcomes, and how and when those outcomes are assessed (Barnett & O'Neill, p. 2602).

Maladaptation may be caused by well-meaning, incremental adaptations that do not fully consider future risk or local context. Kates and Wilbanks (2012) give the following example: "Incremental adjustments and routine responses, such as suppressing forest fires or building levees along a river, can have the effect of reducing frequent, low- to moderate-magnitude losses, and thus increase land and resource value and short-term returns on investment. Eventually, given our inability to engineer extremes out of the system, the forest eventually burns or the levee is overtopped, and human development, enticed into the hazard zone by the apparent success of protection, is catastrophically lost" (Kates & Wilbanks, 2012).

The challenge with identifying maladaptation is that adaptation is as much a "process" as it is an outcome (Schipper, 2020). The uncertainty of changing circumstances coupled with assumptions made in the development of adaptation interventions makes their efficacy challenging to predict. The deep uncertainties caused by uncertain climate futures, inaccurate models, changing local, social and economic contexts can only be monitored and managed, with uncertain outcomes (IPCC, 2022, p. 2578).

Box 6: Examples of maladaptation

In Ho Chi Minh City, Vietnam, city authorities developed a multi-billion-dollar series of infrastructure projects aimed at reducing flood risk. They used the latest available climate predictions, which underestimated the scale of climate impacts. The dykes and barriers created are not sufficient for the storms the city is experiencing, and saline intrusion is worse than expected. Increased urbanisation in risky areas has been facilitated by the false sense of security created by the city plan, increasing vulnerability (Hallegatte et al., 2012).

In Navarre, Spain, a large-scale irrigation project required an up-front investment to participate. Small scale farmers who could not afford to participate sold or rented their lands to those who could. Many participating large-scale farmers switched to growing corn and forage and abandoned crops with high labour costs. Water costs are now paid to a private company, and small-scale farmers lost access to communal water rights. The project increased inequity and land concentration and lowered crop diversity. Small farmers lost key assets, while large-scale intensive farmers are more exposed to crop price volatility than to climate vulnerability, but have greater access to subsidies and water rights (Albizua et al., 2019).

Albizua_et_al_2019_FarmersVulnerability ToGlobalCh_AM.pdf

(uab.cat)

Box 7: Minimising maladaptation

"To minimize maladaptation, multi-sectoral, multi-actor and inclusive planning with flexible pathways encourages low-regret and timely actions that keep options open, ensure benefits in multiple sectors and systems and indicate the available solution space for adapting to long-term climate change (very high confidence). Maladaptation is also minimized by planning that accounts for the time it takes to adapt (high confidence), the uncertainty about the rate and magnitude of climate risk (medium confidence) and a wide range of potentially adverse consequences of adaptation actions (high confidence)." (IPCC 2022 – summary for policy makers).

Iterative learning, review, modification, and adjustment are therefore key aspects of adaptation over time. This has implications for environmental democracy proponents because it places demands on democratic institutions to continuously review and assess progress in a transparent and participatory way.

Drivers of maladaptation include a failure to understand the contexts where adaptation takes place, particularly the social and economic relations between different groups of people. While many adaptation programmes include participatory processes – these are not themselves shaped by the most marginalised, often leading to exclusion of some people due to combinations of illiteracy, gender, caste, age or physical ability (IPCC, 2022). Imposition of top-down visions of successful adaptation, rather than facilitating climate vulnerable people to articulate those visions, contributes to overlooking local realities and risks deepening vulnerability.

Other principles proposed include the need for ontological pluralism, which recognises the validity of non-scientific knowledge types such as indigenous knowledge and lived experience, and MEL frameworks that track outcomes and change for heterogenous local groups (Eriksen, 2021). Additionally, there is a need to embrace uncertainty rather than try to control it with top down, "techno-managerial" solutions that tend to ignore local politics and the structures that reinforce marginalisation and vulnerability (Mehta et al., 2019). The Huairou Commission's Climate Resilience Fund seeks to avoid the drivers of maladaptation by creating full flexibility for local actors to choose their course of action and respond to circumstances in their own way. Channelling funds to local civil society with in-depth understanding of their community and context, the Huairiou Commission facilitates flexible pathways and adaptation that can take on a holistic approach – unlike the governments they seek to influence, who tend to work through sectoral approaches (see Box 3 for a more in-depth explanation).

The overlap between the maladaptation literature and environmental democracy principles is clear. The literature is scathing of participatory processes led by public or private actors that do not properly enable marginalised or vulnerable people to articulate existing social relations, their knowledge of traditional or long-standing practices, or their own understanding of how climate risks happen. Reduced risk of maladaptation comes through engaging communities not just in adaptation design, but in formulating and articulating the problems that adaptation interventions are trying to address. In practice this needs public engagement processes that are more sophisticated and involved than are predominantly in use to date.

The implications of effective adaptation principles for environmental democracy

For adaptation to be effective, certain conditions have to be in place. These have a bearing on how environmental democracy should be promoted in relation to climate action. These conditions should also influence the design of programmes seeking to maximise the natural synergies between democratic governance and effective climate change adaptation.

The table below tracks each of the principles for adaptation described above against two of the environmental democracy pillars, transparency and participation. The third environmental democracy pillar, justice, is described in the sub-sections that follow.

Figure 5: The environmental democracy pillars of transparency and participation mapped against key contributors to effective adaptation.

Transparency	Participation
Access to climate relevant information	Recognitional equity and justice
Efforts to make clear indigenous, informal and traditional knowledge	Procedural equity and justice
"Bottom up" accountability	Monitoring, evaluation and learning
Distributive equity and justice	Governance models that facilitate knowledge sharing and innovation
Monitoring, evaluation and learning	Collaborative decision making
Knowledge sharing across institutions	Co-production
Transparency, accountability of financing	Challenged existing power structures

Transparency

In relation to environmental democracy, transparency typically refers to freedom of information about the state of the environment, the behaviour of service providers and private actors, the responses and regulations of governments, and the funds allocated to different aspects of environmental management. Higher levels of transparency create the conditions for several processes central to deeper democracy practice:

1. Transparency enables the accountability of governments by making information available about activities and allocations of funds. Communities and their representatives that can see how funds are allocated can gauge how their governments are prioritising environmental and other kinds of action, and respond accordingly through advocacy, public pressure, or protest.

2. Transparency regulation – when enforced – can force private sector actors to disclose how their activities affect communities, or to disclose financial information relevant to environmental management. Public exposure incentivises more responsible corporate behaviour.

3. The availability of information influences evidence-driven decision making for autonomous adaptive behaviour at household or community level, or planned adaptations led by governments or civil society. The availability of evidence of what works (and particularly of what does not) contributes to informed public decision making. The nature of transparency in a particular context can explain a lot about the quality of the relationship between the state and its citizens.

Governments and service providers have plenty of incentives to withhold information from the public, particularly in authoritarian states. Government officials may hide or disguise poor performance from the public or from their superiors, and service providers may choose to hide profit margins or negative outcomes of activities from communities. States, donors and their intermediaries can in practice also take a top-down view of the value of different kinds of information – prioritising scientific, expert knowledge and information for dissemination, and ignoring the in-depth knowledge of local context, politics and relationships held by communities. These top-down practices contribute to development activities that minimise the value of local knowledge.

With respect to climate adaptation, transparency also refers to provision of information about adaptation programmes, the funds allocated towards them, and their outcomes. However, climate uncertainty adds an additional layer of complexity to how transparency is implemented. Governments must provide information about climate risks and futures in both the short and long term, as well as about available adaptation options. Because adaptation can be considered at multiple levels – from the individual through to households, communities, businesses and various levels of government, information must be accessible in appropriate formats for different kinds of stakeholders. Effective delivery of climate information services to the most vulnerable – particularly in rural areas – has proven to be particularly challenging. Even where capacity for accurate data collection and analysis exists, the uncertain and probabilistic nature of data-driven climate information can make interpreting it a challenge for both households and governments, particularly with medium term forecasts. Communicating advisory information based on scientific data not just in local languages, but in a format that is accessible and relevant to the landscape and livelihoods of a particular context, adds additional hurdles for adaptation actors seeking to deliver an environmentally democratic approach.

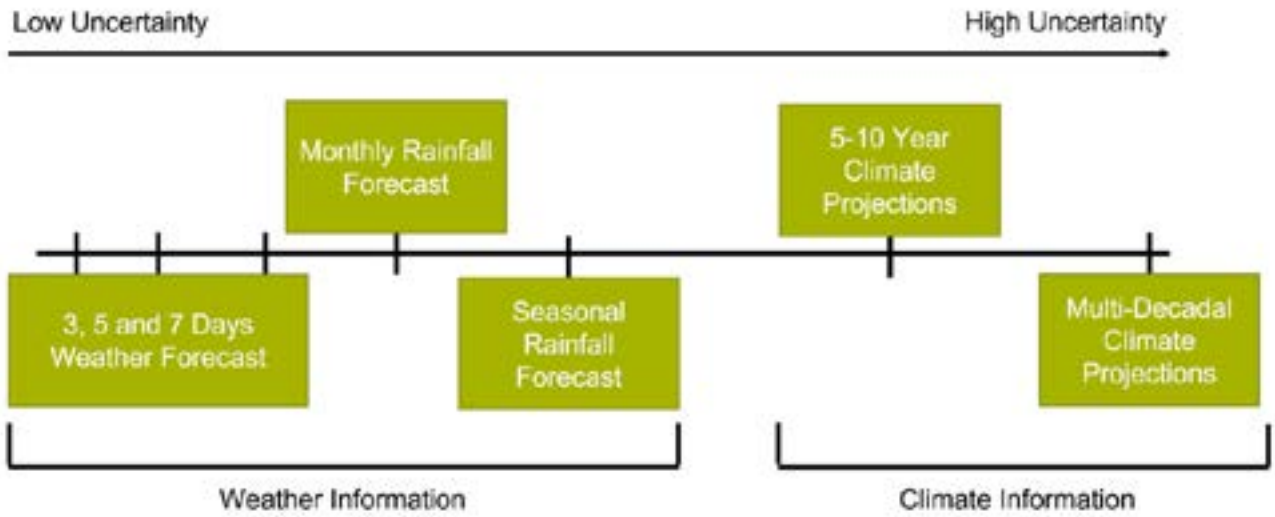
While short-term forecasts (up to seven days) can be relatively accurate, anything beyond that is subject to inherent uncertainty, and so is beyond current modelling capacity to predict or incorporate. Forecasted weather events can be presented by meteorological agencies in terms of their probabilities of occurrence, but these can be easily misinterpreted by the public without careful communication.

Climate information can also come from the community level. Well-developed indigenous forecasting methods based on generations of experience have often proved as accurate as conventional forecasts, maintaining trust and a perception of reliability by communities (Mugi-Ngenga et al., 2021). Combined with the lived experience of experiencing and managing climate risk in practice, there is a great deal of knowledge at local level that could be harnessed to produce accessible, user-relevant forecasts. Unfortunately, climate variability is undermining the accuracy of traditional, indigenous forecasting, meaning that it might not be sufficient on its own (Hansen et al., 2019).

Ensuring availability of climate information can therefore be as much about working with communities to collate and categorise experiences of climate risk as it can be about effectively disseminating weather reports and future climate scenarios to communities. Climate information can be context, gender and livelihood specific, and so needs to be tailored to remain accessible for the varying needs of the people using it. Hansen et al. (2019) outline the need to make historical meteorological data publicly available, to increase the capacity to communicate climate information and to use iterative, accountable co-production.

Co-production approaches to disseminating climate information seek to create stronger interactions between the users of climate information and those generating it. These approaches use various types of dialogue and shared decision making to enhance the quality and use of information. As with participation, co-production can be seen on a scale from consultative to "immersive", with a range of different examples now applied in different contexts (Carter et al., 2019).

Figure 6: Uncertainty of climate information products and services



Information about progress towards existing climate risk response plans, strategies, and programmes also needs to be available in accessible formats, in order to facilitate accountability and public debate. The complex nature of effective responses to adaptation involves the need to address cultural, behavioural, economic or legal structures that maintain the vulnerability of some groups. Doing so is likely to benefit some people over others or undermine those with vested interests in a particular system. The legitimacy to make these changes requires public debate and discussion – all hinging on transparency of information.

Effective communication and reporting of project activities by development actors is therefore of central importance for transparency. Increasingly, there is now recognition of how activities once seen as non-climate-related development interventions do in fact have implications for the vulnerability and adaptive capacity of citizens. Climate resilient development recognises that there are few sectoral interventions that do not have some implication for climate resilience, and so reporting from across governments will need to reflect this. All sectors will need to develop capacity to understand how their focus area links to and influences others, and the implications in relation to reducing the threat from different kinds of climate risk.

Distributive justice – if it is to be properly assessed and delivered – requires transparency of outcomes of adaptation and development efforts, disaggregated so that the impact on different groups can be properly assessed. This applies to development partners, NGOs, foundations and anyone delivering adaptation in practice, so that understanding of outcomes and their distribution can be part of adaptation discourse and learning. But capacity for MEL of adaptation is extremely limited in many vulnerable contexts.

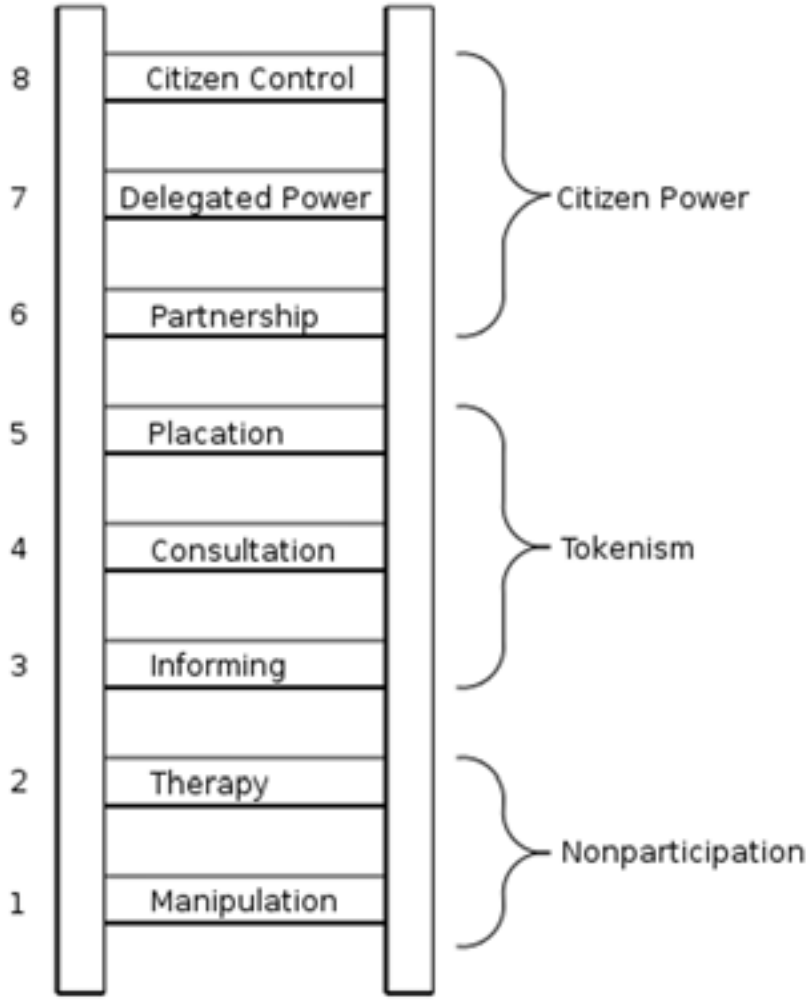
Reframing transparency so that it is more equitable, leaning towards a sense of partnership between INGOs, states and communities, rather than that of beneficiaries passively receiving a service – is essential for effective adaptation practice. Communication across the whole of society, between multiple stakeholders, using information that is open, accurate and up-to-date, can inform the iterative adaptation processes described above. Local level transparency and participation can facilitate bottom-up accountability by increasing ownership in the process that creates community investment in positive outcomes. This local ownership can lead communities to have extra vigilance over the performance and behaviour of service providers.

