

Building institutional capacity for enhancing resilience to climate change: An operational framework and insights from practice

Clare Shakya, Katherine Cooke, Naman Gupta, Zac Bull and Sam Greene



ACT (Action on Climate Today) is an initiative funded with UK aid from the UK government and managed by Oxford Policy Management. ACT brings together two UK Department for International Development programmes: the Climate Proofing Growth and Development Programme and the Climate Change Innovation Programme. The views expressed in this paper do not necessarily reflect the UK government's official policies.

Cover photo: An exposure visit for Afghan journalists to wetlands in Kol-e-Hashmat Khan as part of a training programme

Photos: ACT

Contents

Acknowledgements	ii
Abbreviations and acronyms	ii
Executive summary	1
Climate capabilities and context	1
Entry points	1
Institutional functions	2
Institutional architecture	2
Overarching lessons from the ACT programme	3
1. Introduction	4
1.1. Institutional capacity-building under the Paris Agreement	4
1.2. Theories of institutional change in development	4
1.3. A framework for strengthening climate capabilities	6
2. Strengthening institutional capabilities for climate action	7
2.1. The underlying objective	7
2.2. Why climate change action is different	7
2.3. Climate change is a ‘wicked problem’ for governments	8
2.4. Characteristics of institutional climate capability	8
2.5. South Asia’s institutional context	10
3. ACT’s approach to strengthening climate capabilities	12
3.1. Formal interventions	12
3.2. The informal interventions – soft influencing	15
4. Pathways to strengthen institutional functions for climate capabilities	17
4.1. Authorising climate action	17
4.2. Resourcing climate action	20
4.3. Delivering climate action	23
5. Strengthening institutional architecture	27
5.1. Design options	29
5.2. The architecture in Kerala	29
5.3. The architecture in Assam	29
6. Lessons from ACT for investing in capacity-building	32
References	36

Acknowledgements

The authors would like to thank Rizwan Uz Zaman, Nirmala Sanu, Soumik Biswas, Pankaj Kumar, Rishu Garg, Arif Pervaiz, Azim Doosti, Sunil Acharya and Vidya Soundarajan for sharing their experiences and insights; Dave Steinbach for his significant contribution to the development of the framework; Andrew Norton, Saleem Huq and others from IIED for their insightful review; Aditya V. Bahadur and Cristina Rumbaitis del Rio for reviewing drafts; Uma Pal, Anmol Arora and Divya Joy for providing research and editorial support; and Elizabeth Gogoi for managing the research and production process.

Abbreviations and acronyms

ACCMS	Assam Climate Change Management Society
ACT	Action on Climate Today
ADRI	Asian Development Research Institute
AWS	Automated Weather Station
CAN	Climate Action Network
CFU	Climate Finance Unit
COP	Conference of the Parties
FFRG	Financing Framework for Resilient Growth
ICCCAD	International Centre for Climate Change and Development
JSA	Jalyukta Shivar Abhiyan (Maharashtra)
M&E	Monitoring and Evaluation
NAP	National Adaptation Plan (Nepal)
NCCA	National Climate Change Authority (Pakistan)
NDC	Nationally Determined Contribution
PCCB	Paris Committee on Capacity Building
SDG	Sustainable Development Goal
SAPCC	State Action Plan for Climate Change
ToR	Terms of Reference

Executive summary

This paper focuses on the challenge of strengthening institutions' capacity to understand and address the impacts of climate change on development. It offers insights from practical experience from the Action on Climate Today (ACT) programme and introduces a framework for building capabilities that can inform initiatives seeking to enhance adaptation across different contexts.

The scale and uncertainty of the long-term impacts of climate change, its complex and cross-cutting nature, the urgency of action required and the power asymmetries that exist between the different actors mean that managing climate change poses specific institutional challenges. The capacity constraints that exist, particularly in developing countries, are well documented.

The urgent need for governments to build resilience has frequently led to a reliance on short-term and ad hoc efforts to boost capacity. International organisations are 'parachuted' into developing countries to provide one-off training sessions and workshops. Such support has limited impact, sustainability is low and institutional capacity to deal with climate change remains nascent.

The need for more and better modes of support provision has been recognised at the global level. The 2015 Paris Agreement enshrines a commitment to building long-term, in-country capacity to address climate change, particularly for countries with the least capacity and those that are particularly vulnerable to the adverse effects of climate change. Article 11 of the Agreement further states that capacity-building must operate through appropriate institutional arrangements and be an effective, iterative process that is participatory, cross-cutting and gender-responsive.¹

This paper details learning from ACT on methods and approaches in meeting this capacity-building goal. ACT is a £23 million UK government-funded regional programme managed by Oxford Policy Management in collaboration with many consortium partners. It works in partnership with national and sub-national governments of Afghanistan, Bangladesh, India, Nepal and Pakistan to assist in integrating climate adaptation into development policies and actions and transforming

systems of planning and delivery, including leveraging additional finance. Institutional capacity-building is therefore one of the main purposes of the programme.

The paper introduces a framework for strengthening institutional climate capabilities to guide those designing, planning and delivering other programmes and initiatives. This framework offers a comprehensive approach to thinking through how to engage individuals, organisations and the wider systems that create incentives – the processes, resources, norms and values of institutions. The framework was derived from ACT's most successful experiences in building institutional capacity and informed by wider literature on governance, climate change and organisational development.

Climate capabilities and context

The framework proposes a set of characteristics that institutions should possess in order to overcome the unique challenges involved in responding to climate change: they must be able to act on foresight, learn and adapt, build collaborative coalitions for action, access resources and use incentives to trigger change. These characteristics aim to reframe understanding capacity-building – away from the institutional architecture, policies and plans to consider the actual performance and behaviour of institutions. This is used to understand the context of the institutions in South Asia that ACT works with – recognising the challenges of hierarchical but under-resourced departments being asked to deliver more and coordinate with others better.

Entry points

The framework then considers how programmes can build these capabilities. It introduces the entry points through which capacity-building can be delivered – the people, organisations, the informal norms set by institutions and the wider constituency of partners that shape debates and advise governments. The paper considers how ACT's formal and informal approaches have been used to engage with these different levels. This highlights the importance of ACT's local teams

¹ https://unfccc.int/sites/default/files/paris_agreement_english_.pdf

building trusted relationships, being responsive while keeping a sharp eye on the longer-term strategy – including thorough regular analysis of the political context and measuring progress against defined competencies.

Institutional functions

The central part of the framework sets out pathways to building climate capabilities around the core functions of institutions – authorising, resourcing and delivering climate action. These pathways are explained through ACT's most significant success stories of strengthening these institutional functions and considering what was distinct from less successful experiences. This illustrates the value of ACT's flexible and responsive approach that is able to seize political opportunities for change when and where they emerge. It also highlights the importance of engaging the external actors and local experts who are already credible in undertaking the technical analysis – building their capabilities to continue to support the government's response to climate change and creating an informed external constituency for action. And it demonstrates the value of

patience and continuous support – responding to the stop-start pace of local actors and mentoring post training or after sharing a new piece of analysis – to help individuals consolidate new skills and knowledge. By considering the range of functions together, the programme has supported improvements in its partner institutions' functional performance – but also identified where more attention is needed.

Institutional architecture

The framework emphasises that institutional capacity should focus on function rather than form, and as such the institutional architecture is shown as the bedrock for authorising, resourcing and delivering climate action. It seeks to emphasise the value of different design options for functional performance. The framework unpacks the trade-offs between different designs – using ACT's experience to highlight how understanding the constraints of any single design can ensure there is attention to building sufficient accountability to counteract these constraints. Case studies from ACT illustrate what has been politically feasible in different contexts.



Odisha Chief Minister, Shri Naveen Patnaik, launches the flood forecasting model

Overarching lessons from the ACT programme

Lessons from ACT that cut across the framework highlight that the programme is different from traditional linear, largely pre-planned, initiatives. In particular, its flexible delivery model makes it possible to tackle reform areas not initially anticipated as they emerge on the political agenda. Some of the lessons highlighted in the paper include:

Build a shared vision: Through dialogue and careful choices of political entry points, a common vision for tackling climate change can be built within an institution to shift dominant narratives on development.

Learn and adapt: Recognise that an iterative, context-specific approach that tolerates unpredictability and occasional failure is key to institutional reform in an uncertain environment.

Invest in 'influencing' and local teams: Build, support and then trust the intuition of the local team to seize opportunities, which is crucial to sustaining government partners' ownership.

Expect resistance and diffuse opposition: Recognise that change challenges the status quo; support partners to see how climate change links to their priorities, and engage those whose interests might be jeopardised to look for new opportunities.

Build the constituency for delivering climate action: Develop the external network around government to provide new avenues for discussion and debate on climate change to constructively impact public policy.

Have a strategy and budget time: Focus on the clearly defined end goals of improved functional performance in a particular area, and respond to opportunities to contribute to them.

Avoid technical bias when building climate change capabilities: The 'soft' skills of leadership and finding the right incentives help government partners incorporate new technical information and skills.

Measure the right things: Flexibility of approach requires flexibility of measurement from donors. Qualitative indicators that chart capacity-building may be more effective than counting numbers of people trained in a particular skill.

Reshape interests: New evidence and analysis, new incentives and conscious agreements can reshape interests to recognise and drive forward climate action.

An accompanying Learning Paper (Tanner et al., 2018) provides more detail on the importance of ACT's approach to influencing the government through continuous political engagement and other tactics.



Maharashtra Legislative Assembly session for the launch of the Climate Change Policy by the Chief Minister

1. Introduction

1.1. Institutional capacity-building under the Paris Agreement

Managing the impacts of climate change is particularly difficult for governments, given the scale and uncertainty involved, the complex and cross-cutting nature of climate change, the urgency required and the power asymmetries that exist between the different actors (Meadowcroft, 2009; Lonsdale et al., 2010).

Most countries are struggling to build the capabilities required to tackle climate change across central and local governments and non-state actors (Dagnet et al., 2015; Haque et al., forthcoming). As a result, institutional capacity-building for managing climate change has gained particular attention at the international level (Huq and Nasir, 2016; Haque et al., 2018). Under the Paris Agreement, all parties committed to respond to the needs and contexts of countries with the least capacity and those particularly vulnerable to the adverse effects of climate change. Article 11 states that capacity-building must be an effective, iterative process that is participatory, cross-cutting and gender-responsive. The Paris Committee on Capacity Building (PCCB) was formed at COP22 to oversee implementation of Article 11, to identify and address capacity gaps.

However, the urgency of the need to tackle climate change has frequently led to reliance on short-term and ad hoc efforts to boost capacity, such as one-off training sessions and workshops. Parallel delivery processes are frequently being justified by the limited capacity available in government. Such support has limited impact (Scott et al., 2015), as sustainability is low.

Based on analysis of the experience of the Action on Climate Today (ACT) programme and the factors that have driven its most significant successes, this paper offers a framework for building institutional climate capabilities. It represents a contribution to the work of the PCCB and delivery of Article 11.

ACT is a five-year £23 million programme that works in partnership with the national governments of Afghanistan, Bangladesh, India, Nepal and Pakistan and seven sub-national governments (India's Assam, Bihar, Chhattisgarh, Kerala, Maharashtra and Odisha and Pakistan's Punjab) to strengthen

resilience. It helps build capacity to integrate climate adaptation into policies, plans and budgets and to attract climate change investment.

ACT's experience has significant value for the current debate on effective approaches to capacity-building, by offering rare insights on the real experiences of climate-vulnerable countries in mainstreaming adaptation. ACT's work has contributed to significant successes over its first three years, including helping governments access \$290 million in new funding, the allocation of \$400 million of domestic resources and the leveraging of \$600 million from multilateral and private sector resources. The programme has supported the integration of climate change within Kerala's bottom-up process of local planning, established a Climate Finance Unit (CFU) in Afghanistan and supported the Government of Maharashtra to develop the first-ever State Climate Change Policy in India. This paper explores these and other examples in detail.

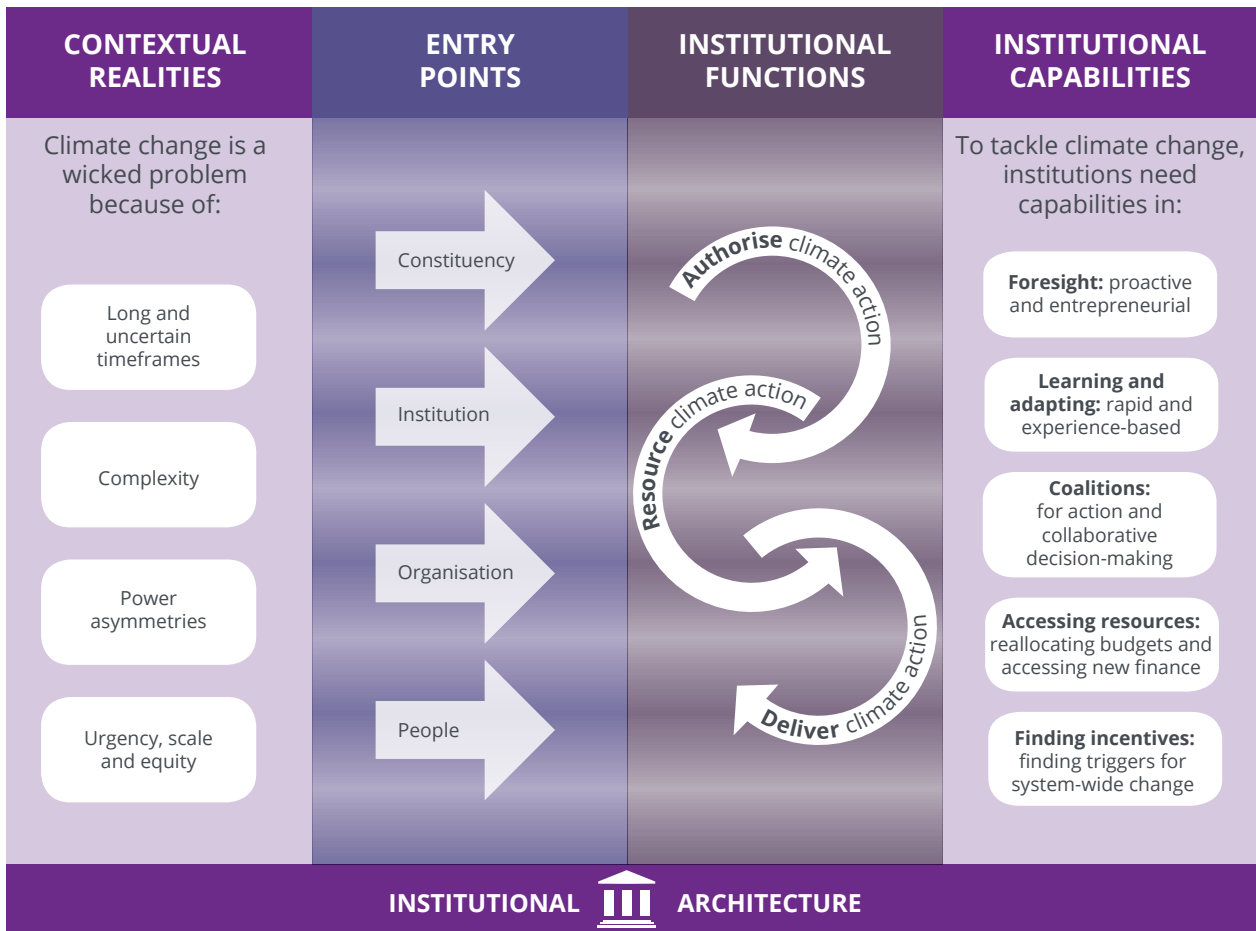
1.2. Theories of institutional change in development

Institutional strengthening, capacity-building and organisational development have been a focus of development practice since the 1950s (Mackenzie and Gordon, 2016). This work draws on a range of disciplines, including governance, leadership development and institutional and behavioural economics. Definitions vary but conceptually there is a common purpose: to strengthen an organisation's effectiveness in achieving its goals (Whittle et al., 2012).

