Food and Agriculture Organization of the United Nations

SUSTAINABLE DEVELOPMENT GOALS

ADDRESSING THE CLIMATE CHANGE AND POVERTY NEXUS

A coordinated approach in the context of the 2030 Agenda and the Paris Agreement

This publication contributes to the achievement of the above Sustainable Development Goals (SDGs).

ADDRESSING THE CLIMATE CHANGE AND POVERTY NEXUS

A coordinated approach in the context of the 2030 Agenda and the Paris Agreement

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Acronyms and abbreviations

CAP	Centre for Agricultural Policy
CDM	Clean Development Mechanism
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CGP	Child Grant Programme
COP21	The twenty-first session of the Conference of the Parties
CSA	Climate-smart agriculture
CSOs	Civil society organizations
DAL	Degrading agricultural land
DRM	Disaster risk management
DRR	Disaster risk reduction
FAO	Food and Agriculture Organization of the United Nations
GAP	Global Action Programme
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse gas
GHGE	Greenhouse gas emissions
IFAD	International Fund for Agricultural Development
INDC	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
LADA	Land Degradation Assessment in Dryland
MSME	Micro, small and medium enterprises
NAPs	National adaptation plans
NCCP	National Climate Change Plan
NDCs	Nationally Determined Contributions
NGO	Non-governmental organization
NPRSPs	National Poverty Reduction Strategy Papers
RIMA	Resilience Index Measurement and Analysis
SAMOA (Pathway)	SIDS Accelerated Modalities of Action Pathway
SDGs	Sustainable Development Goals
SIDS	Small Island Developing States
SMEs	Small and medium-sized enterprises
UNDP	United Nations Development Programme
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

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Executive summary

This report makes recommendations for improving the ways in which we understand and address the interrelated challenges of poverty and climate change. Policy recommendations and tools are presented and discussed, based on the premise that improving the coherence and coordination of policy, institutional, financial and practical linkages between climate responses and poverty reduction and food security initiatives will contribute to greater integration of, and gains towards achieving both the Sustainable Development Goals (SDGs) and Paris Agreement targets. The report is intended to be a tool to support policy development and action by policymakers, government officials, development and humanitarian agencies, local level institutions and communities, and researchers worldwide.

Within the report, three major themes are addressed:

1. The ways in which climate change and poverty interact, and recognizing this, how they should be addressed; for this, the report particularly draws on examples and issues arising in coastal communities, coastal areas and Small Island Developing States (SIDS).

2. Recommended steps for the Food and Agriculture Organization of the United Nations (FAO) and its member countries, as well as others dealing with similar challenges, to improve the interface between climate responses (mitigation and adaptation) and the pursuit of poverty reduction/eradication, as well as food security and disaster risk reduction; this applies at policy, institutional and practical levels, with a focus on rural areas, and as noted above, draws on issues and opportunities facing coastal communities, coastal areas and SIDS.

3. Advice for FAO and its member countries and for representatives of coastal communities and local organizations on leveraging key entry points towards improved effectiveness of local initiatives linking poverty reduction and climate responses, and improved engagement of local actors and communities, particularly in rural areas, with relevant policy arenas at various levels.

In the first part of the report, poverty and climate change concepts and their interactions are discussed, highlighting the importance of considering these two phenomena together. Notably, climate change is expected to worsen poverty and disproportionately impact already vulnerable groups and those facing inequality, particularly women and indigenous peoples. Coastal systems and SIDS are particularly prone to climate risks, and people who live and work in coastal communities often experience high levels of climate-related vulnerability associated with the combined effect of high levels of exposure and sensitivity to climate variability, sparse support infrastructure, and lack of adaptation options. Further, climate variability and change can have direct and indirect, sometimes cascading impacts, and can act as a threat multiplier, aggravating other stressors. The various types of poverty, such as chronic or transient poverty, interact with climate shocks and stressors in different ways, compounding vulnerabilities and affecting the possibility and choice of response actions.

A brief overview is also presented of key entry points where the global policy landscape recognizes and supports a more integrated and coordinated approach, linking poverty responses and climate responses. Target 1.5 of SDG 1 (No poverty) pays special attention to building resilient livelihoods

and helping the rural poor reduce their exposure and vulnerability to climate change and disasters triggered by natural hazards. The need for greater coherence and coordination is also recognized in the 2015 Paris Agreement on addressing climate change (COP 21), the 2015 Sendai Framework for Disaster Risk Reduction 2015–2030, and the 2015 Addis Ababa Action Agenda (financing for development).

The core of the report proposes an integrated climate-poverty approach and a series of recommendations to improve the design and delivery, and ultimately the results, of synergies and linkages between climate mitigation and adaptation, poverty reduction and food security actions. The approach was developed in a participatory manner, with insights from many perspectives, leading to the inclusion not only of climate and poverty aspects, but also indigenous, gender, food security, disaster response, resilience, SIDS and coastal community perspectives, among many others.

The approach (1) reflects the realities of coastal communities, coastal areas and SIDS; (2) includes normative and ethical considerations (prioritizing a pro-poor approach and environmental sustainability); (3) incorporates both institutional and operational aspects; (4) is designed for implementation at multiple levels; and (5) complements a range of existing initiatives, such as disaster risk reduction, social protection, climate finance, resilience building, environmental conservation, stewardship and ecosystem approaches. The climate-poverty approach is comprised of five strategic elements:

1. Pro-poor climate mitigation and adaptation
2. Climate-sensitive poverty reduction and food security initiatives
3. Cross-cutting and sectoral synergies
4. Coherence and coordination within and among institutions
5. Strengthening and supporting local initiatives.

Strategic element #1 (Pro-poor climate mitigation and adaptation) involves mainstreaming poverty reduction and food security concepts and priorities within existing and new climate mitigation and adaptation policies, strategies and plans. Specific recommendations are as follows:

- incorporate consideration of poverty and inequality into new or existing Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs), and mechanisms designed to meet them;
- implement climate vulnerability assessments that consider how mitigation and adaptation policies meet the needs of vulnerable groups;
- include pro-poor analysis and actions in all climate adaptation and disaster response policies/programmes;
- ensure the fair distribution of the costs of adaptation;
- incorporate social protection approaches; and
- create fora for public discussion of trade-offs and build country-level capacity for pro-poor approaches to adaptation.

VISION FOR THE CLIMATE-POVERTY APPROACH

More coherent, effective and sustainable climate change responses and rural poverty reduction initiatives that benefit local communities, households and economies. In line with Sustainable Development Goals, the vision aims at achieving sustained reductions in poverty and inequality, increased resilience and reduced exposure and vulnerability to climate risks, improved climate adaptation, greater and more fairly distributed well-being, more resilient human and ecological systems, and improved disaster risk reduction.

Strategic element #2 (Climate-sensitive poverty reduction and food security initiatives) highlights that poverty reduction and food security initiatives, development policies, plans and practices, should recognize and address climate-related vulnerability and risks, and their impacts on development efforts. Specific recommendations include the following:

- incorporate climate mitigation and adaptation actions into poverty reduction plans and national development plans, with specific attention given to addressing the structural barriers to poverty reduction and climate responses;
- ensure that social protection programmes consider climate resilience; and
- improve the capacity of stakeholders to assess and develop climate-smart development approaches, with risk management as a key concept.

Strategic element #3 (Cross-cutting and sectoral synergies) focuses on opportunities to find complementary responses that include climate and poverty considerations in areas not previously evaluated. One aspect of this lies in focusing on individual sectors, including productive sectors (e.g. agriculture and natural resources), as well as others, such as the transportation and health sectors. This may involve the following:

- identifying sectoral policy areas and mechanisms where climate and poverty reduction responses can be integrated;
- developing new policy where necessary that includes both climate and poverty considerations;
- connecting with ongoing efforts to address gender inequality;
- recognizing and including indigenous knowledge systems and perspectives; and
- developing capacity for integrated approaches.

Synergies in broad-based departments or initiatives, such as economic development or national development planning are also important considerations for this element.

Strategic element #4 (Coherence and coordination within and among institutions) involves:

- reviewing and improving existing institutional structures to match the needs of implementing the climate-poverty agenda;
- seeking opportunities and mechanisms to develop and support multilevel and multisectoral collaboration and governance;
- fostering communities of practice that include collaboration with, and support for Non-governmental organizations (NGOs) and citizen-led initiatives to address climate-poverty issues; and
- creating spaces for dialogue to improve how local-level values and concerns are understood and considered in multiple levels of planning and policy, and developing appropriate incentive-based arrangements.

Strategic element #5 (Strengthening and supporting local initiatives) focuses on providing greater support for place-based institutions, programmes and practical actions, notably the strengthening of local initiatives. Specific recommendations include the following:

- supporting engagement and citizen participation in planning initiatives related to climate-poverty planning;
- monitoring;
- supporting local government engagement in regional and national fora;
- creating climate-development funds for local activities;

> developing locally-led adaptation planning; and

> building capacity.

The first three of these strategic elements each corresponds to a major policy and institutional entry point into climate-poverty interactions. Element #1 arises with respect to policy and institutions that are primarily climate-focused, while element #2 particularly concerns policy and institutions that are primarily focused on development considerations, including poverty reduction and food security. Finally, element #3 deals with policy and institutions that are not specifically climate or development focused, but rather are sectoral, or broad-based. These three elements are depicted in the top part of the figure on p. xiii (Figure 3 from Section 3 of the report). The bottom part of the figure shows strategic elements #4 and #5, both of which focus more on the implementation of measures to deal with the climate-poverty nexus.

The proposed integrated approach to address the climate-poverty nexus has at its core these five strategic elements. Section 3 introduces each of the elements in detail, then Section 4 provides, on an element-by-element basis, suggestions for institutional and policy improvements, as well as practical programmes and actions that could be considered at various levels and by various players as mechanisms to achieve the goals of that element. To illustrate this, a set of possible measures to implement the approach specifically at a local community level are described in Section 6. These aspects are shown on the left-hand side of the summary figure on p. xiii (Figure 6 in the concluding Section 8 of the report); the four aspects on the right-hand side of the figure are described below the figure.

1. A set of existing cross-cutting programmes provide complementary mechanisms to support the approach, building synergies in implementation (Section 5). These include (1) disaster risk reduction, (2) social protection, (3) resilience-building strategies and systems approaches (including livelihood systems and food systems), (4) climate finance, and (5) environmental conservation, stewardship and ecosystem approaches. These programmes are already present in a wide variety of institutional settings, such as FAO.

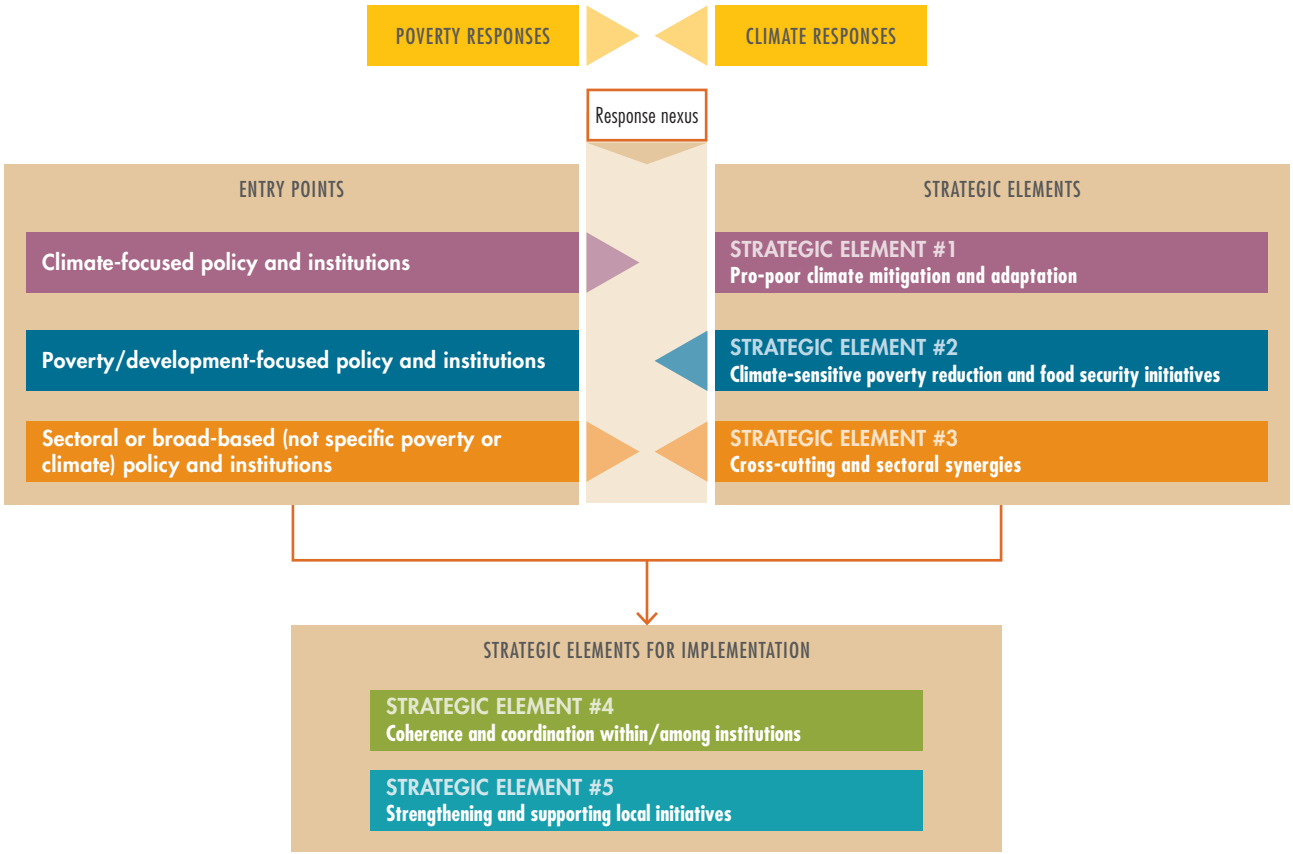
2. The above cross-cutting programmes, and indeed other components of the approach, can draw on synergy-supporting tools (Section 5), such as (1) integrated climate-poverty vulnerability assessment, (2) resilience assessment, (3) integrated monitoring, and (4) pro-poor adaptation toolboxes.

3. Regardless of the level and scale of implementing the approach, there is a need to consider the choice of appropriate pathways to be followed, over time, to reach desired goals. Attention needs to be given toboth short-term and long-term aspects, as well as implementation at multiple levels, with suitable scaling up and scaling down (Section 7).

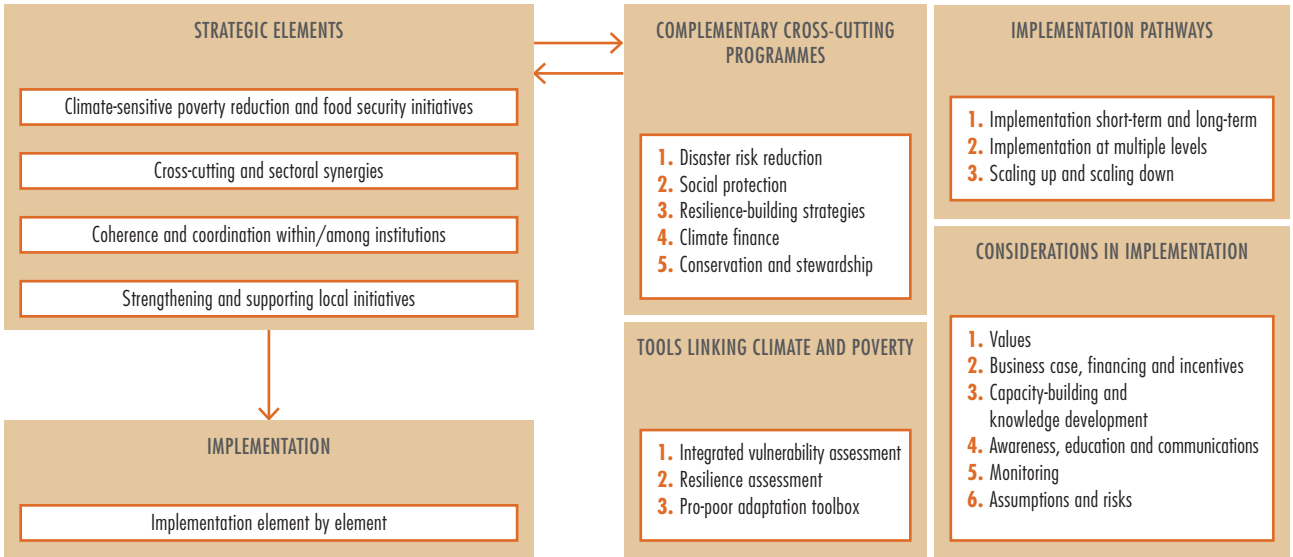
4. Finally, implementing the approach requires consideration of the underlying values, key assumptions and risks as well as operational factors such as financing and incentives, capacity-building and knowledge development, and awareness, education and communications (Section 7).

The need for, and implementation of the approach is illustrated throughout the report using a diverse series of examples and illustrations, drawn particularly from Small Island Developing States, coastal communities and coastal areas, with an emphasis on rural livelihoods in developing regions. While there is considerable evidence of the relevance of the **climate-poverty approach** and its **strategic elements**, there remains a need to launch pilot projects and for further compilation of data to test the feasibility and usefulness of the approach. Those actions will be the next steps required to meet the important challenge of better linking climate mitigation and adaptation with poverty reduction and food security initiatives.

OVERVIEW OF STRATEGIC ELEMENTS IN THE APPROACH.



THE FIVE STRATEGIC ELEMENTS WITH COMPLEMENTARY PROGRAMMES, TOOLS, PATHWAYS AND IMPLEMENTATION CONSIDERATIONS.



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1 INTRODUCTION

This report focuses on two of the world's greatest challenges – finding effective ways to deal with poverty and with climate change – and identifies linkages between poverty reduction and food security initiatives, on the one hand, and climate change mitigation and adaptation initiatives, on the other hand.[1] There have been recent advances in understanding the links between poverty, food insecurity and climate change, and within integrative approaches, such as that of climate risk and vulnerability (e.g. IPCC, 2018a). However, to strengthen interaction among the SDGs, there remains a need to improve the coherence and coordination of policy, institutional, financial and practical linkages between climate responses (mitigation and adaptation) and poverty reduction and food security initiatives. Apart from some recent efforts, these SDG imperatives continue to be largely designed, implemented and monitored separately, through separate different institutional structures, policies, programmes and operational initiatives.

This can be a concern, as policies and actions, if not coherently designed and implemented, may have unintended negative impacts – such as climate responses contributing to increasing poverty and food insecurity, and development actions resulting in less efficient climate change adaptation and mitigation responses. Yet there is ample opportunity for improving the ways in which policies and actions are designed and delivered, resulting in greater alignment of efforts towards cohesion, effectiveness and efficiency, more equitable and sustainable development, and improved climate change mitigation and adaptation outcomes overall. As regards rural issues, FAO (2017) notes that "climate policies should consider rural development, and rural development policies should be climate-informed."

Better linkages of poverty reduction and food security with climate responses, and the incorporation of recommended steps into broader development, humanitarian, and disaster risk reduction (DRR) strategies, can lead to better alignment across the SDGs.

The "nexus" concept, which has been increasingly used over the past five to ten years in global policy dialogue, is a useful way to examine interactions between poverty and climate change. A nexus is seen here as a connection or link between two topics.[2]

This report focuses on two levels of interaction between poverty and climate change:

1. the nexus of impacts arising from climate change and climate vulnerability on the one hand, and from poverty and food insecurity on the other hand; and

2. the nexus of policies, programmes and practices dealing with climate change mitigation and adaptation on the one hand, and with poverty reduction (and measures to improve food security and nutrition), on the other hand. This second nexus is as important as the first, but has received significantly less attention to date. Taking into account the interactions between climate responses and poverty reduction initiatives, this nexus is aimed at improving coherence, coordination and

[1] See Glossary for definitions of major terms used within the report.
[2] See www.lexico.com/en/definition/nexus

synergy between and among policies, programmes and actions while also recognizing that climate risk and poverty, as well as vulnerability broadly, interact closely with other areas, such as natural disasters and disaster risk reduction.

This report proposes a strategic climate-poverty approach (hereafter referred to as climate-poverty approach or the approach) and a series of recommendations to improve the design and delivery, and ultimately the results, of synergies and linkages among climate and poverty responses.

The process used to produce this report was iterative and outcomes-based, involving a number of steps, including many individual and group consultations with FAO staff, extensive literature review, and three expert review workshops, with numerous specialists on rural poverty and/or climate responses as well as on themes of inequality, gender, indigenous perspectives, small-scale fisheries, coastal communities, SIDS, environmental conservation, and sustainable livelihoods. A list of the participants that were involved in the process is provided in the acknowledgements at the beginning of the report. The results presented here have benefited greatly from these consultations and discussions.

The approach is explored through the lens of coastal communities, coastal areas and SIDS, all of which face significant poverty, food insecurity and climate impacts, especially in rural areas. With often limited access to policies and programmes to address these issues, coastal communities, coastal areas and SIDS provide important testing grounds for improving the responses and synergies among them, and for improving access to, and effectiveness of policies and programmes. While this report draws particularly on examples from these areas, the recommendations are designed to be translatable and relevant more broadly, such as to small communities living in drylands, or other agro-ecosystems that are threatened by a changing climate, and inland nations that are also dealing with poverty and climate change.

The resulting climate-poverty approach aims to improve outcomes at the nexus of climate-poverty responses by addressing three major themes:

1. **how the climate change and poverty nexus should be understood and addressed**, drawing on examples from coastal communities, coastal areas and SIDS;

2. **recommended steps for FAO and its Members** towards improving the interface between climate responses (mitigation and adaptation) and the pursuit of poverty reduction/eradication, as well as food security and disaster risk reduction, at policy, institutional and practical levels, with a focus on rural areas; and

3. **advice for FAO and its Members and for representatives of coastal communities and local organizations** on leveraging key entry points towards improved effectiveness of local initiatives linking poverty reduction and climate responses, and improved engagement of local actors and communities, particularly in rural areas, with relevant policy arenas at various levels.

The proposed approach aims specifically to encourage discussion and action, and to provide inputs and recommended steps to FAO and its Members, other international bodies, and civil society, in order to do the following:

> **Support the mainstreaming of poverty reduction** (including the Leave No One Behind imperative and "pro-poor" approaches) **into climate change mitigation and adaptation** (including objectives, policies, programmes and activities, as well as institutions).

> **Support the mainstreaming of climate change mitigation and adaptation into poverty reduction and food security approaches**, and more broadly, rural development initiatives (including objectives, policies, programmes and activities, as well as institutions).

> **Achieve greater alignment and complementarity between, on the one hand, poverty reduction, food security and rural development, and on the other hand, the range of climate responses** – across a range of policy fronts and institutions, whether these are solely focused on development or on climate, or whether they cover both or neither, with programmes and policies relevant to both.

> **Improve the delivery of both (i) poverty reduction, food security and rural development, and (ii) climate change mitigation and adaptation**, and achieve synergies where possible, through improved institutional coherence and coordination, in planning, implementation, monitoring and accountability measures, and through improved approaches to recognizing and addressing inequality in both agendas.

> **Recognize and improve support for local place-based and context-specific initiatives to address both climate change and poverty**, incorporating key ingredients such as empowerment and subsidiarity.