Participation

Participation in development discourse is not new, and participation types are well defined. Of most relevance is the distinction between consultative (sometimes labelled as tokenistic) forms and those that place more decision-making power and influence in the hands of citizens – with "citizen control" at the very peak of participation – ahead of "delegated power" and "partnership" (Arnstein, 1969).

Figure 7: Arnstein's "ladder of citizen participation"

Source: Arnstein, S. (1969). A ladder of citizen participation. Journal of the American Institute of Planners, 35(4), 216–224.



Another formulation distinguishes between nominal, instrumental, representative, and transformative forms of participation (White, 1996). Nominal and instrumental forms of participation seek to legitimate already existing plans or to extract local knowledge for purposes not identified by the holders of that knowledge. Representative and transformative forms offer a meaningful voice and power to participants, with the highest level empowering those involved and fundamentally altering the structures that lead to marginalisation or vulnerability. Representational forms tie most closely to formal elected representatives through liberal democratic processes. Both classifications of participation recognise that there is a distinction between those with and those without power in a decision-making process. Those with funds, public positions, or with capacity to initiate decision-making processes have a choice about the type and quality of participation they want to incorporate (White, 1996). The concept of power – how it is wielded and who wields it, is central to conceptualisations of "higher" forms of participation.

Figure 8: White's typology

Source: Sarah White (1996): Depoliticising development: the uses and abuses of participation. Development in Practice. Vol.6

Form	Top-Down	Bottom-Up	Function
Nominal	Legitimation	Inclusion	Display
Instrumental	Efficiency	Cost	Means
Representative	Sustainability	Leverage	Voice
Transformative	Empowerment	Empowerment	Means/End

Drawing on the evidence for effective adaptation, the implication is that environmental democracy must take on a stronger form of participation that facilitates "collaborative" or "co-produced" approaches to decision making, at least. The concept of procedural justice in particular requires that while giving full control to citizens is not a necessary condition for success, the requirement to at least share or shift power is. Merely consulting communities is not sufficient. For participation to demonstrate procedural justice, there must be a recognition of who is participating and what power and relationships they have with other stakeholders. If it is also the case that incremental adaptations may lock in maladaptive pathways, then more transformative forms of participation are necessary (Clark & Mitchell, 2021), as these are needed to address the root causes of vulnerability.

Participation is also not a one-off process – it needs to take place at each stage of the project cycle. This principle is recognised in Article 7 of the UNFCCC Paris Agreement (2015). But there is a big difference between integration of a concept in policy or regulation and in its implementation in practice – and indeed many adaptation programmes are criticised for their failure to integrate effective forms of participation (Brooks et al., 2019; Soanes, et al., 2021). The challenge for many adaptation interventions initiated by external actors is the depth of knowledge of contexts needed for effectiveness and sustainability in the long term. Edward Carr, in articulating the importance of socially secure "resilient livelihoods" to communities, describes a Ghanaian government programme which improved a road to facilitate diversification of livelihoods, particularly for women. The intervention worked until male household heads felt that that existing social roles were being undermined as women's incomes began to outstrip their own. They chose to preserve the old social roles by reducing the size of land holdings women were permitted to own – despite their increased vulnerability to climate risk (Carr, 2020).

Carr highlights that "those living under such livelihoods are best positioned to identify and realize locally appropriate opportunities" that are "durable", through reduced stress on livelihoods (Carr, 2020, p.5). Participatory processes must therefore be deep enough to recognise local perceived identities and

social-ecological roles – the kind of knowledge that preliminary or cursory participatory engagements are likely to miss. Such knowledge is central to the design of interventions that acknowledge but do not deepen existing social inequities. Effective participation facilitates a whole-of-society approach that brings together people on both sides of these subtle but impactful social inequities, to explore how an intervention may be deepening vulnerability, and to identify fair and durable solutions.

Adaptation that engages vulnerable people in a given context at the beginning of a project, but not during or after, is at risk of missing changes in context, pre-existing dynamic perspectives within the affected population, or new threats that will undermine successful outcomes. Community engagement in monitoring and evaluation is therefore particularly important. Enabling vulnerable people to identify the criteria for success, to validate and interpret data collected, and to reflect on the equity of interventions builds local ownership while also improving the chances of an accurate assessment of the change taking place (Beauchamp et al., 2022).

Citizens may participate as individuals or through a range of institution types – through their private businesses, through community cooperatives, self-help or savings groups, or through government committees (Uphoff, 1992). Not all these types of institution may be relevant for a given issue, and they may act in different ways. Participatory institutions are more likely to use local knowledge, be responsive to change or influence others (Uphoff, 1992). Membership of different institutions also intersects with identities that shape how they are perceived, including age, caste, gender, and physical ability. Considering who participates in environmentally democratic processes implies considering how environmental or climate risks affects people with intersecting identities in specific and potentially marginalising ways.

If adaptation processes are to become a central part of how societies organise in line with the IPCC's conceptions of Climate Resilient Development (CRD), then there is a need for stakeholders to have the financial, technical and logistical capacity to facilitate this kind of participation. Trained staff, funds to pay for them and for transport, and transparency processes that integrate citizens into assessments and audits of government programmes will be necessary. The IPCC notes that "multi-level" governance is widely regarded as "crucial, particularly for transformative adaptation" (IPCC, 2022 p. 164), while whole-of-society approaches that bring non-government actors with different perspectives into decision making processes are key to avoiding maladaptation and effective decision making (Bickersteth et al., 2017; Mogelgaard et al., 2018). The concept of subsidiarity also applies here – governments need to be able to effectively engage citizens, while ensuring that knowledge is available at appropriate decision-making levels of government.

Ensuring meaningful participation is present throughout adaptation will also mean considering the institutional architecture and resources that need to be in place. Institutions and organisations that are responsible for adaptation may lack the financial, human, and technical resources to incorporate strong forms of participation as a matter of course. Taking participation seriously – building local institutional capacity, identifying stakeholders, taking the heterogeneity of the community and intersectionality into account, properly reporting participation processes – costs more in human resources and funds (Greene et al., 2020). As noted earlier, Devolved Climate Finance approaches seek to do just this, but have struggled to find sustainable donor funds to establish the necessary institutions in most of countries where they have been piloted.

The third environmental democracy pillar: Access to justice

Legal forms of redress are less prominent in descriptions of the key components of adaptation. Access to justice within the established concept of environmental democracy focuses on the ability of judiciaries to make decisions freely and trust in the rule of law. Citizens should be able to take companies or governments to court for causing environmental harm or negligence. This principle can be more complicated to apply to climate adaptation cases because the causes of climate hazards and the drivers of vulnerability are complex and multi-layered. It is difficult for a judge to rule that a specific company or government institutions is responsible for vulnerability to a specific hazard, because vulnerability is a function of multiple historic and transient factors including poverty, political representation, cultural assumptions and physical exposure. Similarly, judges cannot typically allocate punishment or censure politicians for an economic downturn that leaves some communities more vulnerable than others. It can be difficult for courts to identify how to dispense justice when vulnerability drivers are structural and dispersed rather than tied to a specific actor.

One way of applying the original environmentally democratic practice of access to justice to adaptation programmes may be to focus on mechanisms for formal complaints by community members where an intervention is based. Complaints should be accepted from the wider community as well as project participants, and handled confidentially by a trusted, independent actor – with power to explore how to trigger compensation, adjudicate compensation, and investigate grievances.

In climate (rather than environmental) literature, climate justice is a more common theme. With respect to adaptation, the focus is on types of justice that can inform the process of planning and delivering adaptation – recognitional, procedural, distributive. Justice is typically viewed at a wider scale, recognising that vulnerability to climate change is closely tied to historic and/or ongoing marginalisation from key decision-making spaces, resources and more.

More generally, climate justice seeks to focus action away from a technical effort to cut emissions and towards addressing human rights and social inequality issues central to vulnerability at individual, community, and country level. Advocates take as a starting point the fact that poorer countries with less responsibility for climate change bear the brunt of its impacts. They link the struggle for human rights and equitable wealth redistribution with climate responses. Climate justice takes adaptation and mitigation as equally important, motivating demands not just for emissions reductions by high-emitting countries, but for meaningful adaptation support. These justice concerns play out particularly in the climate finance space. Issues centre on the geographic distribution of funds, how funds are additional to existing flows of overseas development finance (known as "additionality"), the role of international intermediaries – often UN agencies and NGOs that channel funds to in-country actors, the localisation of funds, and the opportunities for engagement of local actors and communities. More recently, climate justice advocates have raised the need for finance to cover the costs of climate hazards where it is too late for adaptation to be practicable. These are framed not as aid or handouts, but repayments for damages incurred because of industrialised nations' profligacy. The next section articulates how the current climate finance system fails these standards of justice and therefore undermines environmental democratic principles.

Climate finance – failing climate justice

In 2009, developed countries promised US$100bn a year to address climate-related needs of developing countries by 2020, a deadline extended to 2025 following a failure to meet the target. These funds are intended to facilitate adaptation of climate vulnerable countries while catalysing private funding flows, and remain a contentious topic at COP negotiations. Discussions on a revision to the 2009 climate finance target are already underway. COP26 called for a doubling of existing funds, and COP27 established a "Loss and Damage" facility intended to compensate communities for whom adaptation is no longer an option – with few funds committed so far.

An OECD estimate noted that only US$83.3bn of climate finance was mobilised in 2020, with only 20% for climate adaptation (OECD, 2022). From 2016-20, only 26% of the funds went to Africa, where the majority of climate-vulnerable countries are based (OECD, 2022, p.11). Less than 3% of what is required to respond to climate risks has reached the 47 Least Developed Countries (Soanes et al., 2021). By the end of 2020, only US$10bn had been committed to the Green Climate Fund in total (Green Climate Fund, 2020), even though the 2009 agreement calls – admittedly ambiguously – for a "significant portion" to be channelled through this route. While funds for adaptation finance continue to grow each year, the majority channelled to multilateral and national development finance institutions – over US$46bn in 2020 (Climate Policy Initiative, 2021), there remains a significant gap between country needs and the funds available.

Private finance for adaptation is growing, but there are data gaps which limit understanding of how it is being used. One study indicates that between 2018 and 2020, less than 4% of private finance was earmarked exclusively for adaptation (Randall, Sedemund & Bartz-Zuccala, 2023).

Private sector actors can see adaptation in contexts with highly vulnerable populations as high risk, due to weak or poorly enforced regulatory environments, resource-strapped governments reluctant to offer tax breaks or subsidies, and consumers with little spare income to pay for services. Investments in renewable energy or infrastructure in middle income countries offer greater stability and likelihood of success. This remains a long-term challenge, one which will require innovation from development financiers and policymakers.

Environmental democracy through climate finance

In principle, climate finance is made available to reduce the significant financial disadvantages faced by climate-vulnerable countries in responding to climate risks. While it would be expected that such funds are allocated in line with the best possible science on delivering adaptation in practice, it is also important that transparency – information about amounts, allocations, and focus areas – is available to facilitate accountability.

The Green Climate Fund (GCF), Adaptation Fund, the multilateral development banks and bilateral donors typically place an emphasis, in their policy and programme documents, on transparency, accountability, and requirements for participation in the design and implementation of adaptation projects. The GCF assesses project proposals in part by their commitment to ensuring participation. The Adaptation Fund is an endorser of the LLA principles, seeking to integrate them into their own criteria for decision making on the allocation of funds to their accredited entities.

But funds for adaptation from developed to developing countries are notoriously difficult to track and interpret. While reporting procedures are in place, donors do not follow common principles about how to report their expenditure. First, donors do not identify the principal objectives or the principal recipients of funding

programmes in standardised ways, leading to inconsistencies and ambiguity when funding amounts are amalgamated into overall figures. An International Institute on Environment and Development (IIED) review highlighted bilateral donors as particularly culpable (Shakya & Smith, 2021). The review notes that "over half the bilateral donors…did not provide meaningful information about most of their adaptation finance" – highlighting an example of a school building project in Zambia labelled a climate adaptation project without justification. A third of the finance they looked at had adaptation only as a secondary, rather than a primary objective of the funding. In many cases, it is unclear what makes a programme or project climate adaptive. Even when information is provided, they note that "good transparency did not always translate into meaningful information" (Shakya & Smith, 2021).

This transparency matters particularly because the 2009 commitment was for climate finance that was "new and additional" to existing flows of development assistance (UNFCCC, 2009). One report reckoned that only 6% of climate finance could be classed as new and additional, implying that funds previously committed for healthcare, education and other development challenges were being compromised (Hattle & Nordbo, 2022).

Further ambiguity comes through an inability to track if and how funds reach the local level, and how much meaningful participation they facilitate when they get there. If adaptation requires significant local knowledge, social inclusion and participatory processes to be effective, then it is important that global stakeholders understand how far climate finance is incorporating these principles. This is important to facilitate accountability at international negotiations. Yet it is challenging to identify from publicly available project documents of climate finance contributors how funds are allocated to different actors, or the types of participation being facilitated. Also, they do not identify the extent to which participation has been carried out in the design, implementation, monitoring or evaluation of projects. This is at least in part because reliable metrics for participation are difficult to establish. However, accountability to UNFCCC institutions for participation is weak, which results in a lack of attempts to identify it. While an IIED study found that 46% of the sample climate finance was intended to give agency to local actors, local "agency" was challenging to discern in practice (Soanes et al., 2021).

There is, therefore, weak evidence of justice principles being applied in climate finance, despite its centrality to transformative change. Transparency of international finance flows is weak. This obfuscates meaningful critique by developing countries at the climate talks, and by their citizens who continue to remain underfunded in efforts to adapt to climate risk.

Transparency is also varied at national level – few countries have mechanisms in place to track and report climate expenditure either internationally or to their own publics. Tracking government spending towards adaptation requires governments to take on technical processes including budget tagging, coding and reporting of this information with regularity and accuracy (World Bank, 2021). National tagging and tracking of both domestic spending across sectoral budgets, as well as international climate finance flowing in as overseas development assistance, may be one route to enhance transparency of finance. Budget tagging and tracking of climate and/or disaster risk and environmental expenditure in-country can enable deeper understanding of the overlaps with development expenditure. Countries are also incentivised to do so in order to make stronger cases for climate finance internationally, and to keep track of ODA flows into the country. A number of countries have taken a lead in this regard already, including Indonesia, Kenya, Nepal, Bangladesh and Ghana (UNDP, 2019). Ethiopia is following Kenya in piloting budget tagging and tracking of climate and disaster related expenditure,

which should enable greater public transparency of expenditure across the whole of government budgets, and not just from funds clearly earmarked for adaptation (Greene, 2022). This will strengthen in-country analysis of how funds are addressing climate risk, as well as strengthen accountability.

The volume of international climate finance flows for adaptation remains small compared with the collective value of domestic inter-governmental fiscal transfers, private investment, and the household expenditure of climate-exposed communities. One indicative study in Bangladesh found that rural households spent just under £2bn on climate and disaster management in 2015, 12 times more than multilateral international financing targeted at the same communities and far more than domestic government expenditure (Eskander & Steele, 2019).

The democratic implications of these flows are more challenging to assess. While household expenditure in adaptation may appear to be the epitome of direct public participation in adaptation decision making, it may be carried out in contexts where women or young people within those households have little influence on household expenditure. Additionally, large scale spending does not necessarily mean that people have been empowered to participate. There is also a risk that such expenditure is maladaptive, as households seek to cope with the challenges raised by climate hazards in ways that are environmentally or socially unsustainable, or that prioritise individual necessities over landscape preservation or restoration. Where it is not maladaptive, it may also be spent on neutral coping strategies that do not build long-term resilience to future risks or seek to transform the conditions that reinforce vulnerability.