Form vs. function – how change happens

Recent approaches to capacity-building are usefully drawing on systems and complexity theories (Richter, 2010). Systems theory encourages holistic thinking to diagnose capacity needs and recognise the wealth of interactions within any system. It moves thinking beyond a narrow focus on organisational units and expectation that an intervention will lead to a result (Whittle et al., 2012). There is no ideal institutional architecture for managing climate change: to get the *form* right it is critical to understand the political and institutional context within which change happens (Meadowcroft, 2009; Mackenzie and Gordon,

Figure 1: ACT's framework for strengthening climate capabilities in institutions



2016; Ryan, 2016) – such as the degree of state centralisation, the role of markets, the power dynamics at play and how systems adapt to shifts in complex environments (Ubels et al., 2010; Datta et al., 2012; Denney and Valters, 2015; Devarajan and Khemani, 2016). Capacity-building should be about improving *functional performance*, rather than solely *form* (Andrews et al., 2012).

Complexity theory emphasises that efforts to build institutional and individual capabilities are occurring in a messy reality. For example, the organisational culture – the tacit assumptions and unspoken rules – is both the most difficult and the most important attribute of change (Richter, 2010). Focusing solely on formal reforms in the architecture or resourcing of institutions often produces little functional change, as informal ways of working remain the same (Kaplan, 1999; Andrews et al., 2012). However, by also engaging with the vision and values of an institution, the informal rules can be renegotiated.

These theories promote the value of ‘adaptive programming’ – deliberate experimentation

with sets of interventions for groups to learn together and adjust approaches with experience (Meadowcroft, 2009; Richter, 2010).

Organisations vs. networks – where change happens

The recognition that relationships within and beyond an organisation are critical to building capacity and that they co-evolve has led to an interest in the ‘field’ – that is, the wider network of stakeholders active in creating the enabling environment and forming the constituency that creates demand for action, defines good practice and supports improvements in function (Andrews et al., 2012; Whittle et al., 2012).

Capacity-building interventions therefore need to be clear who is at the centre of change processes: individuals, formal institutions or organisations (e.g. a single government agency), informal institutions (the social rules and norms framing behaviours and decisions) or the wider constituency (the field of government bodies,

non-governmental organisations (NGOs), academics and private sector actors whose work is relevant and the relationships between them) (Rhodes and Antoine, 2013). Interventions that build capabilities across these levels may be more complex but are more likely to be successful in the long term (Eade, 1997; Horton, 2002; Rhodes and Antoine, 2013).

In this paper, 'institution' is used to refer to the formal institutions of government – or organisations – as well as the informal institutions – or social rules and norms – that guide the behaviours and decisions of an organisation. These are distinguished where necessary, but the intention is to highlight the importance of the *informal* social norms, not just formal structures.

1.3. A framework for strengthening climate capabilities

Figure 1 presents a framework for strengthening climate capabilities, derived through analysis of ACT's most significant success stories of institutional change and identifying the common variables that supported success – and reflecting on what differed in less successful experiences.² The framework is also informed by the capacity-building literature and wider experience from the International Institute for Environment and Development and Oxford Policy Management.

Given the scale and variety of its work, ACT effectively offers a series of experiments on how to build institutional capacity, exploring how, in a range of contexts, formal and informal mechanisms were deployed to build capability at different entry points and what outcomes or institutional characteristics were achieved. This framework therefore offers a guide to 'what works' in capacity-building.

The remainder of this paper outlines each element of the framework and provides practical examples against each component.

Section 2 describes ACT's objectives in building **climate capabilities** in institutions in South Asia. It also provides some **context** on the baseline of institutions in South Asia.

Section 3 introduces ACT's tools for strengthening capabilities across different **entry points** – *people, organisations*, the *informal norms* set by institutions and the *constituency* of partners that shape debates and advise governments. It summarises ACT's formal interventions as well as the informal tactics used.

Section 4 sets out mechanisms to strengthen the **institutional functions** to *authorise, resource* and *deliver* action on climate change. It describes ACT's experience to illustrate how flexible and responsive support has supported improvements in institutions' functional performance.

Section 5 considers different **institutional architecture** options to address the specific challenges of climate change – the *form* – which cuts across the framework as the bedrock of the *authorise, resource* and *deliver* functions. Case studies illustrate that what works in one context may not in another.

Section 6 presents 12 lessons from ACT's experience in strengthening climate capabilities for those seeking to invest in capacity-building, as well as wider implications, including the role of external players, the importance of responsive and adaptive programming and the challenge of measuring results.

² The framework has been derived using a realist analysis of positive deviance. Analysis of ACT's most significant success stories of institutional change helped identify the positive deviance across the programme. The study used a realist review to explore the ACT team's intentions given the context; the formal and informal interventions used for different entry points as mechanisms to support institutional change; and the outcomes or institutional characteristics aimed for. From this emerged the framework to explain the approach and 'what works' in capacity-building.

2. Strengthening institutional capabilities for climate action

This section describes ACT’s objectives and approach in building climate capabilities in institutions, given the complexities of climate change.

It emphasises the value ACT has found in working across levels, supporting people and organisations but also engaging with institutions’ informal rules and the constituency of organisations working with government. As such, this section discusses the ‘context’ and ‘capability outcomes’ parts of the framework (Figure 2).

2.1. The underlying objective

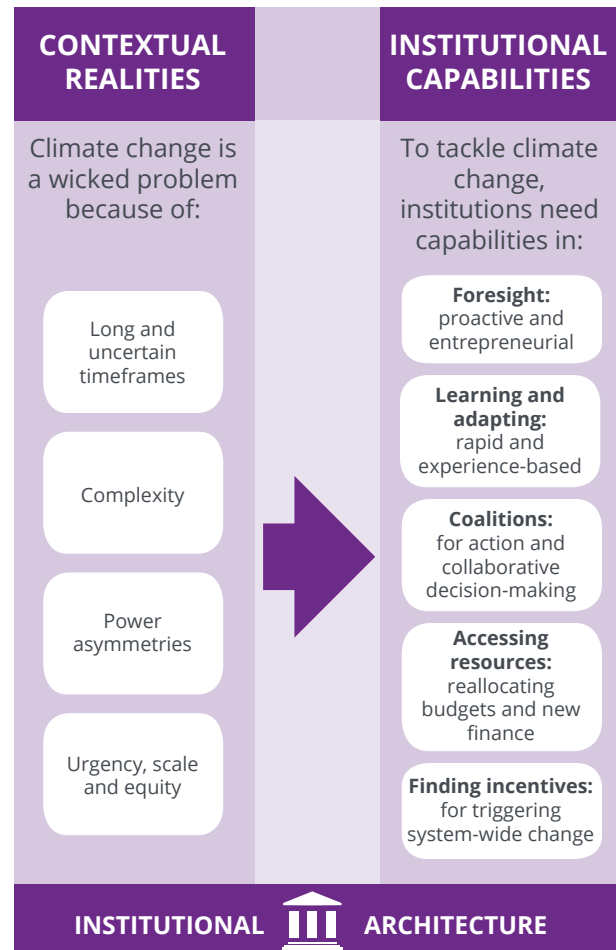
The underlying objective of ACT’s Theory of Change is to strengthen national and sub-national government capabilities in mainstreaming climate adaptation. Success is measured in terms of effective climate action on the ground, not quality of analytical tools or of plans or numbers of people trained (which are defined as ‘outputs’). This focus on functional change and delivering impact has encouraged nuanced, politically astute investment in long-term climate capabilities, not just with government but also with other entities that governments find credible and look to for support. ACT tries to avoid fly-in-fly-out expert-led processes and one-off training.

ACT’s approach is in line with global experience that shows that fostering institutional change can offer high value-for-money when successful, as it can have a long-term impact at relatively low cost (Faustino, 2012). This is fundamentally a political process, and therefore potentially high-risk (Whittle et al., 2012; Scott et al., 2015). Sustained effort is required to institutionalise new pathways for decision-making and collaboration, as current norms incentivise tangible, short-term results and constrain policy choices (Resurreccion et al., 2008; Richter, 2010; World Bank, 2010).

2.2. Why climate change action is different

Urgency, scale and equity: The impacts of climate change are already driving people back into poverty and undermining growth (Hallegatte et al., 2015), and this situation will get more challenging over

Figure 2: The ‘context’ and ‘capability outcomes’ within the overall framework



time. Decisions and investments a government makes today can increase emissions or exposure to climate impacts tomorrow by ‘locking in’ a particular development pathway. Climate change is also an issue of equity, as the poorest people are the most vulnerable (despite having contributed the least to the problem) and have limited assets to moderate the impacts. Addressing the distributional impacts of climate change – and making clear how adaptation options are fair – can make acting on climate politically more acceptable to the wider public (Meadowcroft, 2009).

Complexity: Climate change cuts across many domains, including governance, macroeconomics and social policy, meaning defining interventions is highly complex (Ryan, 2016). Complex

socio-technical 'regimes' have led networks of interdependent institutions, technologies and practices to co-evolve over decades and continually seek to reproduce themselves, as powerful actors within them strive to maintain their status quo – creating institutional inertia (Ballard et al., 2010; Lonsdale et al., 2010; Andrews et al., 2012). This implies that effective climate action must engage diverse sectors and actors, and that single policy or institutional responses are unlikely to be successful (Meadowcroft, 2009; Ballard et al., 2010).

Long-term uncertainty: The complexity of the weather system and of the global economy driving emissions leads to uncertainty with regard to the timing and degree of climate impacts. Many climate risks will emerge beyond the lifetime of a political cycle, meaning that adaptation incurs costs today while offering uncertain returns in the future. There are also significant uncertainties in technology development and its future costs. Therefore, important decisions need to be made with imperfect knowledge, which goes against current decision-making objectives of trying to predict the future and optimise returns (Lonsdale et al., 2010; Watkiss et al., 2014). Governments need to incentivise decision-making processes that enable iterative learning, prioritising 'low-regret' options that deal with current climate variability while being robust to the range of potential futures and staying flexible for as long as possible.

Power asymmetries: Climate commitments, whether in policies, plans or acts, are often under-delivered. This is partly because of organised and informal resistance by actors who consider climate action as undermining their interests, combined with overall low state capacity that is already facing multiple conflicting policy objectives (Ballard et al., 2010). However, resistance is not necessarily negative: it can also signal that reforms are challenging the power dynamics within the system (ibid.).

2.3. Climate change is a 'wicked problem' for governments

Wicked problems are policy problems that are beyond the capacity of any one organisation to understand and respond to, where there is disagreement on how to frame the multiple interrelated causes and where finding the best way forward is challenging (Commonwealth of Australia, 2007). Given the particular challenges of climate change, it is now common for

governments to create a dedicated authority responsible for climate change to tackle power asymmetries and enable vertical and horizontal coordination (World Bank, 2010). However, while such an authority may facilitate political vision and leadership, it still needs independent accountability to ensure the long-term vision is maintained beyond political cycles (Meadowcroft, 2009).

There is therefore no one 'prototype' model of what constitutes institutional climate capabilities, but rather a set of characteristics that institutions should possess. Institutional capacity-building should focus on improving functional performance, represented through institutional characteristics. Figure 3 illustrates these; they are explained in detail below.

2.4. Characteristics of institutional climate capability

Framing the climate capabilities of institutions in terms of a set of characteristics allows analysis across the range of possible institutional architecture designs. These characteristics describe the behaviour or outcomes that should result from improved institutional functions for effective climate action. The following are based on analysis of ACT's experience of capacity-building in the region:

Foresight in analysing risks and opportunities for co-benefits: Given the complexity and uncertainty around climate change, institutions need to engage a broad range of stakeholders with different perspectives to analyse decisions that risk 'locking in' climate vulnerability (Commonwealth of Australia, 2007; Meadowcroft, 2009). This analysis of decisions enables thinking through on how to maximise low regrets, maintain flexibility or identify robust investments that perform across the range of potential future climate impacts. This reduces the likelihood of over-investing or of maladaptation (Stafford Smith et al., 2011).

Institutions also require proactive and entrepreneurial behaviour. The complexity and uncertainties of climate change mean perfect foresight is impossible. Institutions therefore need to be able to innovate and adapt to unexpected changes (Meadowcroft, 2009). This requires soft skills associated with 'policy entrepreneurship' – the ability to identify opportunities for innovation that realign interests and tackle institutional inertia (Faustino, 2012).

Rapid experiential learning and adjustment

processes are core to entrepreneurial institutions. Institutions need to be capable of experimenting with different adaptation policy options through 'honest and profound enquiry' (Lonsdale et al., 2010; World Bank, 2010). An experimental approach requires moving away from the norm of trying to 'predict and optimise' the future and putting in place learning systems that cope with surprise, complexity and uncertainty (Folke et al., 2002; Andrews et al., 2012; Lonsdale et al., 2015). It also requires institutions to have the capacity for longer-term learning, including institutional memory (remembering what works and what does not) and the analysis of climate data.

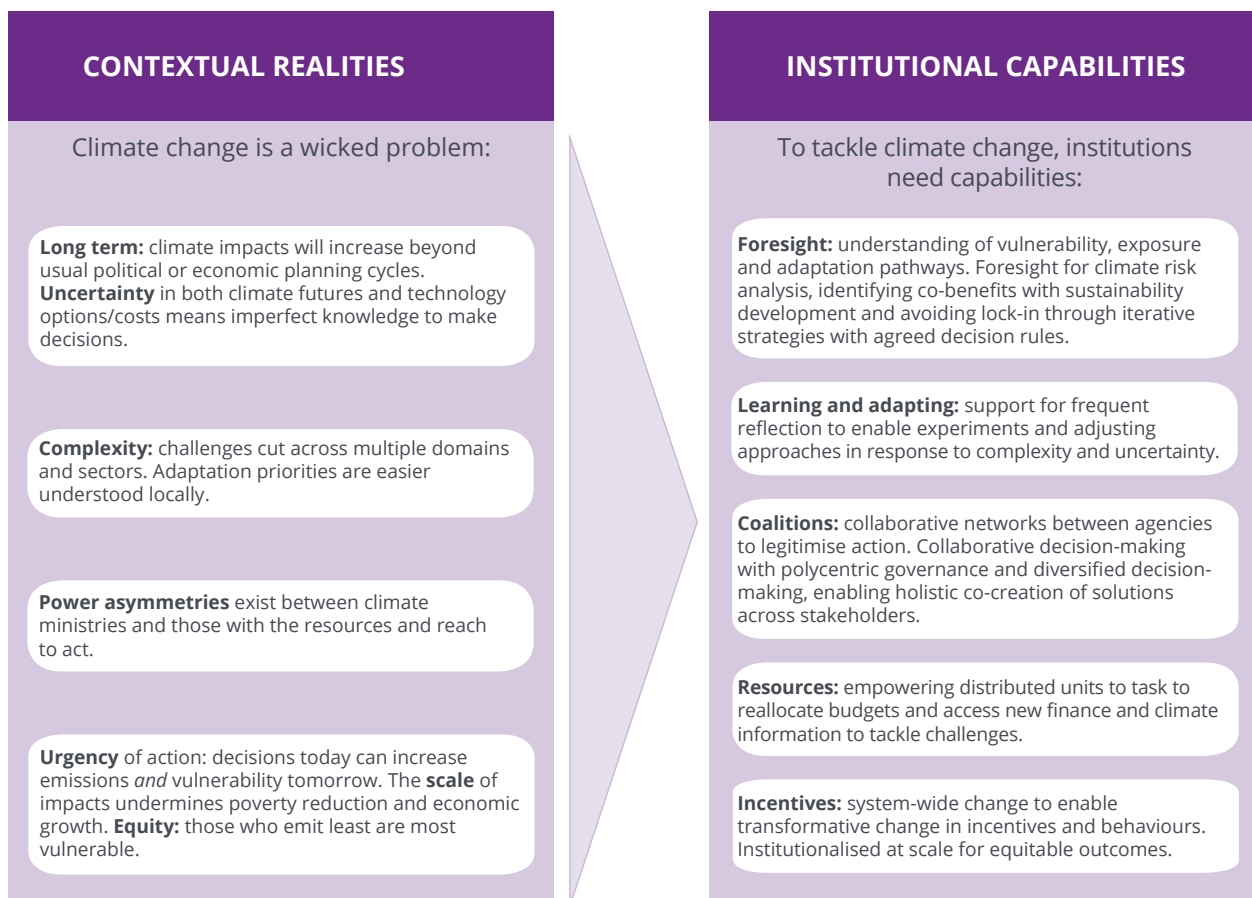
For example, the Government of Maharashtra established the Jalyukta Shivar Abhiyan (JSA) programme in 2014 in response to the increasing frequency of droughts. A few years later, ACT supported the government to analyse future climate change to assess the appropriateness of the measures being promoted. For example, it adopted a key ACT recommendation on introducing

a Water Budgeting Tool to help rural agrarian communities make informed water allocation decisions within the context of the JSA. ACT helped the government develop and roll out a manual and training module to equip around 4,000 facilitators in water budgeting.