The climate-poverty approach considers issues of coherence and coordination at multiple levels (the local community level through to national and global initiatives) and across multiple regions, with applicability to a variety of sectors. Throughout, consideration is given to the various manifestations of climate change, and associated risks and vulnerabilities, the multiple dimensions of poverty, geographic and jurisdictional dynamics and scale, time scales (e.g. short vs. long term), interactions with other major influencing factors (known as "drivers", e.g. economic globalization), as well as aspects of disaster risk reduction and management, gender, indigenous peoples' perspectives and environmental stewardship. Challenges and opportunities towards implementation are also examined.

Section 2 of this document provides some background on climate change and its impacts, poverty and food security issues, interactions among these, and the various initiatives to respond to climate and to poverty.

Section 3 presents the climate-poverty approach, to improve coherence and coordination of poverty responses and climate responses.

Section 4 provides details of five strategic elements that comprise the approach, and suggests a range of accompanying policies (at levels from local to national to global) as well as programmes and practices (such as national programmes and local practices in communities).

Section 5 discusses opportunities for implementing the climate-poverty approach, including synergies arising from the use of existing approaches, and a set of accompanying tools.

Section 6 explores various considerations in implementing the climate-poverty approach, including values, time and space, operational approaches, and assumptions and risks.

Section 7 concludes the report with a synthesis. An annex to the report provides a Guide for Rural Communities and Local Decision-Makers that focuses on improving poverty responses and climate responses in rural communities.

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2 THE NEXUS OF CLIMATE CHANGE AND POVERTY: IMPACTS AND RESPONSES

This chapter provides an overview of climate change impacts and associated risks, how climate is linked to poverty and conversely, how poverty is linked to climate. The section then turns to an examination of interactions between climate mitigation and adaptation – to address climate change, risk and vulnerability – and poverty reduction and food security initiatives. This includes a discussion of the current international outlook in terms of recognizing and addressing interactions among climate and poverty responses.

2.1 Climate change and associated impacts

Climate change, as discussed throughout this report, refers to both climate change processes (usually longer-term, e.g. global warming, sea level rise, expanding water scarcity, and ocean acidification), and climate variability (such as increasing frequency and intensity of extreme weather events, e.g. storms, floods and droughts, and changing seasonality, e.g. variability in rain and temperature). It is important to recognize that the choice of climate responses (especially adaptation) will differ depending on whether variability or change is being considered, and accordingly, impacts on poverty will vary as well.

Climate change impacts themselves may arise in the form of (1) shorter-term shocks, disasters and/or climate extremes (drought, heat waves, flood and storms), and (2) longer-term stresses, such as sea level rise, water scarcity, increased seasonal variability and overall changes in rainfall and temperature patterns. There can be both direct and subsequent (indirect) effects of both these time scales of impacts, on people and communities. For example, climate change impacts may arise as an immediate effect of either weather or climate-related disaster, or subsequently as a potential risk for displacement and forced relocation.

Some of these impacts, such as rising sea level and ocean acidification, are particular to coastal systems, including coastal communities, coastal areas and SIDS. Overall, climate impacts are contributing and will continue to contribute to mostly negative impacts on ecosystems, humans and their communities. These may include submergence, increased flooding, loss of land area (erosion), loss of coral reefs, sea grass and kelp, the incursion of salt water into freshwater sources for drinking and irrigation, changes in species range, and invasive species (e.g. Wong *et al.*, 2014). This – combined with increasing anthropogenic pressure on coastal systems due to population growth, increasing migration of peoples from inland to coastal areas, and modification and loss of wetlands, mangroves, estuaries and coastal aquifers – leads to increasing exposure of people and assets to climate risk (Wong *et al.*, 2014). This change affects rural, resource-dependent areas in particular: the focus of this report.

Coastal ecosystems are highly sensitive to a variety of climate-related drivers which are already impacting these systems. The people who live and work in coastal communities often experience high levels of climate-related vulnerability, defined here as a combination of high exposure and sensitivity and low adaptive capacity (Adger, 2006). Simultaneously, they face multiple climate-related concerns on the terrestrial side that threaten farming and other land-based livelihoods, such as erosion, salinization and other impacts. In addition, food security in coastal communities will be affected by climate change, disasters and associated responses in multiple

ways, such as the movement of people, impact on infrastructure and living spaces and arable lands, and changes in fisheries productivity.

Coastal systems and SIDS are particularly prone to climate risks, and these risks are especially great in certain coastal areas. Notably, coastal cities in developing countries often face rapid population growth combined with slower development of physical infrastructure and limited adaptation capacity, making these areas particularly vulnerable. There are not only impacts such as sea level rise and extreme weather events, but also effects on health, energy use and water, such as heat-related morbidity, vector-borne diseases, water demand and availability (Hunt and Watkiss, 2011). At the same time, rural communities in coastal systems are often highly vulnerable to climate impacts due to their physical proximity to hazards, lack of access to adequate infrastructure (markets, health services, etc.) and, more generally, lack of options for adaptation (Cross, 2001).

Small Island Developing States experience high exposure to extreme weather events and are vulnerable to longer-term drivers such as sea level rise. Such nations often have small populations with many small remote settlements spread over an extensive area, small economies with limited economic activities, and relatively limited institutional capacity. With high relative costs of disaster recovery, and a legacy of social impacts from repeated exposure to disasters (World Bank, 2017), financial and physical vulnerability are often closely linked in SIDS in particular (UNDP, 2016).

2.2 Links between climate change, poverty and food security

All of the above can have significant direct and indirect interactions with poverty and development. Climate change, as a driver of biophysical and other impacts, can affect some people and locations positively, and others negatively; but overall, it is expected to worsen poverty. Indeed, around the world, climate change disproportionately affects people and communities living in poverty, and indeed leads to even more people moving into poverty (FAO, 2017a).

As noted in Chapter 5 of the Intergovernmental Panel on Climate Change (IPCC) Special Report, *Global Warming of 1.5 °C*:

The impacts of 1.5 °C of warming would disproportionately affect disadvantaged and vulnerable populations through food insecurity, higher food prices, income losses, lost livelihood opportunities, adverse health impacts and population displacements. Some of the worst impacts on sustainable development are expected to be felt among agricultural and coastal dependent livelihoods, indigenous people, children and the elderly, poor labourers, poor urban dwellers in African cities, and people and ecosystems in the Arctic and Small Island Developing States (Roy et al., 2018, p. 447).

The impacts of climate change on poverty occur both directly through biophysical changes and associated market responses, and indirectly as biophysical changes alter other factors that are also linked to poverty and development, such as economic, political, cultural, and institutional factors. Impacts can vary widely, for example, from increased health risks associated with increased frequency of flooding events, to sea level rise and coastal erosion leading to loss of landmass as a driver of forced migration. Different types of climate events may also interact differently with poverty, depending on the severity, timing, and other dimensions of both.

Further, economically and socially marginalized groups are often those living in vulnerable locations. Partly as a result of this, and due to the physical vulnerability of their locations, they are also among the most vulnerable to natural hazard-related disasters and human-induced conflicts and crises. With a lack of assets, capabilities, safety nets and networks to deal with shocks and stresses, marginalized groups generally have greater difficulty anticipating, coping with, adapting to and transforming their livelihoods – or way of life (Hallegatte *et al.*, 2016; Olsson *et al.*, 2014).

The impacts of climate change are especially notable in rural areas, and for poor and vulnerable groups with small-scale fishery-, forest- and agriculture-based livelihoods. These lie at the heart of human food supply and sustainable development.

Smallholder agriculture and harvesting of natural resources, such as fishing, hunting and gathering, are critical sources of food and livelihood for much of the world's population.

The International Fund for Agricultural Development (IFAD) and the United Nations Environment Programme (UNEP) note:

Smallholders manage over 80 percent of the world's estimated 500 million small farms and provide over 80 percent of the food consumed in a large part of the developing world, contributing significantly to poverty reduction and food security. Yet small-scale farmers often live in remote and environmentally fragile locations and are generally part of marginalized and disenfranchised populations (IFAD and UNEP, 2013, p. 10).

Furthermore, since consumption and production decisions are often interrelated, there are limited choices in terms of risk management. Overall, people, households and groups with high dependence on natural resources for livelihoods, income, food and well-being can be among those who suffer most from poverty and food insecurity, and for this and other reasons, face particularly high vulnerability to climate change.

However, climate change impacts on rural livelihoods are not frequently or adequately recorded. Despite the importance of these sectors to food security and national economies for many developing countries, there is a lack of data about the impacts on those sectors of climate change and disasters, especially in terms of damage and loss. Much of the available post-disaster data focuses on loss of life and infrastructure, and does not show impacts to specific productive sectors like smallholder agriculture. When it does, in the case of some post-disaster needs assessments, the approaches used vary widely, and so it is difficult to put the data together at any national, regional or global level. Further, in addition to the direct losses associated with lost production and livestock, there are cascading effects in value chains, and in indirect or longer-term impacts associated with higher incidence of disease outbreaks or loss of rural infrastructure, such as roads, irrigation systems and equipment (FAO, 2018a).

Vulnerability varies across different individuals, groups and social classes, within and across communities, and with gender, socio-economic level, ethnicity, age and other characteristics (Perez *et al.*, 2015). Notably, women are relatively more dependent on extractive and agricultural livelihoods that are affected by climate change, with fewer resources, less decision-making power and fewer rights to land and water; they are subject to social, knowledge, economic and political barriers that limit their coping and adaptive capacity (Dankelman and Jansen, 2012; UN WomenWatch, 2009). Given all this, women are disproportionately affected by poverty and climate, and in particular, are more likely to be vulnerable to climate variability impacts (Rao *et al.*, 2017). In the Fifth IPCC Assessment Report, Olsson *et al.* (2014) note that "existing gender inequalities are increased or heightened by climate-related hazards."

Climate-related risk can negatively impact communities and households in different ways, including adoption of ex-ante risk management strategies at lower levels of productivity/profit; ex-post negative coping strategies that force liquidation of asset base; relatively greater impacts for poorer people; and bigger picture economic opportunities constrained due to risk management strategies (Hansen *et al.*, 2018).

Climate change also negatively impacts food security by affecting availability, accessibility and distribution, utilization and stability of food systems, as well as availability of traditional food sources, leading to loss of income through reduced harvests (Eriksen and O'Brien, 2007; Westerhoff and Smit, 2009). People, households and groups experiencing poverty often have limited or tenuous access to safe drinking water and nutrition; at the same time, climate-related water scarcity and water-quality issues have significant negative health impacts (UN WomenWatch, 2009).

Furthermore, as Olsson *et al.* (2014) note, climate change (including climate extremes and variability) can act as a "threat multiplier" for poverty, exacerbating the impact of other stressors (including "non-climatic stressors and entrenched structural inequalities"), and leading to increased vulnerabilities.

The convergence of multiple stressors and shocks associated with climate change can push people across critical thresholds into chronic poverty: climate change and climate variability worsen existing poverty, exacerbate inequalities, and trigger both new vulnerabilities and some opportunities for individuals and communities (Olsson *et al.*, 2014).

The nuances and complexities of poverty are important to recognize when observing the links between poverty impacts and climate impacts. Different temporal patterns of poverty are reflected in the experiences of **chronic** poverty (always poor vs. usually poor), and **temporary or transient** poverty (cyclical poverty vs. occasional poverty), each with specific associated vulnerabilities (Tanner and Mitchell, 2008). A related aspect is the duration of poverty (Leichenko and Silva, 2014) – e.g. poverty that is **chronic** (longer than five years, often lifelong or intergenerational), or **temporary** (shorter than five years, but sometimes recurring). Each of these has its own associated vulnerabilities (Tanner and Mitchell, 2008). Such differences can affect the choice of potential responses, since solutions depend on the categories of poverty experienced. Olsson *et al.* (2014) highlight a need to consider "the distribution of poverty at the level of households, spatial and temporal shifts, critical thresholds that plunge some transient poor into chronic poverty, and poverty traps, in the context of climatic and non-climatic stressors." They highlight the factors, such as structural inequalities and power imbalances, that "shape differential vulnerabilities to climate change," finding that "many of these dynamics remain hidden, incompletely captured in poverty statistics and disaster and development discourses." The relevance of these arises as well in considering the impacts of, and responses to disasters, shocks and climate extremes.

In coastal communities, coastal areas and SIDS, high vulnerability to shocks and stresses is common, affecting lives and livelihoods, food security, nutrition, poverty and export earnings generation. Impacts of disasters and of climate change are often not evenly distributed among those within a given coastal community (e.g. across class, gender, ethnicity), or for that matter, within a fishery (with small-scale fishers particularly affected). The most marginalized, or those already facing food insecurity and poverty, may be disproportionately impacted. Girls and women are more vulnerable to disaster-related mortality than boys and men, and this vulnerability increases with intensity of disasters, and with lower socio-economic status (Neumayer and Plümper, 2007).

The United Nations Framework Convention on Climate Change (UNFCCC) identifies SIDS as regions with high vulnerability to the negative impacts of climate change and limited resources for adaptation (UNFCCC, 2007). Thus, there is a natural interaction of poverty and climate in these nations. The vulnerabilities and threats have been highlighted in the SIDS Accelerated Modalities of Action (SAMOA) Pathway (UNGA, 2014), the High Level Panel on FAO and SIDS (FAO, 2015a), the Ministerial Meeting on Food Security and Climate Adaptation in SIDS resulting in the Milan Declaration (UNDESA, 2015), the twenty-first session of the Conference of the Parties (COP21) of the UNFCCC (UNFCCC, 2015), and subsequent COP processes. In response to this call for action, the Global Action Programme (GAP) on Food Security and Nutrition in SIDS was officially launched at the fortieth session of the FAO Conference (FAO, 2017a). This present work will support the implementation of the GAP.

2.3 Links between poverty and climate change

There is a complex interaction between poverty and climate change. The reduction of poverty can allow populations to better respond to disasters and reduce vulnerability to climate change impacts. However, climate change responses that do not consider poverty can be 'maladaptive', potentially making poverty worse and climate change responses less effective.

While the previous section highlighted climate change impacts on poverty and food security, the existence of poverty (in its multiple dimensions, considering not only socio-economic dimensions of inequality, but also resource access and distribution, political and cultural dimensions) can increase vulnerability to, and thereby exacerbate, climate

change impacts. It is important to recognize, in this context, that poverty, as a condition *experienced* by people, households and communities, differs from climate change, a driver that *affects* people, households and communities. As such, poverty and climate are not equal and opposing forces, but have a more complex interaction.

This interaction, and in particular the effects of poverty on climate, occur directly and indirectly through a variety of channels. For example, certain paths of economic growth may significantly increase global greenhouse gas (GHG) emissions and thereby exacerbate climate impacts. Other approaches may increase climate risk and vulnerability, negatively affect adaptive capacity, and potentially limit options and abilities to implement successful climate responses. Indeed, maladaptive climate responses can worsen poverty and as a result, contribute to negative environmental and climate-related impacts. Two scenarios are considered in detail here.

First, in keeping with the discussion of the previous section, poverty exacerbates vulnerability to climate impacts, due to (i) a higher dependence on natural resources and associated productive sectors that are climate-sensitive (e.g. people with agricultural and resource-based livelihoods such as fishing, forestry, agriculture and other renewable natural resources), and (ii) a geographic location in marginal areas, notably in tropical and subtropical areas of developing countries, where poverty is concentrated (Barbier, 2015), and which are affected by increased frequency and intensity of extreme events, such as storms, flooding and drought (Hallegatte *et al.*, 2016; Allison *et al.*, 2009; Badjeck *et al.*, 2010).

With increased exposure, vulnerable groups are more susceptible to damages; with fewer resources, the relative ability to cope and recover is more limited, and the relative costs of recovery are higher, further exacerbating vulnerability and inequality (Islam and Winkel, 2017). At the same time, vulnerable groups have limited capacities to engage or invest in risk reduction measures that help them to prevent, mitigate and/or prepare in the face of climate shocks and stresses.

Social inequality, and a lack of social protection, safety nets, and risk management strategies, can also force certain responses that can include (i) risk-averse behaviour of people living in poverty due to limited protection, (ii) consumption and production decisions which are interrelated, resulting in limited productivity, and (iii) negative coping strategies after climate shocks, where remaining assets may be lost or divested (Hansen *et al.*, 2018). These can appear as the selling off of assets, deforestation, taking children out of school, changing to less nutritional diets, poverty-induced forced migration, and more.

Second, GHG emissions associated with poverty can be a significant concern. While the bulk of emissions contributing to climate change do not come from those experiencing poverty, or from their practices,[3] a lack of options can in some cases lead to reliance on activities that degrade habitats and resources upon which people depend, in other words, unsustainable activities with negative consequences for climate and livelihoods. Fuelwood and charcoal provide a good example of this. Every year, an estimated 1–2.4 Gt CO2e[4] is released globally through the (largely informal) production and burning of fuelwood and charcoal for heating and cooking, and this contributes an estimated 2 to 7 percent of global anthropogenic emissions, a number which could be significantly reduced through improved management and technology (van Dam, 2017).

Consider the specific case of the harvesting of mangroves in coastal areas. The burning of fuelwood harvested from mangroves adds to GHG emissions globally (Howard *et al.*, 2017), and the negative climate impacts of burning wood for fuel extend beyond emissions. Coastal communities that harvest mangrove wood for firewood and survival (due to lack of other accessible energy), if harvesting beyond reproductive capacity, are contributing to

[3] For example, it is estimated that the 500 million smallholder farmers in the world contribute only 5 percent of global emissions (e.g. Vermeulen and Wollenberg [2017]).
[4] "Gt CO2e" refers to gigatonnes of carbon dioxide equivalent (van Dam, 2017).

a decline in mangrove ecosystems that are already under threat globally from urbanization and shrimp farming (Valiela, Bowen and York, 2001), and climate change impacts, such as sea level rise (Gilman *et al.*, 2006; Mcleod and Salm, 2006). This decline in mangroves in turn reduces their beneficial role in climate mitigation, as net carbon sinks, so their loss has significant negative consequences in terms of loss of carbon absorption and the release of carbon into the atmosphere (Howard *et al.*, 2017). There are also negative local impacts on environments and livelihoods. A loss of mangroves can increase the local susceptibility to coastal erosion and reduce available habitat, as well as decrease the ecosystem services provided by the mangroves, such as the food and livelihoods provided to the community by aquatic species that live in mangrove estuaries.

Analogous to the loss of mangroves, the degrading of agricultural land is another example of poverty worsening climate vulnerability. In the year 2000, an estimated 1.33 billion people worldwide were living on degrading agricultural land (DAL), most of whom – 1.26 billion – were in developing countries. Land degradation reduces the productivity of agricultural systems and increases vulnerability to climate impacts, especially for populations living in remote areas (Barbier and Hochard, 2016); it is a significant and increasing concern in SIDS in particular, where overall land area and economies are typically small, with limited infrastructure, high vulnerability to shocks and stressors, isolation from markets, increasing urbanization, diverse soil types, competition between land-use options, and frequently a historic lack of adequate land-use policies (Rioux *et al.*, 2017).

2.4 Interactions among responses to climate change and poverty

In its opening section, this report highlighted the idea of a nexus of impacts arising from both climate change (and climate vulnerability) and poverty and food insecurity. Parallel to that is a nexus of responses to climate and to poverty – linking the policies, programmes and practices of climate change mitigation and adaptation with those dealing with poverty reduction and food security.

This section focuses on the second nexus. An effective, more integrated and mutually supportive approach to climate change and poverty will consider issues of governance, across different levels, from local governance to international bodies. Among other benefits, better linkages among initiatives to address poverty and climate change may help to reduce exposure to risks and vulnerability, improve resilience and achieve, maintain and improve well-being in human and ecological systems at various scales and levels. Linking climate and poverty responses is, as put by Agrawal and Carmen Lemos (2015), neither development as usual (e.g. whether focused on economic growth or reducing inequality), nor stopping development (which ignores existing poverty and inequality globally). Improved linkages can contribute to the multiple dimensions of sustainable development – economic, social and environmental.

Climate adaptation is often discussed together with efforts to build climate resilience – the capability of households, communities and nations to deal with shocks and stresses. Indeed, resilience-enhancing measures are crucial to reduce disaster risk from extreme events and climate variability, and from longer-term change such as sea level rise. A focus on resilience can provide a unifying way to improve cohesion and complementarity between, on the one hand, poverty reduction and food security, and on the other hand, climate mitigation and adaptation – one that can be applied at any temporal and spatial scale (see FAO, 2019a). It is not surprising, then, that international fora and agreements are increasingly recognizing resilience as a key ingredient of policy and practice with respect to climate and disaster, food security and poverty responses. Furthermore, many organizations, such as FAO, are increasingly utilizing resilience as a unifying concept. Resilience is defined in a variety of ways; two important examples are as follows:

The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management (UNDRR, 2017).

The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation (IPCC, 2014, p.5).

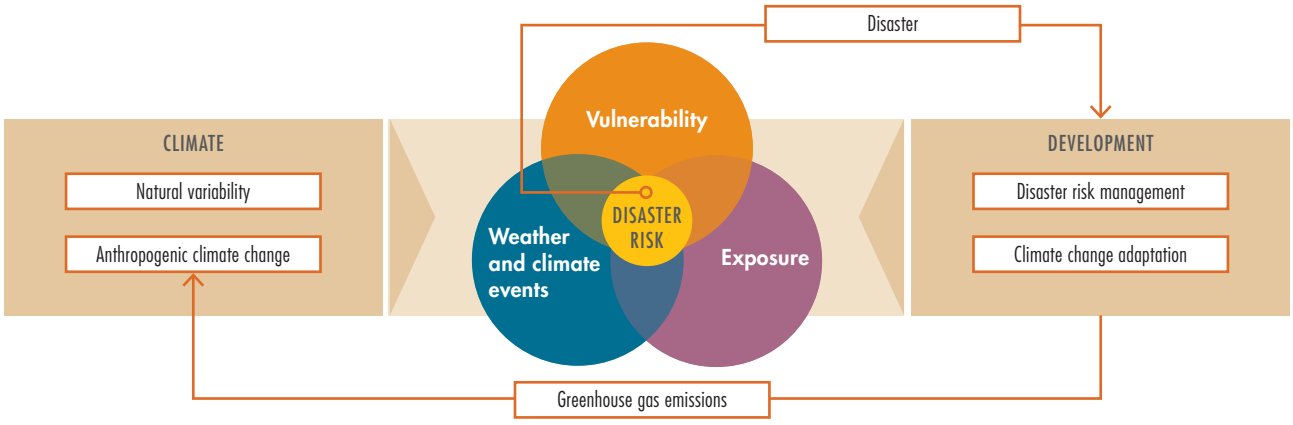
There is considerable discussion of resilience within the SDG framework. For example, Target 1.5 of SDG 1 (No poverty) pays special attention to building resilient livelihoods, and there is similar emphasis on resilience in SDG 13 (Target 13.1). Resilience, as a theme in approaches to addressing climate change and poverty and their interactions, is addressed in detail later in this report.

Since manifestations of climate change range from long-term phenomena, such as sea level rise and ocean acidification, to increasing frequency and intensity of short-term events, such as extreme weather (e.g. hurricanes and cyclones resulting in floods, landslides, etc.), mitigation and adaptation approaches need to be tuned to the relevant time scales. There are strong linkages with disaster risk reduction and response, particularly in the relatively short term, when disasters are most apparent. From a development perspective, those shorter-term initiatives can lead to risk-informed development in the long term, e.g. in building the capacity and preparedness to deal with future disasters, and in promoting development pathways that not only do not increase vulnerabilities, but also contribute to reducing them. This might include, for example, construction of irrigation systems considering their potential exposure to shocks, or storage facilities that are not built next to a river, where flooding can affect them, or new roads to connect to markets that avoid destabilising adjacent slopes which could be lost to landslides arising from weather events such as hurricanes and monsoons. Risk-informed development could also include the design of social protection programmes that support work on community vulnerability reduction measures, or facilitate participation in community DRR committees.

