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ANTICIPATE, ABSORB, RESHAPE: CURRENT PROGRESS ON THREE KEY CAPACITIES FOR CLIMATE RESILIENCE

ELINA VÄÄNÄNEN, UN ENVIRONMENT
LISA DALE, YALE CENTER FOR ENVIRONMENTAL LAW & POLICY
BARNEY DICKSON, UN ENVIRONMENT

The Paris Agreement acknowledged the importance of climate change adaptation and climate resilience by establishing the global goal for adaptation as “*enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change*”. The Paris Agreement also established a ‘global stocktake’ to regularly assess progress towards the purpose of the Agreement, including the global adaptation goal. The importance of climate resilience is recognized in the Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction. However, we lack a clear understanding of the progress countries have made toward building the capacities they need to be climate resilient.¹

The UN Climate Resilience Initiative: Anticipate, Absorb, Reshape (A2R) promotes the strengthening of three key capacities for climate resilience: the capacity to anticipate and act on climate hazards and stresses through early warning and early action; the capacity to absorb shocks by increasing access to climate risk insurance and social protection systems; and the capacity to reshape development pathways by transforming economies to reduce risks and root causes of vulnerabilities and support the sound management of physical infrastructure and

ecosystems. This briefing paper presents the key findings of a baseline analysis of progress on the three climate resilience capacities. The analysis reviewed the data available for 114 developing countries and represents one of the first contributions towards a global understanding of the current state of play on climate resilience.²

The briefing paper then discusses the challenges – both conceptual and data-related – that this type of assessment faces and suggests ways of overcoming them. While gaining a better understanding of progress under the Anticipate, Absorb and Reshape pillars is important to the A2R Initiative, this paper also aims to contribute to the broader discussion on metrics and methodologies for assessing climate resilience.

¹ Under the Paris Agreement and its enhanced transparency framework, the Capacity-building Initiative for Transparency, established at the Global Environment Facility, will include tracking of progress towards achieving Parties’ nationally determined contributions and adaptation actions, including good practices, priorities, needs and gaps, to inform the global stocktake.

² The baseline analysis was undertaken by Lisa Dale, Jonathan Held, Stephanie Ratté and Farrukh Zaman of the Yale Center for Environmental Law and Policy.

1. ANTICIPATE

CAPACITY TO BETTER ANTICIPATE AND ACT ON CLIMATE HAZARDS AND STRESSES THROUGH EARLY WARNING AND EARLY ACTION

The Anticipate pillar centers on accelerating action towards the establishment and strengthening of early warning-early action systems for addressing climate risk. Early warning systems refer to methods designed to provide alerts about impending hazardous events. Early action systems encompass a broad range of actions designed to reduce vulnerability through risk reduction before a hazard occurs. According to the Climate Risk & Early Warning Systems – CREWS – Initiative (2015), approximately three thirds of Least Developed Countries (LDCs), Small Island Developing States (SIDS) and African countries have low capacity to provide early warning, with many identifying early warning systems as a priority in their Nationally Determined Contributions (NDCs) under the UNFCCC. Even though the Anticipate pillar focuses on early warning and early action, the baseline study was unable to sufficiently capture progress on early action efforts in the countries of interest.

FINDINGS

- Results suggest that countries face challenges implementing comprehensive early warning-early action systems.
- At the national level, only 2 out of 81 countries with available data report that integrated early warning systems are in place for all major hazards, although 77 suggest they have made some progress toward that goal (HFA reports).
- Nevertheless, most countries (58 out of 81 with a available date) report that their early warning programs account for the most vulnerable populations, and an additional 11 report some limited progress toward that aim (HFA reports).
- 57 out of 81 countries report participating in regional or sub-regional early warning programs (HFA reports).
- 51 countries, nearly half of the total included as part of this study, report that gender considerations have been adopted in early warning programmes (HFA reports).
- Only 30 countries report that potential risk scenarios are developed taking into account climate change projections (HFA reports).
- 57 countries report that their warnings are timely and reach at-risk populations (HFA reports). It is of note that these warnings also include non-climate risk.



more than
1000
natural hazard
events in 2015



\$90 billion
losses around
the world



only a third
of resulting losses
were insured

2. ABSORB

CAPACITY TO ABSORB SHOCKS BY INCREASING ACCESS TO CLIMATE RISK INSURANCE AND SOCIAL PROTECTION SYSTEMS

Re-insurer MunichRe estimated that in 2015 more than one thousand natural hazard events resulted in losses of \$90 billion around the world. While more than 90 percent of these natural catastrophes were linked to weather-related events, only a third of resulting losses were insured (IFC, 2016). These figures do not identify how many of these events are attributable to climate change, nor do they adequately reflect the losses of most vulnerable communities. The costs of weather-related events are nevertheless significant and rising, and those increases are at least in part related to climate change, and disproportionately borne by the poorest and most vulnerable populations.