Building networks and reform coalitions is critical to enable institutions to adapt and innovate. The better connected an institution, the greater its adaptive capacity (Rodima-Taylor et al., 2012). This includes active collaboration between agencies involved in climate action as well as the wider constituency – trusted, influential external partners who legitimise climate action. Building coalitions often requires framing climate action as an opportunity, with benefits for priority development objectives (Meadowcroft, 2009). Engaging coalitions in setting the agenda can influence political decision-makers, as well as redefine interests and shift power relations (Andrews et al., 2012).

Networks and coalitions foster collaborative decision-making. Climate change policies and

Figure 3: Climate challenges require specific institutional capabilities



plans that are co-created by the government, the private sector and civil society lead to greater buy-in and ultimately better outcomes (Boswell et al., 2012; Moser and Boykoff, 2013). There is, however, a short-term cost in terms of the time and bureaucracy required. For example, development of the National Adaptation Plan (NAP) in Nepal is using a highly participatory process that involves relevant ministries plus non-government actors to collectively understand climate risks and determine adaptation measures. But effective collaboration requires a context that is open to meaningful debate of options and an investment by all actors to build trust, so it can be slow (Thompson and Verweij, 2004). The design of institutions can determine the opportunities for collaboration: multi-level – or polycentric – models of governance are more conducive to collaboration (Ludwig et al., 1993; Holling and Meffe, 1996; Berkes et al., 2000).

Accessing resources: Institutions need to be able to make a compelling case for resources to respond to climate change, such as information and personnel, additional climate finance and the reallocation of core budgets. This requires outlining the additional costs of climate adaptation and articulating the contribution to priority objectives. For example, with ACT's support, the Government of Pakistan has established a CFU with highly skilled experts who have worked closely with officials across ministries to access over \$140 million of financing for climate change over the past four years. Meanwhile, across Afghanistan and India, ACT is working with national and provincial governments to mainstream adaptation within domestic budgets. The resources required are spread across various units within and across organisations, and so the actors receiving the disbursements need to have a shared vision, so as to co-produce adaptation responses and collectively leverage the resources to deliver them (Thompson and Verweij, 2004; Amagoh, 2008; Agrawal, 2010; Rodima-Taylor et al., 2012).

Incentivising change: Institutions must possess or put in place incentives to trigger system-wide changes to establish and strengthen all of the above climate capabilities and ensure any change is sustainable, at sufficient scale and equitable (Faustino, 2012; Rodima-Taylor et al., 2012). This includes building widespread societal acceptance for action on climate change by engaging a range of stakeholders from the start in deliberative dialogue to identify technically feasible and politically acceptable options. Over time, this dialogue can help redefine what is widely seen as the 'normal'

development pathway for that location, thereby shifting incentives (Meadowcroft, 2009; Rodima-Taylor et al., 2012). Other possible 'triggers' can include experimenting with different adaptation projects to help build understanding, as well as finding champions prepared to innovate and take risks (Ballard et al., 2010; Lonsdale et al., 2015).

2.5. South Asia's institutional context

In South Asia, as in most regions, institutions at the national and sub-national level lack many of the climate capabilities described above. Indeed, responding to climate change highlights a number of fundamental challenges in South Asia's institutions, although the need to clarify institutional arrangements also represents an opportunity to build capabilities.

As in most countries, adaptation has consistently been **fragmented, with different sectors and agencies taking action in silos** (Sterrett, 2011). This works against the objective of mainstreaming adaptation, which requires interdisciplinary approaches (Mitra and Vivekananda, 2013). For example, despite its transboundary rivers and weather system, South Asia has limited coordination between the relevant communities of practice – across policy spheres as well as countries (Islam et al., 2011). In addition, international climate funds require adaptation projects to clearly differentiate adaptation from 'development', which can be seen as contradicting the idea of mainstreaming (Sterrett, 2011).

Climate information in South Asia has been difficult to access and of poor quality, with limited real-time data collection on climate variables and climate models struggling to capture the monsoon dynamic until recently. The information that does exist is not routinely used in decision-making, but can also be poorly used, such as through the use of averages of model outputs rather than looking at performance across the potential range of futures. Given the richness of community organisations, NGOs and research bodies, there is good potential for using community-collected data and indigenous knowledge to validate and interpret top-down data (Resurreccion et al., 2008; Venkateswaran et al., 2018).

Governance limitations are the underlying cause of many of these challenges. A tendency towards hierarchical bureaucracies and working in silos leads to poor coordination (Gogoi et al., 2017).

Although most countries in the region now have climate change policy frameworks, these are not sufficiently integrated within legislation governing critical sectors (Mirza, 2007; Meadowcroft, 2009). And these critical sectors are themselves poorly regulated. For example, water-related legal provisions are disbursed across a range of acts and functional responsibilities are spread across departments, with poor coordination between them (Price et al., 2014; Parry and Terton, 2016).

Planning and finance ministries are critical to resourcing and rewarding collaboration between sectors – but historically have had limited engagement in climate planning (Resurreccion et al., 2008). Parliaments have a role to ensure governments respond to and are accountable for people's longer-term priorities but this has yet to be fully realised in climate action (ibid.). Lastly, it is difficult for marginalised groups to influence decision-making, which results in poor prioritisation of gender and social inclusion dimensions in climate action (Islam et al., 2011).

Sub-national governments by their nature are closer to citizens and so in principle better able to integrate climate action across sectors through bottom-up priority-setting (World Bank, 2010). The devolution agenda in South Asia is increasing their authority, although the results of this are still emerging (Resurreccion et al., 2008). India and Nepal have made efforts to clarify local governments' role in climate action. India called for State Action Plans on Climate Change (SAPCCs) in 2009 and Nepal's 2011 National Climate Change Policy stated that at least 80% of funds provided should be allocated to climate actions at the community level.

South Asia's diversity of governance systems and stages of development makes identifying strategic entry points for institutional capacity-building challenging but also offers more opportunity for learning. For example, Bangladesh has a centralised form of governance, whereas India, Nepal and Pakistan are devolved to different extents. Within the region, there are pockets of high economic growth but also areas of deep-rooted poverty. This diversity, but also the shared challenges and some shared governance arrangements, increases the chance for policy experimentation (Resurreccion et al., 2008).

Climate capabilities within civil society represent an important source of trusted expert advice for governments in the region. South Asia is rich in networks of independent research institutes offering valuable independent feedback on the effectiveness of climate action (Islam et al., 2011). This includes challenge to improve the quality of social inclusion and the gender responsiveness of approaches.

South Asia therefore offers a series of 'experiments', whereby different policy responses to climate change are being tried out in contexts with diverse socio-ecological and governance characteristics – but also some important commonalities. For example, changes in hydrology are affecting millions of people's livelihoods in every country in South Asia – so innovation in the management of water, agriculture and natural resources offers opportunities to support regional sharing of what works, as well as building collaboration (Resurreccion et al., 2008; Islam et al., 2011; Price et al., 2014; Parry and Terton, 2016). Early experience on improving institutional capabilities offers an important source of learning for enhancing the delivery of climate action across the region.

The increasing donor focus on climate capabilities in recent years is advancing global experience on what are effective institutional arrangements for climate change and how to build such capabilities (Parry et al., 2016). New sources of climate finance are driving attention towards the institutional architecture, policy framework and capabilities needed to maximise the impact of investments in South Asia and beyond. There is strong consensus on the importance of planning and finance ministries and local governments in identifying local priorities and responding through cross-sectoral collaboration (World Bank, 2010).

This section has explained the specific challenges of tackling climate change and the capabilities institutions need to acquire to effectively mainstream adaptation into development programmes. The following section introduces some of the analytical tools, formal interventions and informal influencing tactics ACT has used to build such capabilities in South Asia.

3. ACT's approach to strengthening climate capabilities

This section introduces the institutional entry points ACT has worked through to strengthen climate capabilities, as well as how it has sought to balance formal interventions with informal influencing tactics.

Government institutions are dynamic systems, with numerous units responding independently to their internal and external context (Mason, 2007). Capacity-building is therefore a multidimensional process that requires working across a range of levels (Eade, 1997; Leach et al., 1999):

- The *constituency* that provides legitimacy to climate action;
- The *institutions* that define social norms;
- The *organisation* and its plans and decision support tools;
- *People* and their knowledge and skills;

Strengthening institutional capabilities therefore involves supporting the competence of individuals, the functions of organisations and the informal rules of institutions and engaging the wider constituency to provide the political space for action. This in turn requires enhancing the quality of relationships within and beyond organisations.

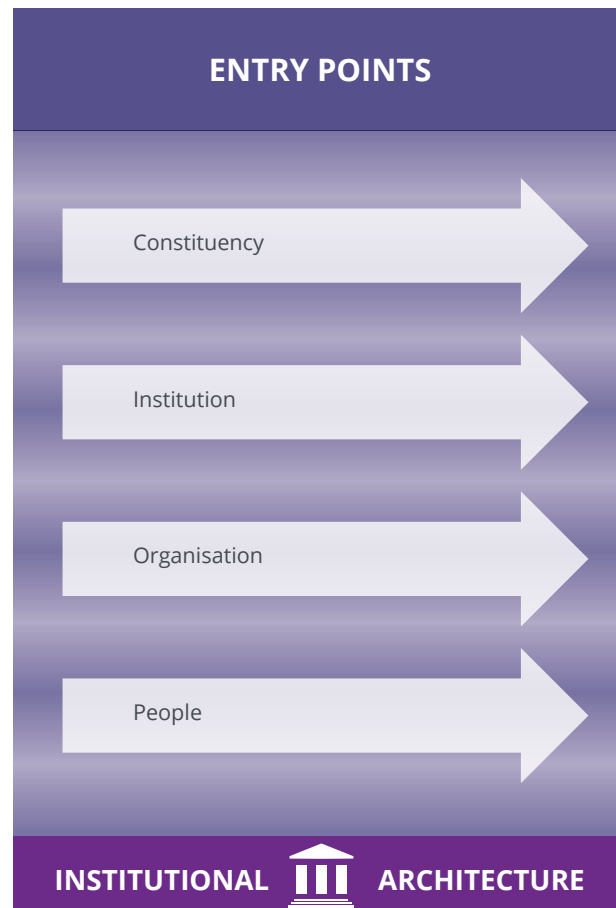
ACT engages with the different institutional entry points using a range of approaches and interventions, loosely divided into 'formal' and 'informal'. These are discussed in more detail in the accompanying Learning Paper on ACT's influencing strategies.

3.1. Formal interventions

ACT has offered advice, technical assistance and training to institutions and their staff to manage climate change and access finance from core budgets, donors and climate funds. These form ACT's formal interventions, against which the programme articulates its offer to partner governments and reports to its donor. However, from ACT's experience, critical to the most significant successes is not how robust the analysis has been but the way it has been provided.

ACT's technical assistance cuts across different sectors, including strengthening the systems of

Figure 4: Entry points for strengthening climate capabilities

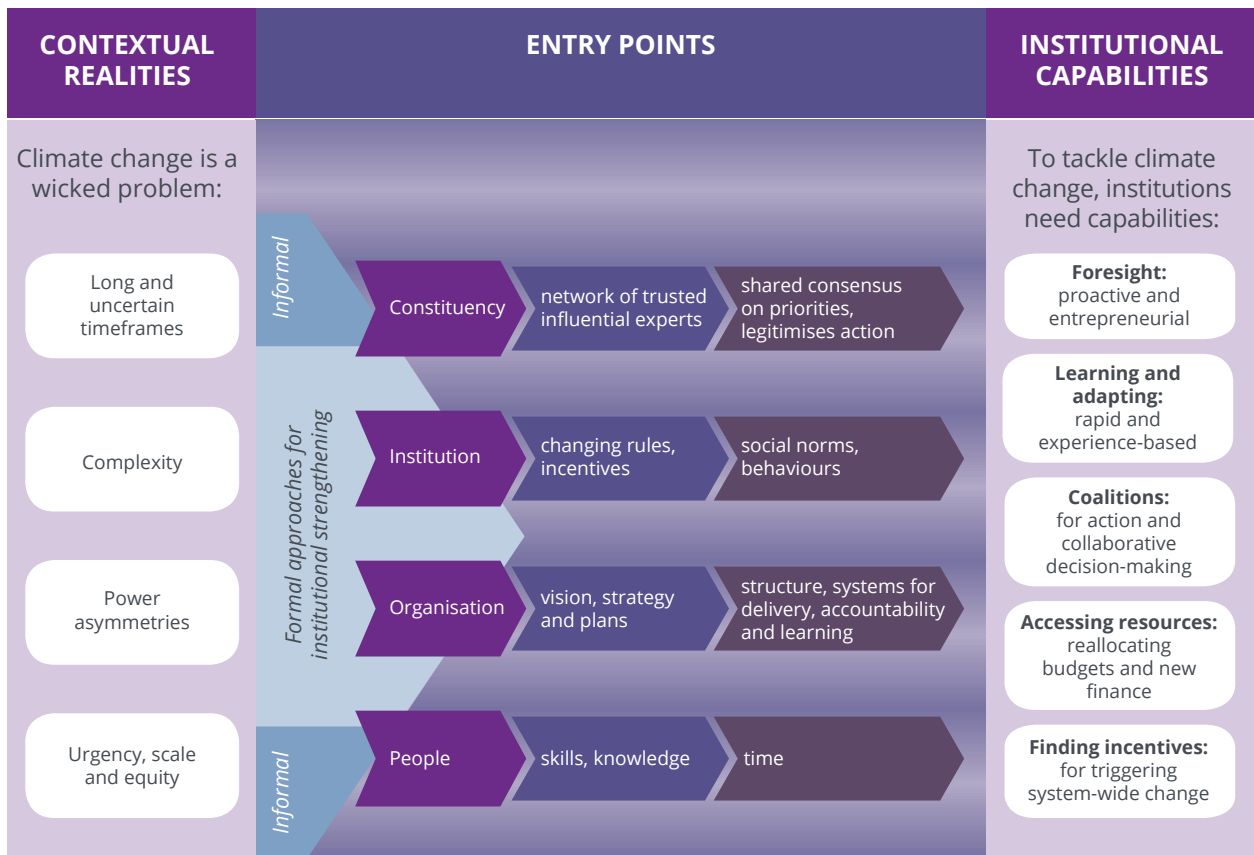


planning and delivery for climate change, leveraging finance for climate change and supporting the design and implementation of policies and programmes on climate-resilient agriculture and climate-resilient water management. ACT's sector work is outlined in full detail in two thematic Learning Papers, on 'Climate-Resilient Agriculture' (Pound et al., 2018) and 'Climate-Resilient Water Management' (James et al., 2018).

Policy analysis and decision support tools

ACT invests significantly in developing evidence and decision support tools to help government partners understand the climate implications for their development policies and plans and to design responses.

Figure 5: Strengthening climate capabilities requires working across entry points



The programme works with a number of different sectoral ministries and departments in each country and state to assess climate risks and design specific adaptation policy measures. These technical workstreams were identified early on using the Long-Range Planning Exercise, which set the overall strategy for ACT in the location, with further requests from the government assessed against the Sustainability Diagnostic (Box 1). There is huge diversity in the type of technical and policy analysis ACT has provided, from supporting the Government of Chhattisgarh to assess current and future water resources and prioritise a set of strategies for climate-resilient water management, to developing a framework for vulnerability and risk assessment for the Government of Nepal to inform the NAP, to preparing a three-year work plan for the newly established National Climate Change Authority (NCCA) in Pakistan.

ACT’s approach to delivering this varied set of technical workstreams includes some common principles. While ACT works with international, national and local experts and partners to provide the required climate information, analysis and

recommendations, ACT’s own team members engage on a sometimes daily basis with the partner government in the design and delivery of the technical work. The aim of this is to sustain ownership over the process, and to ensure the research and analysis is framed to fit local priorities and the analysis is acceptable to and used by the government.