Certainly, issues of poverty and food insecurity can be relevant across all time scales. Finally, it is important to note that both climate change and poverty interact with other relevant drivers, which can be fast or slow, short- or long-term, and acute or chronic. Accordingly, attention to multiple time scales is essential.

The IPCC (2012) provided what has become a commonly-utilized graphical depiction of the links between climate and development (Figure 1). Climate impacts, both change and variability, can increase disaster risk, as can development activities, through effects on exposure and vulnerability.

FIGURE 1. **A PERSPECTIVE ON INTERACTIONS OF CLIMATE AND DEVELOPMENT.**



Note: The right-hand side depicts two major responses to climate change.

Source: IPCC (2012).

On the other hand, "disaster risk management and adaptation to climate change can reduce exposure and vulnerability to weather and climate events and thus reduce disaster risk…" This report expands on that approach by incorporating in detail the human side of the picture. This includes (1) poverty and food insecurity, as realities in their own right, affected by economic, social and environmental factors, and contributing to climate sensitivity and hence vulnerability, as well as (2) the roles of agency, empowerment and good governance in building adaptive capacity to reduce vulnerability in the face of climatic shocks and stresses.

The experiences of coastal communities and coastal areas clearly demonstrate the desirability of attention to integrated, synergistic and targeted approaches addressing climate change and poverty. Climate change and poverty impacts can both be exacerbated if mitigation, adaptation and risk management do not give small-scale fishers and coastal communities focused attention and priority in a manner reflecting consideration of their particular needs. In such cases, the fishers and communities may be both greatly impacted and benefit very little from the response actions (e.g. relative to larger-scale industrial fisheries). Assessment is needed to determine the specific vulnerabilities, needs and priorities of these groups, whether essential human needs are being considered, whether responses take into account existing barriers and capabilities, and whether some groups are not receiving equitable levels of support. For more discussion of these issues, see the poverty lens analysis of Kalikoski *et al*. (2018).

Small Island Developing States face a variety of climate and development challenges, which have long been recognized. There is also a high degree of variability among ecological, economic, social and political contexts of SIDS; therefore, countries require a wide range of climate and poverty responses.

While significant funding has been invested in policy and legislation in some cases, critical gaps remain between policy and effective adaptation implementation at local levels, especially with respect to the achievement of benefits among the more peripheral islands and communities within SIDS (Barnett and Campbell, 2010).

According to Nunn *et al*. (2014), many factors could be contributing to this:

- a disconnect between national policy and local implementation;
- limited understanding, motivation and uptake of adaptation actions in some locations (e.g. where higher priority may be on meeting daily needs for livelihood and survival);
- limited resources for implementation (e.g. to support place- and context-specific implementation within SIDS with many small and remote communities); and
- a mismatch between traditional local governance structures and the pace and complexity of climate-related issues.

Another challenge relates to reconciling differing understandings and priorities between short-term, immediate concerns related to subsistence and livelihoods at a local level, and longer-term issues related to climate-change impacts, often attributed to external drivers (Barnett and Campbell, 2010).

2.5 International developments in linking responses to climate and to poverty

At the level of global policy, there has been positive movement towards aligning the climate agenda with poverty reduction, food security and rural development initiatives. In particular, the need for improved linkages and cohesion among approaches to address poverty and climate is inherent in adoption of the United Nations 2030 Agenda for Sustainable Development, and the SDGs, in which countries have renewed their commitment to end poverty, hunger and malnutrition (notably SDG 1 and SDG 2), and to combat and adapt to climate change (SDG 13).

Within this report, these aspects are examined by drawing on examples relevant to the context of coastal communities, coastal areas and SIDS – the discussion is therefore partly in relation to oceans, seas and marine resources (SDG 14), though it is relevant also to terrestrial systems (SDG 15).

The key lies in the interaction of these various responses to poverty and to climate, including acknowledgement that tackling climate change and enhancing climate resilience is essential for moving people out of poverty sustainably, and securing development gains. For example, Target 1.5[5] of SDG 1 (End poverty in all its forms everywhere) pays special attention to building resilient livelihoods and helping the rural poor reduce their exposure and vulnerability to climate change and disasters triggered by natural hazards. The food and agriculture sectors play an important role in sustainable development and climate and poverty responses, with FAO (2017c) noting "these sectors hold enormous opportunities to create synergies between the climate and development agendas."

Attention to SDG 1 also relates to the longstanding emphasis on pro-poor approaches to development, discussed further in the next section.

The need for greater coherence and coordination to address the complex, interrelated problems of climate change and poverty is also recognized in a number of other high-level agreements, including the 2015 Paris Agreement on addressing climate change (UNFCCC COP21), the 2015 Sendai Framework for Disaster Risk Reduction 2015–2030, and the 2015 Addis Ababa Action Agenda (financing for development). In general, these frameworks recognize that the challenges of climate change, poverty and food insecurity are interconnected – at local, sub-national, national, regional and global levels.

This reality is also reflected in the IPCC's (2018a) report on the impacts of 1.5 °C global warming, including an exploration of poverty, food security and livelihood impacts (Roy *et al.*, 2018) that highlights the inherent interactions of climate change and poverty:

Limiting global warming to 1.5 °C rather than 2° C above pre-industrial levels would make it markedly easier to achieve many aspects of sustainable development, with greater potential to eradicate poverty and reduce inequalities … Compared to current conditions, 1.5 °C of global warming would nonetheless pose heightened risks to eradicating poverty, reducing inequalities and ensuring human and ecosystem well-being (Roy et al., 2018, p. 447).

Social justice and equity are core aspects of climate-resilient development pathways for transformational social change. Addressing challenges and widening opportunities between and within countries and communities would be necessary to achieve sustainable development and limit warming to 1.5 °C, without making the poor and disadvantaged worse off (IPCC, 2018a).

Furthermore, a number of key of publications provide useful knowledge, context and recommendations for improving the linkages of poverty reduction, food security and climate responses. These include:

- *The Chronic Poverty Report* (Shepherd *et al.*, 2014)
- IPCC Fifth Assessment Report (AR5), Chapter 13, on livelihoods and poverty interactions with climate change (Olsson *et al.*, 2014)
- CGIAR-CCAFS paper on climate change adaptation and rural poverty reduction (Hansen *et al.*, 2018)
- The World Bank's *Shock Waves* report on impacts of climate change on poverty (Hallegatte *et al.*, 2016), and *Unbreakable* report on building climate resilience of the poor (Hallegatte *et al.*, 2017)
- World Economic Social Survey report on climate change resilience and reducing inequality (United Nations, 2016)
- World Resources Institute report on climate-sensitive development (Mcgray, Hammill, and Bradley, 2007)
- World Bank Report on *Climate and Disaster Resilient Transport in Small Island Developing States* (World Bank, 2017)

[5] By 2030 build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

- Four IPBES Regional Assessments (IPBES, 2018a, 2018b, 2018c, 2018d) that stress the linkages of climate change as a driver of biodiversity loss with significant impacts on nature's contributions to people (see Díaz *et al.*, 2018)

- *Connecting the Dots: elements for a joined-up implementation of the 2030 Agenda and Paris Agreement* (Bouyé, Harmeling and Schulz, 2018), which provides a comprehensive set of recommendations on linking NDCs, in relation to climate responses and the SDGs.

A growing number of international platforms for exploring climate-development linkages are becoming available. Three of these that focus on connections and synergies between national climate responses within NDCs (or Intended Nationally Determined Contributions [INDCs]), and the targets of the SDGs are as follows:

- the Climate Watch NDC-SDG linkages map/database (www.climatewatchdata.org/ndcs-sdg), which provides a suite of tools including a database and online map, designed to improve transparency and identification of opportunities and gaps in countries' planned policies and actions for implementation. This map/database is associated with the NDC Partnership portal (see below).

- the portal provided by the NDC Partnership (https://ndcpartnership.org), which is a network of over a hundred countries and international organizations, hosted by the World Resources Institute and UNFCCC, working directly with countries to develop and align NDC and SDG goals, as well as providing a knowledge sharing platform among countries and facilitating access to finance.

- the INDC platform (http://spappssecext.worldbank.org/sites/indc/Pages/INDCHome.aspx), available through the World Bank, containing searchable content from all 162 (I)NDCs.

All of these provide the means to explore the connections and linkages between climate and poverty responses, and in particular potential alignment among targets, actions, policy measures and needs.

Also relevant to principles and framing context underlying the recommendations in this report are the following high-level agreements and guidelines:

- the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (UNGA, 2007)

- the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (FAO, 2015b)

- FAO's Strategic Objectives and Strategic Programmes

- the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) relevant General Recommendations and the Beijing Platform for Action (1995) (see OHCHR, 1996)

- UNFCCC Gender Action Plan (UNFCCC, 2017)

- UNFCCC Local and Indigenous People's Platform (UNFCCC, 2018).

Finally, a parallel initiative to this report is an examination of the role of social protection – providing institutionalized mechanisms to support people and communities facing risk of disasters, livelihood challenges, and/or poverty – in serving both poverty reduction and climate response needs. This is presented in a new FAO report (Ulrichs *et al.*, forthcoming).

Also important in terms of FAO strategies is the Sustainable Food and Agriculture Strategy (FAO, 2014), which includes approaches for addressing both climate and poverty (Box 1).

BOX 1 FAO'S SUSTAINABLE FOOD AND AGRICULTURE STRATEGY

Food and Agriculture Organization of the United Nations (FAO) Sustainable Food and Agriculture strategy (FAO, 2014) demonstrates how climate, poverty and other pressures interact with food insecurity and sustainable agriculture, and how they can be addressed in a coordinated, synergistic way that also speaks to cross-sectoral and institutional coordination. The strategy recognizes how combined pressures are contributing to food insecurity globally: poverty, inequalities, hunger and malnutrition; inadequate diets and unsustainable consumption; land scarcity, degradation and soil; water scarcity and pollution; loss of living resources and biodiversity; climate change; and stagnation in agricultural research (including increasing inequality in where spending in agricultural research happens).

In response, the Strategy proposes five guiding principles: (1) improving efficiency in the use of resources is crucial to sustainable agriculture; (2) sustainability requires direct action to conserve, protect and enhance natural resources; (3) agriculture that fails to protect and improve rural livelihoods, equity and social well-being is unsustainable; (4) enhanced resilience of people, communities and ecosystems is key to sustainable agriculture; and (5) sustainable food and agriculture requires responsible and effective governance mechanisms.

The strategy includes a range of possible actions, relating to knowledge and monitoring, capacity building, awareness raising, institutional processes, financing, regulatory development, and process-oriented approaches, such as innovation networks, and inclusive platforms. Specific practices and policies are applied across different productive sectors (crops, livestock, forestry, fisheries, etc.), together with possible positive and negative interactions (synergies and tradeoffs) between different activities and sectors. A four-pillar approach to implementation includes (1) a focus on a coordinated national-level approach, (2) development of shared vision at a local level, (3) appreciation of multiple forms of knowledge, and (4) application at multiple scales of intervention.

See FAO's *Building a common vision for sustainable food and agriculture: Principles and approaches* at www.fao.org/3/a-i3940e.pdf

In addition to these globally-oriented initiatives, a wide range of country-level and community-level efforts have been undertaken to address the interactions of approaches to address climate and poverty. At the country level, there has been some progress on coherence and coordination, through institutions, planning processes and accountability measures to meet existing commitments:

a. to the global climate agenda, such as NDCs, NAPs, and increased use of Voluntary National Reports to recognize links and synergies with climate adaptation advances (Climate Watch, 2018); and

b. to achieve SDGs, such as national development strategies, poverty reduction plans and associated work.

Also relevant are national disaster risk reduction/management and national or inter-agency resilience plans, as well as sector-based development plans. Within nations, an integrated and cohesive approach includes considering the ways in which institutional responsibilities, programmes and policies are designed and carried out by regional and local governments and how this is aligned with the SDGs, including poverty reduction (SDG 1), food security (SDG 2) and climate action (SDG 13), and with local priorities. It also includes formal and informal activities carried out by NGOs and citizen-led initiatives (at multiple scales), and consideration of local-level values within other levels of planning and policy.

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3 CLIMATE-POVERTY APPROACH: LINKING CLIMATE MITIGATION AND ADAPTATION WITH POVERTY REDUCTION AND FOOD SECURITY

The various mechanisms, institutional arrangements and analyses listed below, as well as a wide range of consultations carried out with many experts, collectively produce a consistent vision that greater mutual recognition and alignment of the climate agenda and poverty reduction, food security and rural development initiatives would benefit the outcomes for each. There is much need for a structured approach to move from an understanding of the importance of addressing this climate-poverty response nexus, to putting into practice climate change and poverty reduction targeted policies, strategies and actions for achieving what is required practically, *at multiple levels*. This is crucial to accomplish within the framework of the SDGs, at the national level of individual states, taking into consideration local-level needs, challenges and implementation initiatives. Therein lies the core rationale for this report.

The climate-poverty approach seeks to improve the effects of policies and institutions to:

1. ensure climate-related risks and impacts, together with mitigation and adaptation responses, are fully considered within poverty reduction and food security strategies and programmes (towards achieving Sustainable Development Goals (SDGs) 1 and 2);
2. ensure the impacts of, and responses to poverty and food insecurity are fully considered within climate responses (with respect to SDG 13); and
3. acknowledge, understand and minimize trade-offs when integrating the above considerations into sector-specific and broad-based policy and programming.

3.1 Fundamental premises

To best achieve these requirements, drawing on the realities of coastal communities, coastal areas and SIDS, the proposed climate-poverty approach (hereafter referred to in this report as the approach) is built around four guiding considerations:

The approach is based on normative (pro-poor and sustainability) considerations. Such aspects help to set priorities and to focus issues of trade-offs and of acceptability (Agrawal and Carmen Lemos, 2015), to achieve outcomes that are more equitable and effective in responding to climate change and poverty. In particular, drawing on principles in accepted international agreements, this report is based on goals of social inclusion, including the Leave No One Behind imperative, and "pro-poor" approaches, prioritizing the needs of the most vulnerable and poor, with empowerment of affected populations as a fundamental ingredient. Further, environmental sustainability should be an imperative as well. These values are compatible with a climate justice perspective, which considers ethical and political dimensions of climate change, and proposes action towards recognizing and addressing existing inequality in the distribution of impacts and benefits of climate change. The climate impacts of poverty reduction and development also need to be considered in terms of how best to promote improved well-being and reduce inequality, while not increasing mitigation needs overall[6].

[6] See Hubacek *et al.*, *Poverty eradication in a carbon constrained world*. www.nature.com/articles/s41467-017-00919-4

The approach incorporates both institutional and operational aspects. On the one hand, a range of institutional changes may be needed to integrate poverty responses and climate responses within existing (or new/modified) institutions at all levels, to ensure greater effectiveness in implementation. On the other hand, operational considerations are important for addressing the climate-poverty nexus in an integrated way. This requires practical recommendations in utilizing available tools, such as climate vulnerability and poverty assessments, and in taking steps to build the enabling environment for effective coherence and coordination, together with the means for implementation, e.g. capacity-development and accountability measures.

The approach is designed for implementation at multiple levels. The change process towards more connected and integrated approaches should work in a practical sense at multiple levels. This must cover on-the-ground projects and programmes in local communities, and be connected to and informing macro-level discussions on the direction of policy relating to climate mitigation and adaptation, and to poverty reduction and food security – at national, regional and international levels. Furthermore, the principle of subsidiarity – that planning, decision-making, implementation and monitoring should take place at the lowest (most local) level that is feasible in a given situation – should be a central component of national level policy coherence and coordination, supporting a focus on local-level contexts, and multi-level (and cross-sectoral) connections. Faced with a myriad of existing and possible interactions across levels, and across different policies, programmes and practices, "tuning" to the appropriate spatial or jurisdictional level will improve targeting and effectiveness of interactions among the responses. Appropriately-scaled monitoring and accountability mechanisms are needed to ensure functionality and to allow for correction when necessary and appropriate.

The approach builds on existing initiatives. In particular, the approach aligns with the climate-resilient development pathways[7] approach as discussed in the IPCC's Fifth Assessment Report:

A climate-resilient pathway for development is a continuing process for managing changes in the climate and other driving forces affecting development, combining flexibility, innovativeness, and participative problem solving with effectiveness in mitigating and adapting to climate change (Denton et al., 2014, p.1106).

The approach offers a set of strategies to achieve this, drawing on the realities of coastal communities, coastal areas and SIDS, and particularly emphasizing rural areas. It also complements the FAO Strategy on Climate Change (FAO, 2017a), as well as FAO's theory of change on poverty reduction and its framework on Ending extreme poverty in rural areas – Sustaining livelihoods to leave no one behind (De La O Campos *et al.* 2018).

3.2 Introducing the five strategic elements of the climate-poverty approach

The proposed approach is based on a coordinated change process towards greater connection and cohesiveness to (i) ensure climate-related risks and impacts, together with mitigation and adaptation responses, are fully considered within poverty reduction and food security strategies and programmes (towards achieving SDG 1 and SDG 2); (ii) ensure the impacts of, and responses to poverty and food insecurity are fully considered within climate responses (with respect to SDG 13); and (iii) acknowledge, understand and minimize trade-offs, and build on opportunities for synergies that work in both directions simultaneously, when integrating the above considerations into sector-specific and broad-based policy and programming.

[7] This combines adaptation and mitigation with a more explicit focus on dynamic livelihoods, multidimensional poverty, structural inequalities, and equity, to transform development based on equity, resilience and justice.

Accompanying these three requirements is a need for improved coherence and coordination among institutions (whether responsible for implementing the climate agenda, development-oriented actions, a mix of both, or neither specifically), and connections with local-level and multi-level initiatives.

To meet these requirements, the proposed approach consists of five strategic elements for improving the effectiveness of policy, institutions and practices addressing the impacts of poverty and of climate, and improving the linkages of these associated poverty and climate responses. These strategic elements are the result of an intensive review of existing publications on poverty, climate, and the nexus between them, as well as in-depth, topical discussions with experts in a series of workshops.

The first three strategic elements of the proposed approach focus on better linkages of poverty reduction, food security and rural development initiatives with climate mitigation and adaptation. This arises from a recognition that three major scenarios can be identified, which may be seen as three institutional and policy **entry points**: (1) primarily climate-focused policy or institutions, needing to improve recognition of, and connection with poverty, food security and broader development considerations; (2) primarily poverty reduction or development-focused policy or institutions, needing to improve recognition of, and connection with climate mitigation and adaptation, and broader climate considerations; and (3) sectoral and broad-based policy and institutions. The latter may include those that are not primarily climate- or poverty reduction-focused, but which may influence overall climate- and/or poverty reduction-focused outcomes, and which can themselves adopt more synergistic approaches.

Examples of the first entry point include climate agencies, departments or units within a ministry of national or local governments. Examples of the second entry point could be the poverty reduction or social development department, or a corresponding unit within a ministry of national governments.

Examples of the third entry point could include a range of policies and institutions, such as an economic development department or a natural resource-oriented ministry (e.g. agriculture, fisheries, mining, energy), or an international policy initiative not specifically on climate or poverty.

Accordingly, the first three strategic elements focus on improving complementarity and cohesiveness *within* existing policy and institutional contexts, each reflecting one of the entry points noted above:

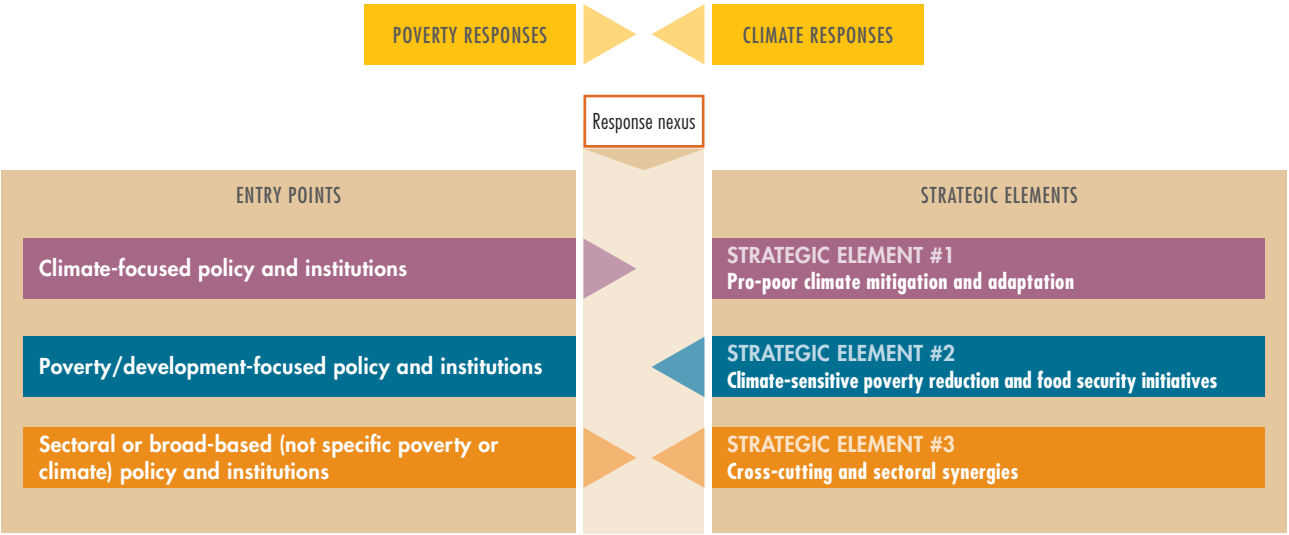
> **Strategic element #1: Pro-poor climate mitigation and adaptation**
… targets primarily climate-focused policy or institutions, to bring poverty reduction, food security and rural development considerations more fully into the climate agenda

> **Strategic element #2: Climate-sensitive poverty reduction and food security initiatives**
… aims to better integrate the climate agenda into primarily poverty, food security and development-focused policy or institutions

> **Strategic element #3: Cross-cutting and sectoral synergies**
… emphasizes adoption of existing and new synergistic approaches that inherently achieve (or move toward achieving) greater complementarity and cohesiveness, in both directions together across sectoral and/or broad-based policy and institutions.

At a global level, all three strategic elements and associated entry points are important, given that all three policy or institutional contexts – in other words, all the entry points – may be found within each nation; however, for a specific policy or institution, only one of these strategic elements may be particularly applicable. The three strategic elements are depicted in Figure 2, in relation to the three major policy and institutional entry points.

FIGURE 2. THE PROPOSED CLIMATE-POVERTY APPROACH TO IMPROVE COORDINATION AND COHESIVENESS AT THE NEXUS OF RESPONSES TO CLIMATE AND POVERTY.



Note: The figure illustrates three major policy and institutional entry points into addressing the climate-poverty nexus (left), with each entry point associated with a strategic element (right).