Launching the Coastal City Adaptation Project, in Quelimane USAID/Mozambique launched the five year project, Coastal City Adaptation Project, in Quelimane city. This is a groundbreaking project that will improve Quelimane's preparation for events like floods, erosion, sea level rise and other weather and climate related events. The USAID Coastal City Adaptation Project will work with the municipal government in Quelimane and with academia, and civic organizations to increase understanding of climate change adaptation issues and facilitate local adaptation measures. The project is implementing and training local staff on an SMS early alert and response system, which used in addition to other systems already in place, will allow Mozambicans living in Quelimane to prevent major damages during the rainy and cyclone season. USAID/Mozambique seeks to scale new models of development that spur innovation and harness the scientific and technological advances which will enable Mozambicans to leapfrog current challenges.

Environmental democracy through adaptation: Entry points

This section outlines the key entry points for environmental democracy through adaptation, using a climate-resilient development framework to frame possible areas of focus. Across five key areas – finance, institutions, climate-informed planning, monitoring, evaluation and learning (MEL), and enabling environments – practical recommendations are offered to environmental democracy proponents seeking to widen their impact with a recognition of climate risk.

Different aspects of climate-resilient development offer entry points for integration of the environmental democracy pillars. Ignoring these entry points runs the risk of maladaptation and of social, financial, environmental, and political instability that may follow. The literature also makes clear that transformative rather than incremental approaches are necessary – requiring changes that address the unequal power dynamics that are ultimately the root causes of vulnerability. These go beyond simple project interventions and towards policy and legislative change, institutional reform and consideration of long-term social changes.

One framework for thinking through entry points is shared in Figure 9. Presented as a framework for climate-resilient development, it outlines five building blocks:

- **policy and legislative frameworks**
- **budgeting and finance**
- **institutions**
- **climate-informed planning**
- **monitoring, evaluation and learning (MEL)**

All the building blocks are necessary for climate-resilient development, and the boundaries between them are porous. The first building block – policy and legislative frameworks – forms the foundation for the others. Certain kinds of institutions and interactions between them that facilitate community-led decision making must be possible within legal frameworks. Each building block could function in numerous ways, but all have opportunities for deeper application of environmental democracy principles. The blocks are also interlinked and indeed somewhat porous – for example, considerations of how the institutions should function must also consider how they engage with funding flows. Activities under each building block can be reviewed with an environmental democracy lens to see where improvements can be made that might create conditions for transformative changes.

Eight cross-cutting principles – aligned with the Locally Led Adaptation Principles described above – are relevant to all the building blocks. These principles draw on evidence from the literature as well as direct experience from practitioners, and aim to operationalise approaches to adaptation that are transformative and address structural inequalities at the root of vulnerability. While some are fairly common across development literature – such as transparency, accountability, and valuing local knowledge, others imply significant changes in

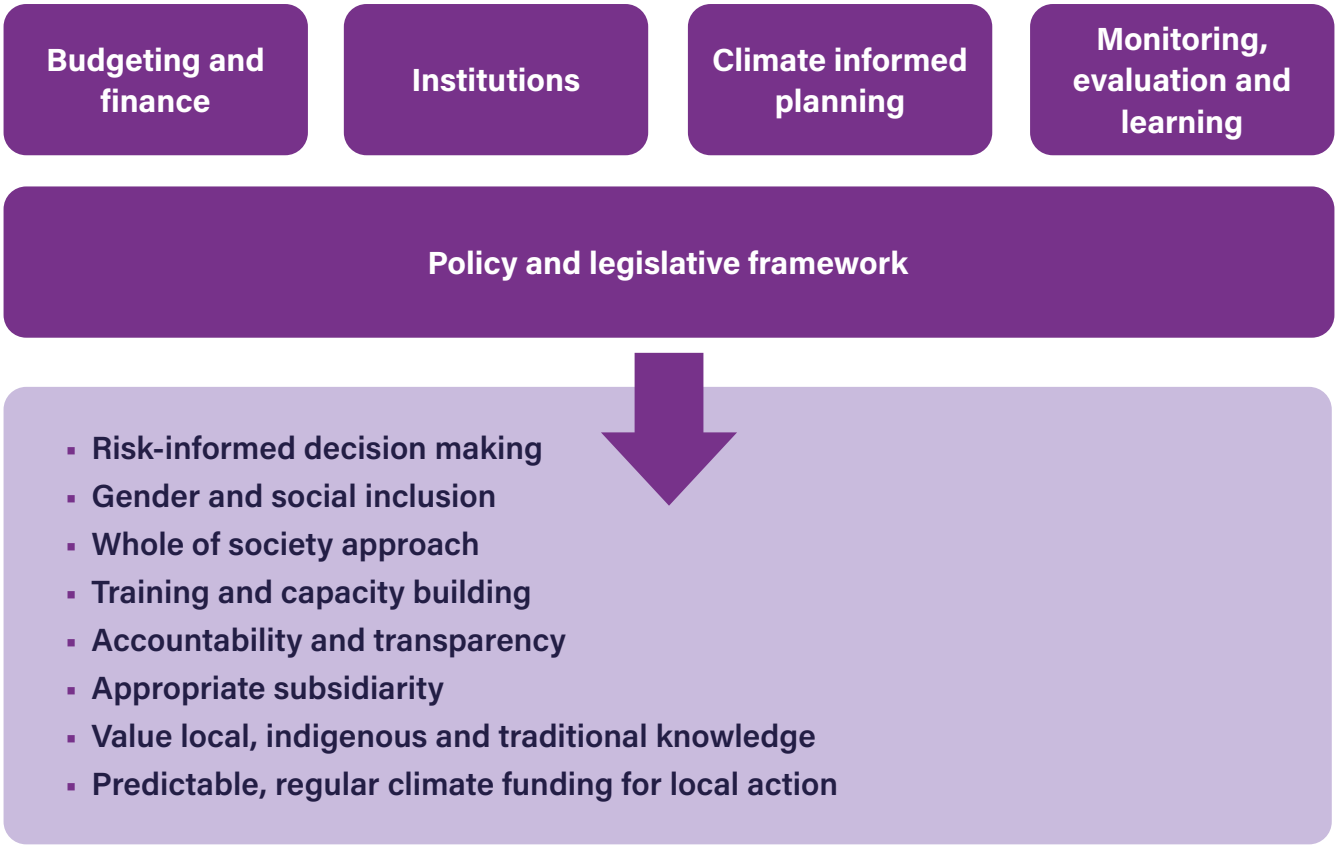
the way finance flows and programmes are operationalised. The need for subsidiarity in effective adaptation implies a shift in local government policies and investment in greater local decision-making processes. The need for risk-informed decision making requires local risk assessments and inclusion of unpredictable climate futures in the planning process – a significant technical exercise. Most significantly, the need for social inclusion of the most marginalised into decision making implies working directly to challenge existing attitudes towards who has a right to participate and who does not. These are weaved into the discussion of each entry point and its recommendations, to reinforce their relevance to climate-resilient development with an environmental democracy lens.

The framework is relevant across scales. Some building blocks are particularly relevant at local level where the bulk of adaptation needs to take place. That said, there are some structural changes and enabling environments that require engagement of national and international direction setting and policymaking. Some policies and legislative frameworks can only be changed at national level, and these in turn may only be inspired by international agreements that strongly encourage, if not enforce, new policy directions to agreement signatories.

The following section highlights entry points for each of the building blocks from the Climate Resilient Development framework that could be most impactful for environment and democracy proponents, taking the building blocks in turn.

Figure 9: Framework for climate-resilient development

Source: Crick (2021)



Budgeting and finance

Budgeting and finance entry point 1: Finance delivery mechanisms

Finance delivery mechanisms are coherent sets of systems or processes that enable finance to flow to adaptation using design features that support adaptation. These might be the presence of climate information and conditions for community inclusion or climate risk assessments. Such mechanisms can utilise government, private or civil society actors, independently or working together (Norton & Huq, 2020). Mechanisms need to be vertically integrated – national to local – to enable funds to flow to where they are needed most, and horizontally integrated to ensure different sectors can contribute their expertise. These might engage national level civil society, private sector or government institutions that can aggregate the demand for adaptation and channel funds accordingly, and at scale.

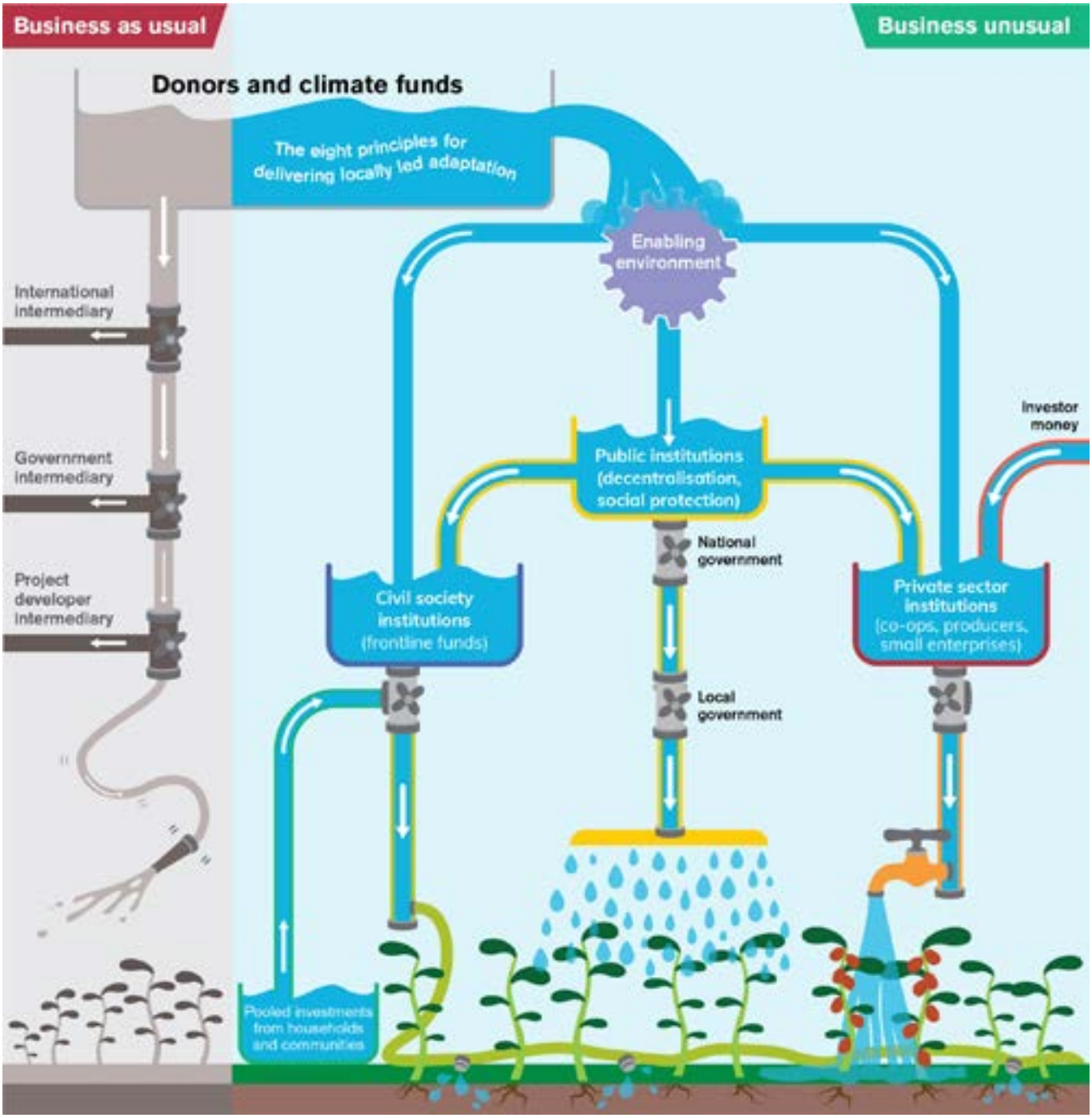
Delivery mechanisms offer reliable channels for climate finance to flow at scale. The promise of such finance can act as an incentive for different actors to establish more innovative processes and approaches to allocating funding and decision making. For example, DCF approaches established committees – with government technical support – that, when given a mandate, consulted communities independently at a scale far larger than government had previously been capable of, and at far lower cost (Greene, 2019).

Mechanisms can be layered to enable citizens to absorb climate shocks as well as engage in activities that enable them to actively anticipate future risk. Establishing finance delivery mechanisms may be a more effective way of seeing environmental democracy integrated than seeking to influence entire country political systems and their institutions when there is little political will for change at this level. Some countries are emerging as leaders in this approach, including Kenya, Uganda, Nepal and Bhutan, all exploring mechanisms with highly participatory institutions. Innovation out of necessity may be permitted within the delivery mechanism in ways less tolerable in other country processes.

However, adaptation funds are still not flowing in sufficient quantities for the most vulnerable countries to facilitate widespread adoption. Lack of trust in the fiduciary management or technical capabilities of local institutions is often cited as a key barrier (Soanes et al., 2019). Unlocking flows of private sector finance for adaptation at the local level, at scale, remains a critical challenge. Unstable macroeconomic climates, poorly enforced accountability and regulation, overly negative perceptions of the investment environment and banks with little climate expertise reduce the likelihood of investment (Sembene, Mitchell & Brown, 2022). It is likely that private sector funds cannot benefit the most vulnerable without strong partnerships with government: relationships which take time and expertise to develop. Some projects, such as the Green Climate Fund's US$100m partnership with CRDB Bank in Tanzania to invest in smallholder agriculture resilience, are attempting to establish these relationships and show how private sector funds can be leveraged.

Figure 10: Delivery mechanisms channel funds at scale for adaptation investment.

Source: IIED (2022)



Box 9: LIFE-AR: Addressing climate finance challenges through "Business Unusual"

The Least Developed Countries Initiative for Effective Adaptation and Resilience (LIFE-AR) is establishing a new model for adaptation investments in NAPs and country policies, incorporating aspects of environmental democracy. The programme is built around five "offers" and "asks" made by LDCs of development partners when supporting the LDC Group 2050 Vision (2019). Signatories to the LIFE-AR Compact include Burkina Faso, Ethiopia, Malawi, The Gambia, Bhutan, Uganda, Ireland, the United States, Norway and the United Kingdom. The offers and asks respond directly to key challenges that hinder effective allocation and use of climate finance, seeking to establish long-term funding time frames of over ten years, multi-sectoral (whole-of-society) planning, working through in-country institutions and capabilities, and a flexible, equitable approach to decision making.

Each participating country sets their own agenda for use of LIFE-AR funds. The Gambia prioritised the development of their "Long Term Strategy" – a strategic document for greenhouse gas reductions that can be submitted to the UNFCCC. Others are prioritising development of climate finance delivery mechanisms that ensure 70% of funds reaches the local level for adaptation. The LDC Group intends to expand the number of countries participating in the programme over time.

Participation

LIFE-AR's key principles centre the need for "whole of society" and "inclusive" approaches in the development of delivery mechanisms that apply participatory processes in a meaningful way. The inclusion of gender transformation and social justice in the LIFE-AR Compact is a significant recognition of the need to transform decision making at all levels to address marginalisation that is key factor in vulnerability. The commitment to engaging directly with governments and offering longer time frames, rather than bypassing them through international NGOs or rushing the process, also facilitates a more meaningful recognition of the need for integrated, institutionalised participatory decision making.

Transparency

LIFE-AR includes a workstream for facilitating monitoring, evaluation and learning, and for developing a community of practice for sharing knowledge and skills between participating countries. Countries will seek to develop theories of change for the programme that build on existing MEL frameworks already active within the country, rather than seeking to create something new and burdensome. This MEL approach should ensure that MEL is practicable and facilitate wider sharing of outcomes to facilitate distributive justice considerations.