For example, in Odisha, the government requested ACT’s support to develop a Mahanadi Flood Forecasting Model in response to the regular flooding occurring along the river. ACT worked with nationally renowned climate scientists whom the government trusted to prepare a draft scoping study chalking out the scope of the model and to develop and finally recalibrate it. However, many months of intense engagement by ACT’s local team were required to build the government’s confidence in the model, collect the required data and ensure the final output met its needs. In June 2017, the chief minister launched the model, which increases the warning time from eight to 36–72 hours and is being implemented in the Hirakud Dam Project and in the Water Resource Department.

Box 1: ACT tools for identifying and monitoring opportunities for strengthening institutional capabilities

ACT uses a dynamic and politically informed approach to working across entry points, supported by a set of strategic tools to help identify the right entry point, reflect on progress and respond to changes in context:

- In the **Long-Range Planning Exercise** at the start of the programme, ACT engaged potential champions (within and outside government) to co-define entry points for technical workstreams, and in the process built their ownership of the programme.
- The **Sustainability Diagnostic** was subsequently used to analyse the conditions for success of the workstreams in the long term (leadership, staff skills, available finance, systems, incentives and accountability mechanisms).
- Regular and broad **Context Assessments** engage experts and civil society on changes and opportunities in seven aspects of climate governance: evidence, climate policies, awareness, political commitment, participation and influence, institutional capacity and finance.
- The **Competency Framework** assesses skills at the senior and technical levels of government in mainstreaming climate change (e.g. use of climate information; knowledge on the gender and social implications of interventions); climate finance (e.g. ability to analyse financing needs, access funds and manage their use); strategic communication of climate issues; and horizontal (sectoral) and vertical (national to local) coordination.

The latter two provide an annual systematic reflection on progress – whether ACT is targeting the right entry points in the right form and whether the wider conditions and resources in that location are supportive of change. This incentivises ACT staff to engage in the politics of change processes (Cawsey et al., 2012; Faustino, 2012).

On-demand and real-time advice and support

In all locations, ACT has a small local team of experts based in, or very near, the government. These individuals are ‘policy entrepreneurs’ who have built trust with government partners and are available when needed to manage the delivery of technical workstreams, as well as to provide informal support and advice to officials. They are able to identify and respond to opportunities to build institutional capabilities and are also called upon when there is political interest in climate change. For example, when the prime minister of Pakistan returned from the Paris climate talks, he determined that the government should do more on climate change and called on the local ACT team member for support. These local teams are supported by ACT’s regional team of experts on agriculture, water, monitoring and evaluation (M&E), gender and other areas, who help quality assure processes and outputs.

The programme has learnt the importance of hiring local team members with strong soft skills – political astuteness, good communication and technical credibility. The capabilities and personalities of these individuals are crucial to

the success of the programme, and, as such, the management team closely monitors and supports their work, and if necessary adjusts the team composition. A balance is also required between being responsive and available to the government partner and not being co-opted. In most locations, ACT’s local teams are in an external office but engage with their counterparts almost daily. They also invest in relationships beyond the mandated government partners (e.g. the Climate Change Cell) to create collaborative networks with a range of government and non-government entities. In one location, the local ACT team is fully embedded in the government partner office and this has given it less independence to work with other partners – a significant though calculated trade-off given the strong need in government for this type of arrangement.

Organisational and individual development

ACT engages in a range of organisational development activities, including working with government partners to assess institutional weaknesses and gaps, design the mandate and ToRs for new and strengthened government agencies and mechanisms and provide mentoring and support to the establishment and

operationalisation of the new arrangements. For example, in Pakistan, at the request of the Ministry of Climate Change, ACT prepared an institutional framework and three-year work plan for the new NCCA, which is mandated to be the nodal institution for climate change. This included the Rules of Business and ToRs for key personnel. ACT also undertook an Institutional Review of the Ministry of Climate Change, which reviewed the laws and international agreements with which the ministry needs to align and provides a gap analysis and recommendations to improve its current functioning

ACT also provides training to government staff to strengthen their core skills for managing climate change. The politics of training courses are entrenched: if training is delivered in-house, it is hard for people to avoid work distractions and participate properly; if it involves travel and an allowance, the individual nominated may not be the right person. The value of training can also be ephemeral, given rapid staff turnover, and non-linear, as overworked staff need time to apply new thinking or overcome bureaucratic resistance to change (Scott et al., 2015).

ACT's most significant successes in building skills have involved integrating climate change modules into core civil service training and university curricula, ensuring both scale and sustainability. It has also been important to deliver training in parallel to supporting a policy process. For example, ACT trains officials and wider stakeholders on climate-resilient value chain analysis in Assam, Bihar and elsewhere as part of a wider process of embedding this within government decision-making processes. ACT specifically trains mid- and junior-level officials who will soon move to senior positions, as opposed to only the most currently senior. ACT's learning workshop on climate budgeting in Bangladesh in 2017 involved desk officers charged with formulating and reviewing sectoral budgets, and following up training for critical staff with on-the-job coaching and support. For example, climate finance training is followed up by support in developing proposals.

3.2. The informal interventions – soft influencing

The 'soft influencing' approaches ACT uses to deliver technical assistance and training are critical. The descriptions above of the formal interventions highlight the significance of how ACT has delivered support to government, including who, when and using what language. ACT's influencing approaches are outlined and explained in detail in the accompanying Learning Paper on ACT's influencing strategies. They cover the following five approaches:

1. **Stories and narratives:** creating compelling and simple counter-narratives that link climate action to development objectives and so change norms and build commitment – for example using issues for which there is already political commitment as an entry point (e.g. floods in Assam, water scarcity in Afghanistan, droughts in Maharashtra);
2. **People and champions:** building teams of people who can identify politically intelligent routes to change and persuade others with politically astute arguments – for example securing a high-level champion within the government as a door-opener to accessing wider networks in government;
3. **Advocacy and networking:** being inside the tent to influence and bring others around – for example engaging the media and using high-profile, visible events to launch new policies;
4. **Rapport and trust:** building trust with government partners through informal 'off-ToR' activities and using existing relationships and networks – for example not including ACT's logo or reference on any supported policy analysis or output for the government;
5. **Change on the ground:** working across levels of government to influence delivery, and directly with 'street-level bureaucrats' who have hands-on responsibilities for the delivery of policy and plans.

Table 1 illustrates how these formal and informal interventions have been used together to support partner governments to strengthen their climate capabilities.

Table 1: ACT's formal and informal approach to working across entry points

Entry point	Example of strengthened capability	ACT's formal approach	ACT's informal approach
Constituency	Building the skills and relationships of the respected Asian Development Research Institute (ADRI) in Bihar, which previously had limited work on climate change, to be a long-term knowledge partner of the state government on climate change.	Worked with and supported ADRI to produce policy analysis and organise workshops related to climate change in Bihar, building its internal capabilities on the subject.	Encouraged ADRI to be the 'messenger' of ACT's work on climate change to the government, helping build the relationships with the relevant departments.
Institution	The Government of Kerala included climate change as cross-cutting theme in the Five-Year Plan (2017–2022). This changes the formal rules, and the incentives of the planning process.	Guidelines on integrating climate change within the planning process and conducted trainings for local governments at Kerala Institute for Local Administration.	One-on-one meetings over many months with existing contacts from the State Planning Board to make the case that it should champion climate issues.
Organisation	In October 2017, Maharashtra Cabinet approved establishment of Climate Change Cell.	Drafted ToR and proposed operational plan. ACT appointed a technical expert co-located at the nodal department to provide routine support.	Over two years of discussion and documenting the experience of other states to convince senior officials of cell's merit.
People	Pakistan's CFU has raised approximately \$140 million from different global funds since 2014 (with little raised prior to this).	Consultants embedded in CFU to support from within through on-the-job mentoring of staff in other departments, including facilitating cross-government processes to develop high-quality proposals.	Embedded consultants effectively operating as advisers for whole of government and asked to informally review climate-related issues.

This section has introduced why ACT has balanced working across levels, and the formal interventions and informal influencing tactics it has used.

The next section looks at how these have been combined to improve functional performance in partner institutions.

4. Pathways to strengthen institutional functions for climate capabilities

ACT's strategy has focused on pathways to strengthen the core functions of institutions: from authorising climate action, to resourcing and then delivering the action required. Figure 6 summarises ACT's approach to strengthening the three institutional functions required for managing climate change:

1. **Authorising climate action** requires strong leadership to build and maintain political commitment, mandate institutions with responsibilities and hold these institutions accountable.
2. **Resourcing climate action** covers four types of 'resources': accurate *information* that is compelling and relevant; new *finance*; trained *staff* for whom climate action is a priority; and a broad *constituency* of credible and influential partners who both help delivery and legitimise action.
3. **Delivering climate action** entails actors who can convene others and incentivise wider collaboration, partners with delivery reach and processes that allow regular reflection to learn and adjust approaches.

This section sets out these pathways and explores the context, mechanisms and results of different interventions and the key factors involved in delivering ACT's most successful outcomes. Case studies further illuminate how interventions are combined flexibly with the influencing tactics elaborated in the Learning Paper on informal influencing.

4.1. Authorising climate action

Clarifying the mandate: *identifying who has the mandate and assigning responsibilities*

Given ACT's relatively limited resources and short timeframe, the focus has been on supporting the institution mandated with responsibility for climate change to respond to live political priorities and requirements of the national or sub-national climate policy – such as Pakistan's Nationally Determined Contributions (NDCs) and India's SAPCCs. Afghanistan had no existing high-level mandate, so one of ACT's first interventions was to refine the draft Natural Resource Management

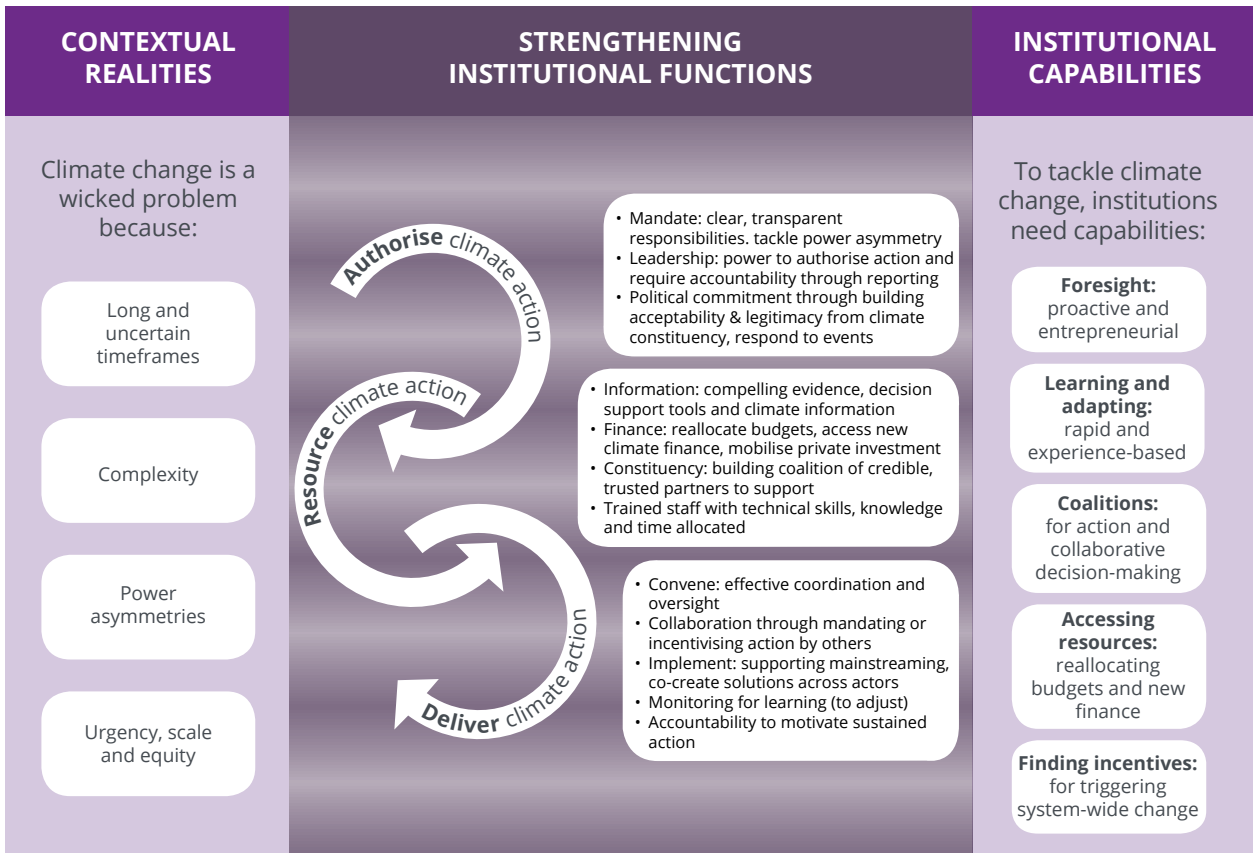
Figure 6: Different functions of institutional capacity



Strategy to incorporate climate change. More recently, the programme helped develop an Operation and Maintenance Manual for its implementation.

ACT has helped government partners understand their responsibilities, clarify delivery responsibilities across sectors and take the necessary next policy 'step' to mainstream adaptation within ongoing development planning. In Kerala, this involved establishing a network of nominated climate change focal persons within different sectoral departments and introducing a climate change chapter in the annual state plan. In Pakistan, ACT prepared an Institutional Framework for the recently mandated NCCA, which included Rules of Business, ToR for key staff and a three-year work plan.

Figure 7: Strengthening climate capabilities requires working across institutional functions



Success factors for ACT started in building strong relationships with the individuals mandated to lead the response to climate change – normally officers in the climate change cell within the agency responsible for environmental issues. ACT has nurtured champions within such cells and beyond: officials who are willing, experienced and authoritative within the leadership and technical functions of the agency. While the mandated agency is in all cases junior to other sectoral departments, it has the authority to propose climate policy or legislation. Strengthening its capabilities to work with others has been crucial to facilitating real action. For example, the Bihar SAPCC had little political traction; rather than focusing directly on its implementation, ACT supported the integration of adaptation concerns and actions in the Bihar Agricultural Road Map – a political priority of the chief minister and one that involved significant engagement across sectors.

Strengthening leadership: *engaging those with power and authority*

In the South Asian context of hierarchical governance structures, authority comes from the president, the prime minister or, in an Indian or

Pakistani state, the chief minister. ACT frames the need for action on climate change within the political priorities of these leaders, to try and nudge their own agenda.

ACT has seen success in strengthening leadership when it has focused on the positive benefits of climate action for the leader’s agenda, rather than starting with the science of and vulnerability to climate change. For example, in Assam, ACT leveraged the chief minister’s political commitment to tackling floods to first build commitment to the SAPCC, which in turn led to the government recognising the need for cross-sectoral integration of climate change and the establishment of the Assam Climate Change Management Society (ACCMS). In Pakistan, ACT has strengthened political leadership by supporting a senior climate change focal person within the Prime Minister’s Office and providing high-level support and advice to the leader.

Another key success factor has lain in navigating, in some cases, frequent changes in political and bureaucratic leadership. ACT has had to be agile and flexible – adjusting priorities with new leaders and pivoting to ensure analysis is relevant to

new agendas. For example, when the political context changed and the government of Assam needed to demonstrate action on the Sustainable Development Goals (SDGs), ACT updated its narrative to identify co-benefits of action on climate change to align with the SDGs. ACT also works at multiple levels within the bureaucracy, so, when new leaders start, it is their own technical teams that brief them on adaptation needs and opportunities, not an external actor.

However, ACT has learnt that leadership alone is not sufficient: there also needs to be clarity on the institutional architecture (see Section 3). For example, in Nepal, there is strong and high-level government ambition on climate action but the transition to federalism has created uncertainty about the mandate of different agencies, which in turn has disrupted and delayed action on finalising and operationalising the NAP.

Building political commitment: *responding to political opportunities*

Leadership is not just about individuals in powerful positions. Building political commitment to climate change also needs a supportive 'constituency' – of both 'voters' and local influential organisations and actors (Devarajan and Khemani, 2016). ACT has learnt that there are moments, for example following an extreme climate event, when it is possible to leverage public concern on a climate-related issue to create public demand for action from the government and increase the acceptability of reform.