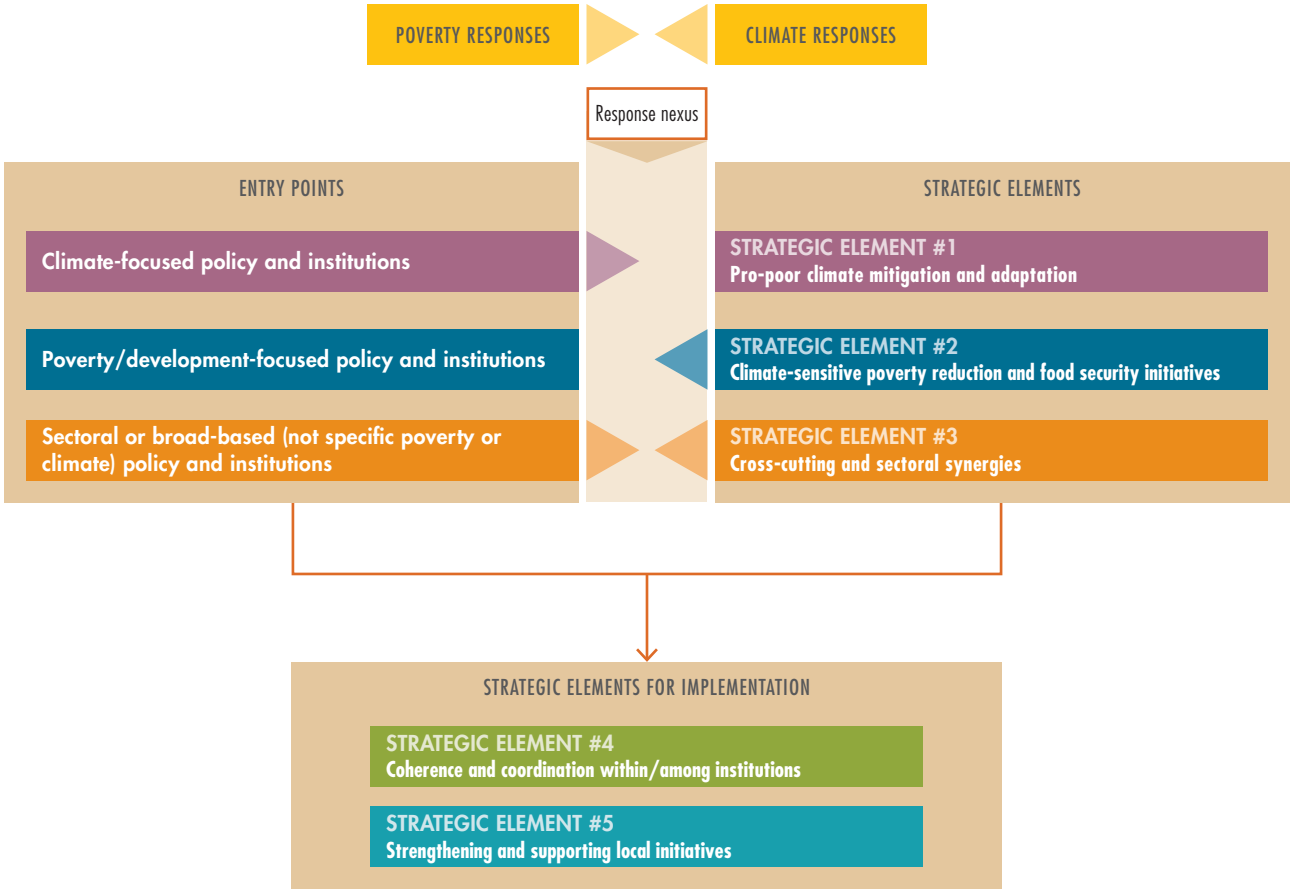
The fourth and fifth strategic elements of the approach are more focused on guiding the implementation of the approach, in recognition of the fact that addressing the climate-poverty nexus requires particular attention to (i) the institutional structure involved (and the accompanying policies and programmes), and (ii) the multiple jurisdictional (geographical) scales of intervention – covering global, national, and local (community) levels, or in light of the focus of this report, coastal communities (local), rural coastal areas (from sub-national to multi-national coastal regions), and SIDS (national level). In this approach, particular attention is paid to the role of policy, programmes and practice at the local community-based level.

> **Strategic element #4: Coherence and coordination within and among institutions**
… focuses on the enabling environment, i.e. the functioning of institutions, including structural, procedural and normative aspects, as well as the particular policies and programmes that reflect how the institutions choose to carry out their responsibilities. This institutionally oriented element may be seen as particularly relevant at strategic and large scales (global, national) and for formal jurisdictions (e.g. national or sub-national).

> **Strategic element #5: Strengthening and supporting local initiatives**
… focuses on the role of place-based, context-specific community-based approaches, and how state and international efforts can better enable and support these through policy and on-the-ground aspects, such as increasing space for local voices across multiple scales, and mechanisms to support local-level empowerment and leadership. This element, which is a particularly important aspect of the overall approach, emphasizes the role of the local (community) level and how it connects with and can be supported in cross-scale interactions with other levels.

The two implementation-oriented strategic elements (#4 and #5) are indicated at the bottom of Figure 3, adding to and interacting with the three strategic elements focused on entry points above them.

FIGURE 3. IMPLEMENTATION-ORIENTED STRATEGIC ELEMENTS #4 AND #5 INTERACTING WITH THE THREE ENTRY-POINT-ORIENTED STRATEGIC ELEMENTS.



Note: Together, the five elements are at the core of the climate-poverty approach.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3.3 Strategic element #1: Pro-poor climate mitigation and adaptation

Mainstream poverty reduction into the climate agenda, so mitigation and adaptation are pro-poor and appropriately targeted to address the needs of vulnerable and marginalized communities. Use suitable development approaches to enable people to escape poverty, and resilience-building to prevent vulnerable people from descending into it.

GOALS

1. Draft and implement mitigation and adaptation plans to support vulnerable communities, and to avoid maladaptive (e.g. poverty-increasing) practices that can be detrimental to climate response.
2. Prioritize targeted, strategic assistance to countries that have limited coping and adaptation capacity and limited resources to address climate and poverty reduction needs.

Why? The physical, social and economic landscape of climate risk is uneven. Poorer countries, communities and people tend to have higher levels of exposure, and they face more barriers to adaptation (Hallegatte *et al.* 2016). They may also be in situations where their attempts to "get by" further undermine their poverty and climate vulnerability. The idea of climate responses being pro-poor and appropriately targeted is emphasized in the Paris Agreement, the United Nations Agenda 2030, the 2015 Sendai Framework for Disaster Risk Reduction, the IPCC Special Report on Global Warming of 1.5 °C and other international instruments. Despite this broad recognition, generally, climate mitigation and adaptation policies developed at the national and sub-national level do not adequately address poverty-related issues. Overall, as Olsson *et al.* (2014) note, "current policy responses for climate change mitigation or adaptation will result in mixed, and in some cases even detrimental, outcomes for poor and marginalized people, despite numerous potential synergies between climate policies and poverty reduction."

Accordingly, it is imperative to mainstream poverty reduction into the climate agenda, to ensure that climate change responses, including mitigation and adaptation, are pro-poor and appropriately targeted to address the needs of vulnerable and marginalized groups and communities. In particular, this implies prioritizing development and delivery of targeted, strategic assistance to countries that have limited coping and adaptation capacity and resources to address climate and poverty reduction needs. This includes explicitly considering and integrating into the climate agenda suitable approaches to address chronic poverty – including the range of policy and tools for moving people out of poverty, preventing them from descending into it, and sustaining poverty escapes (Shepherd *et al.*, 2014).

Specifically, the need for poverty-sensitive mitigation and adaptation practices, together with a closer examination of underlying structural inequalities, is highlighted by Roy *et al.* (2018), within the IPCC's report. With respect to climate adaptation, it is noted that:

Pursuing place-specific adaptation pathways towards a 1.5 °C warmer world has the potential for significant positive outcomes for well-being in countries at all levels of development. Yet such pathways would be difficult to achieve without redistributive measures to overcome path dependencies, uneven power structures, and entrenched social inequalities (p. 447).

For mitigation, the report notes:

The design of the mitigation portfolios and policy instruments to limit warming to 1.5 °C will largely determine the overall synergies and trade-offs between mitigation and sustainable development. Redistributive policies that shield the poor and vulnerable can resolve trade-offs for a range of SDGs (p. 448).

The need for a poverty-sensitive approach throughout the climate agenda is illustrated, for example, by Olsson *et al.* (2014), who argue that the Clean Development Mechanism (CDM) and Reduction of Emissions from Deforestation and Forest Degradation (Redd+) have not consistently achieved planned social co-benefits: biofuel production has contributed to loss of access to agricultural land for smallholders,

and climate-resilient development pathways still lack clear plans for addressing structural inequalities and promoting equity.

How? Climate change mitigation and adaptation measures that also consider and contribute to poverty reduction are needed to avoid reinforcing the poverty cycle. Poor and vulnerable communities are at both the receiving and delivering end of climate change adaptation – requiring not only external support but also their own collective adaptive capacity to become proactive and achieve lasting positive change. This requires a multidimensional approach that includes several measures to be discussed in this document: (1) social protection, (2) development approaches, and (3) resilience-building programmes. The first two of these enable people to escape poverty, while the last prevents vulnerable people from descending into it (FAO, 2017a).

Furthermore, the proposals in this report embrace a pro-poor priority, in keeping with FAO's strategy for ending extreme poverty (De La O Campos *et al.*, 2018), which highlights three major components: stimulating pro-poor economic growth and income generation opportunities; the existence of a minimum set of investments at local, sub-national and national levels in both social and productive capital; and setting up dedicated interventions to reach the poorest of the poor. Thus, "pro-poor" encompasses the following:

1. aspects of a national or regional economic growth strategy that are targeted to create and improve income-generating opportunities for people experiencing poverty, including mechanisms associated with agricultural productivity, diversification into other sectors, market mechanisms, structural reform at national level or trade policy;

2. investment by governments in key services (health, transportation, energy) for people experiencing poverty and investing in long-term return of improvements in these areas; and

3. building on assets and skills of people experiencing poverty, towards improving livelihoods.

Strategic element #1 involves mainstreaming poverty reduction and food security concepts and priorities within existing and new climate mitigation and adaptation policies, strategies and plans. Initiatives to respond to climate change and variability through adaptation and mitigation will be made more effective by recognizing the connections to poverty and food insecurity, and by articulating effective approaches to address them. Also, to provide improved design of targeted strategies, a better understanding is needed of how climate shocks and stressors threaten and affect different types of poverty.

This logic applies at all levels: local communities and municipalities, through sub-national and national levels, to regional and international levels, as well as across levels. As Hallegatte *et al.* (2016) note:

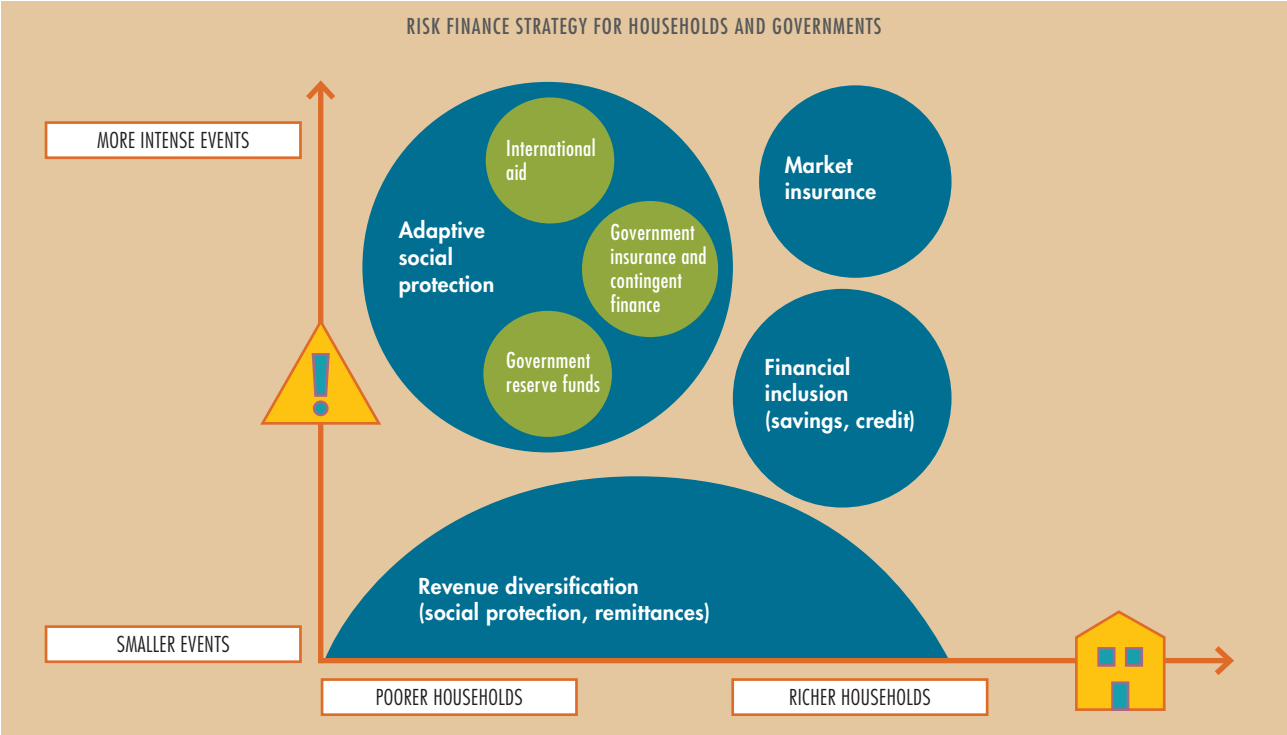
To ensure that emissions-reduction policies do not slow down poverty reduction, countries need to focus on options that yield local (health or economic) co-benefits and protect poor people from the negative consequences of mitigation policies (p. 179).

The goal is threefold: (1) mitigation and adaptation plans and policies recognize and prioritize actions to support people and communities that are most vulnerable to negative impacts of climate change, and climate and poverty interactions; (2) mitigation and adaptation initiatives avoid aggravating (and where possible, simultaneously reduce and sustain escapes from) poverty and food insecurity; and (3) in so doing, climate responses themselves are more effective and sustainable.

Key ingredients of an approach to strategic element #1 include attention to distributional impacts, and to the threat of maladaptation. First, in terms of distributional impacts, The Energy and Resources Institute (TERI, 2003) notes:

…adaptation does not yield the same benefits everywhere and win-win situations are unlikely in climate change, and there will also be winners and losers. The costs of adaptations need to include the secondary effects of the adaptations themselves, and the losses suffered by groups bypassed or marginalised (p.10).

FIGURE 4. **POLICY INSTRUMENTS TO SUPPORT POVERTY AND CLIMATE RESPONSES CONSIDERING THE LEVEL (AND TYPE) OF POVERTY AND THE INTENSITY OF CLIMATE EVENTS.**



Note: Instruments targeting households are in blue; instruments for governments or local authorities are in green.

Source: Hallegatte *et al.*, 2017

The challenge, then, lies in identifying those adaptations that favour the most vulnerable groups, given that strategies, such as large-scale agriculture, irrigation and hydroelectric development, may benefit large groups, or national interests, but may harm local, poor, indigenous populations (TERI, 2003).

The other key ingredient in climate adaptation initiatives is to avoid maladaptation – actions, or inactions that may lead to increased risk of adverse climate-related outcomes, increased vulnerability to climate change, or diminished welfare, now or in future (IPCC, 2018b). Poulain, Himes-Cornell and Shelton (2018) note that "this suggests … that measures addressing climate change, but leading to increased poverty or food insecurity, would be maladaptive (by decreasing welfare)"– leading in turn to contrary or unsustainable climate responses.

As Tanner and Mitchell (2008) argue, the desirability of different types of adaptation actions, at different levels (e.g. autonomous, market-based, public policy driven), may depend on the type of poverty being experienced. The relative value and role of possible climate responses may differ, for example, for those experiencing cyclical or temporary periods of poverty versus those experiencing extended chronic poverty. Indeed, the World Bank's *Unbreakable* report (Hallegatte *et al.*, 2017) highlights the variety of approaches for financing, depending on the level of poverty and the intensity of the climate events (Figure 4).

These efforts are especially important in coastal communities, rural coastal areas and SIDS, which are particularly vulnerable due to a combination of physical exposure, natural resource dependent livelihoods, a higher proportion of people in poverty, and limited financial and institutional capacity.

3.4 Strategic element #2: Climate-sensitive poverty reduction and food security initiatives

Mainstream climate change responses into the development agenda, so development efforts are carried out in a manner that considers impacts of climate change and variability, climate mitigation needs, and effective adaptation.

GOALS

1. Ensure development policy recognizes and mitigates climate-related risks, keeping poverty-reduction action included in the agenda; this can include attention to environmentally sustainable livelihoods to decrease the degradation of natural resources.
2. Address the climate-poverty nexus at multiple levels – i.e. individual, household, community, national – with climate adaptation considered at each relevant level in development plans or strategie.

Why? It has become clear that development efforts generally, and poverty reduction initiatives in particular, are likely to be more successful if they recognize and incorporate climate risk dimensions as well as climate mitigation and adaptation strategies and actions, at multiple levels. As noted in the State of Food Security in the World (SOFI) 2018 report, this is because:

The number of extreme climate-related disasters, including extreme heat, droughts, floods and storms, has doubled since the early 1990s, with an average of 213 of these events occurring every year during the period of 1990–2016. These harm agricultural productivity contributing to shortfalls in food availability, with knock-on effects causing food price hikes and income losses that reduce people's access to food (FAO et al., 2018).[8]

Climate impacts worsen existing poverty and inequality by eroding assets, undermining livelihoods and increasing vulnerability. Accordingly, Verner (2010) states that "…climate change is a threat to poverty reduction and if not addressed will further exacerbate the vulnerability of the poor." Conversely, Tandon (2012) argues that in some cases, the poor may have no other option than to perpetuate the degradation of natural resources – known as the resource dependency trap or cycle (Jentoft and Midrè, 2011) – with climate consequences.

Thus, climate-related risk and risk management, though not always included systematically in development, are now seen as crucial (Diwakar and Shepherd, 2018; Hansen *et al.*, 2018). Risk scenarios and appropriate social responses were discussed in the expert workshops and have been advocated elsewhere as a means to refocus development policy on recognition and mitigation of climate-related risks, combined with poverty-reduction actions (Agrawal and Carmen Lemos, 2015).

This consideration of climate change should take place across all development approaches. This can include, for example, practices to support bottom-up initiatives through climate-sensitive means to improve local-level endowments and improve households' and communities' abilities to resist, adapt to, and recover from climate-related and other shocks and stressors (Diwakar and Shepherd, 2018). As Hallegatte *et al.* (2016) note:

In poor countries where domestic resources are insufficient to protect poor people, support from the international community is essential. This is particularly true for investments with high upfront costs that are critical to prevent lock-ins into carbon-intensive patterns (such as for urban transport, energy, infrastructure, or deforestation) (p. 179).

How? Poverty reduction and food security initiatives, and indeed many development policies, plans and practices, need to recognize and address climate-related vulnerability and risks, and how these impact development efforts. At the global level, this includes such initiatives as the GAP on Food Security and Nutrition in SIDS, and the Koronivia Joint Work on Agriculture, even though these are not solely poverty focused.

[8] See the section on the "Impact of Climate on Food Security & Nutrition" in SOFI 2018: www.fao.org/state-of-food-security-nutrition/2018/en/

Opportunities for coherence and coordination arise in considering the links between SDGs and climate mitigation/adaptation, and specifically in identifying where SDGs and associated outcomes align with mitigation and adaptation goals (Bouyé, Harmeling, and Schulz, 2018).

Butler *et al*. (2014) find that in developing countries, "adaptation responses to climate and global change should be integrated with human development to generate no regrets, co-benefit strategies for the rural poor…" Development efforts, then, must be carried out in a manner that takes into account impacts of climate change and variability, climate mitigation needs, and effective adaptation, as well as supporting environmentally sustainable livelihoods. This logic applies at all levels: local communities and municipalities, through sub-national and national levels, to regional and international levels, as well as across levels. Areas in which some progress has been made by taking this into account include, for example, social protection, and disaster risk reduction, both having taken place over many years, and focusing on managing multiple risks, including those linked with climate.

It is important to recognize that the appropriateness and effectiveness of different poverty responses depends on the specifics of climate risks, vulnerability and impacts. These need to be considered whether attention is placed on poverty alleviation or on poverty prevention – typically involving welfare approaches and social protection to maintain or improve existing levels of well-being, or to prevent falling further into poverty (Béné, 2006). The nexus, in these cases, operates at multiple levels, such as the individual, household, community, and national level. Accordingly, as for all interventions, the specific interactions of poverty reduction and climate adaptation should be considered at each relevant level. Climate-smart agriculture (CSA) illustrates the idea of bringing climate sensitivity into development practices (Box 2).

BOX 2 CLIMATE-SMART AGRICULTURE

Climate-smart agriculture (CSA) is composed of three main pillars:

1) sustainably increasing agricultural productivity and incomes; 2) adapting and building resilience to climate change; and 3) reducing and/or removing greenhouse gas emissions, where possible (FAO, 2013). Thus, the approach seeks to reduce climate impacts while also improving agricultural performance (presumably resulting in poverty reduction, among other results). There are many elements of climate-smart agricultural systems, such as the management of farms, crops, livestock, aquaculture and capture fisheries to balance near-term food security and livelihood needs with priorities for adaptation and mitigation (FAO, 2019b). Other aspects of CSA include the following:

- ecosystem and landscape management to conserve ecosystem services that are important for food security, agricultural development, adaptation and mitigation;
- services for farmers and land managers to enable better management of climate risks/impacts and mitigation actions"; and
- changes in the wider food system including demand-side measures and value chain interventions (FAO, 2019b).

For more information, see: www.fao.org/climate-smart-agriculture-sourcebook/en/ and www.fao.org/climate-smart-agriculture/overview/en/

3.5 Strategic element #3: Cross-cutting and sectoral synergies

Draw on existing, and where needed, new mechanisms and instruments that inherently achieve (or move towards) both the climate agenda and poverty reduction, food security and development.

GOALS

1. Utilize a range of existing cross-cutting programmes that already are, or have the potential to, jointly address climate change and poverty reduction, such as disaster risk reduction and social protection.
2. Build a coordinated approach within sectors (e.g. productive sectors such as agriculture and fisheries, as well as other governmental sectors, such as health) that do not have as their main mandate either poverty reduction or climate change.

Why? To achieve better coherence and coordination of poverty responses and climate change responses, and more broadly to better connect the climate agenda with poverty reduction, food security and other development initiatives, it is important to seek out effective synergies. Here, the focus is on institutions and programmes already in place, internationally and within individual countries, that while not necessarily primarily focused on addressing the climate-poverty nexus, do provide suitable vehicles for implementation. This may include specific ministries and departments at a national or sub-national level (e.g. with mandates for transportation or health, or for economic sectors such as agriculture, forestry, and fishing), as well as broad-based departments or initiatives (e.g. economic development or national development planning).

An example of the need for synergies may be found on the South Pacific island of Tuvalu. As with many other SIDS, Tuvalu may be threatened by sea level rise. However, there are short-term developmental and environmental issues that may predominate among citizens of Tuvalu. Dix (2011) found that such priority concerns included an increased rate of flooding (potentially climate-related) and immediate challenges with waste management and drinking water. McCubbin, Smit, and Pearce (2015) observed, along similar lines, that:

Key areas of concern to people in Funafuti are economic, food, water and overcrowding, rather than climate change. Vulnerability to changing climatic conditions is evident in water, land, and food through the interaction of non-climatic forces (e.g. overcrowding, urbanization, few economic opportunities, changing land use, and shifting cultural norms), and climatic forces (e.g. dry spells, extreme sea-levels, strong winds and changing marine conditions) … Future changes in climate will be experienced in the context of these multiple, interacting forces, and adaptation initiatives will need to be designed in light of these (p. 43).