FINDINGS

- Results show that insurance markets to reduce risks associated with climate change are still nascent in many developing countries.²
- Only 40 countries report the option to insure crop and property against climate impacts. Micro-insurance schemes exist but are not prevalent, with only 34 countries reporting that such schemes exist in their countries (HFA reports).
- Data show that reinsurance facilities are in place in only 32 countries, highlighting a relatively weak link between local, national, and international climate insurance pools (HFA reports).
- 53 of our countries of interest are part of a regional insurance pool, through the Africa Risk Capacity (ARC) initiative, the Caribbean Catastrophic Risk Insurance Facility (CCRIF) and Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) (ARC, 2017; CCRIF, 2016; WFP & Oxfam, 2016; World Bank, 2016)
- Social protection mechanisms are also found to have limited reach in the countries of interest, as only 12 countries report that more than 50% of their most vulnerable population participate in social protection mechanisms (World Bank, 2015).
- Data on the reduction in poverty gap levels as a result of targeted social protection programs was available for 47 out of 114 countries. The poverty reduction achieved through the transfer of benefits averaged 9.6%, with percentages ranging from 0.02% to 47.63% (World Bank, 2015). At least in part, the large divergence in the poverty reduction results reflects the variable implementation of social protection across countries examined.

The relative ability of a country or community to absorb climate shocks is an essential component of climate resilience. Two dimensions of this pillar inform the data collected in this section: climate risk insurance and social protection mechanisms. Well-designed climate risk insurance, when applied as part of broader risk management strategies, can act as a safety net and buffer for people and countries, shortly after an event occurs. Insurance can support the insured in absorbing climate shocks, as they may not need to employ negative coping strategies. Social protection refers to a wide set of policies and programmes that aim to reduce poverty and vulnerability and include safety nets, social insurance and labour market interventions. While social protection can support absorbing climate shocks by providing direct support to affected populations, according to BRACED, social safety nets, such as cash and food transfers, have the greatest potential for dealing with climate shocks (Costella et al, 2017).

² According to InsuResilience, a G7 climate risk insurance initiative, market research and expert opinion on global insurance penetration suggest that only about 100 million people of the poor and vulnerable in Africa, Asia and Latin America are covered by direct (55 million) or indirect (45 million) insurance schemes against climate risks (GIZ & KfW Development Bank, 2015). As this information could not be accessed in a format that disaggregates by country, it could not be included as a data source for analysis. It does however provide contextual information for establishing the baseline on climate risk insurance coverage.

3. RESHAPE

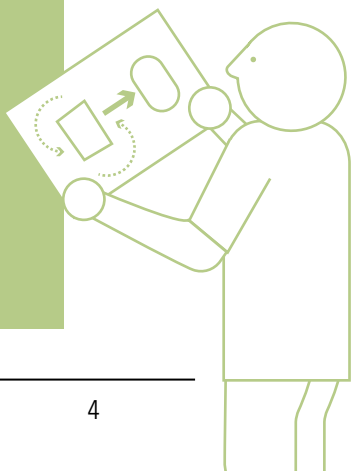
CAPACITY TO RESHAPE DEVELOPMENT PATHWAYS BY TRANSFORMING ECONOMIES TO REDUCE RISKS AND ROOT CAUSES OF VULNERABILITIES AND SUPPORT THE SOUND MANAGEMENT OF PHYSICAL INFRASTRUCTURE AND ECOSYSTEMS

This pillar focuses on national efforts to adopt climate-resilient development pathways. Climate-resilient pathways include strategies, choices, and actions that reduce climate change and its impacts and that ensure that effective risk management and adaptation can be implemented and sustained (Denton et al., 2014). Understood to be a process, the creation of a climate-resilient pathway often includes reforming institutions to better manage change within complex socio-economic and environmental systems. These changes may be incremental or transformational, and should align with broader efforts to integrate sustainable development into national priorities.

Reshaping development pathways thus constitutes a major, long-term undertaking, with changes required in behaviour, policy, planning and public and private investment. The Reshape pillar encompasses planning and investment for sound management of physical, or grey, infrastructure and of ecosystems, or green infrastructure.

FINDINGS

- Out of the 114 countries of interest, 12 had calculated national public-sector climate-related expenditures (Bird, 2014; UNDP, 2015).
- Of the 66 countries that were found to have accessible national development plans, 49 have incorporated substantive consideration of climate change issues and have identified measures to address climate risk (country-specific national development plans).
- 56 out of 76 countries with available data report that impacts of disaster risk created by major development projects are assessed (HFA reports).
- 39 out of 65 countries report that costs and benefits of disaster risk are taken into account in the design and operation of major development projects (HFA reports). However, the design threshold and hazard types are not specified in the data sets.
- It is of note that the data used here is focused on planning documents and cannot gauge the effectiveness of the implementation of those plans.