ACT has built on these political opportunities and identified champions who have a reason to act – that is, found the 'reform conjuncture' (Faustino, 2012). For example, during a rare heatwave in Kerala, ACT was able to build government interest

Case Study 1: Strengthening the authorising environment in Maharashtra

When ACT first engaged in Maharashtra in 2014, there was no clear mandate, or responsible agency, on climate change. ACT put in place a strategy of strengthening the policy framework both to authorise action on climate change and to establish the institutional arrangements for managing the action.

Maharashtra's SAPCC had been drafted in 2010 by an external actor but the government had not formally adopted it. ACT spent at least a year raising the issue at every level of government, including through day-to-day interaction with the environment secretary. The government asked ACT to make the plan more 'useful', so the local team undertook a cost-benefit analysis to prioritise actions with the highest climate relevance. ACT then used its strategic position supporting the government to turn this analysis into a Climate Change Policy and to push it through the system to ensure the Cabinet adopted it (October 2017). Now, there is a clear mandate, as well as a requirement for action on climate change by sectoral departments. ACT has provided follow-up support to these departments to develop Sectoral Climate Action Plans to meet their responsibilities under the policy.

In parallel, ACT advised the chief secretary and the Environment Department on the appropriate institutional architecture for managing implementation of the plan – including learning from other states' experiences. The government went on to reconstitute and authorise a high-level Steering Committee on Climate Change, chaired by the chief secretary. The Cabinet approved a proposal drafted by ACT to establish a Climate Change Cell within the Environment Department to coordinate and lead work related to climate change. With support from ACT, the Department of Science and Technology, Government of India, has also approved the State Knowledge Management Centre on Climate Change.

As a result, there is now an institutional structure in place, with responsibilities and accountability distributed across departments, which the Climate Change Cell and Knowledge Management Centre will coordinate. At the same, the chief secretary is now highly engaged and committed to delivering the policy. ACT also engaged with political leaders in the state, leading to establishment of a cross-party Maharashtra Legislators' Committee on Climate Change, to expand leadership from the bureaucratic to the political sphere and build accountability.

Case Study 2: A decision support tool for mainstreaming adaptation into development projects in Punjab

ACT spent over a year building a strong relationship with the Punjab Planning and Development Department, which had a growing interest in climate change, partly because of the increasing risk of water scarcity but also because of a High Court ruling that the government needed to show progress in implementing the National Climate Change Policy. The local team provided initial support to identify the best entry point and decided mainstreaming within projects was the most immediate route.

ACT is supporting the department to develop a decision support tool for screening investment proposals on climate impacts. At every stage of the process, ACT has worked to make this a government-led process, from agreeing which departments the tool should cover to selecting the tool. Once the final tool is approved, there will be an intensive 'burn-in' period of trainings and coaching to ensure risk screening is embedded within the institutional processes and cultures of the relevant departments.

and commitment to its work on urban heat islands. In the same vein, ACT has designed flood management plans in a number of cities in Assam and started a process to revise the national Water Strategy following water scarcity in Afghanistan.

ACT has also worked with non-government actors to build political commitment (see also the requirement for a supportive 'constituency', Section 4.2). In Afghanistan, ACT quickly recognised that lack of significant civil society pressure on the government to take action on climate change was contributing to limited political interest and commitment on the issue. ACT supported the formal establishment of Afghanistan's first National Steering Committee for the Climate Action Network (CAN) and trained and exposed the members to advocacy efforts in other countries. Bringing this group into CAN South Asia has given it a long-term support network and a greater chance of sustaining its interest and action on adaptation.

4.2. Resourcing climate action

Building the constituency: *identifying those who are credible to influence and advise*

A broad network of credible, committed and trusted civil society actors and private organisations and individuals is important to maintain political momentum and support (especially given the regular turnover of senior bureaucrats and political leaders). It also provides the government with a source of expertise for the long term. An informed constituency can also improve the quality of public debate on climate change and so shift the dominant narrative (Ballard et al., 2010).

ACT has had success by using locally trusted experts who understand the political context to deliver some of the technical work as programme partners. This has helped ensure the work is locally relevant and appropriate but has also facilitated its sustainability. For example, most of ACT's work in Bihar is delivered in partnership with the local ADRI, enhancing the skills and capabilities of its staff and positioning it as a key partner of the government in the future. ACT has invested significant time in identifying and supporting the right local experts to work with the programme, and it will leave a legacy of hundreds of these experts able to support follow-up work.

ACT has also worked in different ways to reflect differences in the local context. For example, in Kerala, ACT has supported the government to establish a formal community of practice on climate change led by the Climate Change Cell, initially involving electronic and social media platforms for officials from across departments to collaborate and learn together on adaptation. In Maharashtra, ACT has focused on the private sector as a key local network, identifying opportunities for companies to engage with and contribute to the government's priorities on climate change, including using their legal requirement to give 2% of their profits to corporate social responsibility.

Information and technical products: *ensuring politically relevant and timely evidence*

Institutions and decision-makers need access to accurate and relevant evidence on climate change risks and different adaptation options. Most of ACT's technical workstreams have

involved providing partner governments with new information, as well as supporting them to use climate information in general within the decision-making process.

ACT has had most success in producing policy and technical analysis for a specific purpose, in response to demand by a government partner who remains closely involved in the development of the analysis so it meets their needs. This requires patient and continuous engagement with officials and the branding of outputs as government documents. ACT also uses high-profile events to launch the products, to give the government recognition and in turn build its commitment to the analysis. For example, in December 2017, ACT organised a Climate Change Conclave in Chhattisgarh to launch a Forest Sector Review and other policy documents to officially endorse the proposed actions to address climate change in the sector.

When the evidence and decision support tools suit the context and align with political priorities, they are more likely to be used. In Pakistan, ACT used the government's interest in reducing imports of cooking oil as an opportunity to frame recommendations to diversify from cotton, sugarcane, wheat and maize, all of which are more climate-sensitive than oilseed crops. A trusted partner of the government (the Pakistan Agricultural Council) carried out the analysis of the oilseed value chain. The government thus has strong ownership in the analysis and is more likely to act on it.

'The art', as an ACT team leader noted, 'is to offer options that appeal to partners' own interests and values. So, framing the analysis to speak to the dominant paradigm is essential, whether that is economic growth or the SDGs.'

ACT has helped the government establish and strengthen institutional systems and use decision support tools to encourage the routine use of climate information when making planning and investment decisions. For example, governments have used ACT's Financing Framework for Resilient Growth (FFRG) as a tool to identify current expenditure on climate change (quantifying the additional climate change 'benefits' a development programme or project provides), ways to reduce the gap in current

spending on adaptation and what is required (Resch et al., 2017). In Bihar, ACT has helped link two systems of Automated Weather Stations (AWS) run by different departments to facilitate better use of the data.

A critical success factor for any such institutional mechanism is government buy-in. In Nepal, ACT began by supporting the government's Climate Change Knowledge Management Centre to be more effective in bridging the research and policy communities, but it became clear there was little political traction in the centre. So ACT changed track and supported and trained staff at the Central Bureau of Statistics to integrate climate issues into its surveys and carry out the first-ever national climate change survey in Nepal (Tanner et al., 2018).

Accessing finance: *finding opportunities to reshape incentives*

Government institutions need access to finance for any additional costs of climate adaptation. ACT has provided significant support in accessing national and international sources of climate finance but also in maximising the adaptation benefits from existing development budgets.

One of ACT's success factors has lain in using the demand from different sectoral ministries and departments for assistance in developing climate finance proposals as an entry point for supporting wider institutional and finance reform to support adaptation. For example, the FFRG helps governments develop the additionality narrative required to apply for climate finance – distinguishing the different types of benefits – climate and development – a single programme or activity provides. It also identifies the most cost-effective investments to maximise the co-benefits between climate and development objectives. The FFRG has allowed ACT to use the initial interest in accessing climate finance to start the more difficult conversation on reallocating existing development budgets.

ACT has also used interest in accessing climate finance to build wider institutional capabilities. In Afghanistan, ACT supported establishment of the CFU to help access additional climate finance but experience from Pakistan shows this will also deliver wider value. To date, the ACT-supported Pakistan CFU has leveraged approximately

\$140 million from various climate funds, but it also delivers training to ministries and provides informal advice and review on climate issues. Meanwhile, much of ACT's training on developing climate finance proposals also builds a broad set of climate-related knowledge and skills. In Odisha, Assam and Afghanistan, ACT has helped partner governments create opportunities to finance priority actions by development partners, such as the World Bank.

Trained staff: *investing beyond individuals*

Institutions need committed staff with the skills to manage climate change, as well as the time to deliver on climate priorities. ACT has built the capabilities of individuals through a combination of formal training and informal on-the-job mentoring and support.

A success factor has lain in going beyond one-off training programmes to build wider institutional systems to enhance the skills of officials, such as developing the module on water budgeting as part of the Government of Maharashtra's drought programme and integrating climate change modules into the core civil service training programme of the Kerala Institute for Local Administration. ACT has tried to ensure the right

people are trained – for example junior staff within the Afghanistan CFU, who will do most of the work.

It has also been important to use trusted and respected expert partners to deliver the training. For example, ACT has partnered with the International Centre for Climate Change and Development (ICCCAD) to deliver a number of regional trainings. This has proved successful because the institute is based in South Asia but has a global reputation for being a hub of research, training and teaching on adaptation. ACT has learnt that carefully designed training can not only impart skills but also build confidence, a common language and a shared identity among officials. The programme could extend this to coaching officials on the 'soft skills' of leadership and influencing that those working on climate change frequently require.

A further success factor has been advocating for more dedicated staff. In most locations, responsibility rests with a single nodal officer, or a small number of officers and some support staff. These officials struggle to juggle their many responsibilities. In Assam, Kerala and Maharashtra, ACT has succeeded in making the case and building political support for establishing climate change cells with a greater number of dedicated staff.



Deputy Chief Minister of Bihar, Shri Sushil Kumar Modi addresses the media after launching a report on financing frameworks for resilient growth

4.3. Delivering climate action

Convene: *enabling interagency coordination and integration*

The agency mandated with managing climate change – usually the lead on the environment – is expected to convene and coordinate sectoral agencies. However, power asymmetries often limit their effectiveness in this role. ACT has enabled interagency coordination by establishing and strengthening cross-sectoral working groups with support of central ministries – such as Planning or Finance – to set and approve the strategy for managing climate change and monitor its delivery. For example, Kerala's State Planning Department has established a Working Group on Climate Change. In many cases, such committees existed but lacked the institutional mandate or leadership to be effective. For example, in Maharashtra the Climate Change Committee was established to prepare the SAPCC but had become defunct; ACT re-institutionalised it as part of the implementation mechanisms for the new Climate Change Policy. Committees convened by agencies that already have a cross-sectoral mandate to oversee sectoral delivery have proven more successful – because the systems are in place for accountability.

ACT has therefore encouraged governments to mandate cross-sectoral agencies with responsibility for climate change, given their greater convening capabilities. Punjab's Planning and Development Department has taken on leadership and is developing climate risk screening as one of the requirements for ex-ante appraisals of investments (Case Study 2). In Assam, ACT helped the government create a new body, the ACCMS, which has highly visible political accountability to the chief minister and operational accountability to the chief secretary, and so can convene different departments. ACT has engaged finance ministries and departments through the FFRG process, tracking climate-related spend in the budget and encouraging sector departments to report on delivery. Departments have also been incentivised through the process of setting up CFUs and applying for international climate finance to increase the budget available for adaptation.

Delivering climate action at the frontline: *strengthening avenues for delivering adaptation on the ground*

Sectoral departments need the capabilities, systems and tools to integrate climate change into their

policies and priority programmes, as the primary route in delivering adaptation. ACT has focused resources on engaging and strengthening climate-sensitive sector agencies and local governments that have staff on the ground and can reach vulnerable communities.

ACT has had success with these delivery-focused agencies by finding the right incentives and entry points. In many cases, engagement has started with a broad assessment of the vulnerability of the sector, to give the programme credibility to then engage on possible solutions. In Chhattisgarh, ACT produced an assessment of demand and supply of water resources under different future climate scenarios, which helped build strong interest in the Water Resources Department, resulting in the latter's commitment to establish a climate change cell within the department. In other cases, ACT has strengthened the capabilities of line ministries and agencies by working with and influencing other external programmes. For example, in Odisha, ACT built interest within the water and agriculture departments for integrated irrigation and agriculture planning by developing and piloting a district planning framework. To support the scaling-up process, the framework has now been integrated within the upcoming World Bank's Odisha Integrated Irrigation Project for Climate Resilient Agriculture activity.

Another success factor in strengthening delivery capabilities has involved working with local governments. In Kerala, where there is already a strongly decentralised structure and culture, the government has decided to include climate change as a cross-cutting theme in the District Plan for the 13th Five-Year Plan (2017–2022), a measure strongly supported by ACT through technical assistance and capacity-building at the district and sub-district levels, including through development of a framework for adaptation for local self-governments. In Maharashtra, ACT began with a high-level assessment of climate-proofing the government's flagship programme on water security (the JSA) and then helped operationalise some of the recommendations by developing the village-level Water Budgeting Tool, mentioned earlier.

Collaborate: *incentivising joint action across agencies at multiple levels*

The impacts of climate change cut across sectors and domains, and adaptation requires joined-up thinking and action. Institutions therefore need

the systems, culture and working practices to encourage different sectors to work together to more efficiently mainstream and tackle common climate risks. ACT has had success in encouraging joint discussion and decision-making and more limited impact in facilitating joint delivery across sectoral agencies. In Odisha, ACT is encouraging integrated planning on irrigation and agriculture by working at the district level, where convergence across departments is easier, and by using scenario analysis to understand the shared impact of climate change on different sectors. The feasibility of a framework for integrated planning is also being demonstrated, and is being used for the winter crop – *rabi* – planning in Angul district.

ACT has helped governments use cross-sectoral climate policy frameworks as a starting point for greater collaboration. In Maharashtra, ACT has demonstrated that the SAPCC provides a framework for each sector to prioritise climate actions to better deliver against its own targets as well as co-benefits for other sectors' objectives (Case Study 1). In Nepal, ACT has facilitated a collaborative approach to preparing the NAP through establishing thematic and cross-sectoral working groups with shared analysis and decision-making. In Odisha, ACT is demonstrating what collaboration means in practice, by piloting a toolkit for integrated planning across the water and agriculture sectors in two districts. ACT has also tried to create explicit informal learning opportunities through communities of practice across sectoral agencies, such as in Kerala (Case Study 3).

Monitoring: *creating upward and downward accountability for action*

An essential capability relates to institutional systems and individual skills for monitoring and reporting on policies and plans and learning from

success and failure. This is especially crucial for climate change because of its complexity and uncertainty and the need for rapid learning and adapting (see Section 2.2). For example, for India's reporting of its NDC under the Paris Agreement, it will rely on bottom-up reporting of adaptation actions from states. However, there is no clarity on how to do this, and ACT is working with other technical assistance programmes to institutionalise a methodology for monitoring and reporting on SAPCCs and adaptation action in general. This maps the activities listed in the SAPCCs within a framework of related outputs and outcomes and any assumptions made, and some higher-level impact indicators. The reporting is on a simple rating of the status of implementation and adoption of any outputs, as well as using the annual budget to report on expenditure utilised (Gogoi et al., 2018).

ACT has had some success in establishing or strengthening monitoring frameworks within cross-sectoral climate change plans, and clarifying responsibilities for managing this process, but there is little evidence that these processes have been implemented. In Assam, the line of accountability is through the ACCMS, which must collate sectoral reports on progress in implementing the SAPCC for the Ministerial Committee, chaired by the chief minister. In Odisha, the government has asked for ACT's support to go beyond monitoring progress to evaluate the actual impact of adaptation actions, partly to seek justification for increasing investment in such actions.