This need for climate change-poverty response synergies is also reflected in the study, "Limits to autonomous adaptation in response to coastal erosion in Kosrae, Micronesia." The authors conclude that:

The island's vulnerability is characterised by predicted severe impacts of climate change, SLR and extreme events; its relative isolation; the concentration of population, socio-economic activities and infrastructure along the low-lying coastal zone; and its insufficient financial, technical and institutional capacities. This extreme vulnerability seriously limits the capacity of Kosrae, and SIDS in general, to adapt to adverse impacts of climate change. Enhancing adaptive capacity is thus critical for SIDS if they are to meet the challenges of projected climate change and sea-level rise. Yet, climate change is just one of the pressing problems that most SIDS face. Other socio-economic concerns, such as poverty alleviation, high unemployment, improving housing and education all compete for scant resources. Adaptation measures must therefore be framed within the larger development goals of SIDS (Monnereau and Abraham, 2013, p. 429).

The reality of these SIDS, as with many other locations, demonstrates how decisions are needed that link together climate responses and poverty responses (Dix, 2011). Further, there may be an evolution over time of priorities for interventions, so regular monitoring of the nexus among these responses, with adjustments as required, is crucial. This strategic element focuses on synergies, for

greater effectiveness and efficiency in addressing the climate-poverty nexus.

How? The first two strategic elements – poverty-sensitive climate mitigation and adaptation, and climate-sensitive development – are crucial in reinforcing the connection and cohesiveness needed among responses directed at climate change and at poverty reduction. The third strategic element focuses on existing and new mechanisms and instruments that inherently achieve together (or move towards both) the climate agenda and goals of poverty reduction, food security and development broadly; it examines how this can be incorporated into specific mandates that do not necessarily focus on either poverty reduction or climate change.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The IPCC (2018a) report supports the idea of synergies between adaptation strategies and the SDGs. As stated in the section on "Sustainable development, poverty eradication and reducing inequalities":

Synergies between adaptation strategies and the SDGs are expected to hold true in a 1.5 °C warmer world, across sectors and contexts … Synergies between adaptation and sustainable development are significant for agriculture and health, advancing SDGs 1 (extreme poverty), 2 (hunger), 3 (healthy lives and well-being) and 6 (clean water) … Ecosystem- and community-based adaptation, along with the incorporation of Indigenous and local knowledge, advances synergies with SDGs 5 (gender equality), 10 (reducing inequalities) and 16 (inclusive societies) … (Roy et al., 2018, p.447).

The report warns that:

The fundamental societal and systemic changes to achieve sustainable development, eradicate poverty and reduce inequalities while limiting warming to 1.5 °C would require meeting a set of institutional, social, cultural, economic and technological conditions … [These include] coordination and monitoring of policy actions … [e]xternal funding and technology transfer … [i]nclusive processes … [and] [a]ttention to power asymmetries and unequal opportunities for development (p.449).

Climate change and poverty reduction response synergies are already in place in some situations, at multiple levels. For example, Robinson (2017) reviews climate adaptation initiatives in 16 SIDS across the Atlantic, Indian Ocean and South China Sea, Caribbean, and Pacific regions, examining national-level adaptation actions. Remarkably, that study found that the various adaptation actions addressed not only climate and climate-induced vulnerabilities, but also non-climate-induced vulnerabilities. Of the cases of non-climate-induced vulnerabilities, the author notes that "economic vulnerability (including poverty) was the most commonly reported across all countries." In other words, adaptation initiatives are already, in some cases, dealing with vulnerabilities to both climate and poverty.

3.6 Strategic element #4: Coherence and coordination within and among institutions

Improve existing structures and programmes by better linking climate change mitigation and adaptation and poverty reduction approaches within and across institutions.

GOALS

1. Improve climate change, poverty and food security responses by drawing on experiences in linking programmes across different departments or sectors.
2. Strengthen networks within and across institutions to achieve cohesiveness and coordination between efforts towards meeting climate goals and poverty reduction.

Why? This report has built the case for greater attention to the connections and interactions among climate responses and poverty responses, and in particular, how institutions and policy initiatives can create synergies, linking actions on climate and on poverty, food security, and development for better outcomes overall. While poverty (and even economic development generally) may be a well-established topic within governments, it may or may not be contained within a single unit of government. Rather, there may be mechanisms for coordination across departments to deal with development issues, such as through standing committees. Climate change, as a much more recent governmental concern, is likely to be placed within a certain pre-existing governmental department – e.g. Environment – but again, it has implications and interactions with many units of government. Accordingly, from a governmental perspective, attention to the issues of poverty, food security, and climate change must draw from the longstanding experiences of governments in linking programmes across different departments, ministries or sectors (given that those divisions exist historically for reasons of good governance).

Efforts to improve the interactions and connections among climate responses and poverty responses, in terms of reducing negative impacts and improving effective responses, highlight this need for coherence and coordination within governments. National governments need to seek out suitable mechanisms to tackle the climate-poverty nexus in a coordinated manner, albeit from different departments, or from governmental units dealing with diverse economic sectors or food sources (e.g. fisheries versus agriculture). This governmental coherence and coordination will need to be expanded to include other institutions, in civil society, in the private sector, and so on.

How? To accomplish the above, it is important first to examine existing institutional structures, programmes and policies, and any current coordinated efforts. It may be feasible to improve existing structures and programmes by developing synergies that better link climate change mitigation and adaptation and poverty reduction efforts within and across institutions. For example, existing mechanisms (from whole departments through to various horizontal committee or linkage arrangements) can be encouraged or reframed to deal simultaneously with the nexus. This can include mechanisms that focus primarily on climate (see element #1), primarily on development (see element #2), or those that are specific to a particular sector but for which synergies can be achieved (see element #3). There may well be related and/or interacting mandates at international, country, sub-regional or local levels. Only if the potential to improve existing mechanisms is not sufficient might it be necessary to invent new structures through governance improvements.

The resulting coherence and coordination (within and/or across institutions) can improve inter-institutional, multi-level and multi-sectoral collaboration and governance, with strengthened networks of mutual support among organizations. This may deal with, for example, how programmes and policies are designed and carried out by regional and local governments, along with how to achieve cohesiveness between climate goals and poverty reduction and food security goals. This should also consider the formal and informal activities carried out by NGOs and citizen-led initiatives, the ways in which local-level values are understood and considered in other levels of planning and policy, and the incentives and institutional arrangements that facilitate cross-sectoral coordination.

Response synergies can be facilitated by existing institutional thrusts, such as disaster risk reduction programmes. Experience can be drawn upon, in which integrated policies and plans address the climate-poverty nexus, from national to sub-national to community levels. Examples are provided later in this report. Better inter-institutional collaboration across scales is also recommended to deal with the frequent mismatch (e.g. for SIDS – Kuruppu and Willie, 2015) between the priorities of international donors and local level needs to develop adaptive capacity. Such collaboration helps to overcome the unequal, often competitive, distribution of adaptation funding, and to focus on symptoms rather than root causes of vulnerability.

3.7 Strategic element #5: Strengthening and supporting local initiatives

Many development and climate adaptation actions are most effectively carried out at a local level, reflecting the varying local context of impacts and the feasibility of different types of actions.

GOALS

- Empower local communities to strengthen actions and initiatives, for effectively tackling poverty and food insecurity, and addressing climate risk and climate change impacts.
- Develop feasible and appropriate solutions to climate and poverty imperatives, carried out at the appropriate scale to meet the needs and priorities of people and communities

Why? Initiatives to address the climate-poverty nexus require recognition that the appropriateness and effectiveness of climate risk preparedness and response mechanisms, policies and practices may depend on the local characteristics of the poverty experience, such as livelihoods, economic sectors, and hazard risks faced. As Agrawal (2008) notes, local-level institutions also require recognition as key actors in enabling and supporting adaptation:

Local institutions centrally influence how different social groups gain access to and are able to use assets and resources … [A]daptation to climate change is inevitably local and that institutions influence adaptation and climate vulnerability in three critical ways: a) they structure impacts and vulnerability, b) they mediate between individual and collective responses to climate impacts and thereby shape outcomes of adaptation, and c) they act as the means of delivery of external resources to facilitate adaptation, and thus govern access to such resources (p. 2).

This provides a justification for applying the widely accepted principle of subsidiarity – taking action at the most local scale that is feasible for a certain problem. For example, reducing the rate of climate change worldwide is clearly a global need, but certain adaptation actions are more effectively done at a local level, given the varying local context of impacts and feasibility of different types of actions. Subsidiarity, as a principle, supports the focus on addressing both poverty and climate change impacts, through local-level initiatives to identify possibilities and priorities for action. Local, place-based approaches have considerable potential to simultaneously achieve climate adaptation and help meet well-being and development goals (IPCC, 2018a). At the same time, it is important to recognize the continuing roles of higher levels of governance in providing the support and enabling conditions for local initiatives. Support from other levels can take the form of capacity, technical support and data, financial resources, connections to other levels of decision-making, and more.

Another key rationale for a focus on local initiatives is the reality that the landscapes of climate change and of poverty are uneven, as are their interactions, both in biophysical and social terms (as discussed in element #1). Different contexts mean different combinations of risk, vulnerability, assets and opportunities. Thus, developing feasible and appropriate solutions to meet the needs and priorities of people and communities, in each specific context, should be carried out at the appropriate scale.

How? Local measures can be effectively linked into approaches simultaneously dealing with multiple levels and coherence, subject to the principle of subsidiarity, i.e. with interventions at the most local level that is feasible in practice. Illustrating these needs, Kuruppu and Willie (2015) find that SIDS often have a need

to strengthen the capabilities of local governments, communities and Island Planning Councils, in particular to engage better in national level planning processes.

As highlighted earlier, agency and empowerment are crucial ingredients in implementing a subsidiarity principle. Specifically, in this case, they are also key to both tackling poverty and food insecurity, and addressing climate risk and climate change impacts. Empowerment, in its various dimensions, is needed to make local actions feasible, and to improve the well-being of those involved. Supporting this should be a combination of personal, group agency and structural aspects to address inequality (Luttrell *et al*., 2007). Enhancing local agency can involve institutional and programmatic decentralization, and capacity building.

There is also a financial aspect – for example, local-level responsibility for broad integrated portfolios in local government requires support in terms of financial resources. As suggested by FAO and the Centre for Agricultural Policy (CAP):

In socio-economic development planning activities, the involvement of vulnerable groups should be encouraged in proposing and agreeing at community and commune levels on prioritized solutions, allocating resources appropriately in climate change adaptation, disaster prevention, livelihood development, poverty alleviation and social protection (FAO and CAP, 2018, 139).

There are many possible gains from a policy and practical focus on supporting local empowerment and locally led initiatives, but there are limits to the desirability of devolving responsibilities. First, there is a core role and responsibility held by governments as duty-bearers to protect and facilitate processes for citizens. Second, some actions should be carried out by other actors, or at other levels of government, particularly so as not to increase inequality by placing an undue burden of responsibility on poor or vulnerable groups or communities to fix their own problems through locally-driven grassroots development alone. It is important, accordingly, for governments to find the proper balance in any given situation between creating an enabling and supportive environment for locally-led development and adaptation, and providing appropriate supports (such as financing, access to technology and information) to empower and enable local actors to engage in broader planning and decision-making processes and to access the types of services that can be effectively delivered from other levels.

3.8 Summary: The strategic elements

Together, the five strategic elements provide a path for an improved approach to addressing the nexus of climate change and poverty, one that is complementary to previous initiatives on the topic, and that moves towards more integrated climate and poverty responses. This can achieve greater coherence and coordination between poverty reduction, food security and rural development considerations, and the climate agenda, by linking each one to the other, and by focusing on both institutional and on-the-ground mechanisms. At the same time, there is recognition that some separateness between climate-oriented and poverty reduction-oriented approaches is both important and inevitable.

The approach should be applicable from local to national to global levels and include recommendations for policy, institutions and on-the-ground practice. The recommendations in this document promote integrated actions at different levels and across levels. They also reflect the need for context-sensitive perspectives on the biophysical, socio-cultural, economic, and governance landscapes in which the approach will be carried out. Furthermore, while consideration of all of the strategic elements is crucial in an overall sense, implementing a targeted, smaller sub-set of actions that fit under one or several of the elements may be appropriate to a given situation, context or institutional setting (depending on the mandate of the institution).

The ultimate challenge lies in the implementation of the approach presented here, to move towards improved complementarity and cohesiveness among poverty reduction and climate mitigation and adaptation responses, notably with application to rural areas. To this end, the following chapter turns to a discussion of possible policies, initiatives and activities designed to achieve the approach's desired outcomes. Both institutional and operational aspects are considered, as well as the need for greater integrative capabilities to implement approaches.

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4 IMPLEMENTING THE CLIMATE-POVERTY APPROACH: ELEMENT BY ELEMENT

This section presents key recommendations for implementing the five strategic elements of the climate-poverty approach. It is not intended to be a comprehensive list for each strategic element, but rather to present achievable next steps in the form of policies, initiatives and activities that could help to move towards the approach's desired outcomes. It includes a mix of recommendations for governance and decision-making, policy, data analysis, financial support, knowledge and capacity development.

Implementing strategic element #1: Pro-poor climate mitigation and adaptation

- **Promote governance and decision-making structures that support the fair distribution of costs** across and within economic sectors and communities, in the face of both long-term change (e.g. sea level rise) and short-term impacts (more frequent and/or intense disasters and climate variability events).

  It is important to better assess and account for the distributional impacts of mitigation and adaptation policies and practices. As stated in the IPCC (2018a) report:

  Positive outcomes emerge when adaptation pathways (i) ensure a diversity of adaptation options based on people's values and the trade-offs they consider acceptable, (ii) maximize synergies with sustainable development through inclusive, participatory and deliberative processes, and (iii) facilitate equitable transformation (Roy et al., 2018, p. 447).

  Roy *et al*. (2018) also note that "social justice and equity are core aspects of climate-resilient development pathways for transformational social change." This can be supported through a number of initiatives:

  - spaces for dialogue and public engagement at multiple levels including values discussions and trade-offs in policy (Agrawal and Carmen Lemos, 2015);
  - policy-audits using agreed principles and values; and
  - decision-support tools, such as full-cost accounting.

- **Carry out climate vulnerability assessments and impact assessments of mitigation and adaptation approaches** to improve understanding of the needs and priorities of poor and climate-vulnerable groups and how they may be impacted by mitigation and adaptation policies and practices. Examples are as follows:

  - Livelihood analyses, using a whole-of-value-chain approach, with assessments at household and community level, to assess where potential vulnerabilities may intersect or overlap.
  - Analysis of the structural roots of poverty and aspects such as access, power/agency, place-based vulnerability, relationships with global drivers/markets, gender issues, the situation of indigenous peoples, and distributional impacts, equity, and fairness (e.g. across class, ethnicity).
  - Mapping the existing poverty and vulnerability context at national, regional and local levels, with attention to different types of poverty (chronic, temporary, relative, near-poor).

- Measuring multiple dimensions of poverty, the dynamics of poverty, and how these interact with climate change and natural-resource dependent livelihoods.

- Creating links to other analyses, such as FAO Disaster and Loss Assessment methods (FAO, 2018a) with specific attention to improving data standardization, and collecting data on localized or less severe events/crises that do not meet threshold criteria for reporting or may otherwise go unreported despite significant impacts.

- **Incorporate pro-poor analyses and actions as an inherent component in climate adaptation and disaster response policies/programmes**, National Adaptation Pathway packages, and at the international level, IPCC analyses and recommendations. In this regard, FAO and CAP (2018) suggest a participatory approach to support the matching of solutions with existing needs and priorities, while also contributing to empowerment and improving the chances of successful implementation. This should include targeted actions to improve adaptation among the poorest and most vulnerable groups:

  - considering multiple pathways, such as on how climate change affects food security in local communities (direct, indirect, etc.);

  - applying gender, inequality, poverty and food security lenses; and

  - ensuring the involvement of targeted groups in the decisions and design of strategies.

- **Assess/avoid risk of social maladaptation in adaptation initiatives** as discussed above. Poulain, Himes-Cornell and Shelton (2018) highlight the following approaches to avoid socio-cultural maladaptation: (1) Start from local, social characteristics and cultural values that could have an influence on risks and environmental dynamics; (2) consider and develop local skills and knowledge concerning climate-related hazards and the environment; and (3) call on and develop new skills that the community is capable of acquiring. The authors also draw attention to approaches to avoid "economic maladaptation" through the reduction of socio-economic inequalities, and the implementation of measures to reduce poverty and increase food security, as these measures can increase system resilience, promote the sustainable use of natural resources, and support the relative diversification of economic and/or subsistence activities.

- **Incorporate social protection approaches into climate mitigation and adaptation.** African examples of this are described in Box 3, and elaboration on the potential of social protection is included later in the report. More extensive coverage may be found in Ulrichs *et al.* (forthcoming).

BOX 3 SOCIAL PROTECTION IN AFRICA

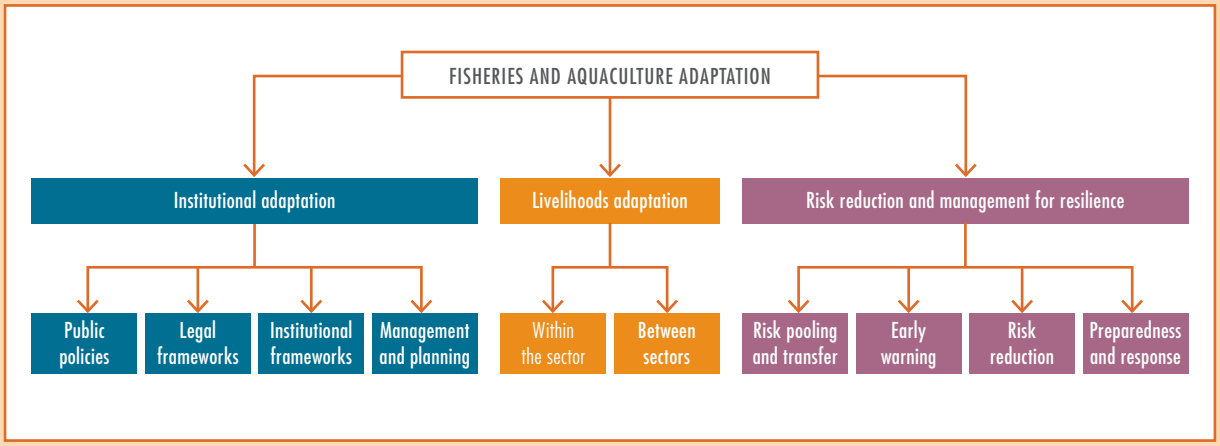
One of the prime examples of social protection systems that are linked to early warning systems is Kenya's Hunger Safety Net Program (HSNP). The programme can scale up assistance before a drought turns into a food emergency, by triggering additional payments once a threshold set by a Vegetation Condition Index for extreme or severe drought has been passed. Similarly, the Third Northern Uganda Social Action Fund triggers, through a Disaster Risk Financing component, labour-intensive public works activities to provide temporary employment and income support to affected households. These examples highlight how established social protection programmes can be complemented by the necessary contingency funding and linkages to early warning systems to deliver assistance in advance of a shock.

Source: Ulrichs *et al.* (forthcoming).

- **Build capacity (knowledge and technical capability) of countries** (including training for national, regional and local government, as well as civil society organizations and other local stakeholders) for developing context-appropriate pro-poor approaches and incorporating them into the design of climate adaptation programmes and projects. An example of a 'toolbox' supporting such capacity building is shown in Box 4.

BOX 4 PRO-POOR ADAPTATION TOOLBOX

A recent FAO initiative has been the development of an "adaptation toolbox" to provide a set of options for adaptation in fisheries and aquaculture (Poulain, Himes-Cornell and Shelton, 2018). This includes a range of adaptation activities and a discussion of how adaptation and poverty interact in a fisheries/aquaculture context. The following are categories of adaptation activities for fisheries and aquaculture, but with broader applicability:



Source: Adapted from Poulain, Himes-Cornell and Shelton (2018), Figure 25.5, p. 543.

> **Link NDCs and SDGs** – integrate pro-poor considerations into national commitments on climate mitigation and adaptation. NDCs are the commitments to reduce greenhouse gas emissions (GHGE) made by all countries under the United Nations Framework Convention on Climate Change. As such, they are a key mechanism through which countries develop and implement strategies and actions to meet the goals of the climate agenda. Accordingly, they represent a key avenue for improving cohesion and complementarity with poverty-reduction goals, through integration of and coordination with poverty reduction and food security policy, programmes and practices. Overall, while there are many opportunities for convergence between climate actions indicated in NDCs and the targets associated with the 17 SDGs (Northrop *et al.*, 2016), only a few NDCs explicitly address the SDG targets for ending poverty and reducing inequality,[9] despite these being key areas in which the negative impacts of climate change may be most acutely experienced. One avenue for improvement lies in recognizing the links of specific targets associated with the SDGs and incorporating them more explicitly into climate actions outlined in NDCs. Additionally, by recognizing and developing the links between SDG 13 (on climate action) and other SDGs, better success can be achieved for the SDGs overall – maximizing opportunities for coherent and coordinated approaches among SDGs and between SDGs and NDCs.

> Incorporate explicit consideration of poverty and inequality into new or existing NDCs, beginning with recognition of linkages with targets associated with key SDGs, (for example

[9] See map at https://ndcpartnership.org/climate-watch/ndcs-sdg

SDG Target 1.5 on building resilience of poor and vulnerable people and groups – see Box 5) and including distributional aspects (assessing winners and losers), direct impacts on target populations (e.g. fishers in the case of coastal areas) and impacts on related economic sectors, on the community and society (e.g. health), and on overall environmental quality. This should include impacts and responses at multiple levels, from the individual and household, to the community and collective level, to regional and national levels. Where applicable, utilize methodologies to better assess synergies and trade-offs in relation to poverty and food security.

> Incorporate into mechanisms developed to meet NDCs a suitable set of targeted strategies/actions to address structural, normative and functional barriers to climate adaptation for groups experiencing poverty. This can involve suitable mechanisms at multiple levels, improving the accessibility of mitigation and adaptation, e.g. prioritizing key actions that prevent the worsening of poverty and begin to address inequality. These approaches can be used as well in climate financing approaches, discussed later in this report.

> Effectively and consistently link NDCs and national development strategies and policies, so that NDC institutions respond to development needs, and national coordination of climate change and development actions is instituted (Bird, Monkhouse, and Booth, 2017).

> Implement recommendations of the NDC Partnership, which provides support (capacity-building, knowledge sharing and support for accessing financing) towards achieving NDCs and overall contributing to climate and development goals.[10]

BOX 5 NATIONALLY DETERMINED CONTRIBUTIONS (NDCS) AND SUSTAINABLE DEVELOPMENT GOAL (SDG) TARGET 1.5 – BUILDING THE RESILIENCE OF THE POOR AND VULNERABLE

A study carried out by the World Resources Institute for the Climate Watch NDC-SDGs linkages map reviewed existing (I)NDCs against SDG targets to identify areas of mutual benefit, as well as needs/gaps (Northrop *et al.*, 2016). The results of the study are summarized in an interactive map, available at www.climatewatchdata.org/ndcs-sdg, and the associated data can be downloaded from the Climate Watch website. Globally, at the country level, some integration already exists between (I)NDCs and SDGs; for example, among the existing 162 (I)NDCs as of 2016 (157 of which were for developing countries), there are climate actions aligned with 154 of the 169 SDG targets (Northrop *et al.*, 2016).

Considering alignment specifically with SDG Target 1.5 – by 2030 build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters – 23 of 197 current (I)NDCs include adaptation actions that refer explicitly to approaches related to this target (Climate Watch, 2018). Note that of the 23 nations above, over a quarter are Small Island Developing States (SIDS) – Haiti, the Maldives, Mauritania, Saint Vincent and the Grenadines, Sao Tome and Principe, and the Seychelles. While 23 of 197 (I)NDCs incorporating SDG Target 1.5 is a low fraction, it may be that more national-level integration is happening than is reported in existing (I)NDCs. The case of Fiji, discussed later in this report, illustrates that point.