4. CHALLENGES IN ASSESSING GLOBAL PROGRESS ON CLIMATE RESILIENCE

There are both conceptual and data-related challenges in assessing progress under the pillars. One conceptual challenge relates to ambiguity around key terms like 'early action' and 'climate resilient development pathways'. The terms are used widely but without a clear, shared definition, limiting comparability.

For the Anticipate pillar, while 'early warning systems' are clearly defined, the term 'early action' can be complex, spanning a range of activities and approaches at different timescales. For example, the International Federation of Red Cross and Red Crescent Societies considers early action to encompass wide-ranging strategies including addressing systemic vulnerabilities like poverty, improving building codes to reduce disaster risks, and providing near-term responses to impending cyclones and floods (IFRC, 2009). As part of this report, we have not assessed all of these elements in the Anticipate pillar; some are captured in assessments under the other two pillars, and some are difficult to track using existing sources.

Similarly, understandings of 'climate-resilient development pathways' also vary. Many definitions combine combination of mitigation and adaptation elements of climate change response, while others highlight the integration of climate impacts into development decision-making. Some approaches focus on outcomes, while others emphasize the essential qualities of the process, such as flexibility, innovativeness, and participative problem solving. The analysis of this theme was informed by these approaches but the ultimate focus was determined by data availability.

Even if terms are used with a clear, common understanding, data may not be available. Across the three pillars, available data

was overwhelmingly found in the disaster risk reduction literature and primarily from reporting under the Hyogo Framework for Action. While elements of planning designed to reduce impacts from disasters also serve to enhance capacity for climate resilience, climate resilience and disaster risk reduction are not synonymous.



For example, although disaster information offers important insights into climate resilience, it is contested to what extent it captures slow-onset events. The reliance on HFA reporting came in part from a methodological decision to use datasets that were available for at least two-thirds of the 114 countries.

Self-reporting and non-responsiveness are also limiting factors for the data used in this study. Out of a total of 114 countries, 81 submitted reports under the Hyogo Framework for Action, leaving 33 countries with no available data. World Bank's ASPIRE platform also has a

pattern of non-reporting, with only 47-60 out of 114 countries reporting on data of interest. Independent verification of self-reported data also remains uneven.

A further data limitation cutting across the three pillars is the lack of gender and age disaggregated data. Practitioners note that any effort made toward reshaping development to enhance climate resilience must be attentive to existing inequities in women’s situation before, during, and after a climate-related disaster.



When a hazardous event occurs, women are more likely to suffer, slower to recover and less likely to build their resilience over the longer-term. With a significant proportion of a population thus at a disadvantage, these patterns will be reflected in the crisis impact, rate of recovery and level of resilience of the whole community and not just the affected women. The inability to provide gender-disaggregated results constitutes a weakness in the analysis.

A major limitation across the three pillars is the difficulty assessing the effectiveness of the measures under examination. Countries may report having an early warning system, for example, but there is no way to compare how well those systems function. A decrease in impacts by mortality, people affected, or financial

costs may indicate that systems are improving and effective at reducing risks, or simply that the period saw fewer or less damaging natural events. Similarly, establishing whether climate risk insurance and social protection mechanisms are effective in enhancing climate resilience is challenging with the data available. The link with social protection and climate resilience is particularly difficult, as the data on social protection are not directly tied to climate risks and the research accessed macro-scale data to capture participation levels and poverty reduction overall. Recent work by BRACED however suggests that social protection programmes are starting to consider climate risks (Costella et al, 2017).

For the Reshape pillar, the lack of climate change expenditure data for the majority of countries limited the ability to explore the relative budget allocations to building climate resilience, and motivated the focus on planning documents. As a result, the analysis can say very little on the effectiveness of measures identified in national development plans or the extent that development efforts are climate resilient in the countries of interest.

Even if data of climate-related expenditure data were more broadly available, they would be of limited value in shedding light on the ways in which countries are shifting to a climate-resilient pathway through other means. For example, many resilience measures take place at the local scale and national budget allocations would be of only limited value in assessing community level resilience. Furthermore, national financial metrics would not capture private sector investment in climate-resilient development. While these private efforts would be worth capturing, data on them are scarce. Not only are climate-resilience activities often integrated into business activities, and therefore rarely stand-alone, the private sector also has no obligation to report on their climate resilience-related investments. A final limitation for the Reshape pillar is the focus on physical or grey infrastructure, even though a fuller appreciation of reshaping development pathways should consider planning for and investments into ecosystems and green infrastructure.