LIFE-AR represents a different approach to developing adaptation mechanisms, known by the programme as "Business Unusual" (McIvor, 2022). Countries need senior – ministerial level – support to authorise different approaches outside existing fund management or decision-making systems. Senior actors with convening authority are also needed to bring together different parts of government with NGOs and the private sector to share decision making equitably. Over the long term, in-country institutions must be able to lead in enabling quality assurance of the climate finance delivery, carrying out MEL, and reporting. Significant effort is needed to identify appropriate institutions – such as universities, in-country think tanks or civil society organisations, who can play this role. These institutions can make environmental democracy principles work in practice – by acting as a critical friend to implementing actors, overseeing effective MEL processes, leading communities of practice or sharing learning.

However, more evidence is needed. Environmental democracy proponents can therefore seek to facilitate greater trust in finance delivery mechanisms by supporting capabilities of participating institutions to handle funds, understand gender issues, carry out MEL and effectively demonstrate capabilities of different organisations to lead such approaches. Facilitating adaptation actors to develop their own context-specific mechanisms and supporting them to access large-scale funds to capitalise them would be a significant contribution to the enabling environment for democratically informed climate responses. Delivery mechanisms take time to establish. Institutional strengthening is required to ensure sufficient capabilities exist within existing stakeholders (Greene, 2015). Introducing and embedding innovations requires iterative learning, and the experience of failure, to develop localised ownership and adaptation to local contexts.

The Least Developed Countries Initiative for Effective Adaptation and Resilience (LIFE-AR), supported by donors including FCDO, Irish Aid, the Swedish International Development Agency (SIDA), USAID, and Norway, is one effort to facilitate this kind of approach. Committing to 10-year programme, LIFE-AR enables participating countries to establish transparent and participatory institutions and to identify finance delivery mechanisms most relevant to support national policies, and in line with their existing national systems. The programme seeks to incorporate the LLA principles, building on a shared set of "business unusual" principles agreed between participating countries. See Box 4 for more information.

A further example is the County Climate Change Funds in Kenya, now being scaled out by the World Bank and SIDA as the Financing Locally Led Climate Action program. A UK Government programme called Strengthening Adaptation And Resilience to Climate Change in Kenya Plus (STARK+) supported a consortium of government and non-government organisations to pilot a devolved climate finance approach in five northern counties (see Box 2). The work was first initiated in 2012, taking ten years to establish and support community-led institutions, carry out participatory planning and establish climate information strategies. STARK+ has effectively seen environmental democracy strengthened across Kenya as a result.

Recommendations:

- **Channel funds through finance delivery mechanisms already active in-country: this is one low effort way to have impact - without the transaction costs and duplication risks of trying something new. This enables successful mechanisms to strengthen their institutions and to scale up to more locations.**
- **Where mechanisms (or viable systems through which they can be established) do not currently exist, support local institutions to establish them and capitalise them with scaled up funds. Work to strengthen and build on existing systems, as this is preferable to developing parallel systems that are less likely to be sustainable.**
- **Provide specific capability support to in-country institutions who support these mechanisms, as a tangible and relatively low-cost approach to supporting systems that integrate environmental principles. This may be through supporting MEL processes that demonstrate presence of participation and transparency principles and identify how they are contributing to transformations.**
- **In line with Locally Led Adaptation principles, consider more "patient" funding cycles of 10 years or more to facilitate development of locally owned and adapted delivery mechanisms that meet local priorities and can facilitate transformation.**

Budgeting and finance entry point 2: Bottom-up transparency and accountability to reduce fiduciary risk

Trust in the fiduciary capacity of local actors is a central barrier to scaled up flows of climate finance (Soanes et.al, 2019). Donor and investor concerns about corruption risk undermine willingness to transfer funds to local actors such as local governments or MSMEs at scale. Application of LLA principles can help to address these challenges, by recognising the role communities can have in driving bottom-up accountability.

Additional training and empowering of community members as part of a finance delivery mechanism can build the capabilities needed to make this interest more powerful. In Tanzania's DCF approach, communities were trained to read and understand a Bill of Quantities for construction of water sources and livestock troughs. On one occasion, misappropriation of funds led members of the community elected committees contacting their local councillor, who in turn contacted senior leadership in the local government (the district commissioner), who swiftly brought legal measures against the offending company to remedy the situation.[1] In Kenya, elected community members joined procurement processes for service providers as observers, able to give their opinion on the past performance of those same companies in the local area. The cost of the investments made through the DCF fund were lower than comparable investments made by county governments as a result (Crick et al., 2019). The learning is that corruption and waste can be addressed in part by facilitating local ownership – and facilitating engagement of communities with an interest in ensuring that they get the best value from a particular investment.

[1] Author's own project notes and observations (2019).

Technology can also help to facilitate greater transparency to address some of these issues. The Mahatma Gandhi National Rural Employment Guarantee Act – described in greater detail in Box 5 – guarantees a minimum amount of employment to households to develop village level public goods. The programme already has a social accountability process, but has recently piloted a digital tool known as the Climate Resilience Information System and Planning Tool – CRISP-M. The tool warns communities about drought in an accessible way and helps facilitators identify locally relevant investments during workshops. The CRISP-M tool adds satellite mapping, allowing citizens to report on maintenance issues, theft, or misreported construction of infrastructure.

Recommendations

- **Communities can be part of the accountability infrastructure, provided they are invested in the adaptation action that is taking place. Ensure community representatives can participate in procurement processes as observers or voters, or by offering a veto, as this can reduce risk of corruption in identification of service providers.**
- **Empower local actors to monitor quality and provision of services by local actors can create bottom-up accountability. Those doing the monitoring are accountable to their communities, and can have the capacity to act as watchdogs for poor performance or misappropriation.**
- **While technological fixes are not a panacea, they can facilitate forms of social accountability and raise warning signs when delivery is substandard or when there is suspicion of misappropriation. Geotagging investments that are completed or remain unfinished, or linking geotagging with social accountability audits and other tools can make accountability processes more transparent and easier to implement.**

Box 5: The Mahatma Gandhi National Rural Employment Guarantee: Integrating technology and social accountability

The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) is the world's largest social protection programme. It is slowly developing characteristics of effective adaptation and stronger forms of environmental democracy. Guaranteeing rural households 100 days of paid employment each year, it has constructed over 33 million integrated water management and natural resource management assets to date (Beauchamp & Pertaub, 2021).

Water management or natural resource management assets can be proposed annually by households to their village governments, known as Gram Panchayats. Convergence across rural development programmes is encouraged to avoid duplication and reduce maladaptation risks. MGNREGS has been successful in enabling communities to absorb the challenges posed by shocks but has done less to deliver meaningful adaptation or transformative changes that solidify adaptive capacity (Kaur et al., 2019).

With support of the UK's FCDO, MGNREGS is trialling integration of more localised climate information and disaster risk information, in recognition that climate information is not being communicated in a format households can understand nor integrated into planning for MGNREGS-related investments (Bharadwaj, Addison & Reddy, 2021). Previous plans to scale up GIS planning have been predominantly top-down, with limited strategies to institutionalise community engagement (Bharadwaj et al., 2022).

The Climate Resilience Information System and Planning Tool for MGNREGS (CRISP-M) is a digital monitoring and planning tool that improves climate information service delivery for use by both households and governments. It provides early warning of hydrological, meteorological and agricultural drought, sending automated warnings to policymakers and local governments when known indicators of these conditions are reached.

CRISP-M is accessible through a mobile phone application that integrates GIS layers of information with past and future climate data to facilitate decision making about appropriate resilience-building assets in different contexts. The app also enables communities to track the status of assets built through MGNREGS, the verification of claims related to progress on construction, highlight repairs and maintenance, and facilitate tracking of ecosystem indicators such as forestry, cropped areas and water bodies (Bharadwaj et al., 2022). The Ministry of Rural Development is now scaling up the use of the tool across seven states in India.

Scaling up of the CRISP-M tool is a move towards integrating procedural justice principles into MGNREGs planning. This recognises the diverse communities stratified by gender, ethnicity, caste, religion, class, occupation, literacy and so on (Bharadwaj, Addison, & Reddy, 2021) using technology as a vehicle. Community facilitators use the tool to prompt participatory vulnerability assessments of the local context. Social audits are facilitated by a digital public platform that shares the details of the resources used. Communities can ask questions and demand more information about expenditure through review testimonials. The digitisation of the approach has been used to facilitate greater accessibility and transparency of information.

Institutions

Working through existing institutions is a key principle of the LIFE-AR programme, recognising that existing country institutions – local governments, public financial management systems, banks and other government agencies – will continue to exist long after donor programmes have ended. Working to improve them, rather than operate parallel to them, may be slower but more sustainable in the long run. Formal institutions of government, civil society or the private sector have the capacity to recognise and incorporate the informal institutions which are central to many livelihoods, and where local knowledge is often held and exercised. These might include traditional leadership councils, savings and loans groups, shared labour groups and resource management committees.

Institutions entry point 1: Subsidiarity as a pathway for environmental democracy

Subsidiarity is the principle that decisions should be made at the most grassroots level of governance that is appropriate, ensuring people most affected by an issue have a say in shaping the response to it. It is a key tenet of the Locally Led Adaptation Principles and the LIFE-AR programme. Climate risks add complexity to applications of subsidiarity because they span formal jurisdictions, and anticipatory or post-hoc responses require resources that are beyond the capacity of local stakeholders to mobilise.

Practically, these demands raise immediate questions, including:

- At what scales should participation take place, and through what forums?
- How can transformative aspects of participation that hand over decision-making power to communities be sustainably, accountably and transparently financed and facilitated?
- Where should responsibility for disseminating information on climate risk sit, and who is accountable for its quality?
- How should states organise their institutions, planning and budgeting processes to integrate these principles and qualities?

Environmental democracy proponents must consider how types of participation that enable greater collaboration, partnership, or citizen power can be implemented across scales. At least in principle, devolution decentralises decision-making power and funds to local levels. However, in practice, funds are typically not transferred in amounts large enough to facilitate transformative action. And yet, devolution is necessary to facilitate the participation needed for adaptation. Local governments and local NGOs are far more likely to understand and access people in the areas where they are based.

The policies that facilitate devolution are not climate-focused ones. Policies and legislation that relate to decentralisation, public financial management and procurement, local government reform, all shape the conditions in which subsidiarity can be applied. For example, many procurement regulations prevent community representatives from participating in identification of service delivery agents or contractors. Centralisation of some sectors, such as water or forestry, strip meaningful participation opportunities away from the people using them on a daily basis.

For example, Tanzania's recent water centralisation has caused planning deficits between various water-related institutions, undermining their ability to gauge local perspectives (Allegretti & Greene, 2022).

Some notable examples of subsidiarity supported by climate finance are making headway. In Kenya, some counties have legislated to commit 1-2% of their development budgets to bolster donor funds for adaptation using the DCF model. Nepal has used its Locally Led Adaptation Plans of Action (LAPAs) to facilitate greater participation – establishing a process for the government, community groups and CSOs to carry out vulnerability analysis and prioritise responsive actions (Steinbach et al., 2022). Governments then integrate the findings into annual and multi-year budgets. NGOs have been enlisted to facilitate community engagement, and intersectionality is incorporated into the vulnerability analysis to draw out the specific priorities of women, marginalised castes, or indigenous groups.

But subsidiarity also applies to institutions that are a step away from the government institutions that are usually the focus of adaptation interventions. Civil life is shaped by a range of community-based institutions that have a greater influence on daily lived experience than government authorities, including social movements, traditional resource management groups, urban street or block committees, or youth and women's savings groups. Village level governments – local councils and village assemblies and their associated committees for water or rangeland management, can also be centres of participation and avenues for deeper local consultation. Additionally, producer cooperatives, savings and loans groups and cultural institutions may be routes through which information can be shared and transparency facilitated (Uphoff, 1992). Not all of these are inherently participatory. Some traditional decision-making spaces are fiercely male-dominated, and gender norms prevent women from participating in these or in formal consultation and discussion spaces (Greene et al., 2020). Yet recognising and finding ways to integrate them is key to a more democratic approach.

Recommendations

- **Integrate the wide range of institutions that permeate the lives of marginalised people into adaptation programming, while recognising the nuances and power relations that shape each type. Such groups can facilitate deeper and more trusting engagement but remain chronically under-capacitated and underfunded to support climate action in practice.**
- **Support efforts to devolve decision making and the funds needed to support those decisions. National government institutions have a valuable role in setting enabling environments for local actors to lead in decision making.**
- **Support the devolution agenda by facilitating improvements in public financial management systems, and accountability systems (both top-down and bottom-up). Working with ministries responsible for local government may create conditions for trust and financial flows from central to local levels.**

Institutions entry point 2: Environmental democracy through the project cycle

The structure and nature of institutions create the conditions for participation, transparency, and means of formal redress for grievances. Local government authorities, often responsible for local planning and budgeting, are responsible for processes that consult communities to identify priorities. However, these are often underfunded or poorly executed. Civil society organisations can create conditions for greater input into interventions by engaging with, or creating, community level institutions that can set the direction of adaptation spending. These might be cooperatives, local social movements, savings and loans groups, or indigenous or informal institutions.

Strengthening institutions with capacity, financial or technical resources so that they can enable and institutionalise greater environmental democracy can be an important step forward. One tool for planning such support is to analyse how ED principles are enacted at each stage of the project cycle. The project cycle below is generic, but is intended to demonstrate how there is room for environmental democracy principles at distinct stages of an adaptation intervention.

Project identification: A transformative approach will ensure that those affected by climate risks decide the focus and objectives of adaptation investments. Processes that enable communities to articulate how climate risks affect them and to pick out priorities and make proposals may include both elected and informal local leaders, create facilitated forums to discuss the context, livelihoods, and perceived opportunities, and discuss future climate challenges. Mere consultation or public forums are not sufficient to understand the specific priorities of typically marginalised groups. Investment in participatory discussion tools and facilitation is therefore necessary. Climate information must be available – representing transparency – to inform prioritisation, which may require inputs from a meteorological agency. The CRISP-M tool employed by MGNREGS is one example where data is directly informing project identification, by integrating different kinds of climate and geographically specific information in one place to inform decision making.

Project appraisal and design: The specific details of adaptation projects can make a meaningful difference to their longevity and their contribution to resilience. In the DCF mechanisms, communities were able to identify investments and contribute to their design – including the details of water pump types, irrigation types, and the depth of flood reduction channels (Greene, 2019). The outcome was context-specific investments that reflect unique local needs. In Isiolo, Kenya, communities revamped customary institutions that used funds to take the unusual step of permanently closing two water sources that were contributing to unsustainable rangeland use (Crick et al., 2019) – a decision the government could never have made. The availability of climate information is key to ensure that adaptation designs take climate futures into account and seek outcomes that are robust to a range of possible climate futures.

Figure 11: Adaptation project cycle: The diagram summarises how environmental democracy principles may be considered at each stage

Implementation: During implementation, enabling communities to track changing contexts might affect the planned design of a programme. Adaptation does not take place in a vacuum. Contexts change, affected by climate risks and by changing socioeconomic and political circumstances. Transformative initiatives may need to take advantage of windows of opportunity that were not obvious during the design phase. Implementation can also include procurement and ongoing accountability, additional areas where community input can make a significant difference – by enhancing openness and transparency of the process. Social auditing in MGNREGS through a digital platform has helped to create a culture of transparency, while community participation in procurement processes in DCF led to reduced costs of investments and quicker construction times (Greene, 2019; Crick & Hesse, 2020).

Monitoring, Evaluation and Learning (MEL):

Effective MEL starts at the beginning of an adaptation process, with a participatory approach enabling participants to determine what would constitute a positive outcome and how to measure it. This should then inform tools and methods used that can again engage community members in interpreting generated data. MEL is central to transparency – public accountability for climate action has to be informed by useful data about project outcomes. This is particularly important given the complexity of adaptation projects. MEL is also central for iterative development of an adaptation programme or finance delivery mechanisms approach.