Some countries have multiple future actions listed in their Intended Nationally Determined Contributions (INDC) or NDC that align with Target 1.5. An example is Viet Nam; its NDC refers to "prioritizing the most vulnerable communities" and the need to "incorporate gender equality, hunger eradication and poverty reduction (Climate Watch, 2018)." Viet Nam's NDC reflects an integrated approach. The NDC states that "climate change adaptation activities until 2030 will be evaluated based on the following key indicators", including these targets: At least 90 percent of Socio-Economic Development Plans have integrated disaster risk management and climate change adaptation; the average national poverty rate is lowered 2 percent per year; in poor districts and communes it is lowered by 4 percent per year; at least 90 percent of city-dwellers and 80 percent of rural inhabitants have access to clean water; and 100 percent of the population has access to health care services (Government of Viet Nam, 2015).

[10] See http://cetool.ndcpartnership.org

> Utilize international support for NDC development to incorporate poverty reduction and food security aspects, through major mechanisms such as the Green Climate Fund (GCF) and the Global Environment Facility (GEF).

BOX 6 A REVIEW, FOR ASIA AND THE PACIFIC, OF NATIONALLY DETERMINED CONTRIBUTIONS (NDCs) CLIMATE ACTIONS IN AGRICULTURE THAT CO-DELIVER ON SUSTAINABLE DEVELOPMENT GOAL (SDG) 1 "NO POVERTY"

An analysis of the linkages between the NDCs submitted by 39 countries from Asia and the Pacific, and SDG 1, identify the gaps in targeting and in addressing the barriers to climate action (climate change adaptation and mitigation). It informs the gaps in the climate actions indicated in the NDCs, the countries' priorities, as well as the policy entry points to mainstream poverty-sensitive climate mitigation and adaptation actions in the NDCs, upon their revision by 2020. Likewise, the analysis informs and promotes the integrated implementation of the 2030 Agenda and the NDCs under the Paris Agreement, and identifies policies that co-deliver. The results of the analysis are summarized below:

a. 75 percent of countries in Asia and the Pacific promote climate change mitigation and/or adaptation measures in their NDCs that are aligned with SDG 1 "No Poverty."

b. The majority of those climate actions contribute to SDG 1.5 "Resilience of the poor to climate events" – of which 90 percent are adaptation options.

c. There is a gap in climate actions related to SGD 1.3, meant to address social protection systems and measures for all.

d. The greatest convergence between NDCs and SDG 1 are found in climate actions promoting knowledge and capacity, socio-economics and well-being and institutions, specifically:

1. **Early Warning Systems and climate information services** are promoted most frequently amongst knowledge- and capacity-related measures in Asia and the Pacific.
2. **Health information and services and disease management and prevention** are promoted most frequently amongst socio-economic and well-being related measures in Asia and the Pacific.
3. **Disaster Risk Reduction (DRR) and participatory governance and inclusion** are promoted most frequently amongst institutions and governance-related measures in Asia and the Pacific.

Examples of pro-poor climate mitigation and adaptation actions:

e. Develop appropriate policies and implement programmes to address water security and water shortages facing the islands during the dry periods (Maldives).

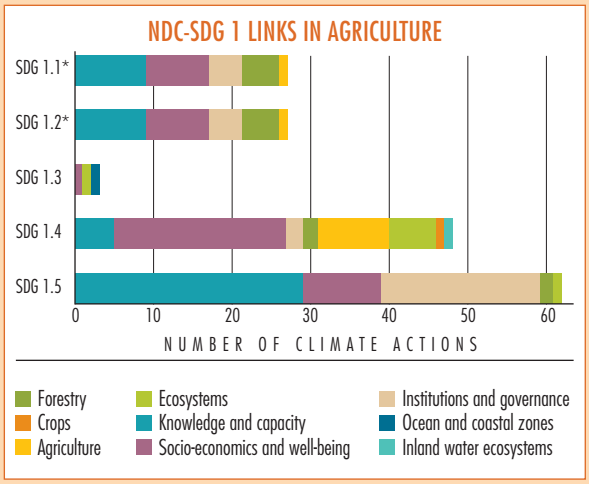
f. Improve access to water for rural communities and farmers so as to support food security, reduce poverty and improve agricultural production (Afghanistan).

g. Promote sustainable community forest management and agroforestry for poverty reduction (the Lao People's Democratic Republic).

h. Increase the development and use of tailored data and information systems (Brunei Darussalam).

i. Strengthen disaster risk reduction and reduce population's vulnerability to climate risk and extreme weather events through enhanced awareness, coordination and adaptive capacity of local communities, especially in the disaster risk-prone areas (Thailand).

j. Develop community capacity and participation in local planning processes to secure access to key natural resources (Indonesia).



Note: *For the sake of the analysis, the impact of climate change adaptation and mitigation measures on Target 1.1 and 1.2 are not differentiated due to the lack of detail provided in the NDC.

Source: Adapted from FAO, *Regional Analysis of the Nationally Determined Contributions in Asia: Gaps and Opportunities in the Agriculture and Land Use Sectors,* (forthcoming a, Rome); FAO, Regional Analysis of the Nationally Determined Contributions in the Pacific: Gaps and Opportunities in the Agriculture and Land Use Sectors (forthcoming b, Rome).

Implementing strategic element #2: Climate-sensitive poverty reduction and food security initiatives

- **Review poverty reduction plans and national development plans to ensure that they explicitly refer to climate risks**, as well as mitigation and adaptation goals and targets, and include specific climate mitigation and adaptation actions.
  - National Poverty Reduction Strategy Papers (NPRSPs) can incorporate appropriate scalable climate-sensitive policies, practices and measures. Existing NPRSPs can be reviewed to see if and how climate impacts and climate risk are considered.
  - Targeted strategies/actions can be implemented to address structural barriers to poverty reduction and climate responses, such as access, power/agency, place-based vulnerability, and relationships with global drivers/markets, with attention to gender issues, and to the particular situation of indigenous peoples.
  - The capability is needed to deal with conflicts that may arise, including debate over the extent to which national development strategies are pro-poor or climate change sensitive, and any trade-offs between these.
- **Ensure that climate vulnerability and climate risk management are included in social protection approaches**, which are often a core component of poverty reduction and food security initiatives. Social protection policies may need adjustment in the face of climate risks to ensure that disadvantaged groups receive practical support, especially in disadvantaged areas, with high risks of extreme weather, as pointed out in the context of Viet Nam (FAO and CAP, 2018). Ulrichs *et al.* (forthcoming) note that climate risk management using social protection can take place through the following:
  - Reducing vulnerability and reliance on negative coping strategies in the face of shocks including protecting from losses, protecting assets, smoothing consumption, and increasing capacity to cope.
  - Providing a stepping stone towards climate-resilient livelihoods, including increasing capabilities for productive and climate resilient investments.
  - Disaster preparedness and response within a country's disaster management strategy by reaching poor populations affected by climate risks in a fast and cost-efficient manner (p. 18).
- **Improve capacity (knowledge and technical capability), including among stakeholders, for better understanding** of whether development approaches are climate-smart, and for better implementing context-appropriate, climate-risk sensitive (adaptation-smart) approaches into the design of development programmes and projects. This should be applicable across multiple climate impacts, and levels of application (including the local context). Specific approaches for this can include:
  - Assessing the existing climate vulnerability context in order to incorporate climate impacts and climate risk into poverty and food security and nutrition analyses. For coastal areas and SIDS, but also elsewhere, this can draw on the FAO toolkit for climate change adaptation in fisheries and aquaculture (Poulain, Himes-Cornell and Shelton, 2018).
  - Developing common tools for climate risk and vulnerability and poverty measurement, including assessment tools to monitor combined adaptation uptake and poverty reduction impacts, and analyses of structural barriers (see the corresponding policy initiatives above).
- **Considering risk as a key concept.** As Huggel *et al.* (2013) note, climate change impacts result from climate-related risks – attributable to the increasing frequency and/or intensity of rapid and slow-onset climate events, and to how these events interact with exposure of assets; and gaps in the ability to prepare for and respond to events. These realities can affect nations' policy

and operational choices with respect to how and where development occurs (Bedran-Martins, Lemos and Philippi, 2018; Nelson *et al.*, 2016). Understanding and considering disaster and climate risks, and vulnerability to shocks and stresses, helps secure development gains and poverty reduction, and is thus a crucial ingredient of development approaches.

BOX 7 FIJI'S CLIMATE-POVERTY-DISASTER RESPONSE NEXUS

Fiji's Nationally Determined Contributions (NDCs) (2015) make a commitment to "undertake vulnerability assessment for all communities…" and "develop climate and disaster resilience plans for urban and rural communities (prioritising squatter settlements and other vulnerable communities)"; although, the Climate Watch NDC map identifies no specific integration of Sustainable Development Goal (SDG) 1.5 for Fiji's NDC. Specifically, Fiji is working towards improving the climate-poverty-disaster response nexus, notably to integrate resilience into social protection programming (World Bank, 2015). Recommended practical actions to improve cohesion between Disaster Risk Management (DRM), climate adaptation and social protection in Fiji include integrating a poverty programming database with the national census database; improving the ability to analyse how disaster and climate change influence poverty; improving government capacity for combined mapping and analysis of hazard, risk, and poverty; and improving coordination with Non-governmental organizations (NGOs) and civil society organizations (CSOs), among other approaches (World Bank, 2015).

Fiji's National Development Plan refers to integration with adaptation planning and provides a clear mandate for the National Adaptation Plan (Government of Fiji, 2017). The latter looks specifically at the connections between adaptation, resilience, poverty reduction and development, and promotes vertical and horizontal integration. It links with the previous Green Growth Framework (2014), as well as the previous National Climate Change Plan (NCCP) (2012) and the more recent National Development Plan (NDP) (2017). It proposes a cross-Ministerial National adaptation plan (NAP) Steering Committee, as well as increasing the role of local government in adaptation planning, and promoting development of village-level adaptation plans (Government of Fiji, 2017).

BOX 8 TUAN TU VILLAGE, VIET NAM: THE TRANSITION TO ASPARAGUS CROPS AND ECONOMICAL IRRIGATION SYSTEMS FOR IMPROVED LIVELIHOODS

Tuan Tu village, An Hai commune, Ninh Phuoc district is a coastal area with severe weather conditions and frequent droughts. The village inhabitants are poor Cham people, yet they have turned the sandy soil into a large-scale asparagus production area in the province and enhanced living standards through the transition of crops and the application of economical irrigation systems. The rapid development of the asparagus area is mainly due to the effectiveness of the economical irrigation system. Local farmers have applied the water saving irrigation system to more than 90 percent of the area. The model has a remarkable economic effect. With an initial investment of VND 30 to 40 million per ha (equivalent to approximately EUR 1 173 to EUR 1 564 per ha), the model brings an income of up to VND 400 million per ha/yr (equivalent to approximately EUR 15 635 per ha/yr), an average income of VND 400 000 to VND 600 000 per day/household (equivalent to approximately EUR 16 to EUR 23 per day/household), and three to four times higher than normal production.

As regards the environment, the model has transformed the sandy desert ecosystem into an efficient production system, minimized sand dunes, effectively utilized groundwater resources and responded well to droughts. In terms of society, the model sets an example for the implementation of poverty alleviation for ethnic minorities, diversifying and generating sustainable incomes, limiting free migration, and promoting the local development force. In terms of social development, cooperatives have helped people unite and support each other with technology, inputs, and product consumption.

See: FAO and CAP (2018), Climate Change, Disaster and Poverty Nexus in Viet Nam, Box 3–7.

Implementing strategic element #3: Cross-cutting and sectoral synergies

> **Identify sectoral policy areas and mechanisms where climate and poverty reduction responses can be integrated**, as well as broad-based policy areas and mechanisms that can incorporate both climate responses and poverty reduction responses, i.e. to meet both the climate agenda and goals of poverty reduction and food security together. A range of policy, programmes, practices, and capacity-building approaches can be utilized to improve climate-poverty synergies, typically drawn from existing initiatives wherever possible – creating or reinforcing mutually-compatible and mutually-supportive policies, programmes, activities and measures (see Box 9).

These approaches can be used to incorporate consideration of the climate-poverty nexus more fully into sectoral development plans as well as broad-based tools such as National Adaptation Plans and NPRSPs, based on integrated approaches, and building on existing capacities, agency and knowledge at various levels. It will be important to recognize that typically, a suite of complementary measures is required to address both climate and poverty challenges.

> **Where needed, develop new policies linking poverty reduction and climate responses.** For example, when National Development Strategies and National Poverty Reduction Strategies are being developed, this can be done in coordination with Nationally Determined Contributions, National Adaptation Plans, Disaster Risk Reduction and Response plans, and vice versa (See Box 10).

BOX 9 CROSS-CUTTING PROGRAMMES

Various major mutually-beneficial strategic and operational approaches are already available for use in meeting both climate responses and poverty reduction (as well as food security) initiatives:

- Disaster risk reduction
- Social protection
- Resilience-building strategies and resilience/vulnerability assessment
- Climate finance
- Environmental conservation, stewardship and ecosystem approaches.

These programmes, each providing a means to improve the climate-poverty response nexus, will be described in detail in the following section. The existing policies and practices associated with these programmes can be utilized to improve the synergy, effectiveness and efficiency in addressing poverty and climate, linking together the corresponding responses of poverty reduction, food security, and climate mitigation/adaptation. Operational ingredients are likely to include climate information mechanisms, microcredit, technical training, social empowerment, improved infrastructure, and accessible technologies such as renewable energy technology.

BOX 10 SMALL-SCALE FISHERIES GUIDELINES

An example of an important vehicle for response synergies is the process for implementation of the *Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication* (SFF Guidelines) as an international instrument (FAO, 2015b). The Guidelines provide a strong example of combining poverty considerations (in terms of social development, employment and decent work) with disaster risk and climate change aspects. They also incorporate several integrated synergistic approaches, including a food systems approach (i.e. value chains, post-harvest and trade), social protection, empowerment (i.e. through capacity development and gender equality), and environmental stewardship (with links to conservation and responsible fishing).

> **Connect with and support ongoing efforts to address gender inequality.** For example, the recently adopted Gender Action Plan of the UNFCCC (2017), under the Lima Work programme on gender, seeks to mainstream gender perspectives in considering climate change, a move also reflected in FAO's Corporate Climate Change Strategy (FAO, 2017a). This reflects a broad consensus that removing gender-based constraints can reduce poverty and enhance the climate resilience of households and communities, for example, through increasing agricultural productivity, and improving food and nutrition security. However, according to data available from the Climate Watch NDC-SDG database, 42 of the 197 (I)NDCs include at least a mention of gender in their overviews, and 20 of these have a section on gender, only 5 countries include specific adaptation actions related to SDG 5 (Achieve gender equality and empower all women and girls) and associated targets in their NDC – Barbados, Cote D'Ivoire, Sierra Leone, South Sudan, Zambia.

> **Recognize Indigenous knowledge systems (as is beginning to appear in high-level policy documents) and utilize these systems** to support development of robust, culturally and contextually appropriate adaptation actions (Ford *et al.*, 2016).

> **Protect and enhance ecosystems essential to mitigation** and to support local livelihood benefits, such as coastal wetlands, e.g. mangroves (Howard *et al.*, 2017). If appropriate, consider developing and using carbon credit systems for blue-carbon ecosystems.

> **Develop the capacity and knowledge base for integrated climate-poverty actions:**
  > (1) harmonize data collection processes and develop protocols to improve data collection and share across agencies with climate- or poverty-related mandates;
  > (2) develop and utilize a toolkit for integrated poverty-climate vulnerability assessment (discussed later in this report), for use in situations where both poverty and climate should be considered, and include steps for accessing and making use of data collected by other agencies;
  > (3) make use of other assessment tools with climate- and poverty-relevant aspects, such as the Land Degradation Assessment tool (LADA) for SIDS (Rioux *et al.*, 2017); and
  > (4) use existing capacity-building tools for integrated planning, such as those of the One UN Climate Change Learning Partnership (UN CC:Learn), e.g. Integrating Agriculture in National Adaptation Plans (NAP-AG).[11]

[11] See the Toolkit – National adaptation plans: Building climate resilience in agriculture: www.preventionweb.net/educational/view/56870

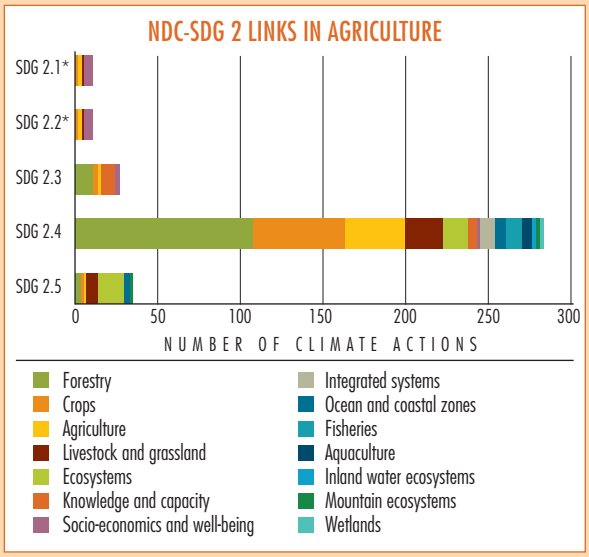
BOX 11 A REVIEW, FOR ASIA AND THE PACIFIC, OF NATIONALLY DETERMINED CONTRIBUTIONS (NDCs) CLIMATE ACTIONS IN AGRICULTURE THAT CO-DELIVER ON SUSTAINABLE DEVELOPMENT GOAL (SDG) 2 "ZERO HUNGER"

Response synergies between adaptation and sustainable development are already included in international policy and response mechanisms such as the NDCs. Food and Agriculture Organization of the United Nations (FAO) analysis (2019, *forthcoming*) identifies entry points as evidenced in the Asia and Pacific NDCs, to address at multiple levels the climate change and poverty nexus, and informs and promotes integrated implementation of the 2030 Agenda and NDCs under the Paris Agreement. The results of the analysis are summarized below:

- 80 percent of countries in Asia and the Pacific promote climate change mitigation and/or adaptation measures in their NDCs that are aligned with SDG 2 "Zero Hunger."
- The majority of those climate actions contribute to SDG 2.4 "Ensure sustainable agriculture systems for climate change" – equally distributed across mitigation and adaptation options.
- There is a lack of climate actions contributing to SDG 2.1 and SDG 2.2 (both of which address the end of hunger and malnutrition).
- The greatest convergence between NDCs and SDG 2 are found in climate actions promoting forestry, crops and livestock and grassland management, specifically:
  1. **Sustainable forest management and afforestation/reforestation** are promoted most frequently amongst forestry measures in Asia and the Pacific.
  2. **Nutrient and on-farm soil management and irrigation and drainage** are promoted most frequently amongst crop-related measures in Asia and the Pacific.
  3. **Animal breeding and husbandry and manure management** are promoted most frequently amongst livestock-related measures in Asia and the Pacific.

Examples of response synergies:

- Ensure food security through restructuring of livestock; create new climate change-resilient varieties; complete the disease control and prevention system (Viet Nam).
- Ensure food security through protecting, sustainably maintaining and managing agricultural land (Viet Nam).
- Promote climate-smart agriculture to contribute towards achieving food and nutrition security (Bhutan).
- Develop and improve policies to promote mechanisms and policies to attract private sector investment for sustainable forest management, afforestation, reforestation, biodiversity conservation and livelihood development (Viet Nam).
- Promote measures for greenhouse gas removals through the promotion of forest management/forestry industry measures (Japan).
- Promote aquaculture production systems and practices that are adaptive to climate change (Cambodia).
- Support public education and awareness of effective CCA and Disaster Risk Management (DRM) from the local to national level (Marshall Islands).
- Diversify sources for food supply resilience (rice stock piling) (Singapore).
- Promote rural development and livelihood programmes, which aim at strengthening the natural resource base of the rural economy and are linked to land, soil, and water (India).
- Cover 70 million rural poor households, across 600 000 villages in the country through self-managed self-help groups and federated institutions to support the rural communities in strengthening their livelihoods (India).



Note: *For the sake of this analysis, the impact of climate change adaptation and mitigation measures on Targets 2.1 and 2.2 are not differentiated due to the lack of detail provided in the NDC.

Source: Adapted from FAO, *Regional Analysis of the Nationally Determined Contributions in Asia: Gaps and Opportunities in the Agriculture and Land Use Sectors,* (forthcoming a, Rome); FAO, Regional Analysis of the Nationally Determined Contributions in the Pacific: Gaps and Opportunities in the Agriculture and Land Use Sectors (forthcoming b, Rome).

Implementing strategic element #4: Coherence and coordination within and among institutions

> **Conduct a strategic review of existing governance structures** with respect to the extent of (a) multisectoral achievement of the nexus approach to climate-poverty responses, and (b) inter-institutional coherence and coordination. Identify the available tools or mechanisms to link climate mitigation and adaptation with development (poverty reduction, food security) and to identify key points where these could be included, including learning, collaborating and relationship-building aspects.

> **Create institutional arrangements to support coordinated approaches and synergies.** As described under strategic element #3, there may be potential to reinforce linkages around existing institutional synergies supporting stronger coherence and coordination. Where suitable existing mechanisms are lacking, states may consider establishing institutional arrangements (e.g. steering committee, secretariat, and communications) for formal oversight of climate and poverty strategy and actions.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BOX 12 POLICY SYNERGIES IN VIET NAM

Policy synergies in Viet Nam illustrate steps towards more integrated approaches that address the nexus of climate, disasters and poverty as well as challenges in the areas of institutional coherence and coordination. Food and Agriculture Organization of the United Nations (FAO) and the Centre for Agricultural Policy (CAP) (2018) note that for Viet Nam, "[t]he objectives of poverty reduction, climate change response and natural disaster prevention are all integrated in the socio-economic development plans at all levels." Viet Nam's work on integrated policy is leading to increasing recognition of the need for practical action steps to support policy implementation. These could include (a) institutional reform to improve horizontal and vertical coordination, capacity and resources for climate adaptation expertise at a local level (to support local-level decision making), and (b) improvements to access to resources for implementation and monitoring.

There is also a goal to coordinate the design and delivery of policies – e.g. to ensure that policies for reducing disaster vulnerability do not inadvertently increase other vulnerabilities. For example, relocation out of flood-vulnerable areas to new housing needs should be accompanied by supportive programmes and resources to develop new livelihoods appropriate to the new location. This attention to livelihoods is reflected, for example, in FAO's Viet Nam country study on the nexus (FAO and CAP, 2018), with the suggestion for "designing and providing detailed guidelines for integrating and combining climate change response, disaster risk reduction, livelihood development and poverty reduction into… development planning through the approach of sustainable livelihoods."

These initiatives must be supported with a suitable information base. FAO and CAP (2018) indicate the need for "a reliable database on climate change impacts and forecasts", "research on climate change in the locality", "mechanisms to combine resources from available programmes and projects to implement climate change adaptation measures" and "climate change knowledgeable human resources." In addition, at the local level, there is a need for specific information "for regular monitoring, short-term and long-term forecasts on climate change and natural disasters, assessing the relationship between climate change and disaster" (FAO and CAP, 2018).