ACT has also supported other actors, beyond the bureaucracy, to be involved in the monitoring and reporting process. In Maharashtra, the Climate Change Policy has introduced an institutionalised requirement for reporting, and the state has now constituted the cross-

Case study 3: Collaboration, coordinating and learning through a community of practice in Kerala

ACT has supported the Climate Change Cell in the Department of the Environment to establish and coordinate a Community of Practice on Climate Change. This comprises 33 focal team members sitting within different sectoral departments and so far involves a discussion forum on email and social media platforms on different cross-cutting climate change-related themes. Focal persons are also called on to participate in various workshops and training sessions on climate change. The community has proven a useful opportunity for officials to informally and confidentially discuss their experiences with different adaptation policies and actions. It is also helping break down hierarchical cultural practices as well as strengthen the legitimacy and capabilities of the Climate Change Cell as a coordinating body.



Training on climate budgeting in Afghanistan

party Maharashtra Legislators' Committee on Climate Change to strengthen mechanisms for oversight and accountability. In Bangladesh, ACT has helped establish a coalition of civil society organisations and journalists who jointly review the government's own climate change budget and put forward demands and recommendations. For example, last year they called for the government to increase the degree of climate change 'benefits' that the development

budget provides, and for a mechanism for civil society's involvement in the preparation of the climate change budget.

Table 2 highlights ACT interventions that have strengthened the functions required of institutions to tackle climate change, although the examples illustrate how effective support will shift incentives and so improve functional performance in more than just one area.

Table 2: Examples of ACT interventions that strengthen institutional functions

Institutional functions		Example of ACT interventions
Authorise climate action	Mandate: clear, transparent responsibilities	Technical analysis and support to update and prioritise Maharashtra's SAPCC to form first-ever State Climate Change Policy.
	Leadership: power to authorise action and require accountability	Embedding a focal person for climate change within Prime Minister's Office in Pakistan.
	Political commitment: acceptance and legitimacy from climate constituency	Working with and supporting the respected and influential ADRI in Bihar to act as a knowledge partner of the government on climate change.
Resource climate action	Constituency: coalitions of credible, trusted partners to support government	Technical and logistical support for Kerala Climate Change Cell to establish community of practice with 33 department/agency focal persons.
	Information: compelling evidence, decision support tools and climate information	Developed a Water Budgeting Tool in Maharashtra that supports the community to calculate their water budget and plan for efficient water use, which the government is rolling out by training 4,000 'water champions'.
	Finance: reallocate budgets, access new climate finance, mobilise private investment	A detailed assessment in Bihar of the impact of climate change on the state's gross domestic product and the adaptation benefits being delivered by the budget, which informed the state's Annual Economic Survey, was provided as guidance for future budget planning.
	Trained staff: technical skills, knowledge and time allocated	Trained Government of Bihar officials from different departments on the use of AWS for managing climate and disaster risks, as part of a larger effort to get data collected from AWS made accessible and used.
Deliver climate action	Convene: effective coordination and oversight	Technical and mentoring support to establish and operationalise the ACCMS to coordinate SAPCC implementation.
	Deliver: support mainstreaming, co-create solutions across actors	Technical analysis and review of the draft Natural Resources Management Strategy to integrate climate change within the final version.
	Collaboration: mandating or incentivising action by others	Developed a district-level integrated irrigation and agriculture planning framework in Odisha, which is being applied to crop planning in Angul district.
	Monitoring: for accountability and learning	Established a cross-party Maharashtra Legislators' Committee on Climate Change to oversee implementation and monitoring of the Climate Change Policy and Sectoral Plans.

5. Strengthening institutional architecture

This section considers how to design the institutional architecture for climate action to maximise climate capabilities. ACT has avoided any preconceived idea of a ‘correct’ institutional set-up and has rather focused on improving the ‘functions’ to authorise, resource and deliver action on climate change to improve their performance around the characteristics required to tackle climate change. ACT has learnt that one design may work in one context but not in another.

ACT’s approach goes against many international perspectives of what constitutes effective institutional reform, which often focus on structure and policies – often with no impact on performance (Andrews et al., 2012). In part, this

can be explained by low-capacity institutions being asked to implement technical functions that similar organisations in rich countries perform, so staff are overstretched and there is a fall in functional performance. If success is measured by changes in form, it is possible to demonstrate compliance without changing how the work is truly done or the decisions are made.

For this reason, ACT’s framework has the architecture as the foundation for improving institutional performance, and has put functional performance at the centre. This section discusses some of the architecture options to improve the functions and presents two case studies from the programme demonstrating how options work in

Figure 8: Climate architecture design options

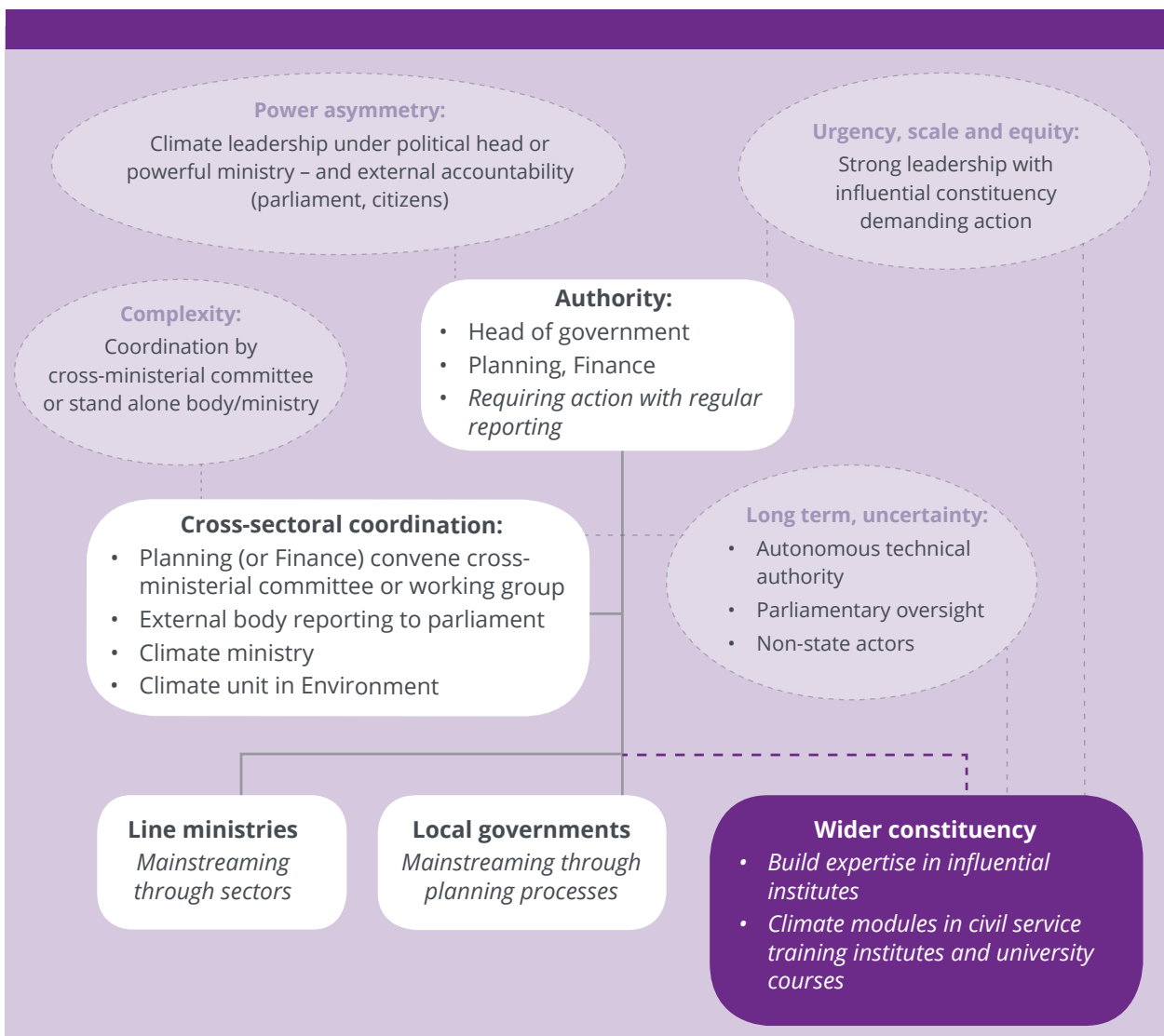


Table 3: Considerations in designing the architecture to tackle the challenges of climate change

Challenges	Considerations for institutional architecture	Examples of specific institutional architecture
Urgency, scale and quality	<ul style="list-style-type: none"> To demonstrate strong leadership and credible commitment to action (with the risk of being too linked to one party and to political cycles) Institutional responsibilities mandated through policy and legislation (with the risk that the mandate is with a junior ministry or one with many conflicting objectives) Influential constituency legitimising and reinforcing leadership 	<ul style="list-style-type: none"> High-level steering committee led by head of government sets mandates and tracks progress (e.g. ACCMS) which is accountable to the chief minister but run by technical staff Climate policy provides mandate in Maharashtra, where Cabinet adopted the Climate Change Policy in 2017, approving creation of a Climate Change Cell to manage implementation Trusted and influential institutes engaged in providing advice (e.g. ADRI in Bihar), training civil servants (e.g. ICCCAD in Bangladesh) Environment departments in Odisha, Chhattisgarh and Bihar given formal mandate for managing climate change, highlighted through a name change of department
Complexity	<ul style="list-style-type: none"> Effective coordination across sectors and at different scales (with risk of isolating individual agencies) Incentives created for multi-stakeholder and multi-sectoral collaboration Incentives created from learning from experience, flexibility to suit context (with the risk the mandate is not clear enough) 	<ul style="list-style-type: none"> Cross-sectoral committees or mechanisms (e.g. Kerala State Planning Board Working Group on Climate Change; split responsibility in Nepal, with technical lead in the Ministry of Forests and Environment and climate finance lead with the Ministry of Finance) Coordination led and managed by dedicated agency (e.g. ACCMS) Agencies responsible for accessing and managing disbursement of climate finance (e.g. Pakistan CFU)
Long-term uncertainty	<ul style="list-style-type: none"> Autonomous technical authority provides long-term vision as shielded from short-term political cycles (with the risk it does not have authority) Parliamentary oversight ensures cross-party engagement and longer-term perspective Constituency of experts ensures planning less swayed by immediate politics 	<ul style="list-style-type: none"> Formal or informal technical advisory role from independent institute (e.g. ADRI in Bihar) Parliamentary committee or working group on climate change, for example in Maharashtra State Knowledge Management Centres on Climate Change established in Odisha, Chhattisgarh, Maharashtra
Power asymmetry	<ul style="list-style-type: none"> Mandating responsibilities for climate change within authoritative agency that has existing cross-sectoral oversight (with the risk of too many priorities) or within agency with clear interest in action (with risk it is not a powerful agency) Clear accountability to ensure there is pressure on leadership to deliver 	<ul style="list-style-type: none"> Head of provincial governments leads agency with oversight and delivery responsibilities (e.g. ACCMS is overseen by chief minister-led committee in Assam while Kerala's State Planning Board has integrated climate change within annual planning process) External formal and informal accountability mechanisms: in Maharashtra, ACT has supported the government to consider options for high-level oversight of the state's Climate Change Policy, through constitution of a parliamentary committee, led by the chair of the Maharashtra Legislative Council and co-chaired by the speaker of the Maharashtra Legislative Assembly. External accountability through Afghanistan NGOs' CAN

a specific context. There are clear trade-offs in any one approach to delivering the institutional functions needed. While it is too early to judge how different architectural approaches are performing in South Asia, being alert to the downside of any architecture helps ACT focus on managing the risks

5.1. Design options

A range of institutional architecture designs are emerging globally to tackle the specific challenges of acting on climate change. Figure 8 summarises the options around different architectural features that have been seen to date to deliver the institutional functions, and ultimately the behaviours or characteristics needed to tackle climate change. The different strengths and challenges of these options in delivering the required characteristics is unpacked and illustrated with examples from ACT's partner governments in Table 3.

Fundamental to tackling the challenges that governments face in acting on climate change is the need for some form of institutional mechanism for authorising, coordinating and delivering action across sectors. This can be a dedicated agency (e.g. Pakistan's Ministry of Climate Change), a cell within another agency (e.g. Chhattisgarh's Climate Change Cell in the Department of Forestry), an agency focused on climate finance (e.g. Afghanistan's CFU), a committee or working group (e.g. the Climate Change Working Group under Kerala's State Planning Board) or some combination of all of these (e.g. Assam's ACCMS headed by a ministerial-level cross-sectoral committee). Based on ACT's experience, there are fundamental trade-offs around any approach. There are a number of issues to consider carefully:

- The mandate should be rooted in legislation, or policy, to provide legitimacy and ensure sustainability.
- The roles of different agencies need to be clearly defined.
- There needs to be a balance between having the mechanism under political leadership (to empower and authorise it) and it being autonomous and shielded from short-term political cycles.
- Agencies that already have a cross-sectoral mandate and their own source of authority (e.g. planning and finance) find it easier to incentivise action by other agencies.
- Any cross-sectoral mechanism needs strong lines of reporting and accountability – usually a very weak institutional capability.

- Wider actors outside government – think tanks, universities, the private sector and NGOs – have a critical role to legitimise action, hold governments to account and support cross-sectoral delivery.

The following two examples from ACT's work discuss some of these considerations in more detail.

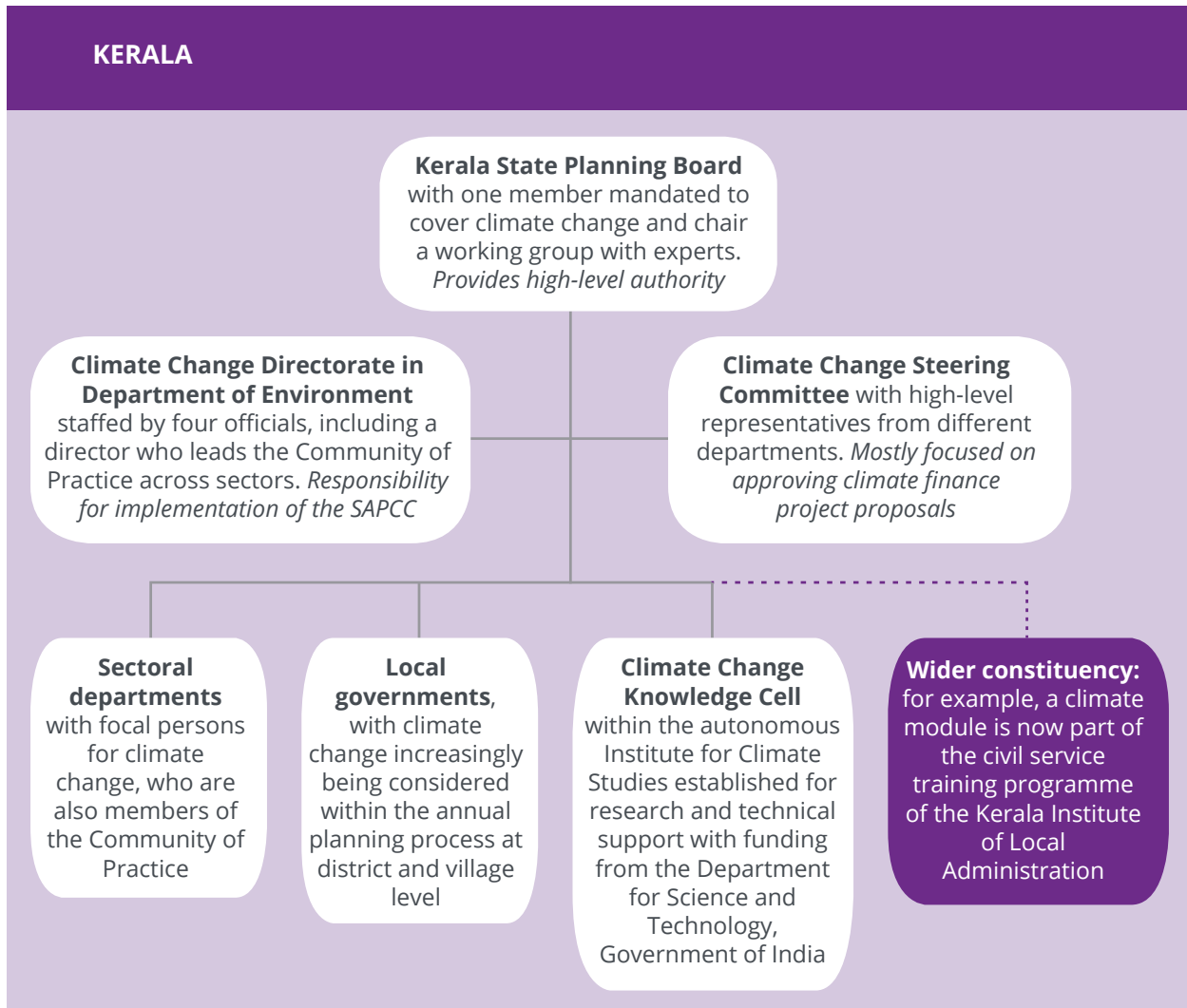
5.2. The architecture in Kerala

ACT has supported the Government of Kerala to strengthen its institutional architecture for managing climate change to reflect the political economy context, including the relatively powerful role of the State Planning Board and commitment to decentralised decision-making. Figure 9 represents the authors' interpretation of the reality of decision-making processes in the state. Key characteristics include the central role of the State Planning Board, which has become increasingly engaged on climate change and with ACT's support has set up its own Working Group on Climate Change. However, a Directorate of Climate Change located within the Environment Department has formal responsibility for managing delivery of the SAPCC. ACT has strengthened the high-level mechanism for coordinating across sectors (the Climate Change Committee) and helped establish an informal mechanism to facilitate communication across departments (the Climate Change Community of Practice). The strong government structure developed may be relatively reliant on political interests and so affected by political cycles. Building external accountability – to either parliament or a wider network of interests outside government – could balance this risk.