A wide range of tools already exists to facilitate participatory climate-informed planning at each stage of the project cycle. Assessments of participatory vulnerability, capacity, participatory resilience and climate risk are widely available and targeted at different kinds of actors, ranging from highly local civil society to those aimed at national government planning departments.[2]

Recommendations

- **Opportunities to integrate greater participation and transparency are available at each stage of an intervention's development. Apply a democratic lens to each stage, and allocate funds accordingly, to reduce the risk of failure or negative unanticipated consequences later on.**
- **Flexibility of decision making and funding allocation enables stakeholders to take advantage of windows of opportunity that may create steps towards transformative outcomes. Include communities in the monitoring of progress and use local intelligence and understanding of context to build awareness. This helps to inform decisions, and facilitates both environmental democracy and greater legitimacy of decisions made.**

[2] A number of databases exist to explore these, including the United Nations Climate Change Knowledge Portal, the UNFCCC Adaptation Knowledge Portal, and the Global Facility for Disaster Reduction and Recovery Lab.

Climate-informed planning

Climate-informed planning ensures that plans and budgets developed by institutions use participatory methods and are informed by a robust understanding of short- and long-term climate hazards and risks. Institutions use this kind of planning to allocate funds for adaptation investment, to set targets that can be monitored and evaluated against agreed indicators, and to mobilise or leverage additional funds.

Climate-informed planning entry point 1: Climate information services

Communicating climate risks and futures across contexts is key. But forecasts are increasingly uncertain over time, consequences are unclear, and different actors will need different kinds of information at different times. Aside from the operational challenges of generating and disseminating appropriate information, climate change literacy is highly variable, with marginalised people likely to have lower climate literacy – deepening their potential vulnerability and limiting their potential to make choices that anticipate climate risks (Simpson et al., 2021).

For example, short term (0-6 hour) forecasts can reduce disaster risk by providing flood or storm surge warnings. Three or 10-day forecasts might inform crop planting choices or livestock movements, while seasonal forecasts may inform seed selection or other strategic household management decisions. Longer term forecasts are needed, particularly for governments, to inform infrastructural investment, strategic resilience planning, irrigation design and placement. Unreliability of forecasts over longer time frames mean there is always likely to be an element of interpretation and risk management for users – requiring capacity building and experience. Yet failing to ensure the most vulnerable have access to the right climate services risks deepening the divide between those who are able to anticipate and respond to variable and unpredictable climate conditions and those who cannot. The Global Framework for Climate Services, launched by the WMO, should provide climate modelling, prediction, and the capacity to use it – but has been critiqued for being too data driven and challenging to understand (Nkiaka et al., 2019).

Beyond the data challenges, accessibility considerations are central to ensure transparency for all. Limited phone ownership and network availability in some communities, unreliable internet, and local languages must all be considered. Significant innovation is needed to overcome the barriers. Promotors of environmental democracy may first begin with identifying areas where access to climate information is restricted or undermined, who has more or less access, and why. One fundamental challenge – even before climate literacy is considered – is general illiteracy, which can affect specific groups more than others (Ochieng, Recha & Bebe, 2017).

Private sector actors, particularly smallholder farmers, livestock herders and traders, and agricultural supply MSMEs rely on climate information to make appropriate decisions in relation to land acquisition, seed choices, planting strategies or livestock movements. The quality and timeliness of this information have economic and social implications for households and local economies. The inability to prepare for climate shocks such as destructive flash flooding or drought increases the likelihood of people migrating to urban centres with few available opportunities, deepening the risk of exploitation and their vulnerability to urban risks.

Despite policy recognition of its value, indigenous knowledge and forecasting remains an underutilised resource in supporting sharing of climate information. For many farmers and pastoralists, indigenous knowledge remains their dominant source of information to inform livelihood decisions – one study found 97% of Ethiopian Borana pastoralists relied on it (Filho et al., 2022).

Many National Adaptation Plans discuss benefits of indigenous knowledge but fail to fully integrate it into the programmes that follow (Filho et al., 2022). Beyond indigenous forecasting, local knowledge can inform climate advisories because communities can have a deeper understanding of how climate risks such as flooding and drought affect their particular landscapes. Combining the top-down forecasts with local understanding is essential for adaptation programmes aiming to improve transparency of climate information.

Technology coupled with face-to-face facilitation may offer one answer. The CRISP-M tool delivers drought early warnings direct to policymakers as well as to the phones of citizens. Its capacity to bring this together with layers of mapped data relevant to a specific area enables community members to bring their own knowledge to consideration of local planning, facilitated by government extension workers.

Recommendations

- **Transparency of climate information may be more variable, and have more inherent uncertainty, than other types of environmental information. Consider how this is explained in advisories to communities, as well as the languages and formats needed, to facilitate transparency.**
- **Work with governments to move beyond rhetoric and integrate indigenous knowledge into climate service delivery through co-production approaches. This may support trust building and access to locally relevant climate information. DCF approaches used "synthesis" forecasts, combining predictions of indigenous knowledge groups with meteorological agencies to build greater trust in advisories – which themselves were tailored to local livelihoods (Greene, 2015).**
- **Technology-driven approaches are likely to be one part of the solution. Mobile or SMS based apps could be provided through state mechanisms or private sector providers, with more vulnerable people supported through government systems to avoid reinforcing existing inequalities.**

Climate-informed planning entry point 2: Customary and local knowledge

Integration of local and customary or indigenous knowledge into the design of interventions is widely recognised as central to effective adaptation. A distinction is made here between indigenous or customary knowledge, practices or techniques, and "local" knowledge which can include indigenous knowledge, but also recognises a deeper understanding of contextual politics, social and cultural values, location-specific adaptation priorities, histories and the physical environment. Indigenous or customary knowledge might also include nature-based solutions, such as customary natural resource management strategies or water management techniques for crops.

These types of knowledge inform how households and communities plan and make decisions day-to-day, drawing on an understanding of a range of factors viewed holistically. Being able to integrate this understanding into planning and decision making and being able to mobilise resources in support of it, requires innovation in approaches to planning, budgeting or project design. The challenge for designers of adaptation interventions is to recognise and integrate the different forms of knowledge available to shape approaches. Local knowledge for community-based planning tends to be holistic, applied flexibly and over longer time frames. For example, pastoralists will make decisions that respond to short-term changes such as rainfall, but that in turn are shaped by longer term factors such as the species composition of their herd, the relationships with other households, or knowledge about certain grazing areas.

Government planning tends to use one- and five-year inflexible planning cycles, with rigid budgets allocated to various sectoral focuses, prioritising technical or scientific and easily measurable information. Where local or customary knowledge for planning facilitates responsiveness and flexibility to changing circumstances, technical knowledge leans towards rigidity in service of adherence to predictable plans and budgets. Traditional institutions and decision making can also follow different principles and rules to formal, liberal democratic institutions. Concepts of individual legal rights clash with customary group rights, and consensus may be seen as more important in some places than votes cast for parliamentary or local council representatives (Hodgson, 2017).

More generally, a democratic approach needs to be aware that traditional knowledge is integrated into wider belief systems held by certain groups and may prioritise different objectives to those typically promoted by development organisations (Nalau et al., 2018). For example, a programme to bolster local economic development may clash with local priorities to preserve the environment and ensure equity in poverty reduction. Indigenous communities may consider the idea that their knowledge is being used to bolster a global north approach to development, a form of colonisation (Nalau et al., 2018). Care and humility – and transformative forms of participation – are necessary to ensure that knowledge is applied to development objectives that communities believe are of value. Moreover, some communities may have perspectives about the roles of women and young people in society that are challenging for advocates of gender transformation. As the Ghanaian example detailed earlier shows, communities may seek to preserve social stability, including its injustices, at the expense of resilience.

The case studies on page 79 present examples for responding to the first challenge. The Huairou Commission Climate Resilience Fund enables women's groups to apply their knowledge of the local political economy, or integrate nature-based solutions as they see fit. Critically, it enables them to engage donors, local and national governments directly to recognise their own agendas and solutions that can be applied in practice (Klein, 2019). This model of bridging knowledge hands over the means to civil society to demonstrate the value, applicability, and scalability of their knowledge to government, and mobilise formalised support.

The DCF model takes a different approach, seeking to strengthen formal institutions by implementing resilience planning tools and establishing elected community committees – working closely with government technical officers – that include local knowledge experts. The approach enables communities to make adaptation investments that support existing customary or traditional natural resource management processes in action. For example, this could include the establishment of customary institutions for land management, or strategically placed water sources that facilitate grazing of livestock over wider areas (Crick et al., 2019). The committees enable the application of informal and flexible knowledge to be supported through an annualised budgeting process with technical support from government officers.

In India's MGNREGS model, the ability of any household to propose watershed assets for construction enables – at least in principle – village level priorities to be recognised and incorporated into plans. This is a more consultative, rather than transformative model, but the bottom-up approach to planning secures ownership, which is more likely to contribute to sustainable outcomes.

Recommendations

- **Local and customary knowledge may hold the key to nature-positive adaptation that is sustainable – meeting the needs and worldviews of vulnerable groups. Take time to understand this knowledge and build on it: this could be the starting point for many adaptation interventions. Doing this will necessarily require integration of ED principles – facilitating participation through tools such as resilience assessments or digital resource mapping.**
- **Models of "bridging" this knowledge into ongoing adaptation are varied. Start by understanding how formal and informal knowledge systems can work together over time: this may be a useful starting point for the design and review of finance delivery mechanisms. Learning from the appointment of Free Town's "Heat Officer" in Sierra Leone – responsible for addressing heat risk – is one such additional opportunity. Such an officer can be given resources to institutionalise the participation of local communities and the capitalisation of indigenous knowledge, supporting the planning, funding, execution and assessment of heat adaptation initiatives (Adegun, 2023).**
- **Create systems throughout a project to understand both knowledge and ongoing changes at the local level – where the project operates. This is as important as transparent finance and climate information flows within government.**

Figure 12: Local experts from northern Kenya map livestock routes for input into spatial planning.
Photo credit: ILRI/Lance W. Robinson)

Climate-informed planning entry point 3: Equitable gender outcomes

The challenge of facilitating equitable gender outcomes is perhaps more complicated to resolve. Customary natural resource management institutions overseen by traditional leaders and local power brokers are typically dominated by (usually older) men. So how can their valid experiences and knowledge of effective local management be integrated for adaptation while tacitly accepting that women are marginalised from decision-making spaces in these communities? It is likely that the answer is through actively prioritising women's organisations within those communities which can champion women's voices through long-term change processes – drawing on their embedded knowledge (Greene, 2020). These kinds of cultural changes may be generational and are best led by people from the communities themselves. However, women's organisations and gender equality remain underfunded in the climate finance landscape (OECD, 2018).

Addressing gender-specific challenges, while recognising how gender-related marginalisation may intersect with other forms, including age, caste or clan, requires advance investment to ensure programmes are appropriately designed. Carrying out gender analysis of local contexts with local actors, on the different vulnerabilities experienced by men and women in the face of climate risks, costs additional resources. The additional time this takes can lead funders and development partners to become frustrated with a lack of progress. This is why the LLA principles call for patient, predictable finance. Transformative change takes time; institutions need to be strengthened based on a well-developed understanding of context and strong relationships.

The DCF approach seeks to ensure a minimum level of participation by women in committees that allocate funds, but no approach is perfect. It is possible to imagine situations where there is tension between elected community groups and government officials about what will work

and why. Within MGNREGS, local consultation on appropriate local investment sometimes does not take place, and if it does, there is no guarantee funding will proceed. But the examples demonstrate that mechanisms for channelling funds towards adaptation led by different knowledge types can function, if they are built into finance mechanisms that incorporate this knowledge as a condition of funding.

Recommendations

- **Support women's organisations at local levels that are championing access to formal and informal decision-making spaces. Such organisations remain chronically underfunded, but it is often women who hold knowledge of nature-based solutions as well as capacity to improve productive engagement with landscapes. Women-led organisations are also able to engage men in the necessary process of exploring just and equitable solutions, by demonstrating how social inequities deepen the vulnerability of specific groups such as women.**
- **Ensure funds are available in advance of programme implementation to properly identify how power is allocated within and between communities. Understanding heterogenous communities, marginalisation and different types of vulnerability in advance is essential to ensuring recognitional and procedural justice.**

Monitoring, Evaluation and Learning (MEL)

MEL is a necessary condition of distributive justice, facilitating understanding of who is affected by interventions and how. MEL can offer legitimacy to an approach by demonstrating outcomes and creating discussions that inform future innovation. MEL is also the basis for knowledge production and communications about adaptation progress. But adaptation MEL is methodologically challenging. Adaptation takes place over long time frames, attempting to assess achievement of objectives and targets in uncertain futures and while starting from shifting baselines (Fisher et al., 2015). Deciding what to measure and why is as challenging as deciding robust methodologies for how to measure it.

More practically, financial and technical capacity for MEL is limited. Those carrying out MEL must consult diverse actors specific to their context, may need to work across language barriers, and work with limited time, data and resources to facilitate a meaningful process (African Union Commission & AU Department for Social Affairs, 2020). Yet MEL remains key for adaptation to be a process that improves, learns and adapts successfully in complex and ever-changing contexts.

MEL processes that are informed by environmental democracy principles need to:

- Ensure participatory forms of MEL are used so that those participating in adaptation interventions can articulate what would constitute success, and over which timeframe. The "Tracking Adaptation and Measuring Development" approach offers one model for doing so, in which communities develop theories of change for climate action at local level while also tracking changes in behaviour within implementing actors such as government (Karani, Brooks & Fisher, 2015).
- Create learning pathways so that evaluation findings are shared with stakeholders that need them. Learning from outcomes – successes and failures – needs to be integrated into policies and the design of future interventions (Beauchamp, Marsac, Brooks, D'Errico & Benson, 2022). Learning processes should include all stakeholders and are opportunities to determine with communities what is working, what is not, and for who, and where there is complexity to be further explored.
- Facilitate transparency – enable access to information emerging from MEL processes for all stakeholders, considering language barriers, technical language and dissemination formats. MEL processes feed knowledge management systems with the potential to distribute findings and drive innovation.

Well-designed national MEL frameworks, as well as MEL systems within adaptation programmes or delivery mechanisms, can incorporate these qualities. Full integration of ED in MEL processes would ensure that frameworks integrate tracking of outcomes across sectors and across scales. But it is also important not to overburden countries with new and additional frameworks, when those that already exist for tracking SDGs, national development priorities or sectoral development strategies may be sufficient (Smith, 2019). The DCF, MGNREGS and LIFE-AR examples all lean toward the principle that it is better to build on what currently exists – rather than create something new (DCF Alliance, 2019).

MEL processes can also be "bottom up". Slum and Shack Dweller International's "Know Your City" programme uses data collected by citizens, sometimes facilitated by digital technology, to collect local knowledge on areas that are important to vulnerable and marginalised people (SDI, 2018). Community groups have collected data on issues they know to be important and used it to influence municipal government decisions. The use of technology and local data collection may reduce the burden on national governments to develop yet more measurement frameworks that they lack the capacity to implement over time.

Recommendations

- **It is important not to neglect the establishment of MEL systems, which are central to transparency and future innovation. Establishing them may require additional skill building of stakeholders, and introduction of appropriate tools.**
- **Consider how MEL frameworks for adaptation interventions can build on and integrate local participation. Indicators may be developed by marginalised or climate vulnerable people enabling them to articulate what constitutes a successful intervention.**
- **Avoid the temptation to develop new adaptation frameworks that burden already stretched government institutions, when existing national MEL frameworks may already include relevant indicators for climate adaptation.**
- **Communicating MEL in accessible formats is a key aspect to facilitate both learning and understanding of how benefits of adaptation interventions are distributed. Support knowledge management and communications for adaptation interventions, as this may be an effective way to facilitate transparency, while contributing to innovation processes.**

Figure 13: A farmer receives a mobile money payment on her phone.