BOX 13 PARAGUAY: NATIONAL INITIATIVE TO FIGHT EXTREME POVERTY AND CLIMATE CHANGE

The Food and Agriculture Organization of the United Nations' (FAO) framework on ending extreme poverty in rural areas (De La O Campos *et al.*, 2018), drawing on FAO (2017c), describes a national initiative in Paraguay to fight extreme poverty and climate change together:

In Paraguay, more than two-thirds of the extreme poor are self-employed in agriculture and climate-sensitive activities. Many of them are indigenous peoples, who live in remote areas, lack resources and ownership rights, and depend on natural resources – such as wood and charcoal – to meet their basic needs. This makes them extremely vulnerable to climate change and other shocks.

FAO and the Government of Paraguay have formulated the Poverty, Reforestation, Energy and Climate Change (PROEZA) project to improve the resilience of poor and extreme poor households to climate change, through risk-informed social protection, while combating deforestation, and mitigating greenhouse gas emissions. This USD 90 million project, approved by the Green Climate Fund, will support the transition to sustainable forest management to reduce forest loss and improve the lives of around 17 000 extreme poor families (nearly 87 300 people) in eight departments of Eastern Paraguay.

One of the main instruments set up by PROEZA to improve coordination and governance is the inter-institutional Executive Committee, which gathers representatives from institutions with a direct national mandate to implement the Climate Change National Policy, the National Reforestation Plan, the Poverty Reduction Programme and the National Development Plan. Chaired by the Technical Secretariat of Planning, it will coordinate and oversee the execution of the project (De La O Campos et al., 2018, pp 57–58, Box 6).

> **Mainstream links of poverty reduction and food security with climate responses**, within both existing and new national policy, strategy, community sustainable development plans, ministry business plans and budget submissions. See the example of Paraguay in Box 13.

> **Establish joint reporting and accountability frameworks,** as well as sustainable financing mechanisms and shared budgets for specific cross-cutting initiatives.

> **Build institutional capacity (knowledge, resources, structures, motivation), at multiple levels,** for planning, implementing and monitoring coherence and coordination of climate and poverty responses in existing policies and programmes, to move toward integrated approaches inside a range of institutions, whether climate-focused, development-focused, or cross-cutting. Ultimately, governments, stakeholders and local communities will have greater capability through better understanding of interactions between poverty reduction and climate adaptation measures.

a. Draw on insights from integrated management initiatives focusing on certain spatial areas – such as watershed management, coastal and ocean management – which typically have built on existing institutional synergies.

b. Engage in suitable pilot projects, workshops and exchange platforms for building or enhancing coherence and coordination, initiated at country level, or at regional and international levels.

c. Use within-institution education and training programmes as well as policy briefings to better utilize existing cross-cutting climate-poverty initiatives and to identify opportunities for collaboration.

BOX 14 CONNECTING THE DOTS

The Nationally Determined Contributions (NDCs) Partnership's "Connecting the Dots" report (Bouyé, Harmeling and Schulz, 2018) provides important ideas for countries to achieve greater coherence and coordination in achieving NDC and Sustainable Development Goal (SDG) targets. The report focuses on more integrated delivery in three key areas: (1) institutional coordination; (2) alignment and synergies between national level SDG and NDC targets; and (3) joint mainstreaming of policy for SDGs and NDCs. A major component of the report lies in approaches to improve institutional coordination. The authors highlight the need for this, stating that:

In all of the countries examined for this paper, separate inter-ministerial coordination bodies have been established for the SDG and climate agendas. Those bodies … have similar mandates to develop, advance, and monitor implementation plans across a wide set of ministries and sectors, and create enabling conditions for actions. They also have overlapping memberships, typically including core planning, finance, and budget ministries. Those commonalities can enable bridges to be built between the two tracks … (Bouyé, Harmeling and Schulz, 2018, p. 20).

The authors note the importance of coherence and communication between lead agencies, and of policy and process coordination for SDGs and for NDCs, such as "joint monitoring and accountability, common policy review, consistent guidelines for each planning process, etc." The report provides an illustration of some nexus-related national initiatives, such as that of Mexico, which recognized:

…the need for ensuring synergies between policies and investments supporting both agendas to avoid duplication and scale up impact. They identified the following top priorities for a joined-up implementation: institutional collaboration, alignment between climate policies and the 2030 Agenda implementation strategy, and an integrated approach to mainstreaming of both sets of goals into national- and local-level policy planning and budgeting (p.19).

Specific recommendations for governmental and parliamentary efforts to develop "whole-of-government approaches" to link SDG and NDC responses include (a) assigning consistent and joint responsibilities for SDG and NDC implementation; (b) empowering SDG and climate-change liaison officers to foster an integrated approach; (c) ensuring high-level participation in SDG and climate change coordination bodies; (d) parliamentary participation in both SDG and NDC national coordination bodies; (e) an integrated approach in parliamentary committees; and (f) institutionalizing annual SDG and NDC reporting to the parliament (Bouyé, Harmeling and Schulz, 2018). The report also includes suggestions on coherence and coordination in budgetary and financial instruments, monitoring, evaluation/reporting, and engaging the international development donor circle.

> **Internal audit and/or analysis procedures can be developed and implemented** to identify and monitor the mandate, nature and operations of existing inter-institutional committees, working groups and other fora with both climate and development as parts of their mandate or their portfolio of activities. This could use a variety of qualitative and quantitative assessment criteria. Qualitative criteria might include perceived fit, perceived effectiveness, degree of shared participation, decision-making, and accountability (e.g. for fiscal, regulatory, advisory functions).

Strategic element #5: Strengthening and supporting local initiatives

> **Utilize existing mechanisms and policies already in place that involve support for local-level innovation and empowered local leadership,** in order to better link climate adaptation and mitigation with poverty reduction, food security and other development initiatives. This includes improved citizen and local-level engagement and participation in planning, implementing, assessment and monitoring at multiple levels as well as access to technology and information and training to improve capacity for understanding and making informed decisions towards managing climate risks, together with gender mainstreaming and efforts for reducing inequality. A Mexican example of local-level innovation is discussed in Box 15.

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BOX 15 QUINTANA ROO, MEXICO: COMMUNITY-BASED CONSERVATION

The Vigia Chico fishing cooperative in Punta Allen Mexico is an interesting example of a community-based conservation initiative that contributes to livelihoods and adaptation benefits. Fishers in this region have been self-organizing their harvesting since the 1960s, based on a territorial rights management system, with a set of rules for managing the fishery that is supported by the local government. Effectively, this is a co-managed fishery, with fishers, government and researchers cooperating to better understand the marine species, their spatial distribution and abundance, and the fishery's profitability, as well as the influence of human and environmental factors (Sosa-Cordero, Liceaga-Correa and Seijo, 2008). The fishery is considered sustainable, with relatively high returns, and was certified by the Marine Stewardship Council in 2012 (Seijo and Headley, undated). Key aspects that have been cited as contributing to the success of the fishery include strong leadership with a democratic and highly transparent governance structure, and strong local values that support respect for the management rules.

The cooperative continues to improve their understanding of resource and climate dynamics through partnerships with local universities, and this contributes to improved resource management and livelihoods benefits (Seijo and Headley, undated). When faced with the impacts of climate-related disasters, such as hurricanes, and slow-onset changes, such as changing ocean temperature and rising sea-level, creating localized impacts within the fishing grounds (e.g. a new 1.2 m high sand bar), the cooperative has been able to secure sustainability of the resource and ensure stable livelihood benefits by negotiating sharing agreements within the cooperative and with neighbouring groups not facing the same impacts. They have also made progress in working to diversify the economy (e.g. with more active involvement in tourism-related activities) and are continuing to discuss strategies to address sea level rise (Arce-Ibarra *et al.*, 2017).

- **Provide support for place-based approaches, and local representation in regional and national fora** e.g. community-led, collaborative mechanisms, such as community-based resource management and community-based adaptation, which are poverty- and development-sensitive, and which recognize and support inclusion of local knowledge and innovation and gender mainstreaming. This could include, for example:
  - Support local government engagement in regional and national fora on climate and development by providing funding/capacity for dedicated local inter-governmental relations department/staff. In particular, support local and regional representation at regional and national committee level for SDG and NDC planning and review, including local level reporting on SDG and NDC achievements and new priorities.
  - Create a climate and development fund, or resilient community livelihoods fund (transferring funds to local governments for specific initiatives), which might be jointly managed with the participation of state-level, regional and local government and civil society organizations.
  - Develop strategy and fora to engage micro, small and medium enterprises (MSME) in the private sector, including informal enterprises, where possible, within climate and development planning.[12] Support the development of business plans for locally-led partnerships for initiatives related to the above proposed tools, such as climate-smart agriculture and renewable energy.

Box 16 presents an example from Ecuador of the potential for local climate-sensitive initiatives that are also poverty- and development-sensitive.

[12] See example from semi-arid drylands at: www.prise.odi.org

BOX 16 COASTAL ECUADOR: RESTORING MANGROVES PROPOSED AS A WIN-WIN INITIATIVE

The coastal communities Muisne and Portovelo in Ecuador are facing the challenges of climate change, with more intensive storms and flooding as threats. People feel the "climate is crazy", but on the other hand, they see the main environmental and development threats as arising from causes other than climate change. In particular, concern focuses on mangrove loss (identified locally as due to shrimp farm expansion), and resulting declines in fishery productivity, harming local livelihoods. For residents, addressing this and other immediate livelihood challenges (e.g. reduced freshwater supply) takes priority over longer-term issues. However, a needs assessment identified the restoration of the mangroves as a desired (and immediate) win-win initiative to safeguard the communities from climate impacts, and rebuild the fishery as the main livelihood (Rainville, 2010). Such an action has been recommended to relevant Non-governmental organizations (NGOs) and the national government.

> **Emphasize policy and practical support for climate-resilient livelihoods (with poverty reduction potential) that are context-appropriate, accessible, and scalable.** Specific mechanisms, such as climate-focused community-based insurance, non-formal social protection and other risk-transfer approaches could be considered in this regard, including the empowerment of small agricultural producers and partnerships with small and medium-sized enterprises (SMEs).

> **Ensure policy at a national level supports and is coherent with the related needs and implementation capacity at the local level** (see Box 17). This requires a multi-level governance approach, including, where relevant, particular attention to the rights of local indigenous communities. Options to achieve this coherence include (a) improving the channels through which local needs assessments are incorporated into national policy development, (b) making national policies more responsive at local levels, and (c) providing adequate financial resources to support local level planning, implementation, monitoring and accountability chains.

BOX 17 CONNECTING THE DOTS: RECOMMENDATIONS TO IMPROVE INSTITUTIONAL COORDINATION AND COHERENCE BETWEEN POVERTY RESPONSES AND CLIMATE RESPONSES

The Nationally Determined Contributions (NDCs) Partnership's report, *Connecting the Dots* (Bouyé, Harmeling and Schulz, 2018) includes recommendations to improve institutional coordination and coherence between poverty responses and climate responses. These recommendations include consideration of how local level actors can be better represented, have greater connection to and voice in proposed processes, and engage with national level processes to improve cohesion, matching needs and priorities at different levels, and across sectors.

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> **Build national capacity for supporting locally-developed and locally-led initiatives** that contribute to the well-being of rural communities and address the climate-poverty nexus. FAO's Asia-Pacific Viet Nam country study (Box 18) on the nexus (FAO and CAP, 2018) recommends strengthening "the capacity building of local officials and people in the establishment, implementation and evaluation of multi-objective responses on livelihood development, climate change response, disaster risk reduction and poverty alleviation." Capacity-building and knowledge-expansion approaches to support locally-developed initiatives include the following:

  > Develop assessment and monitoring tools for locally-led adaptation with a pro-poor focus, along with analysis of feasibility and coherence with existing assessment/monitoring tools.

  > Map the existing local and regional livelihoods and value chains to identify needs and opportunities towards reduced carbon footprint, improved climate resilience, fair distribution of climate and other risks and benefits – e.g. with respect to rural natural-resource based livelihoods, and environmental conservation and stewardship initiatives.

  > Institute or reinforce extension services to support climate awareness and adaptation education together with livelihoods enhancement and diversification programmes.

  > Make use of existing online training for local and regional government on climate resilience and adaptation planning, gender and environment, etc.[13] Develop new training courses/ modules on integrated approaches to climate and development.


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BOX 18 CLIMATE CHANGE, DISASTER AND POVERTY NEXUS IN VIET NAM

The Food and Agriculture Organization of the United Nations (FAO) and The Centre for Agricultural Policy (2018), in Climate Change, Disaster and Poverty Nexus in Viet Nam (Chapter IV), include the following recommendations for addressing the poverty, disaster and climate change nexus through resilient livelihoods, based on local, community support:

1. Accelerate the integration of climate change, disaster and poverty reduction into socio-economic development planning at the implementation phase.
2. Focus on enhancing human and social capital, capacity building, and the participation of communities.
3. Manage natural resources effectively and improve natural capital through the development of climate-smart agriculture (CSA).
4. Strengthen financial capital by promoting income effectiveness and linking with microfinance solutions in order to enhance the physical capital of households.
5. Develop information systems to support decision-making for communities and households.
6. Encourage private investments to diversify and increase resources, and resolve bottlenecks on market, science and technology.
7. Promote risk financing mechanisms, especially agricultural insurance.
8. Provide proper livelihood supports for vulnerable groups.

[13] See www.uncclearn.org

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5 IMPLEMENTING THE CLIMATE-POVERTY APPROACH: CROSS-CUTTING PROGRAMMES

This section presents and discusses examples of existing programmes that can be utilized to effectively implement the climate-poverty approach, improving the links of climate mitigation and adaptation, on the one hand, and poverty reduction and food security, on the other hand. The five examples referenced here are wide-ranging programmes that are included within many local, sub-national, national and international institutions, and each has its own objectives, and strategic and operational structures. Specifically, the programmes explored here are (1) disaster risk reduction, (2) social protection, (3) resilience-building strategies, together with resilience/vulnerability assessment, (4) climate finance, and (5) environmental conservation and stewardship. While each is currently underway in many locations globally, these programmes can be usefully connected to one or more of the strategic elements described in the previous section. Examples of cross-cutting programmes that can help in addressing the climate-poverty nexus are as follows.

1. Disaster risk reduction

DRR lies directly at the nexus of climate adaptation and poverty reduction, as it addresses the risks of climate- and poverty-related disasters. Indeed, DRR is relevant to all of the strategic elements – to the three entry points (#1, #2, #3), to institutional aspects (#4) and to local-level approaches (#5). It applies to climate-related disasters themselves and to poverty impacts of those disasters, and its measures apply to both climate mitigation/adaptation, and to poverty reduction, food security and other development measures. A focus on understanding and managing risk in relation to climate, as well as in relation to poverty and food insecurity, is a crucial dimension for achieving the Sustainable Development Goals. Programmes that reduce climate vulnerability and poverty, by playing a key role in preparedness and prevention, help to reduce risks.

Policy and programmes for disaster risk reduction will be more effective if they jointly consider climate and poverty. However, Tompkins, Lemos, and Boyd (2008) point out that, while "calls for integration of disaster risk management with poverty eradication are not new, there has been insufficient attention paid in the literature on how to foster such integration." The authors argue that:

the adoption of good governance mechanisms (such as stakeholder participation, access to knowledge, accountability and transparency) in disaster risk reduction policy may create the policy environment that is conducive to the kind of structural reform needed to build long-term adaptive capacity to climate-driven impacts (p. 736).

They conclude that:

[d]eeply embedded poverty is likely to impose limits on the effectiveness of disaster risk reduction. To shift the vulnerable and poor out of the conditions that define their long-term vulnerability, disaster risk reduction needs to be effectively coupled with other policy interventions (p. 743).

BOX 19 COOK ISLANDS: CONNECTING DISASTER RISK REDUCTION AND PREPAREDNESS WITH CLIMATE RESILIENCE

An example of complimentary climate-poverty policy development is the second Joint National Action Plan (JNAP-II) for the Cook Islands, which provides a good example of connecting disaster risk reduction and preparedness with climate resilience (Cook Islands Government, 2016).

The plan's "strategic matrix" approach involves nine components: good governance; water and food security; environmental sustainability; research monitoring and information management; Cook Islands culture and identity; energy and transport; infrastructure; climate and disaster risk; health and welfare. The Disaster Risk Reduction (DRR) plan is mainstreamed within the national planning process, with a dedicated secretariat, together with coordinating and advisory committees having broad representation. Indeed, disaster management and climate adaptation are placed at the forefront of national planning, and are thus linked closely with economic development. The new office of Climate Change has been established, notably, in the Office of the Prime Minister, ensuring a high profile.

STRATEGY 8: CLIMATE AND DISASTER RISK RESILIENCE
Strengthen climate and disaster risk resilience through integrated planning and programming at the national and community level and enhancing early warning systems

ACTIONS

24. Develop and implement a national programme for community based integrated vulnerability assessment, climate change adaptation and strengthen disaster risk management and planning.
25. Enhance national capacity to provide early warnings for slow and fast-onset hazards, including those related to climate change.
26. Strengthen capacity for search and rescue at sea and on land.
27. Strengthen and build resilience in the tourism sector to the impacts of climate change and disasters.

See The Cook Islands 2nd Joint National Action Plan (JNAP-II) 2016–2020 (p.34): www.pacificclimatechange.net/sites/default/files/documents/cok170758.pdf

BOX 20 VIET NAM: IMPROVING THE NEXUS OF CLIMATE RESPONSES AND POVERTY RESPONSES IN THE REALM OF DISASTER RISK REDUCTION

Viet Nam is improving the nexus of climate responses and poverty responses in the realm of disaster risk reduction in a variety of ways. The Food and Agriculture Organization of the United Nations (FAO) and the Centre for Agricultural Policy (CAP) (2018) find that:

Natural disaster prevention and fighting programmes, such as residential housing programmes, are often integrated with poverty reduction policies, particularly credit lending for housing and production restoration. In local natural disaster prevention and fighting plans, poor households, vulnerable groups, the elderly, women, and children are prioritized groups in natural disaster response and recovery activities. In agricultural insurance development, poor [or] pro-poor households also account for 90 to 100 percent of agricultural insurance fees. Production development and climate change response models are often based on poor households to reach more targets through the intervention.

The most obvious poverty reduction intervention that helps disaster prevention is the support to improve physical assets of the poor households to respond to floods in the North Central and the Central Coast. Up to now, this policy has supported the [building and repairing] of housing for over 531 000 households, including 230 000 ethnic minority people [and] completed supports to construct 700 shelters to avoid and prevent floods. Different from the housing support in disaster prevention policies, this intervention is integrated with other supports that improve other types of household assets, such as human assets, so it helps [make] poverty reduction more sustainable (FAO and CAP, 2018, pp. 41–42).

2. Social protection

FAO defines social protection as "a set of interventions whose objective is to reduce social and economic risk and vulnerability, and to alleviate extreme poverty and deprivation." [14] Furthermore, "social protection includes three types of programmes: (1) social assistance – publicly provided conditional or unconditional cash or in-kind transfers, or public works programmes; (2) social insurance – contributory programmes that cover designated contingencies affecting the welfare or income of households; and (3) labour market protection – provides unemployment benefits, builds skills and trains workers."

The role of social protection in providing institutionalized mechanisms to support people and communities facing risk of disasters, livelihood challenges, and/or poverty puts it at the heart of poverty reduction and food security initiatives, and makes it highly relevant to the climate agenda, notably as part of climate risk reduction, raising the capacity of the poor to cope with shocks, and thereby promoting climate-resilient livelihoods. Indeed, the links between social protection and climate responses were raised under several of the strategic elements. In particular, this approach is relevant to all of the entry points represented by strategic elements #1, #2 and #3, i.e. whether the policy or institution being addressed focuses on climate, on development, or on neither or both.

This section draws on a new FAO report (Ulrichs *et al.*, forthcoming), produced in partnership with the Red Cross Red Crescent Climate Centre, to understand the role social protection plays in addressing climate-related risks, particularly in rural areas, thereby linking social protection and climate responses. Even though traditionally social protection has focused on the reduction of social- and economic-related risks, in recent years, there is a commitment to take advantage of these systems and programmes in order to respond to climate risks, thus fostering stronger linkages with climate and disaster-related strategies.

In this context, social protection systems have the potential to contribute through three different dimensions, with the first two being components of a risk management strategy, and the third being operational in nature, to improve the efficacy and effectiveness of prevention and response:

1. Reducing vulnerability and reliance on negative coping strategies in the face of shocks – protecting people from potential losses incurred by shocks, by helping them to smooth consumption and protect their assets, increasing their capacity to cope and reducing impacts.

2. Providing a stepping stone towards climate-resilient livelihoods – freeing-up household income and assets which can be used for productive and climate resilient investments or complementing other production-focused programmes.

3. Using social protection programmes/systems for disaster preparedness and response – well-functioning scalable social protection systems can also be an important part of a country's disaster management strategy, by reaching poor populations affected by climate risks in a fast and cost-efficient manner (Ulrichs *et al.*, forthcoming).

Social protection is an important component of disaster risk reduction (and managing residual risk), thereby strengthening resilience. Indeed, the role of social protection has been recognized in the context of the Sendai Framework, as well as one of the components of the comprehensive risk management strategy, as discussed by the Warsaw International Mechanism for Loss and Damage.[15] In this regard, the World Bank (2015) notes that "governments from countries as diverse as Chile, Ethiopia, Mexico, Pakistan, and the Philippines have found that the payment of temporary cash grants – including cash for work – to lower-income households affected by major disasters can help to prevent the near/transitional poor from falling into poverty and the chronically poor from becoming absolutely destitute."

[14] www.fao.org/social-protection/overview/whatissp/en
[15] https://unfccc.int/topics/resilience/resources/compendium-on-comprehensive-risk-management-approaches

A specific example of this interaction, in the case of Brazil, is that of Nelson *et al.* (2016) who examined the effects of social protection in response to droughts. That study identified the need for suitable climate-sensitive action (as there was a lack of investment in irrigation infrastructure, and a lack of use of drought resistant crops) and the need for support to households, including training and incentives, to improve risk management.

Social protection initiatives, at their heart, seek to reduce vulnerability to shocks, and therefore they inherently promote household and community resilience. Social protection is prominently incorporated in various international instruments, such as the Small-Scale Fisheries Guidelines (FAO, 2015b). A major social protection approach is that of Cash +, described in Box 21.

BOX 21 FAO CASH+ APPROACH

The Food and Agriculture Organization of the United Nations' (FAO) contribution to the global social protection agenda focuses on enhancing the reach and adequacy of programmes to rural areas, as well as maximizing their role in promoting social and economic inclusion. FAO promotes the coherence and synergies between social protection strategies and those promoting rural development, resilience and sustainable management of natural resources. This involves recognizing that access to different types of social protection may be based on income levels, but also livelihoods and specific risks.

In addition to social benefits, social protection programmes also have the potential to enhance the productive capacity of the poor, while generating income multipliers in the local economy. In order to sustain these gains, FAO promotes the need to complement these interventions with specific productive and economic components, preferably linking with existing rural development and inclusive agriculture investment strategies, or ensuring complementary activities are designed and implemented alongside social protection entitlements. These complementary activities and/or synergetic programmes would depend on the capacity and opportunities offered by the territory, facilitating economic opportunities, but also a move towards more sustainable practices and technologies. Moreover, in the context of climate related risks and/or disasters, cash+ packages can represent a more effective mechanism for relief and reconstruction.

As stated in the recent FAO report on managing climate risks through social protection:

FAO's cash+ approach aims to enhance the livelihoods and productive capacity of poor and vulnerable rural households. Cash+ interventions combine cash transfers with productive assistance, and/or technical training. The productive assistance is tailored to the specifics of beneficiaries' livelihoods. This might include improved crop and vegetable seeds, planting materials, fertilizers, gardening equipment, fishing tools, livestock vaccines or animal feed. Training is designed so that programme participants know how to best utilize the productive assistance (e.g. specialized technical training, support on marketing and market assets, entrepreneurial skills).