5.3. The architecture in Assam

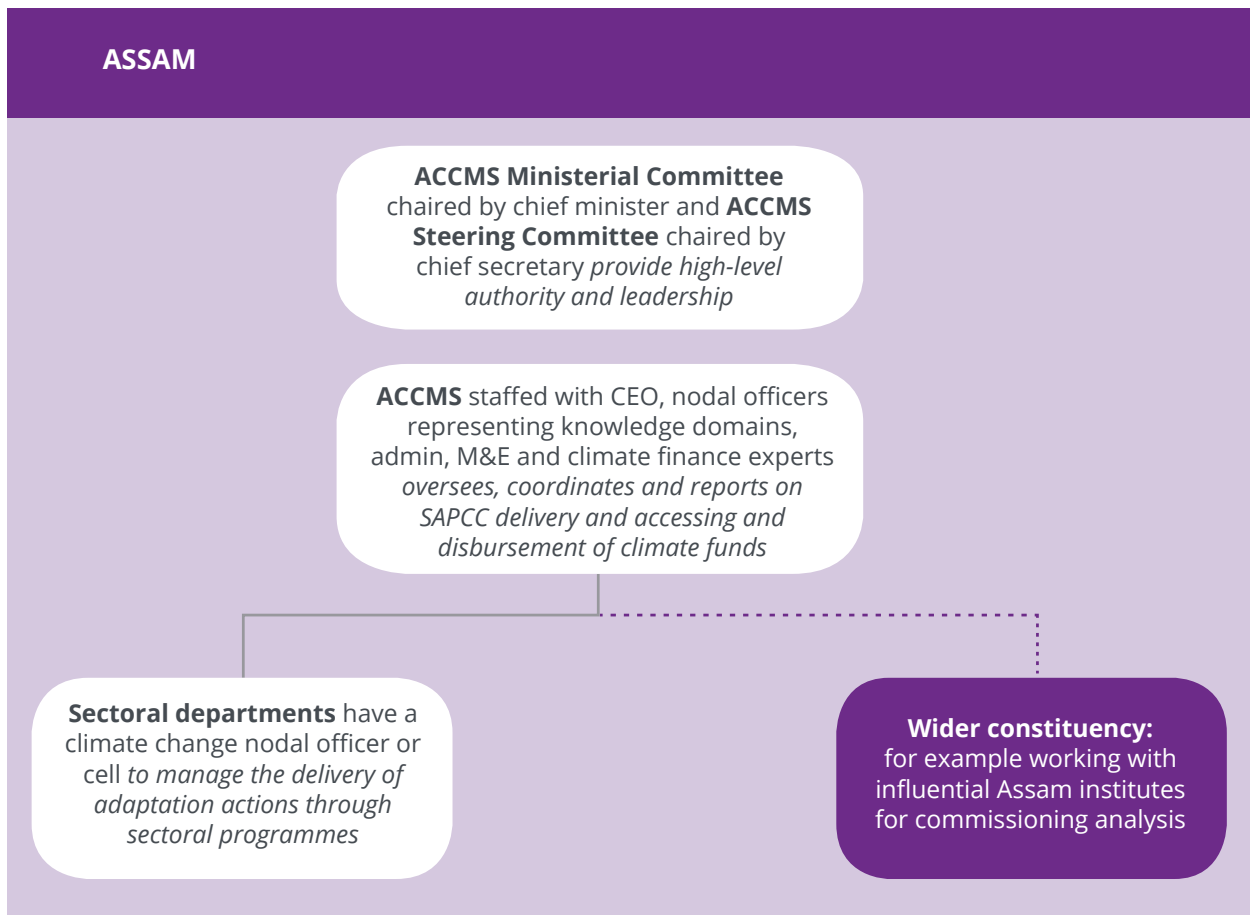
With ACT's support, the Government of Assam has established an innovative new institutional arrangement. The ACT local team gained credibility and built a strong relationship with the chief secretary and other leaders by helping them finalise and approve their SAPCC. The team was then able to make the case for and drafted the mandate and design of a Special Purpose Vehicle to manage implementation of the plan.

The ACCMS has high-level authority from its Governing Body and Steering Committee, chaired by the chief minister and the chief secretary, respectively. However, it has day-to-day autonomy, with a CEO managing the functions with a team of nodal officers from 14 departments as well as

Figure 9: Kerala institutional architecture for climate change

administration and finance staff. In March 2018, the Assam government allocated specific funding in the state's annual financial plan for the running of the society. The ACCMS, now active, will use the incentive of accessing additional climate funds to ensure the engagement of sectoral departments in implementation of the SAPCC and is working with key donors in the state to align their

programmes with the climate plan. The relative autonomy of the ACCMS has advantages in ensuring consideration of the long-term time horizon, but it risks being isolated from political authority over time. This again can be managed by supporting clear lines of accountability to the state legislature and to external networks with interests in climate action.

Figure 10: Assam institutional architecture for climate change

6. Lessons from ACT for investing in capacity-building

ACT, like any donor-funded programme with limited time and financing, is constrained in the scope and type of support it can provide. It has not been possible to respond to every request for technical support from government partners, and in some instances the programme has not been able to provide as intense mentoring and coaching as would have been ideal (e.g. the programme has not had the mandate and resources to pilot and demonstrate some of the planning and policy innovations). External agents need to recognise their own limitations before deciding how best to build the capacity of others – and what values they are bringing (Bebbington and Mitlin, 1996; Eade, 1997). As such, ACT has had to identify an effective role to play, given its limitations. This section summarises lessons from ACT in defining and delivering its capacity-building support in the region, as well highlighting limitations of the programme's approach. It is targeted at other programmes and partners designing and delivering institutional capacity-building interventions.

Have a strategy and budget time: Any institutional capacity-building effort should be carefully and realistically planned. This includes having a clear vision on what improvement in functional performance is sought, based on a thorough assessment of the current context. In addition, it is important to plan the phasing of interventions – for example providing technical training after the government has been made aware of the subject and is committed and ready to use the new skills. ACT's context assessment and capability framework tools help here; they could be extended to allow government partners themselves to self-assess their capabilities (Box 1).

Interventions should have a realistic timeframe: reform processes take time and with climate change there are bigger capability challenges. ACT's experience shows that assumptions of linear change will often lead to disappointment. Time lags are common: training can be delivered but overstretched individuals often need time to consolidate their learning before they can apply it. Time needs to be invested to consolidate gains, particularly at the initial stages, in building buy-in, trust and credibility with partners (Whittle et al., 2012). Planning should also cover the sustainability

of capacity-building efforts, such as through using locally trusted institutions to provide technical assistance, building their understanding and so ensuring there is a source of credible support after the programme ends.

Learning and adaptive programming: A central success factor for ACT relates to being flexible and deliberately learning from experience, to follow shifts in political sands. ACT advocates for government partners to put in place an iterative process of managing climate risks and monitoring the effectiveness of adaptation action, so the programme itself needs to practise the principle of adaptive programme management (Moser and Boykoff, 2013). This includes tolerance of failure, especially as only an estimated 10% (Oakland and Tanner, 2007) to 30% (Kotter International, 2014) of efforts at change management are successful. To increase the value of this approach, government and wider partners could be more formally involved in ACT's learning process around success and failure – to institutionalise this culture and so internalise the learning (Ekstrom and Moser, 2013).

ACT has learnt the value of not over-designing processes at the start but rather encouraging local team members to drive an iterative, context-specific and unpredictable process to achieve reform. This has been critical to ACT being able to respond to political moments and build strong relationships between institutions that need to collaborate. However, being adaptive and responsive has its costs. Some work moves faster, and there are some dead-ends when political interest wanes. And, to manage the risk of failure across experimental interventions, the programme ends up covering many activities. There is a need for efficient programme administrative procedures to match partners' pace; intensive engagement with the partner to maintain their ownership; good networks to find a credible local team; and effective management systems to balance local autonomy with assurance of the quality of outputs and processes.

Measure the right things: All donors need some certainty on the results they will see from their investment and implementing partners must thus predict a set of outcomes and then measure

success against these. This can reduce the space for responding to opportunities and changes in the context. ACT has learnt the value of donors allowing adjustment in promised results without onerous negotiation but rather as part of the expected changes in each annual review.

Reporting on the real results will necessarily be more qualitative than quantitative to reflect the underlying strategy. For example, numbers of people trained may be less indicative of success than how the skill gap was identified to ensure training is demand-driven, how the right people were selected and how the follow-up mentoring was provided. In the ACT results framework, a useful measure of success is that of 'system enhancement', which offers the scope and flexibility to capture real changes in institutional capabilities. And, if partners were invited to reflect on their own progress and the value of new processes, this would build greater ownership of the change process and provide useful feedback for donor reporting (Ballard et al., 2010; Wilby and Vaughan, 2011).

Invest in 'influencing' and local teams: Central to ACT's successes has been the deployment of a local team with strong interpersonal skills in building networks and shaping the debate. An accompanying Learning Paper (Tanner et al., 2018) summarises ACT's influencing strategy and the

importance of team members being politically astute and able to seize opportunities. The credibility and intuition of the local team are crucial in building and sustaining government partners' ownership and commitment to the programme, and in spotting meaningful opportunities to build institutional capacity. ACT has facilitated this by co-developing the scope of work with each government partner. The local team identifies whom to work with and their motivations and priorities, enabling ACT to develop a decision support tool or propose a system change aligned with their needs and interests (Lonsdale et al., 2010; Mackenzie and Gordon, 2016). ACT has a rapid response facility to respond to small but tactical immediate requests for support, which further builds goodwill with the government. However, if political capital dissipates, ACT drops workstreams: without backing, the opportunity for system transformation will not materialise.

Avoid technical bias when building climate change capabilities: Global efforts to build institutional capacity have tended to focus on building technical skills for using climate science. Providing information on climate change is not enough to change behaviour: people resist new information that challenges existing norms and cultures. To build dynamic and entrepreneurial institutions able to respond to the challenges of climate change, it is important also to build leadership skills, to motivate



Launch of the Financing Framework for Bihar's State Action Plan on Climate Change.

people through reward structures and to incentivise behaviour change. ACT has built these ‘soft’ skills informally but the programme’s capability framework for officials could usefully be extended to cover these explicitly.

Expect resistance and diffuse opposition: Action on climate change is politically challenging because it requires change in the values and norms governing decision-making (World Bank, 2010). Tackling vested interests and the status quo is difficult because of the interconnectedness of all the actors’ positions. ACT has started by supporting partners to make the connection with climate change and their priorities, helping make sense of the challenges and focusing on uncontested ideas. This has built the trust needed to then move to the harder aspects of institutional climate capabilities. It has also had success working through networks of supportive individuals at technical and political levels, inside and outside government. However, ACT’s demand-led technical assistance mandate makes it difficult to challenge dominant narratives outright and to support radical new ideas while maintaining trust. This limits the transformational potential of the programme.

ACT has, however, sought to work with those whose interests could be jeopardised, to identify ways they can benefit from climate action (Burton et al., 2005; Meadowcroft, 2009). Ideally, incentives would be created to make adaptation the default, easier and cheaper option – but it is often the reverse. In Pakistan’s Punjab, ACT is helping the government develop a climate screening tool to improve the resilience of infrastructure investment, which will add extra work to already overstretched officials. ACT will therefore coach them to ensure the process is efficient and done correctly, and delivers visibly higher returns from development investments.

Fairness to provide motivation: Addressing the distributional implications of climate action can help tackle social resistance and increase the political acceptability of adaptation (Tàbara et al., 2010). Global experience demonstrates that successful reform processes deliberately target benefits to those directly affected and compensate other organised groups (Keohane, 2015). ACT has built political support in some Indian states by framing adaptation in the context of the SDGs and their wider poverty reduction objectives. ACT has attempted to integrate gender analysis but recognises this needs a stronger emphasis to identify opportunities for transformation in gender relations. And, without investment finance, it is harder for ACT to influence inclusion in the governance of climate action.

Inform and enable robust debate: Given climate uncertainties and the complexity of impacts, inclusive policy debate is central to robust outcomes. ACT has had success in producing accurate and trusted new climate information and using this to facilitate debate and ultimately help improve the quality of decisions made. ACT’s success – and its likely legacy – has been in building the capability of local trusted external organisations to carry out and communicate this analysis. But, again, ACT could look for ways to enable wider debate and contestation between different perspectives as part of this process (Thompson and Verweij, 2004).

Build a shared vision: Government agencies have strong incentives to deliver results within short political timeframes. ACT’s experience confirms that, when climate change can be aligned with existing political interests, processes and immediate priorities, significant institutional change is possible (Meadowcroft, 2009). ACT has used a range of political entry points, including

Box 2: Reflections from ACT team members on the most important success factors for building climate capabilities

‘Improving climate governance requires trust and credibility and it requires demand. We start with individuals and build our credibility with them, so we can respond with a political opportunity.’

‘Improving awareness of climate change, just getting it onto the agenda, is the first step. And improving the quality of the conversation about climate change requires dedicated and close support.’

‘The network of trusted and influential external partners is the real legacy of the programme, building the climate competence of those who already have credibility.’

the SDGs, accessing climate finance and acting on the political will arising from extreme events, to propose and support institutional reform. ACT has also helped strengthen relationships and dialogue between interconnected institutions to learn together, develop a common vision and so, ultimately, help shift the dominant narrative on development.

Reshape interests: ACT is demonstrating that interests can be changed through new evidence, new incentives and conscious agreements. ACT has supported analysis of options for adaptation, with decision support tools to enable governments to select the most appropriate (Cao and McHugh, 2005). For example, ACT's Coding and Scoring Tool for assessing climate benefits was used to prioritise actions within the Maharashtra SAPCC. But ACT could consider approaches to enable more explicit competition of ideas and interests. ACT has piloted some involvement of the private sector in adaptation but could do more to identify and encourage new centres of economic power that benefit from climate action.

'Breakthrough' interventions often help reshape interests, either by setting a new guiding vision for the government – for example Afghanistan's Natural Resource Management Strategy – or by reorganising administrative responsibilities to realign interests – as with the ACCMS in Assam. In some cases, these reforms have come through the opportunistic exploitation of a crisis, allowing those with authority to prioritise system change through having a shared objective across interdependent actors.

Build the constituency for delivering climate action: Capacity-building efforts tend to focus solely on government partners, but a wider constituency of supportive actors outside government is important for building political commitment, providing expert advice and delivering adaptation. Strengthening the constituency also helps build a shared positive vision and enables more meaningful and constructive public engagement in the policy debate (Verweij et al., 2006; Boswell et al., 2012; Moser et al., 2013). External organisations can demand action on climate change and hold the government to account, ultimately increasing the political acceptability of action on climate change (World Bank, 2010).