Photo Credit: Sayma Islam, Research Assistant, Worldfish

Legislation and policy frameworks

Legislative and policy frameworks shape the enabling environment for environmental democracy principles to be applied in a manner that supports effective adaptation. International policy agreements and conventions shape the focus of the international community, including donors, investors and international agencies, as they develop spending priorities. The desire to show progress in the eyes of the international community can be a powerful motivator for many countries to allocate resources to environmental or climate goals.

Nationally, while some NGOs may have more experience in "transformative" approaches, governments have typically balked at the additional funds and time needed to establish in-depth participatory planning, easily accessible transparency processes for climate information, or robust grievance mechanisms. The private sector often has few incentives to consider how its investments reach the most vulnerable, or to stress test investments against long-term and uncertain climate risks of which they have little technical knowledge.

Legislation and policy frameworks can ensure that technical and financial resources are made available, and that convening power is allocated to the right institutions to facilitate in-depth planning or locally identified adaptation projects.

Legislation and policy frameworks entry point 1: Environmental democracy in international processes

Outcomes at international meetings such as the UNFCCC shape the behaviour of multilateral entities, development partners and to some extent, investors. They can determine the direction of funding and how the international communities choose to measure progress.

The Global Goal on Adaptation

Recognising that adaptation is a globally relevant issue, the Global Goal on Adaptation (GGA) was established under the Paris Agreement in the context of the Agreement's temperature goal of limiting warming to 1.5°C or 2°C. The GGA's aims were to build adaptive capacity, strengthen resilience, and reduce vulnerability to climate change. The launch of the two-year Glasgow–Sharm el-Sheikh work programme at COP26 was a significant step forward in establishing the GGA. There is much work still to be done to bring the GGA concept to life. Striking a balance between the GGA serving its 'global' purpose, while providing sufficient flexibility for countries to describe their own adaptation objectives and progress, will ultimately determine the effectiveness of the GGA.

The GGA has been challenging to articulate because of the complexity of measuring adaptation and the wide range of perspectives about what is feasible to measure and what is fair to ask countries to report on. An additional and unfulfilled reporting burden on resource-stretched climate-vulnerable countries serves no-one, and parties are clear that the GGA must be "country-led". The GGA framework must manage the tension between the need to identify indicators that are of value to the international community while avoiding the tendency in such environments for more powerful countries to overtake the process and dictate priorities. It is worth noting that processes for tracking sustainable development goals and other international process already exist, and could be drawn on to avoid duplication. The GGA framework is likely to include a mix of qualitative and quantitative indicators – including those assessing the processes used to deliver adaptation, resilience and reduced vulnerability, and the outcomes of efforts to deliver them.

One route through this is to build on existing country MEL frameworks that have already been developed in support of National Adaptation Plans, sectoral plans, national short- or long-term development plans or adaptation communities. Looking for the shared priorities that span across different national frameworks may be both practical and allow some comparison of metrics that countries genuinely have interest in. One route for environmental democracy proponents may therefore be to ensure that the aspects of the principles that overlap with adaptation are incorporated into the framework.

Perhaps homing in on the IPCC's recommendations for adaptation, incorporating indicators that track the quality of participation (procedural justice) and the diversity of participants (recognitional justice) would be a useful starting point. Some of these will need to be qualitative as well as quantitative, while recognising that the former can be more time consuming and challenging to collect. At the very least, it might help to make a distinction, when tracking participation, between consultations and more involved participatory processes (such as workshops, use of participatory discussion tools, or meetings of established committees). For example, the DCF approach to participation is to enable community committees to hold as many meetings as necessary, as well as holding their own discussions with communities, to make decisions about funding allocations.

On the transparency side, assessing the dissemination and, crucially, the use of climate information in decision making by marginalised people, is perhaps simpler from a methodological perspective, and likely to already be included in many country adaptation frameworks. Indicators that track the availability and accessibility of adaptation outcomes might also be helpful – for example, the number of places they are reported or discussed in public. Given the different ways climate change affects groups – particularly men and women – tracking the disaggregation of shared information may also be of value to the GGA.

Aside from the Global Goal, other opportunities for integrating ED principles are through ongoing processes such as the global stocktake and adaptation communications. These regular reporting mechanisms advise parties to the talks on how adaptation progress is taking place. What should be reported is usually included in guidelines produced by the Adaptation Committee. These guidelines, still in development, could include guidance on: how to report on participatory processes, use of climate information systems, development of and reporting of outcomes through MEL frameworks and so on.

Recommendations

- **Rather than seeking to burden countries with new MEL requirements, encourage MEL national frameworks that feed into the GGA to draw on indicators that already reflect transparency and participation in practice. Qualitative tracking is likely to be necessary to assess quality of participation that promises transformative approaches. Drawing on frameworks for SDGs or national development plans may be a useful starting point.**

- **Guidance documents for adaptation communications, NDCs, NAPs and other documents can be another opportunity to encourage a focus on environmental democracy principles. Guidance documents and templates can help countries to frame the information they present, and may be easier to influence than more public and contested goals and frameworks.**

Legislation and policy frameworks entry point 2: Engaging parliamentarians and the institutions of government

Elected officials have a central role to play in driving and shaping adaptation agendas; in particular, deciding which regions or areas become priority areas for investment, and which do not. MPs pass budgets and shape national climate change legislation. Environmental or climate change focused parliamentary select committees have the power to scrutinise government policy for the quality of its participatory content. MPs can also help to surface and address grievances and legal issues raised by adaptation interventions.

It is parliamentarians who determine how subsidiarity plays out in practice, the amount of funds that are allocated to local governments for local development investment including adaptation, or the resources available for climate-informed planning. Kenya's 2010 constitution guarantees rights of access to information and commits counties to participatory planning. Subsequent legislation and guidelines enshrine principles of sustainable development, and participation of the public in environmental and development planning processes (Muigua, 2018). The County Integrated Development Planning process – setting out five-year context-specific plans for each county, are mandated to ensure public participation in the process.

Yet many parliamentarians may be more focused on traditional development objectives such as economic growth, establishment of large-scale infrastructure, or agricultural development through industrialisation. Encouraging MPs and their advisers to recognise the pitfalls of these growth-oriented goals when faced with intense climate risks may help to influence country agendas. The importance of political parties in many country systems must also be considered. Particularly in more authoritarian states, the ruling political party has significant control over policy agendas. Outreach to political parties and officials to offer training on emerging evidence of climate responses may be an effective strategy; in particular, sharing the emerging evidence of the value of devolved decision making, and the risks of maladaptation as a result of failing to do so.

Elected sub-national officials can also play an important role in securing environmental democracy principles, particularly when sub-national governments have significant resources and decision-making power. Counties in Kenya have powers to pass their own laws and financial regulations. A key step for County Climate Change Funds (CCCFs) is for counties to vote them into county legislation. CCCF laws enshrine the use of participatory planning tools, and in some cases allocation of 1-2% of the counties' domestically generated development budget towards community-identified adaptation priorities.

Local councillors can contribute to supporting environmental democracy by holding local governments accountable for expenditure and seeking to actively disseminate climate information that is of use to communities. Many councillors at local levels wish to support their communities but feel poorly trained and equipped to raise issues of what they perceive to be a technical nature with local government executive branches.

Climate information can be challenging to understand and interpret, and the risk of disseminating poorly explained or incorrect information acts as a further disincentive. Training and support to local councillors to keep climate adaptation and indeed mitigation efforts on local government agendas could have significant impacts.

Recommendations

- **Seek opportunities to engage MPs as well as sub-national elected officials, to raise understanding of uncertain climate risks as well as evidence demonstrating the value of environmental democratic principles in effective adaptation decision making.**
- **Strengthen the functioning of parliamentary systems, so that top-down policy making can be built on regular communication and understanding of local level realities. This might be through convening different climate-vulnerable people and marginalised groups with parliamentarians and particularly their advisers.**
- **Work through schools of local government that specialise in training local officials: this may be more efficient than going district to district or region to region. Supporting the development of curricula that explain how effective adaptation requires environmental democracy can be cost-effective and institutionalise deeper climate knowledge for the long term.**

Legislation and policy frameworks entry point 3: Environmental democracy in National Adaptation Plans and policies

Opportunities to integrate environmental democracy into national policies are continuous. Development of Nationally Determined Contributions (overarching intention statements for climate action), and National Adaptation Plans (prioritising adaptation actions), are iterative processes that are intended to be participatory and fully transparent. Ideally, not only should the development of these documents be participatory, but they should prioritise programmes that incorporate effective adaptation principles.

NAPs can shape donor strategic priorities in each country, representing a deeply considered establishment of climate priorities. The NAP Global Network is a community of practice intended to support those developing NAPs. A recent guidance note identified the importance of "vertical integration", highlighting the principles of subsidiarity as an important guiding principle (Dazé, Price-Kelly & Rass, 2016). Supporting networks on how to integrate stronger participation, transparency and justice approaches is one way to support their development.

Beyond the NAPs, sectoral ministries continue to wield significant power over adaptation in practice. Despite devolved decision-making structures, top-down target setting in practice by ministries such as for agriculture, water or energy has significant influence on how local government actors prioritise budgets. Sectoral strategies, designed to support national five-year plans, are therefore an additional avenue of focus for policy support that incorporates environmental and democratic principles. Ensuring that such strategies are mutually supportive, are built on cross-sectoral consultation, and create scope for local innovation and priority setting can create the enabling environment for local actors to make context-relevant investments that still support national objectives.

Recommendations

- **National climate policies create the enabling environment for locally led adaptation. Ensuring that the process of their development is participatory, and that their priorities reflect local needs, embeds democracy into a key priority setting document to which governments are more accountable.**
- **Sectoral strategies for key ministries in practice heavily influence local government activities and budgets, even where devolution theoretically devolves decision-making power to local actors. Supporting ministries to develop strategies that create an enabling environment for locally led decision making while still supporting national targets would be a meaningful contribution to policy development.**

Legislation and policy frameworks entry point 4: Policy, legislation and the private sector

The private sector has an important role to play in supporting adaptation. In the least developed countries in particular, the informal private sector, often made up of smallholder farmers or small business owners, is far bigger than that of formal micro, small or medium-sized enterprises. Many smallholders are also associated with savings and loans groups, or local producer cooperatives, therefore coalitions within the private sector may have varied interests when advocating for policy and legislative frameworks. Smallholder farmers, often seen as beneficiaries on the receiving end of top-down adaptation interventions such as fertiliser subsidies or climate-smart agriculture programmes, can be supported to mobilise together to demand greater participation in shaping the focus of such programmes, greater accountability of governments, and stronger rights to protect their land or forests from external and sometimes exploitative actors.

Start-ups and MSMEs are likely to have a more specific set of objectives relating to enabling environments that facilitate innovation or expansion. For example, climate tech start-ups may need VAT exemptions, duty relief, subsidies or regulatory openness in order to establish themselves (EIT Climate-KIC, 2022). These do not in themselves need to clash with the likely demands of the informal private sector. However, creating conditions to attract larger scale foreign investment, for example, by limiting labour rights, reducing minimum wages and the ability to unionise, or by creating policies that favour industrialised, growth-oriented business, might come at the cost of biodiversity preservation or reduce resilience to a range of climate shocks.

Some organisations may have an interest in reducing transparency, accountability and participation; as in states where corruption is rife, these may undermine a key feature of their business networks and relationships. Vested interests may be reluctant to transform structures of power which undermine their existing position of influence. This regulatory capture can undermine environmental and indeed all forms of meaningful democratic engagement.

It is therefore important for ED proponents to seek to build coalitions of private sector and civil society organisations that can push for legislative frameworks that deepen transparency and widen participatory governance. Supporting social movements who mobilise mass, local sentiment and target it towards practical and transformative change in their own context can be a key contribution. Social movements are typically mobilised from local contexts, consisting of informal city or rural people with their own businesses, and open to collaborating with other parts of the private sector. The internationally federated "Slum and Shack Dwellers International" is a good example.

Recommendations

- **Consider how to support informal smallholders to lobby for greater control of adaptation interventions that affect their area. Many adaptation interventions, particularly in rural areas, are designed with a sectoral focus (such as water or agriculture), and do not take a holistic view of local contexts, politics and environments. Supporting transparency of such interventions by carrying out and disseminating MEL findings to facilitate accountability and distributive justice is key.**
- **Identify and support home-grown MSMEs with an interest in both establishing sustainable businesses and supporting the rights and ambitions of the community. This might mean focusing specifically on companies that specialise in collecting perspectives from communities or disseminating climate information in an affordable and accessible way – for example, by using digital technologies.**
- **Work with an awareness of vested interests that may seek to undermine environmentally democratic principles in order to protect existing investments and commitments.**

Climate Action Accelerated by Women Engineers in Timor-Leste. The GCF-funded training programme focus on bioengineering methods to prepare, respond and recover from climate-induced disasters. 2022. Photo credit Ayumi Kimura/UNDP Timor-Leste

Conclusion

Climate change brings additional complexity to the application of environmental democracy principles. First, it introduces variability and unpredictability into environmental contexts – which increases over time. Ongoing uncertainty also means that adaptation cannot be a single event or set of interventions, but is a process of continuous action, learning, reflection and change. Indeed, unpredicted severe events may force adaptation actors to reprioritise repeatedly. The requirement to be continuously flexible and responsive while at the same time enabling long-term planning asks challenging questions of governance institutions. This uncertainty also makes the provision of information about the environment far more complex. Climate information must be provided in advance of climate hazards, as well as to inform long-term planning processes, in languages and formats that are usable and comprehensible in practice. Data for collecting this information is patchy, and indigenous knowledge and learning takes more resources to collect and harness effectively.

Second, climate-resilient development, of which adaptation is a central component, cuts across all sectors. Few aspects of governance will be able to avoid the impacts of climate change, unlike some environmental challenges. Environmental democracy principles are therefore relevant to more sectors than they have been previously. If all sectors are required to adjust in the face of climate risks, then all need to consider if and how environmental democracy principles apply to them and their stakeholders. This has implications for who participates in decision making and how, and the ways in which climate information is adapted for specific purposes and disseminated.

Third, transformative changes are necessary to respond to the challenges posed by climate change. Transformation is associated with social and economic changes that fundamentally restructure the way that societies operate. Such changes need to be democratically legitimate while far-reaching enough to adapt to relatively severe environmental change. This means that environmental democracy principles need to be interpreted in their strongest sense – shifting power to those affected by climate change and enabling them to shape the responses most relevant, and most effective, in their own context.

As a result of these considerations, a wide set of interconnected entry points within climate-resilient development exist for deeper democratic practices. Investing in finance delivery mechanisms that are built into country institutions may start to change the way those institutions operate more generally – particularly if the amount of funds flowing into those institutions are significant and impactful.

Addressing the gaps at the micro-level of adaptation intervention planning, design, implementation and MEL can also have an influence on the overall impact of a project. Many adaptation programmes have been roundly critiqued for their failure to integrate participation effectively and for therefore risking maladaptation (Eriksen et al., 2021). A focus on how environmental democracy can be integrated into each stage of the project cycle is central to the outcome of adaptation interventions. It is through these micro-level processes that indigenous and local knowledge can be integrated, and gender outcomes considered. It is often in the details of adaptation efforts that these principles are properly integrated or not. This is particularly true for MEL, the tools through which iterative learning and sharing takes place.

The enabling environment for transformative change, built upon democratic practices, cannot be ignored. International processes such as Climate or Biodiversity COPs set the direction, reinforce the scientific consensus, and create the conditions for some level of global accountability. They can also mobilise the funds needed for more vulnerable countries to shape their own, country-led policies and programmes that meet local needs. Environmental democracy principles will need to go beyond climate policies, however – they can also be integrated into devolution, procurement and finance procedures so that they enable and support effective adaptation on the ground.