5. CONCLUSIONS AND RECOMMENDATIONS

Despite the critical data gaps described, preliminary observations can still be made. The majority of the most vulnerable countries do not yet have a comprehensive, multi-hazard, inclusive, people-centered early warning-early action system in place. Components of a robust system are in place in certain areas, and regional partnerships offer a promising strategy for strengthening infrastructure. Climate risk insurance pools have been established in two critical at-risk regions: Africa and the Caribbean, with the Pacific Catastrophe Risk Assessment and Financing Initiative expected to expand beyond its initial pilot. As data emerges that enables an assessment of effectiveness, these new systems may provide replicable lessons for other vulnerable regions, allowing them to better absorb climate-related costs. While examining the link between social protection and climate resilience across countries remains challenging, recent work suggests that social protection programmes are starting to consider climate risks. Finally, consideration for climate-resilient development pathways is increasingly integrated into national budgets and planning documents, although the implementation of policies that contributes to climate resilience remains inconsistent.

This briefing paper has described a number of challenges relating to the analysis of progress on climate resilience. There is a range of recommendations that could contribute to a more robust analysis.

SEVERAL EMERGING DATA SOURCES CAN HELP SUPPORT A MORE COMPLETE ANALYSIS OF THE CAPACITIES RELATED TO THE ANTICIPATE, ABSORB AND RESHAPE PILLARS.

In relation to the Anticipate pillar, the Sendai Framework for Disaster Risk Reduction and future reporting on its indicators will provide a more up-to-date picture of progress of early warning-early action, particularly in relation to its Target G on early warning systems.

National Adaptation Plans (NAPs) and NDCs, combined with increased reporting efforts under the UNFCCC, including adaptation communications and the global stocktake assessing progress towards the global adaptation goal, are also likely to provide relevant information for the three pillars, and be of particular relevance for the Reshape pillar. To date, NAPs have only been submitted by three countries of interest, and were not examined in more detail for this reason.

The Climate Investment Funds’ Pilot Program for Climate Resilience (PPCR) assists governments in integrating climate resilience into development planning across sectors. 22 countries of interest in this analysis are taking part in the PPCR and measure progress through 5 core indicators, including integration of climate change into national planning and development of climate responsive investment models. Currently reports on results are available for 10 of these countries but as PPCR work progresses, core indicator monitoring data could provide insights into integration of climate resilience into national development planning across a broader set of countries.

New research is also underway on climate change expenditure and adaptation finance, and may help shed light on the extent to which climate resilience is integrated into development pathways. The United Nations Development Program is facilitating detailed Climate Public Expenditure and Institutional Review (CPEIR) studies, and those have been completed in 17 countries around the world so far. A consortium of non-governmental organizations, including the Overseas Development Institute, Oxfam, and the World Resources Institute, have partnered with civil

society groups in four pilot countries – Nepal, Uganda, Zambia, and the Philippines – to launch the Adaptation Finance Accountability Initiative (AFAI). AFAI aims to develop frameworks for tracking national-level climate finance in developing countries.

Indicators under the Sustainable Development Goals and Targets are also relevant to the three climate resilience capacities under examination. These include exposure and vulnerability to climate-related extreme events, resilience and adaptive capacity to climate-related hazards and natural disasters, and integration of climate change measures into national policies, strategies and planning. Reporting efforts under the Sustainable Development Agenda are therefore likely to enhance our understanding of the progress towards climate resilience at the global level.

BEYOND NEW DATA SOURCES, A MORE NUANCED ANALYSIS OF PROGRESS UNDER THE THREE PILLARS SHOULD EXAMINE PROGRESS OCCURRING AT THE LOCAL LEVEL AND IN THE PRIVATE SECTOR.

Climate action at the level of states and cities is critical and increasingly visible. Similarly, despite data challenges, efforts should also be made to include analysis of privately sourced resources that are being devoted to enhancing climate resilience.

the analysis. An improved analysis would however not compromise on either, with case studies and less comprehensive datasets providing further insight into all three pillars. The link between social protection and climate resilience in particular is one that existing case study literature could help clarify.

RECOGNIZING THE ENHANCED VULNERABILITY OF WOMEN TO CLIMATE HAZARDS, A FULLER ANALYSIS SHOULD ALSO MAKE AN EFFORT TO EMPLOY GENDER-DISAGGREGATED DATA.

Gender-responsive climate resilience action involves collecting and understanding gender-specific data and ensuring practitioners are well versed in gender equality concerns. Analyses on progress can support these aims.

Despite the considerable challenges associated with the analysis, it aspires to incentivise further, more comprehensive analysis on the capacities for climate resilience in the countries most vulnerable to climate change. Even if incomplete, an understanding of the baseline conditions as they relate to the Anticipate, Absorb and Reshape pillars can also help motivate enhanced action on climate resilience by highlighting the distance still to be travelled. Research presented here to determine baseline levels for the United Nations Climate Resilience Initiative: Anticipate, Absorb, Reshape (A2R) suggests there is significant opportunity for further action.



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