As noted above, ACT can do more to strengthen this aspect of the approach, but has at least spotted the importance of building this constituency. From the start, ACT developed local sustainability plans for each location, all stressing the importance of building local research, civil society and media engagement on climate change. In addition, ACT is building a wider constituency at the regional level in different ways, from creating opportunities for officials from different locations to learn from each other, to establishing a network of practitioners who provide peer review and learning.

These lessons from ACT's experience, and the framework for building institutional climate capabilities, seeks to offer a different way of thinking about capacity-building for climate change. It also offers a way to assess success – not against predetermined outcomes in terms of the form of institutions but against tangible institutional behaviours (Folke et al., 2002; Datta et al., 2012). An accompanying Learning Paper (Tanner et al., 2018) provides more detail on how to operationalise a programme that can effectively deliver this framework on institutional capacity. A reoccurring theme in this paper, taken up in more detail in the accompanying paper, is the importance of the informal – in building trust – in influencing and supporting change processes in partner countries. As Box 2 shows, ACT's local teams, which have been at the forefront of efforts to deliver institutional change, clearly advocate for a relationship-driven and politically astute approach to building institutional capabilities.

Within the framework derived from ACT's experience, it is clear that working with individuals' motivations and their broader constituency is critical to delivering real change. Too much work on capacity-building means there is focus purely on technical information, technical skills and formal organisational structures and remits. This is indeed important, but to deliver tangible change there is a need to consider the interconnectedness of people and their networks need, so as to really shift behaviours and incentives. ACT's team and its focus on delivering tangible change for people on the ground means the programme focuses on an institution's capabilities for authorising, resourcing and delivering climate action – rather than just the institutional form, policies and plans that have absorbed so much effort in other programmes.

References

- Amagoh, F. (2008) 'Perspectives on Organizational Change: Systems and Complexity Theories'. *The Innovation Journal* 13(3): 1–14.
- Agrawal, A. (2010) 'Local Institutions and Adaptation to Climate Change', in R. Mearns and A. Norton (eds) *Social Dimensions of Climate Change: Equity and Vulnerability in the Warming World*. Washington, DC: World Bank.
- Andrews, M., Pritchett, L. and Woolcock, M. (2012) 'Escaping Capability Traps through Problem Driven Iterative Adaptation'. Working Paper 2012/64. Helsinki: UNU-WIDER.
- Ballard, D., Reason, P. and Coleman, G. (2010) 'Using the AQAL Framework to Accelerate Responses to Climate Change'. *Journal of Integral Theory and Practice* 5(1): 1–20.
- Bebbington, A. and Mitlin, D. (1996) 'NGO Capacity and Effectiveness: A Review of Themes in NGO-Related Research Recently Funded by ESCOR'. London: IIED.
- Berkes, F., Colding, J. and Folke, C. (2000) 'Rediscovery of Traditional Ecological Knowledge as Adaptive Management'. *Ecological Applications* 10(5): 1251–1262.
- Boswell, M.R., Greve, A.I. and Seale, T.L. (2012) *Local Climate Action Planning*. Washington, DC: Island Press.
- Burton, I., Lim, B., Spanger-Siegfried, E., Burton, I., Malone, E. and Huq, S. (2005) *Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures*. Cambridge: Cambridge University Press.
- Cao, G. and McHugh, M. (2005) 'A Systemic View of Change Management and Its Conceptual Underpinnings'. *Systemic Practice and Action Research* 18(5): 475–490.
- Cawsey, T.F., Deszca, G. and Ingols, C. (2012) *Organizational Change: An Action-Oriented Toolkit*. Thousand Oaks, CA: SAGE.
- Commonwealth of Australia (2007) *Tackling Wicked Problems: A Public Policy Perspective. Contemporary Government Challenges*. Canberra: Australian Public Service Commission.
- Dagnet, Y., Northrop, E. and Tirpak, D. (2015) 'How to Strengthen the Institutional Architecture for Capacity Building to Support the Post 2020 Climate Regime'. Working Paper. Washington, DC: WRI.
- Datta, A., Shaxson, L. and Pellini, A. (2012) 'Capacity, Complexity and Consulting: Lessons from Managing Capacity Development Projects'. Opinion Piece. London: ODI.
- Denney, L. and Valters, C. (2015) *Evidence Synthesis: Security Reform and Organisational Capacity Building*. London: ODI.
- Devarajan, S. and Khemani, S. (2016) 'If Politics Is the Problem, How Can External Actors Be Part of the Solution?' Policy Research Working Paper 7761. Washington, DC: World Bank.
- Eade, D. (1997) *Capacity Building: An Approach to People Centred Development*. Oxford: Oxfam.
- Faustino, J. (2012) 'Development Entrepreneurship: A Model for Transformative Institutional Change'. Occasional Paper 12. San Francisco, CA: The Asia Foundation.
- Ekstrom, J.A. and Moser, S.C. (2013) 'Institutions as Key Elements to Successful Climate Adaptation Processes: Results from the San Francisco Bay Area', in S.C. Moser and M. Boykoff (eds) *Successful Adaptation to Climate Change: Linking Science and Policy in a Rapidly Changing World*. New York: Routledge.
- Folke, C., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, C.S. and Walker, B. (2002) 'Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations'. *AMBIO: A Journal of the Human Environment* 31(5): 437–440.
- Gogoi, E., Bahadur, A.V. and Rumbaitis del Rio, C. (2017) 'Mainstreaming Adaptation to Climate Change Within Governance Systems in South Asia: An Analytical Framework and Examples from Practice'. ACT Learning Paper.
- Gogoi, E., Das Roy, R., Rajan, A., and McConnell, J. (2018) 'SAPCC Monitoring and Reporting Guidance Document.' ACT Report. Discussion Draft for Comment.
- Haque, M., Haque, S. and Huq, S. (2018) 'Capacity Building Day 2017: Initiatives that Enhance the Implementation of Nationally Determined Contributions'. Event Report, 1st Annual Event, COP23, Bonn, 16 November.
- Haque, M., Robertson, C. and Hachmi, J. (forthcoming) 'Canada in a Climate Disrupted World: Building Long Term Capacity in Partner Countries'.
- Hallegatte, S., Bangalore, M., Bonzanigo, L. et al. (2015) *Shock Waves: Managing the Impacts of Climate on Poverty*. Washington, DC: World Bank.
- Holling, C.S. and Meffe, G.K. (1996) 'Command and Control and the Pathology of Natural Resource Management'. *Conservation Biology* 10(2): 328–337.
- Horton, D. (2002) *Planning, Implementing, and Evaluating Capacity Development*. The Hague: ISNAR.

- Huq, S. and Nasir, N. (2016) 'Stop Sending Climate Consultants to Poor Countries – Invest in Universities Instead'. The Conversation blog, 3 October.
- Islam, F., Hove, H. and Parry, J.E. (2011) *Review of Current and Planned Adaptation Action: South Asia; Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka*. Ottawa: IISD.
- James, A.J., Bahadur, A.V. and Verma, S. (2018) 'Climate-Resilient Water Management: An Operational Framework from South Asia'. ACT Learning Paper.
- Kaplan, A. (1999) *The Development of Capacity*. New York: Community Development Resources Association, UN Non-Governmental Liaison Service.
- Keohane, R.O. (2015) 'The Global Politics of Climate Change: Challenge for Political Science'. *Political Science & Politics* 48(1): 19–26.
- Kotter International (2014) 'Accelerate'. <http://www.kotterinternational.com/the-8-step-process-for-leadingchange/>
- Leach, M., Mearns, R. and Scoones, I. (1999) 'Environmental Entitlements: Dynamics and Institutions in Community-Based Natural Resource Management'. *World Development* 27(2): 225–247.
- Lonsdale, K.G., Gawith, M.J., Johnstone, K. et al. (2010) 'Attributes of Well-Adapting Organisations'. Report prepared by the UK Climate Impacts Programme for the Adaptation Sub-Committee.
- Lonsdale, K., Pringle, P. and Turner, B. (2015) *Transformative Adaptation: What It Is, Why It Matters & What Is Needed*. Oxford: UK Climate Impacts Programme.
- Ludwig, D., Hilborn, R. and Walters, C. (1993) 'Uncertainty, Resource Exploitation, and Conservation: Lessons from History'. *Ecological Applications* 3(4): 548–549.
- Mackenzie, J. and Gordon, R. (2016) 'A Study on Organisational Development'. Australia-Indonesia Partnership for Pro-Poor Policy: The Knowledge Sector Initiative.
- Mason, R. (2007) 'The External Environment's Effect on Management and Strategy: A Complexity Theory Approach'. *Management Decision* 45(1): 10–28.
- Meadowcroft, J. (2009) 'Climate Change Governance'. Background Paper to the 2010 World Development Report.
- Mirza, M. (2007) 'Climate Change, Adaptation and Adaptive Governance in the Water Sector in South Asia'. *Phys Sci Basis*: 1–19.
- Mitra, S. and Vivekananda, J. (2013) 'Strengthening Responses to Climate Variability in South Asia'. Discussion Paper: Bangladesh. London: International Alert.
- Moser, S.C. and Boykoff, M.T. (2013) *Successful Adaptation to Climate Change: Linking Science and Policy in a Rapidly Changing World*. New York: Routledge.
- Oakland, J.S. and Tanner, S. (2007) 'Successful Change Management'. *Total Quality Management* 18(1–2): 1–19.
- Parry, J.-E. and Terton, A. (2016) *Trends in Adaptation Planning: Observations from a Recent Stock-Taking Review*. Ottawa: IISD.
- Pound, B., Lamboll, R., Croxton, S. et al. (2018) 'Climate-Resilient Agriculture in South Asia: An Analytical Framework and Insights from Practice'. ACT Learning Paper.
- Price, G., Alam, R., Hasan, S., et al. (2014) *Attitudes to Water in South Asia*. London: Royal Institute of International Affairs.
- Resch, E., Allan, S., Giles Álvarez, L. and Bisht, H. (2017) 'Mainstreaming, Accessing and Institutionalising Finance for Climate Change Adaptation'. ACT Learning Paper.
- Resurreccion, B.P., Sajor, E.E. and Fajber, E. (2008) *Climate Adaptation in Asia: Knowledge Gaps and Research Issues in South East Asia*. Kathmandu: ISET Nepal.
- Rhodes, D. and Antoine, E. (2013) *Practitioners' Handbook for Capacity Development: A Cross Cultural Approach*. Melbourne: Leadership Strategies.
- Richter, I. (2010) 'Organisational Development as a Source', in J. Ubels, N.A. Acquaye-Baddoo and A. Fowler (eds) *Capacity Development as Practice*. London: Earthscan.
- Rodima-Taylor, D., Olwig, M.F. and Chhetri, N. (2012) 'Adaptation as Innovation, Innovation as Adaptation: An Institutional Approach to Climate Change'. *Applied Geography* 33: 107–111.
- Ryan, D. (2016) 'The Design of Climate Institutions: Contributions for the Analysis'. *Ambiente & Sociedade* 19(4).
- Scott, Z., Few, R., Leavy, J. et al. (2015) *Strategic Research into National and Local Capacity Building for Disaster Risk Management: Literature Review*. Geneva: IFRC.
- Stafford Smith, M., Horrocks, L., Harvey, A., Hamilton, C. (2011) 'Rethinking Adaptation for a 4oC World'. *Philosophical Transactions of the Royal Society* 369: 196–216.

- Sterrett, C. (2011) 'Review of Climate Change Adaptation Practices in South Asia'. *Oxfam Policy and Practice: Climate Change and Resilience* 7(4): 65–164.
- Tàbara, J.D., Dai, X., Jia, G., McEvoy, D., Neufeldt, H., Serra, A., Werners, S. and West, J.J. (2010) 'The Climate Learning Ladder. A Pragmatic Procedure to Support Climate Adaptation'. *Environmental Policy and Governance* 20(1): 1–11.
- Tanner, T., Acharya, S. and Bahadur, A. (2018) 'Perceptions of Climate Change: Applying Assessments to Policy and Practice'. ACT Learning Paper.
- Thompson, M. and Verweij, M. (2004) 'The Case for Clumsiness'. Research Collection School of Sciences Paper 25. http://ink.library.smu.edu.sg/cgi/viewcontent.cgi?article=1024&context=soss_research
- Ubels, J., Acquaye-Baddoo, N.A. and Fowler, A. (2010) *Capacity Development in Practice*. London: Earthscan.
- Venkateswaran, K., MacClune, K., Tincani, L. and Biswas, S. (2018) 'Using Climate Information for Climate-Resilient Water Management: Moving from Science to Action'. ACT Learning Paper.
- Verweij, M., Douglas, M., Ellis, R. et al. (2006) 'The Case for Clumsiness', in M. Verweij and M. Thompson (eds) *Clumsy Solutions for a Complex World*. Basingstoke: Palgrave Macmillan.
- Watkiss, P., Hunt, A. and Savage, M. (2014) *Early VfM Adaptation Toolkit: Delivering Value-For-Money Adaptation with Iterative Frameworks & Low-Regret Options*. Brighton: Evidence on Demand.
- Whittle, S., Colgan, A. and Rafferty, M. (2012) *Capacity Building: What the Literature Tells Us*. Dublin: The Centre for Effective Services.
- Wilby, R.L. and Vaughan, K. (2011) 'Hallmarks of Organisations That Are Adapting to Climate Change'. *Water and Environment Journal* 25(2): 271–281.
- World Bank (2010) *Development and Climate Change. World Development Report*. Washington, DC: World Bank.

ACT Team Leader biographies

This Learning Paper is based on the experience and inputs of the following ACT Team Leaders:

Sunil Acharya (Nepal)

Sunil has significant experience in Nepal of research, policy analysis and practice of climate change adaptation, climate finance and governance, the political economy of low-carbon and climate-resilient development, international climate change negotiations and renewable energy policy. He previously led civil society's engagement in influencing climate change policy formulation in Nepal.

sunil.acharaya@actiononclimate.today

Soumik Biswas (Odisha, Chhattisgarh)

Soumik has more than 12 years of experience in the field of sustainability, climate change, carbon and energy management and low-carbon strategy formulation. He has been involved in over 200 projects worldwide, including for the World Bank, KfW, DFID and others, on project execution, due diligence, training and management.

Soumik.biswas@actiononclimate.today

Naman Gupta (Maharashtra)

Naman specialises in public and private sector engagement and capacity-building for climate change planning and delivery. She has previously worked for the British High Commission, GIZ, E&Y and others, and received an Award for 'Women Empowerment and Climate Change' during the 2017 Global Economic Summit.

naman.gupta@actiononclimate.today

Pankaj Kumar (Bihar)

Pankaj is an expert on mainstreaming environment concerns within development infrastructure as well as carbon and energy management. He has previously worked with Carbon Check, IL&FS Infrastructure Development Corporation, the Government of Bihar and others. He was the Team Leader for validation and verification of around 150 greenhouse gas projects globally, including CDM, VCS, SCS and the Gold Standard.

pankaj.kumar@actiononclimate.today

Dr Md. Nadiruzzaman (Bangladesh)

Nadir is Assistant Professor of Environmental Management at the Independent University, Bangladesh and an affiliate at the International Centre for Climate Change and Development. His research focus includes climate change, disasters and ecosystems and he has worked with a number of IPCC Coordinating Lead Authors.

md.nadiruzzaman@actiononclimate.today

Arif Pervaiz (Pakistan)

Arif is a technical expert in urban climate resilience, water and sanitation, urban mobility and environmental protection, with extensive experience supporting government partners. He has previously worked for the Government of Pakistan, ADB, USAID, IUCN, IIED and others.

arif.pervaiz@actiononclimate.today

Mariamamma 'Nirmala' Sanu George (Kerala)

Nirmala is trained in applied economics, with more than 25 years of experience in research and project management related to sustainable development including climate change and gender. She has previously worked with SDC, the World Bank, ADB, UNDP and various national and state government agencies.

Nirmala.sanu@actiononclimate.today

Rizwan Uz Zaman (Assam)

Rizwan has over 15 years of experience of supporting public policy processes for climate change and natural resource management, as well as private sector action. He has previously worked with national and state governments in India, as well as Development Alternatives and international organisations.

rizwan.zaman@actiononclimate.today

ΔCT

E: info@actiononclimate.today

W: actiononclimate.today

 [@act_climate](https://twitter.com/act_climate)

 www.facebook.com/ActionOnClimate



ACTION ON CLIMATE TODAY