Climate adaptation can be seen as a major opportunity for environmental democracy proponents – as global attention, funding and expertise is mobilised to respond to ever increasing climate risk. Not only are environmental democracy principles key to successful interventions – but the converse is also true. Failure to integrate them is highly likely to lead to maladaptive outcomes. Contributing to forward thinking and transformative adaptation can be a key aspect for the work of environmental democracy proponents.

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Environmental democracy and adaptation in practice: Case studies

The following section provides extended explanations of the case studies detailed in the report.[3]

Devolved Climate Finance mechanisms

DCF Mechanisms are finance delivery mechanisms that use the architecture of devolution to channel funds to the local level, where transparent, accountable and community-led institutions are established to make decisions about how funds are allocated for resilience building. The approach has been piloted in Tanzania, Mali and Senegal, with Kenya's iteration now being scaled up nationwide with World Bank support (DCF Alliance, 2019). One review highlighted the DCF Mechanisms as meeting seven out of the eight locally led adaptation principles, missing only flexible programming and learning – likely because of their relatively short pilot periods (Steinbach et al., 2022).

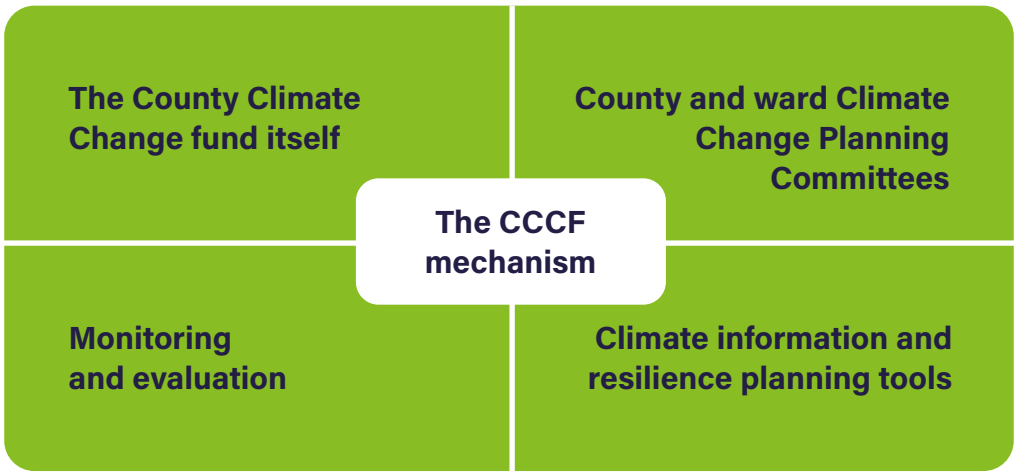
As of 2019, DCF programmes had made over 250 public good investments across the four countries at a cost of £6.5m, ranging from flood prevention in schools, water access infrastructure, livestock veterinary services, land management institutions and irrigation – each tailored to local contexts needs.

DCF mechanisms integrate four components:

- Finance: DCF establishes funds for resilience building investments held at the discretion of each participating local government authority. A set of pre-agreed "strategic" criteria guide funds towards resilience building, cost effective investments, with 70% of the fund priorities set by community committees, 20% priorities by government, and the remainder allocated towards operational costs, including MEL.
- Institutions: Community level committees are responsible for representing local priorities and indigenous knowledge in decision-making processes about how funds are allocated, projects designed, procured, monitored and evaluated. The committees are given a budget to operate independently.
- Resilience planning: Participatory planning tools coupled with community consultation are used to identify strategic resilience building investments that reflect local priorities. DCF programmes collaborate with country meteorological agencies to disseminate climate information to inform decision making.
- Monitoring, Evaluation and Learning: Communities are supported to develop theories of change that enable them to articulate the conditions for success, while governments assess the scope of their climate risk management practices as a result of institutional strengthening used to establish the mechanism.

[3] For an extended selection of case studies reviewed from a Locally Led Adaptation lens, see the excellent "Good Climate Finance Guide" – Steinbach et.al (2022).

Figure 14: The Kenyan iteration of the DCF mechanism is known as the County Climate Change Fund, with the four components being expressed on the previous page.



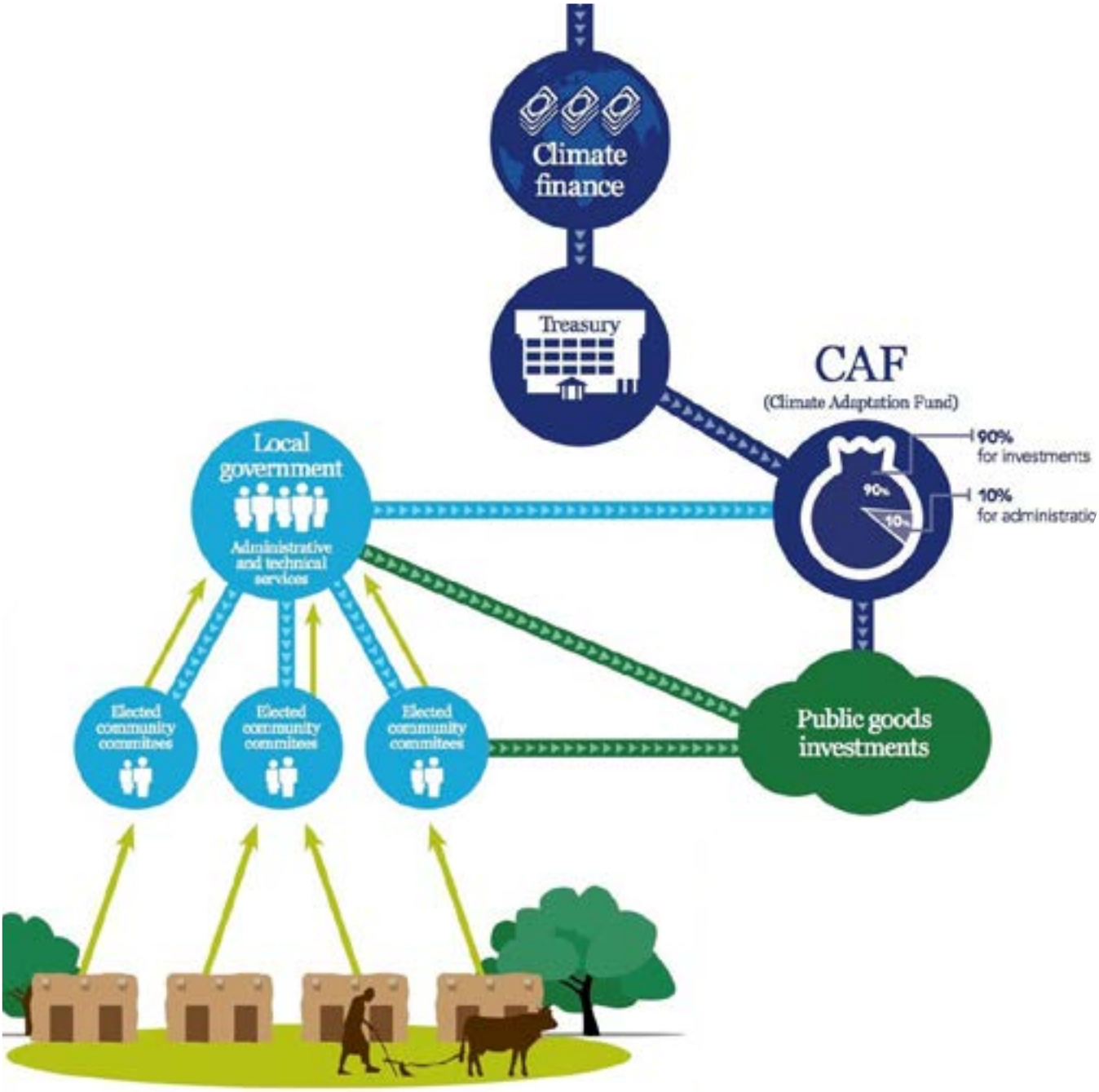
Participation in DCF Mechanisms

The primary vehicle for participatory decision-making is through establishment of community-elected committees, empowered and trained to engage in each aspect of the project cycle. Committees must include a minimum quota of women, and some DCFs have also made efforts to ensure youth, elder and disability representatives are included, demonstrating efforts towards recognitional justice. Committees consult communities, participate in resilience assessments using participatory learning and action tools, develop proposals for local adaptation investments, and engage directly in procurement, monitoring and evaluation and learning processes, constituting procedural equity.[4] The committees collaborate and receive technical support from a corresponding committee within local government authorities. The LGA committees – which include community members – integrate adaptation investments into LGA plans and strategies and coordinate across scales.

Facilitating decision making in this way incorporates a cross-sectoral element – the committees include government heads of department as well as community members practising different livelihoods and with a holistic outlook on supporting local resilience landscapes. In most examples of DCF programmes, LGA committees have no veto of adaptation investment choices made by communities – provided that communities can demonstrate that their investment is sustainable, will build resilience and is technically feasible. This handover of decision-making power to citizen appointed communities constitutes a transformative or "citizen power" form of participation under the typologies detailed earlier.

[4] Participatory Learning and Action (PLA) tools are designed to enable focus groups to articulate challenges and solutions in their own terms. More than just a facilitated discussion, facilitated PLA tools can enable citizens to articulate traditional, local or indigenous knowledge.

Figure 15: Structure and strategic criteria from Tanzania's DCF programme (Greene, 2019)



Ideas / local knowledge
Money flows
Decisions / choices of investment
Oversight / technical support

Selection Criteria: Investments must...

1. Be focused on public goods and benefit a large number of beneficiaries, especially women and young people;
2. Enhance resilience to climate change (adaptation) and where possible, propose mitigation measures;
3. Ensure a participatory approach in design, management and monitoring and evaluation;
4. Meet local development priorities and national strategies and policies on sustainable development and climate change;
5. Foster peace and strengthen social relations between actors;
6. Not have a negative impact on the environment;
7. Provide a realistic and achievable work plan and provide value for money.

Transparency

In principle, the approach emphasises both dissemination of climate information through government institutions as well as drawing on local knowledge through participatory resilience assessments. This has often proved challenging to formally institutionalise – as CIS is in part dependent on the capacity of country meteorological agencies, regional and local government capacity and the accessibility of available technologies. Institutionalising the use, dissemination and application of climate information services takes time and resources. DCF pilots have found that considerable support is needed in practice to ensure that all investments made through DCF mechanisms can be considered climate smart (DCF Alliance, 2019). That said, resilience assessment methodologies used in the development of investment plans by community committees are explicit in the need to recognise how climate risks are currently affecting communities in order to identify climate priorities.

The DCF approach has been effective at making indigenous, locally led priorities more available as options for funding allocations. Alongside digital mapping and resilience planning tools, elected community committees have been able to draw on their local knowledge and network to "bridge the knowledge held in customary natural resource management approaches into formal planning processes" (DCF Alliance, 2019, p. 26). By creating institutions and sharing tools that can articulate this knowledge and make it an option for climate finance investment, they are facilitating greater transparency in adaptation.

Intersection with formal democratic institutions

The DCF mechanisms facilitate a bridging of traditional knowledge into the formal planning system through the community committees – who draw on the knowledge of the community to make decisions. While local governments can only improve, rather than veto proposals, they are ultimately accountable for allocation of funds. As such, procurement uses government processes, and elected local councils that oversee the government authority budgets must approve them. In Kenya, the community committees in Isiolo used funds to reinvigorate the dedha, a traditional land management council (Crick & Hesse, 2019). The county government approved the allocation – allowing the traditional institutions to co-exist with the formal.

The selection of local committees is also linked to government structures. In Tanzania, communities proposed five possible participants to community committees, and elected ward councillors selected two to participate. Ward councillors themselves held observer status during committee meetings. In reporting outcomes, community committees are typically accountable to the village assemblies and councils that chose them – reporting back on progress on a regular basis (Steinbach et al., 2022). This transparency and "downward" form of accountability is relatively low cost but has proven effective. The ability of community-led committees to report on progress and experiences is also supported by their participation in monitoring and evaluation processes – contributing to the design of MEL plans. As with CIS, these participatory MEL systems have proven more challenging to institutionalise.

Engagement with national level MPs and elected representatives has been less extensive. However, it is possible that doing so could facilitate greater engagement with national MEL frameworks or the meteorological agencies needed to institutionalise dissemination of CIS more effectively.

Replicability / success conditions

DCF approaches have been piloted in four countries – Mali, Senegal, Tanzania and Kenya, with Kenya scaling up the approach across the entire country. Replication of these kinds of approach is clearly possible, albeit with some limitations.

- The country must have a devolved governance structure. DCF uses the architecture of devolution, including localised decision making and public financial management systems that transfer funds to local governments for development or climate investment.
- Funds transferred from national to local must be without pre-conditions that force them to focus on particular sectors, or on specific lists of pre-approved investments. The point of enabling community committees to make funding decisions is that they are best positioned to know what will be effective in building resilience and maintaining harmony given their specific social and political context. Limiting them to specific lists identified in policy or strategy documents limits their ability to make such decisions.
- Local Government Authorities must be able to handle funds in ways that reduce fiduciary risk. Funds are held at the discretion of the local government authority, and so they need to be trustworthy in their fund management.
- The DCF approach focuses on strengthening existing institutions rather than creating parallel ones. CIS and resilience planning tools are introduced with the intention to reinforce and build the climate readiness of existing institutions. This institutional strengthening takes time to implement, but ensures the quality of the approach.
- Some technical capacity is needed to facilitate delivery of resilience planning tools and CIS. Additional resources are needed to ensure gender equity can be properly facilitated, and technical knowledge of climate information needs to be shared in appropriate formats. This takes some investment.

The Least Developed Countries Initiative for Effective Adaptation and Resilience (LIFE-AR)

The Least Developed Countries Initiative for Effective Adaptation and Resilience (LIFE-AR) is an LDC group initiative to establish a new model for donor-funded adaptation investments in NAPs and country adaptation initiatives. The case study is featured here because LIFE-AR has the potential to create environments in which funders and recipients facilitate integration of adaptation and environmental democracy principles.

LIFE-AR is built on LDC commitments and requests from developing partners are articulated in the LDC Groups 2050 Vision (2019). Signatories to the "LIFE-AR Compact", committing donors and LDCs to the vision, include Burkina Faso, Ethiopia, Malawi, The Gambia, Bhutan, Uganda, Ireland, the United States, Norway and the United Kingdom. The initiative attempts to change some of the established habits of overseas development assistance that have contributed to underwhelming development interventions in the past and that may lead to maladaptation in the future, an approach the initiative calls "business unusual" (McIvor, 2022). Business unusual includes LDC and community-led decision-making, long-term funding time frames of over ten years, multi-sectoral planning, working through in-country institutions and capabilities, and a flexible, equitable approach to decision making.

Box 6: The LDC Offers and Asks

OFFERS

1. Work with all of society to achieve a low carbon, climate-resilient future.

2. Develop a strong climate finance architecture, with at least 70% of finance flows supporting local level action by 2030.

3. Integrate adaptation, mitigation and resilience across our national and local development strategies.

4. Strengthen our capabilities, institutions, knowledge, skills and learning.

5. We will create inclusive governance of climate decisions, focused on gender transformation and social justice.

ASKS

1. We will ask you to provide flexible long-term finance: to achieve 70% of finance supporting local-level action by 2030.

2. Work with us to reduce transaction costs and ensure mutual accountability.

3. Help strengthen our national and local institutional capabilities.

4. Invest in our climate-resilience economies and solutions.

5. We ask you to develop your own strategies by 2020 for 1.5° low-carbon climate-resilient pathways.

*Taken from (IIED, 2019). These represent a summary. For a fuller explanation of the "offers" and "asks", see the LDC Climate Change 2050 Vision: Towards a Climate Resilient Future (2019).

Within the programme, countries can set their own agenda for how LIFE-AR will support them. The Gambia prioritised the development of their "Long Term Strategy" for greenhouse gas reductions and emissions that can be submitted to the UNFCCC. Other countries are prioritising development of a climate finance delivery mechanism – building on existing systems and institutions that will guarantee that 70% of the funds reaches the local level for adaptation. The scale of funding available makes this possible, as there are enough development partners available to commit large scale flows of funds to make the effort of developing these mechanisms worthwhile. The LDC Group intends to expand the number of countries participating in the programme over time.

Participation

LIFE-AR starts at the level of governments – who are formal signatories to the LIFE-AR compact. Governments are then supported to develop the mechanisms, systems and policies needed to transfer 70% to the local level.
The commitment to local level funding using a "whole of society" and "inclusive" approach is meant to create the foundation for delivery mechanisms that apply participatory processes in a meaningful way. The inclusion of gender transformation and social justice in the offer is a significant recognition of the need to transform decision making at all levels to address marginalisation that is key factor in vulnerability. This implies a commitment in principle to invest in stronger forms of participation. The commitment to engaging directly with governments, rather than bypassing them through international NGOs, also facilitates a more meaningful recognition of the need for integrated decision making.

The longer time frames offered for the programme create the space for countries to invest in meaningful participatory processes rather than rush to demonstrate quick results. Institutional strengthening that facilitates this kind of approach takes time – government staff and participating community members need to be trained, and local ownership is needed if the approaches are to be institutionalised. The process of integrating a finance delivery mechanism into the institutions that already exist cannot be quick.

Transparency

LIFE-AR includes a workstream for facilitating monitoring, evaluation and learning and developing a community of practice for sharing knowledge and skills between participating countries. Countries will seek to develop theories of change for the programme that build on existing MEL frameworks already active within the country, rather than seeking to create something new and burdensome. This MEL approach should be practicable, and facilitate wider sharing of outcomes to facilitate distributive justice considerations.

Replicability / success conditions

- The challenge of taking a "business unusual" approach is that a long history of overseas development assistance is built on using its reliable – albeit often ineffective – structures. Taking a different approach requires negotiation across LIFE-AR signatories and with other institutions in government. One risk is that development partners cannot overcome internal demands to demonstrate results quickly, undermining their commitment to a more patient and long-term approach for funding. On the recipient country side, there may be internal pressures to hold more decision-making power in finance delivery mechanisms at national level. Addressing this will likely take communication between representatives with high levels of authority on each side. Countries need senior – ministerial level – support to authorise a different way of doing things that might be outside existing fund management or decision-making systems. Senior actors with convening authority are also needed to bring together different parts of government with NGOs and the private sector to share decision making equitably.

- An effective MEL system that tracks not just outcomes but the usability of the processes to produce them is essential. If partners are innovating and exploring new approaches to transferring funds, or making "whole of society" decisions, then MEL will demonstrate that they are effective, and how. The ideal is that these approaches become the "new normal", based on evidence of their effectiveness.

- The details of how participatory approaches will be transformative will look different in each country. Flexibility is needed to enable country actors to identify the existing institutions that might facilitate the kind of participatory engagement necessary. For example, identifying the scale of government planning where citizen engagement can be facilitated most reliably and effectively – this could be the village, but also at water catchment level, or other sub-national administrative institutions.

- Over the long term, in-country institutions must be able to lead in enabling quality assurance of climate finance delivery, carrying out MEL, and reporting. Significant effort is needed to identify appropriate institutions – such as universities, in-country think tanks or civil society organisations, who can play this role. These institutions can have an important role in making environmental democracy principles work in practice – by acting as a critical friend to implementing actors, or by supporting exploration of improvements over time.

- A patient approach is essential to this work. "Whole-of-society" approaches take time to develop. Aside from identifying relevant stakeholders, they need to understand the approach used in the finance delivery mechanism, be able to articulate it, develop training for those who will implement it, pilot it and then modify based on learning. This initial investment takes years, but guarantees value over the long term. Patience and long-term time frames without requirements to deliver immediately are necessary condition for ED principles to take hold.

Huairou Commission Community Resilience Fund

Some effective adaptation mechanisms are civil society led. The Huairou Commission is a social movement working with grassroots women's groups globally, addressing the structural barriers that leave women less resilient to climate risks.

The Community Resilience Fund provides grants to members of the social movements network – to support groups of organised grassroots women with their own resilience building initiatives. The fund is flexible so that women's groups can decide themselves how funds are spent. In the 21 countries where the fund is operational, investments have been made in livelihoods – choosing resilient crops, water investments, alternative livelihoods and so on. However, they have also been made in mapping and assessing community risks, establishing early warning systems, or educating communities about the nature of climate risk (Huairou Commission, 2021).

The approach not only enables local women's groups to make investments based on their own priorities but enables Huairou member organisations that support those groups to create better enabling environments for those investments to function. For example, they may help by establishing savings and credit schemes, training women how to run them independently and avoiding reliance on microfinance schemes. Another approach is to enhance public representation of women to influence and change public policy and processes at local and regional level (Steinbach et al., 2022).

Participation

The CRF approach is highly participatory. Like the DCF approach, it centres decision making about the allocation of funds directly with citizens, offering them the freedom to make adaptation investments that meet their priorities and incorporate local knowledge. Arguably, its focus through social movements gives it more flexibility, as compromises with government regulations and systems for planning and budgeting are not necessary. The flexibility afforded to women's groups – in terms of their organisation and their decision making allows greater responsiveness to different climate risks and contexts.

Their political participation is enhanced by efforts to link women's groups together for effective advocacy – contributing to transformative changes in conditions that affect women's vulnerability – such as their ability to own land, access finance and information. Representatives from women's organisations make up 70% of the governing council of the Huairou Commission, which accesses and channels the funds to the local level.

Transparency

The programme's emphasis on making climate risks experienced by communities clear through mapping vulnerabilities and impacts with communities is an example of an immersive approach to co-production. The maps, created by women's groups themselves, formalise the knowledge held at local level and make the women's groups the foremost experts on how climate impacts undermine livelihoods. This places them in a position to better influence how government resources are allocated (Steinbach et al., 2022). Transparency is enhanced by partnering citizens directly with government institutions such as meteorological agencies and local government authorities. With respect to decision making and outcomes, funds are allocated by Huairou Commission member organisations to women's groups using transparent criteria and vetting processes.

Intersection with formal democratic institutions

The support for grassroots women's organisations to act independently and build their own capacity means that there is less direct intersection with national governments. The advantage of taking a civil society led approach is that where government has little political will to facilitate transformative outcomes, grassroots actors can be facilitated to engage with climate risks directly and then lobby government from the bottom up. Notably, this approach suggests that the route to democratic deepening is through climate action that addresses community needs in practice – rather than trying to influence formal democratic processes directly.

The CRF has promoted local leadership of women's organisations – enabling them to engage directly with local or municipal government authorities to lobby for change. Funding local mapping of climate risk and exploration of solutions, means women are positioned as "experts and leaders in the eyes of their own communities, government institutions and other actors" (Steinbach et al., 2022, p. 64). As community advocates, they have also sought engagement with national government institutions to scale innovations and approaches. In Guatemala, Honduras and Nicaragua, grassroots groups were invited to join their respective disaster risk management agencies, acknowledging their local knowledge and effectiveness in disaster risk reduction. The women are being trained as disaster risk reduction managers affiliated to national agencies.

While the ability to scale up local knowledge through government institutions is a tremendous success, it is important for civil society actors to maintain their connection to communities. The grassroots character of the organisations involved perhaps provides some protection from co-option by nationally driven agendas that may offer funding and infrastructure but for initiatives that do not support local priorities.

Replicability and conditions for success

- The value of the CRF as an approach is that it does not seek to "replicate" models from country to country. The flexibility of the model is its strength, and members of Huairou's network facilitate transfer of funds using mechanisms that suit their own context. A set of core criteria to shape decision making around climate issues are common, but aside from that, grassroots groups are free to apply for funds from the CRF for a wide range of investments. This approach takes advantage of the wealth of local activism and community organising that is widespread but often flies under the radar of traditional climate finance.

- Provision of finance for these kinds of organisations are therefore an important condition. Few dedicated funds exist to support social movements or grassroots networks to facilitate climate action at scale. Yet their integrity as social movements perhaps offers them the best change of transforming societies "from within" (Goodman, 2022). With the legitimacy of widespread participation from movement members, securing funding for these types of ground-up movements may facilitate the stronger forms of participation needed.

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) is the world's largest social protection programme. It is included here as an example of an incrementally evolving programme that is slowly incorporating characteristics of effective adaptation and stronger forms of environmental democracy – with the potential for transformative outcomes. Guaranteeing rural households 100 days paid employment each year, it is has constructed over 33m integrated water management and natural resource management assets to date (Beauchamp & Pertaub, 2021).

Established versions of the programme have sought to reduce poverty and enhance livelihood security of households across India. MGNREGS has had considerable success at enabling citizens to absorb climate shocks and stresses (Kaur et al., 2019). As with many programmes that operate at this massive scale, there can be a difference between what is supposed to happen in principle and what happens in practice. Yet the principles that drive the approach increasingly reflect both ED and adaptation principles – particularly as integration of new technology driven aspects are considered.

The programme guidelines allow households to propose construction of integrated water management or natural resource management infrastructure assets to their village level governments, known as Gram Panchayats, during annual discussion meetings. Households can decide themselves whether they choose to participate in the programme, with digital tracking of their participation and payments directly to their bank accounts. Convergence across rural development programmes is encouraged to avoid duplication and reduce maladaptation risks. MGNREGS has been successful in enabling communities to absorb the challenges posed by shocks, but has done less to deliver meaningful adaptation or transformative changes that solidify adaptive capacity (Kaur, et.al, 2019).

More recently, the Ministry of Rural Development, with support of the UK's Foreign, Commonwealth & Development Office, has trialled the integration of medium-long term climate resilience planning aspects into the approach – in response to growing drought and monsoon related challenges that threaten to undermine the poverty reduction gains made to date. There has been a realisation that climate information is not being communicated in a format households can understand, nor is it being integrated into planning for MGNREGS-related investments (Bharadwaj, Addison & Reddy, 2021). Previous plans to scale up GIS planning have been predominantly top-down, with limited strategies to institutionalise community engagement (Bharadwaj et al., 2022).

The Climate Resilience Information System and Planning Tool for the MGNREGS scheme (CRISP-M) is a digital monitoring and planning tool that seeks to improve climate information service delivery for use by both households and governments. It acts as an early warning system for hydrological, meteorological or agricultural drought, sending automated warnings to policymakers and local governments when known indicators of these conditions are reached. The tool – accessible through a mobile phone application – integrates GIS layers of information with past and future climate data to facilitate decision making about appropriate resilience building assets in different contexts. Using a "tech plus people" people-centred approach, the tool takes freely available climate risks data and enables communities to collate it with their existing knowledge, using facilitated workshops and discussions (Bharadwaj, Addison & Reddy, 2021). The app also enables communities to track the status of assets build through MGNREGS, enabling verification of claims of

progress on construction, the highlighting of repairs and maintenance, and tracking of ecosystem indicators such as forestry, cropped areas and water bodies (Bharadwaj, Addison & Reddy, 2021). The Ministry of Rural Development is now scaling up the use of the tool across seven states in India.

Participation

As noted, there is a distinction between theory and practice in the delivery of MGNREGs, and the quality of participation is likely to vary considerably across states, districts and villages. In its most widespread iteration, MGNREGS takes a more consultative, rather than transformative approach to participation – with some community recommendations funded and others left out by functionaries operating at a different level of government. Not all households are able to attend annual planning meetings, with many young men leaving villages for urban centres for work (Beauchamp & Pertaub, 2021). It is also fair to critique the approach's incrementalism – focusing on what may be seen as poor quality asset generation without enough focus on the long term sustainability and potential that could be had. And yet, the approach also guarantees work to a range of often marginalised groups, with a minimum quote of 30% women and specific targeting of marginalised castes. It effectively guarantees a minimum standard of living for rural communities – a highly ambitious undertaking.

The piloting and subsequent scaling up of the CRISP-M tool indicates a move towards integrating procedural justice principles into MGNREGs planning, recognising the diverse communities stratified by gender, ethnicity, caste, religion, class, occupation, literacy and so on. (Bharadwaj, Addison & Reddy, 2021) using technology as a vehicle. Community facilitators use the tool to prompt participatory vulnerability assessments of the local context. Plans for structures to be developed through MGNREGS are discussed and objections can trigger deeper interrogation of the reasoning. The tool therefore becomes a way of enhancing the capacity to facilitate participation of local government representatives, who have historically been limited by financial and technical capability limitations.

Transparency

Even before the addition of the CRISP-M tool, the MGNREGS programme was progressive in its use of social auditing to facilitate greater accountability within the approach. Social audits are facilitated by a digital public platform that shares the details of the resources used. Communities are able to demand more information about expenditure through review testimonials. The digitisation of the approach has been used to facilitate greater accessibility and transparency of information.

Before the CRISP-M tool was introduced, the quality of climate information in MGNREGS, and its potential to inform planning, was poor. The CRISP tool offers a new approach by collating a range of data sources to provide early warning of hydrological, agricultural and meteorological drought. It can trigger automated warnings to decision makers as well as communities, who have more time to prepare for disasters.

The CRISP-M tool also enables transparent local planning. Agricultural extension workers are being trained to use the collected maps that feature in the app – including soil, topographical, moisture, and other maps, to discuss and share options for new MGNREGS investments with communities. Once constructed, these are marked on the map and app users can report on the maintenance needs and quality of investments made.

Interaction with formal democratic institutions

MGNREGS uses existing village level institutions to make decisions about how funds are allocated. The village assembly is central to the process. With four mandated meetings per year, the village assembly – consisting of all adult members of the village – identifies the structures to be built with MGNREGS labour and who the beneficiaries should be.

Decisions are then approved by elected village, block and district committees (different tiers of government). In principle, the gram panchayat – village assembly – is the lead decision making body. MPs and other legislative officials have no say in the process.

In some locations, legislation has given additional powers to indigenous peoples. Often in forested areas, village assemblies here have special rights, with supremacy of elected village committees. These areas are able to set some of their own taxes and have additional powers that enable them to protect their land and resources.

Replication and conditions for success

Social protection schemes that guarantee labour are not unique. Ethiopia's Productive Safety Net Programme is another example that attempts to use community input to identify integrated watershed management assets. This climate-resilient form of social protection programme, if it is to be replicated, needs to recognise that the CRISP-M technology is only part of the solution. A "tech plus people" approach is needed (Bharadwaj et al., 2022). It is tempting to assume that the thing to be scaled up is the technology – but the process has made clear that the approach to how people are included in the process is just as important. The technology is only as good as the people using it, and ultimately it is designed to deepen participatory decision making, not replace it. The technology facilitates sharing of local knowledge and opinions in order to make the informed decisions necessary to build resilience to incoming climate risks.

Explanation of how to use the technology to community members is particularly important. The programme has experimented with establishing "climate friends" – women leaders in local communities who have taken part in training that demystifies the technology and the maps that it uses so they can explain it to others.

The people part of the approach also extends to recognising who has decision-making power. Without sensitisation, it can be tempting for technical officers from government, who support the design of MGNREGS infrastructures, to assume that they know best. For example, they can assume decisions about what infrastructures will work, and where. The CRISP-M tool, coupled with the emphasis on the village assembly having decision-making power, enables communities to articulate why they have made specific choices.

About the author

Sam Greene is an independent researcher focussing on locally-led adaptation, climate finance and climate risk management at the local level. His work includes the establishment of mechanisms for the delivery of climate finance to the local level at scale in East Africa, development of participatory planning and MEL tools for local governments and civil society, and on the conditions for effective adaptation in dryland ecosystems. Sam is a PlanAdapt Fellow and holds an M.Sc from the School of Oriental and African Studies.

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