The cash+ approach can consist of standalone programmes that provide different types of support, or integrated approaches where social protection programmes are effectively linked with interventions in the agricultural or CCA sector.

Cash+ programmes can be designed to achieve specific objectives, such as nutrition-sensitive agriculture or promote the uptake of climate-smart agriculture. Factors such as the commercial viability of productive activities promoted through cash+, as well as the choices and preferences of programme participants, need to be considered to ensure sustainability of impact (Ulrichs et al., forthcoming, Box. 9).

The Report also highlights the following Cash+ pilot initiative in Lesotho:

In Lesotho, an FAO Cash+ pilot initiative – the Linking Food Security to Social Protection Programme – provided seeds and training on homestead gardening and food preservation to households participating in the Child Grant Programme (CGP), one of the main national social protection programmes. An impact evaluation (FAO, 2015) revealed that combining CGP cash transfers with the delivery of vegetable seeds and the training had a greater impact on household food production and food security, than each of these programmes in isolation. Based on this result, the initiative was scaled up as part of the El Niño drought response. The upscaling was implemented entirely through government social protection channels, therefore ensuring future expansion and sustainability (FAO, 2015; Ulrichs et al., forthcoming, Box. 16).

3. Resilience-building strategies and resilience/vulnerability assessment

Resilience – enhancing the capability of households, communities and nations to deal with shocks – is increasingly recognized as a key ingredient of policy and practice, with respect to climate and disaster, food security and poverty responses. It is, for example, at the heart of efforts to enhance climate resilience and to develop climate risk management. Resilience can therefore provide a unifying approach within the climate-poverty approach (FAO, 2019a). Recently, community resilience (see Box 22) has been the focus of studies on resilience; it is also particularly relevant for implementing strategic element #5, on local-level climate-poverty linkages.

In applying a resilience perspective, it is important to understand climate risks and poverty risks, and interactions with other hazard risks (e.g. conflicts, epidemics). It is also crucial, from a poverty perspective, to ask the question: resilience of whom? And resilience of what? (Armitage *et al.*, 2012). For example, resilience of a status quo system is not necessarily beneficial from a poverty or food security perspective.

Suitable approaches to maintain and build resilience, so as to bring both poverty reduction and climate benefits, may include risk governance and institutional capacity building, risk monitoring and early warning systems, emergency preparedness, and vulnerability reduction measures such as social protection, insurance, natural resource management, livelihood diversification and value chain support.

Resilience is inherently a concept relating to "systems"– human, natural (e.g. ecosystem) and governance (management) components, and the wide range of interactions among them (Charles, 2001; MEA, 2003; Ostrom, 2007, 2009). Systems are present at all scales and levels, from local (e.g. households and communities) to national (e.g. a Small Island Developing State) to global, including

BOX 22 COMMUNITY RESILIENCE

Particular attention is warranted to applying a resilience lens at a local community level – in other words, dealing with community resilience (Berkes and Ross, 2013). Community resilience is closely associated with resilient livelihoods. Resilience of fishing and farming livelihoods, in the face of climate change (e.g. increasing salinity), environmental degradation (e.g. from shrimp farm expansion) and economic change (e.g. land grabbing), is a key issue in Satkhira, a coastal community of Bangladesh (Buly, 2017).

The responses to these impacts include both community-led actions and external interventions (by government and Non-governmental organizations (NGOs)), with varying degrees of community acceptance (Buly, 2017).

In the eastern Indonesian islands, a strategy has been undertaken that empowers communities towards more resilient livelihoods, thereby reducing vulnerability; this includes decision-making processes and structures which can enhance communities and link stakeholders' capacity to influence direct (i.e. proximate) and indirect (i.e. systemic) drivers of vulnerability (Butler *et al.*, 2014).

Fazey *et al.* (2018) focus on the determinants of effective community resilience initiatives in the context of climate change, listing 10 key ingredients:

F1) Enhance adaptability and flexibility for managing change and work with diverse resources and capacities; 2) take account of shocks and stresses, direct and indirect impacts and anticipated and unanticipated change by enhancing specified and generalised resilience; 3) work horizontally across sectors to avoid counterintuitive outcomes and to find novel solutions that simultaneously address multiple concerns; 4) work vertically across social scales to ensure engagement in carbon reduction and to address issues of power, control and ensure support; 5) reduce carbon emissions through transformative and proactive change; 6) build narratives of climate change to enhance climate literacy and inspire hope and action; 7) engage directly with futures to release creativity, imagination and change; 8) focus on climate disadvantage and reducing inequities to overcome injustices of climate change and climate action; 9) focus on processes and pathways through encouraging participation, learning and empowering forms of change; and 10) focus on transformative, rather than adjustment or reform kinds of change (p.31).

a natural resource system, such as a fishery (Charles, 2001) and many others (Berkes *et al.*, 2016). A systems perspective can provide a unifying mechanism to move forward on more integrated climate and poverty responses, at all spatial and organizational levels, taking into account multiple dimensions of poverty, food security, and climate responses. Indeed, a systems perspective recognizes that poverty and climate interact with a wide range of system drivers such as economic globalization, population growth, urbanization, and environmental degradation, many of which affect the poverty landscape.

Systems-oriented perspectives that can support progress in addressing the climate-poverty nexus include the livelihoods approach, such as the agriculture livelihoods systems, and the food systems approach. A food systems perspective, which is increasingly common globally, involves the system of food production, the producers themselves, and the steps of food distribution and consumption within the entire value chain (including rural and urban aspects, and trade). These are all relevant to both climate adaptation and poverty reduction, including aspects of rural development and food sovereignty. Food security is a key consideration, interacting naturally with poverty reduction and development, but also with climate adaptation and mitigation. Both livelihoods systems and food systems can be seen at multiple levels – such as community, city, sub-national, national, and regional levels. An example of this is trade-related shocks, usefully viewed with a food systems lens, and which can have major effects on the nexus of climate and poverty.

Carrying out resilience assessments is an important mechanism to support the work of states and others to develop (with assistance as needed) suitable resilience-building plans. Tools such as the Resilience Index Measurement and Analysis, RIMA, can be used to assess resilience in the context of poverty.

Although resilience is a complex concept, fortunately several resources and practical tools are available for understanding and assessing resilience. These include:

- RIMA-II resilience index measurement and analysis[16] (FAO, 2016a)
- Assessing resilience in social-ecological systems: workbook for practitioners[17]
- Analysis of social-ecological systems for community conservation[18] (Berkes *et al.*, 2016)

Just as resilience is relevant in both a poverty context and in climate adaptation, so too is the concept of vulnerability, and indeed vulnerability assessments are commonplace in examining impacts of poverty and food insecurity as well as those of climate change. To improve the linkages of climate responses and poverty responses, in a practical manner, a logical move would be to assess climate vulnerability and vulnerability to poverty and food insecurity together, through an integrated assessment process. This is a tool to help meet several of the strategic elements in the approach, including those relating to all three policy/institutional entry points (#1, #2, #3) as well as #5 Strengthening and supporting local initiatives. An example of how integrated climate-poverty vulnerability assessment may work in practice is discussed in Box 23.

Integrated climate-poverty vulnerability assessment should help identify key common drivers, opportunities and key entry points to leverage positive change – the latter may include measures to increase empowerment of marginalized groups, to improve gender equality, and to support community-based natural resource management, among others. It should include a capabilities assessment component to take into account how people feel about their ability to cope with and address vulnerabilities.

Furthermore, these assessments can serve as pro-poor adaptation and disaster risk reduction tools, for example, by mapping and analysing geographic and social vulnerabilities and relationships relating to a range of different impacts of climate change. This considers (a) vulnerabilities and needs of poor and marginalized groups, and (b) measures to

[16] See: www.fao.org/3/a-i5665e.pdf
[17] See: www.resalliance.org/files/ResilienceAssessmentV2_2.pdf
[18] See: www.communityconservation.net/resources/social-ecological-systems-guidebook

BOX 23 AN INTEGRATED CLIMATE-POVERTY VULNERABILITY ASSESSMENT IN FIJI

A recent example of climate vulnerability assessment that considers poverty and well-being was carried out by the Government of Fiji. The report covers many aspects of the Fijian situation, but notes, in terms of the agriculture and fisheries sectors, the following linkages of climate and poverty:

Agriculture income is particularly important for people living below or close to the poverty line. Almost half of those living below the poverty line rely on agriculture for at least part of their income, compared to a quarter of people above the poverty line. There is a sizable concentration of households around the poverty line in Fiji, and even a minor shock to the agricultural sector could have a substantial effect on the incidence of hardship (p.83).

Both in the agriculture and fisheries sector, initiatives are under way to strengthen resilience. The planting of traditional tree and root crops is being undertaken to minimize soil erosion and land degradation. The Fiji Crops Sector Strategy, which is in draft form, incorporates the need to provide resilient and sustainable livelihood opportunities for farmers, particularly youth and women. A Fiji National Fisheries Policy, which has been under development for several years with the support of the Food and Agriculture Organization of the United Nations (FAO) and the Pacific Community (SPC), takes adaptation to climate change and resilience toward natural disasters into consideration. Around 16 non-governmental organizations are involved in coastal fisheries management (p.116).

Agriculture insurance programmes can be used to manage the financial cost of disasters to farmers and governments. They offer one approach to building rural resilience and smoothing climate-related shocks suffered by the rural poor (p.116).

See the Report, Fiji 2017: Climate vulnerability assessment – Making Fiji climate resilient, at https://cop23.com.fj/wp-content/uploads/2018/02/Fiji-Climate-Vulnerability-Assessment-.pdf

reduce inequality, strengthen resilience and reduce vulnerability to climate shocks and stressors (both chronic and acute), as well as to reduce impacts that would result from climate-induced poverty.

4. Climate finance

Climate finance, established as a financial mechanism under the UNFCCC (and also relevant to the Kyoto Protocol and the Paris Agreement) encompasses a variety of instruments, from private and public sources (from local, to national to global) that contribute to climate mitigation and adaptation efforts. The instruments and institutional pathways through which climate finance flows are evolving, and there is no single, globally accepted way of reporting or tracking these flows, so it can be challenging to assess. There are several existing mechanisms by which public climate finance is managed, including the Global Environmental Facility (including the Special Climate Change Fund and the Least Developed Countries Climate Fund), and the Adaptation Fund (Development Initiatives, 2016).

Climate finance has significant potential to contribute not only to mitigation and adaptation, but also to reducing climate-related vulnerability and resulting poverty – fitting well within strategic element #1 poverty-sensitive climate mitigation and adaptation. Its application in SIDS is discussed in Box 24.

However, there continue to be many challenges associated with how climate finance is targeted, distributed, directed and monitored. Notably, while the current global target for public climate finance is USD 100 billion annually, officially reported contributions for 2015-16 were lower, at USD 48 billion, and net assistance (not counting loans or other non-grant instruments) was lower still, at an estimated USD 16–21 billion. For 2015-16, only USD 9 billion (18 percent of the total reported amount) went to LDCs (Oxfam, 2018). While climate finance commitments are intended to support mitigation and adaptation in countries that are more vulnerable and have less available financial resources, allocation of funding is not specifically aligned to addressing climate-poverty linkages, or to

BOX 24 SMALL ISLAND DEVELOPING STATES (SIDS) AND CLIMATE FINANCE

Some key recommendations for improving climate finance for SIDS, from a recent regional consultation carried out by the Stockholm Environment Institute (Canales, 2017) include:

- continue support for direct access to climate finance (to mitigate capacity issues and transaction costs);
- support parallel lines of activity, in addition to applying for direct access, to redistribute risk;
- ensure more rigorous evaluation of if/how capacity support to date has helped;
- move from project-based to programme approach (to address high transaction costs);
- focus on information sharing as well as regional institutions and partnerships; and
- address distribution issues within SIDS, as finance is needed to support vulnerable countries and vulnerable communities.

In SIDS, climate funds and existing development priorities are not yet fully aligned. A recent study of climate finance in Caribbean SIDS (Atteridge, Canales and Savvidou, 2017) cited the following challenges: a mismatch between commitments and disbursements of climate finance funds (only 39 percent of commitments in 2015-16 were disbursed in the same period); a relatively high proportion (38 percent) of funds provided as loans instead of grants (increasing the vulnerability of loan recipients to macroeconomic shocks); more funds provided for mitigation (48 percent) than adaptation (32 percent) despite low greenhouse gas (GHG) emissions overall; and a majority of funds (77 percent) delivered as short-term project-based support. On the other hand, overall approved funding amounts have increased substantially since 2015 (Watson *et al.*, 2017) and new initiatives are in place, such as the Green Climate Fund (GCF), which may help meet pressing needs for adaptation.

prioritize meeting the needs of the most vulnerable first (Development Initiatives, 2016; Oxfam, 2018). Overall, significantly more adaptation funding is allocated to countries with mid-range vulnerability scores, while some of the most vulnerable countries, with the lowest domestic revenues to build adaptation capacity, receive very little funds (Oxfam, 2018).

5. Conservation and stewardship

Around the world, abundant examples demonstrate how access to and tenure over land and natural resources, together with conservation practices carried out locally, can improve human and ecological well-being, quality of life, social cohesion, and the resilience and sustainability of livelihoods and local economies. In this way, conservation and stewardship initiatives can support poverty reduction and food security, and can also interact with and support climate mitigation and adaptation. This win-win role of conservation and stewardship shows its relevance to all of the strategic elements – i.e. as a component of each of the three policy/institutional-oriented entry points (#1, #2, #3), providing options relating to institutional aspects (#4) and especially fitting with local-level initiatives (#5).

This can be especially noticeable at a local level, with mangrove restoration by coastal communities a good example. Conservation practices carried out locally, thereby improving human and ecological well-being, quality of life, and the sustainability of livelihoods and local economies, can serve as strong mechanisms for both poverty reduction and climate adaptation. Accordingly, an emphasis on local environmental stewardship, tied to sustainable livelihoods, and supported through governmental climate risk sensitive policy and practice, should be seen as a potentially effective win-win policy approach. This can be aided by suitable resources, e.g. a toolkit to support local Indigenous communities in their conservation and development (Corrigan and Hay-Edie, 2013).

BOX 25 ENVIRONMENTAL STEWARDSHIP AND EXTREME POVERTY

The Food and Agriculture Organization of the United Nations' (FAO) framework on ending extreme poverty in rural areas (De La O Campos *et al.*, 2018) describes the linkages between natural resource conservation, climate responses and poverty reduction:

Many of the extreme poor in rural areas depend on access to water, forests, fisheries, and land to sustain their agricultural livelihoods. Climate change, land degradation, pollution, and the depletion of natural resources and biodiversity are amongst the major impediments to the sustainability of livelihoods of indigenous peoples, pastoralists, forest people, and fisher folks – who also tend to be the poorest and most marginalized communities in society (p. 56).

Some policy actions include: enhancing local knowledge or introducing new techniques for the sustainable management of resources; promoting climate-smart and organic agriculture; and preserving and promoting ecosystem services. Climate adaption and mitigation efforts also require better coordination and integration with poverty reduction interventions (p. 56).

Interventions that enhance the governance of tenure and preserve or revitalize natural resources can directly benefit the extreme poor, particularly those living in marginal areas, by securing their livelihoods and helping them adapt to the effects of climate change (p. 55).

Stewardship that combines ecological, climate and development benefits can take a variety of forms. While income earned from harvesting and selling natural resources, or payment for ecosystem services may be a way for local conservation and stewardship to contribute to poverty alleviation (see Daw *et al.*, 2011; Milder, Scherr, and Bracer, 2010), often the contribution is broader and more indirect. Local perception of the benefits of conservation varies, and the ways in which people perceive it to be contributing to poverty reduction can be an important motivator (Berkes, 2013). Some more recent approaches focus on understanding locally-derived benefits of local conservation and stewardship using a livelihoods and well-being concept, for example IUCN's People in Nature Framework (see Davidson-Hunt *et al.*, 2016).

The contribution of conservation and stewardship to addressing the nexus of climate change and poverty is especially clear in relation to fisheries and aquaculture, often key livelihood sources and economic sectors for coastal communities and SIDS (Armitage *et al.*, 2017; Charles, 2017; Gillam and Charles, 2018). This is a core theme of the Code of Conduct for Responsible Fisheries, and the Small-Scale Fisheries Guidelines. In particular, the latter integrates together the conservation imperative, concern for poverty and food, and issues around climate mitigation and adaptation (Kalikoski *et al.*, 2018).

Summary

As has been seen, the five cross-cutting programmes discussed in this section are useful in the context of the climate-poverty approach, in providing existing mechanisms within which the climate agenda (mitigation and adaptation) and the development agenda (poverty reduction and food security) can be brought more closely together. Notably, disaster risk reduction, while often discussed in a climate context, can be addressed in terms of poverty, and similarly social protection, often seen as a poverty reduction mechanism, can be applied in settings of climate vulnerability. Resilience-building and environmental stewardship activities reflect programmes that have win-win aspects to them, in terms of addressing climate risks together with poverty and food insecurity. Finally, climate finance, clearly a climate-related programme, nevertheless can be applied taking into account poverty reduction goals as well. In all these cases, the relevance of the cross-cutting programmes will depend on the local context – with its own unique opportunities, challenges and current activities – and the need to fit local needs and priorities.

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6 IMPLEMENTING THE CLIMATE-POVERTY APPROACH: A GUIDE FOR LOCAL COMMUNITIES

The climate-poverty approach, and its five strategic elements, aims to improve the ways in which the climate change-poverty nexus is recognized and addressed at all levels, from global, to national, to local levels. Each strategic element is meant to speak to policy, programmes, institutions, and practice at all those levels. In particular, strategic elements #1 through #4 provide some recommendations for the attention of rural communities, and strategic element #5 particularly focuses on supporting the nexus through local-level approaches, though not solely oriented to decision-makers at that level.

This section compiles together, and adapts, some key recommendations provided in section 4, chosen for their relevance specifically to decision-makers at the local level (e.g. coastal communities), with a focus on rural areas, and suitably adapted, as needed, for use at the local (primarily rural) level. Also included are recommendations relating to the five cross-cutting programmes described in section 5, i.e. disaster risk reduction, social protection, resilience-building strategies, together with resilience/vulnerability assessment, climate finance, and environmental conservation and stewardship.

The recommendations have been organized under the following themes: governance and decision-making; policy and institutions; financial support; practical approaches; knowledge and capacity; and analysis and tools. Note that some of the recommendations can be implemented locally, while others require the local community, or local government, to monitor actions at a higher level, e.g. the state, for their suitability to the community; others require interventions directly with higher levels of governance.

Governance and decision-making

1. Seek opportunities to participate in deliberative processes, and ensure that the local community's values and priorities are heard within those discussions around adaptation and development pathways and associated trade-offs.

2. Where necessary, improve local rural governance structures to enable/support achievement of the nexus approach to climate-poverty responses, including learning, collaborating and relationship-building aspects. There may be potential to usefully build linkages around existing institutional synergies, e.g. in relation to cross-cutting topics such as gender, livelihoods, food systems (value chains), environmental stewardship, social protection, and disaster risk reduction.

Policy and Institutions

3. Advocate for the local community's own needs and implementation capacity at the national level, through efforts to achieve coherence of national policy with those needs and capacity. This could involve national efforts to improve the channels through which local needs assessments are incorporated into national policy development, and providing adequate financial resources to support local level planning, implementation, monitoring and accountability chains.

4. Identify mechanisms and policy tools locally that are suitable within both climate responses and poverty reduction responses, i.e. that meet both the climate agenda and the goals of poverty reduction and food security,

together. These should preferably build on existing capacities, agency and knowledge. Key ingredients may include social empowerment, community resilience-building strategies, climate information mechanisms, microcredit, technical training, and improved infrastructure, among others.

5. Emphasize local support for climate-resilient rural livelihoods (context-appropriate, accessible, and scalable). This may usefully follow a sustainable livelihoods approach (FAO and CAP, 2018), with mechanisms potentially including climate-focused insurance, social protection and other risk-transfer approaches, and efforts to empower small agricultural producers.

6. Utilize, and obtain governmental support for, natural resource and environmental policy measures that serve both poverty reduction and climate adaptation, such as (a) enhancing access to and tenure of land and natural resources for those in poverty and facing the most vulnerability, and (b) supporting conservation practices carried out locally, which can improve human and ecological well-being, quality of life, and the resilience and sustainability of livelihoods and local economies.

Financial support

7. Seek out climate finance support for local-level mitigation and adaptation, aligned to addressing climate-poverty linkages. Just as there is a need internationally for climate finance to reach the most vulnerable nations, as noted in the previous section, so too is it necessary locally to prioritize the needs of the most vulnerable first, if the climate-poverty nexus is to be addressed.

8. Seek out governmental support for climate-resilient infrastructure within the community and linking to other locations, such as accessible transportation and energy, in combination with access to markets and services, such as healthcare and education.

Practical approaches

9. Ensure that the design of climate adaptation programmes and projects locally are based on context-appropriate pro-poor approaches. Ensure these programmes and projects are carried out in a manner that achieves a fair distribution of costs within the community, in the face of both long-term change (e.g. sea level rise) and short-term impacts (more frequent and/or intense disasters).

10. Ensure that climate-smart and climate-risk-sensitive (adaptation-smart) approaches are built into local rural development programmes and projects. This should include implementing or expanding adaptation-smart options for poverty reduction (and broader development programmes), to better consider the possible impacts of climate change, and contribute to effective adaptation and disaster risk reduction.

11. Develop targeted strategies/actions in the community to address barriers to climate adaptation for groups experiencing poverty. This should involve suitable mechanisms improving the accessibility of mitigation and adaptation, e.g. prioritizing key actions that prevent the worsening of poverty and begin to address inequality. These measures should apply gender, poverty and food security lenses. In particular, vulnerable groups should be involved in the decisions and design of these strategies.

12. Encourage policies and programmes that help to manage risks affecting the community, in relation to both climate, and poverty and food insecurity. Programmes that reduce climate vulnerability and poverty, by playing a key role in preparedness and prevention, help to reduce risks. Social protection is especially relevant as a program to deal with social- and economic-related risks, and now also climate risks, and indeed linkages with disaster-related strategies.

13. Connect with ongoing efforts to address gender inequality, recognizing that removing gender-based constraints can reduce poverty and enhance climate resilience of households and communities (e.g. through increasing agricultural productivity, and improving food and nutrition security).

14. Draw on collaborative mechanisms such as community-based resource management and community-based adaptation, which are suitably poverty- and development-sensitive, and which recognize and support inclusion of local knowledge and innovation and gender mainstreaming.

Knowledge and Capacity

15. Build capacity (knowledge and technical capability, as well as resources and structures) of local government, civil society organizations and other local stakeholders to better understand and assess interactions between climate impacts and poverty/food insecurity, and between climate adaptation and poverty reduction measures. Capacity can be important locally to enable the use of a common set of tools for measuring and assessing the risks and vulnerabilities related to climate and poverty; an example is the development of integrated climate-poverty vulnerability assessment, to monitor combined adaptation uptake and poverty reduction impacts.

16. Implement education and training programmes (and/or participate in national programmes) to build capability for planning, implementing and monitoring coherence and coordination in existing rural policies and programmes. This should raise the local community's capability and resources for assessing, developing, planning, implementing and monitoring integrated agendas, including regular monitoring of climate change and disaster risks, building of climate adaptation expertise at a local level, and improved local-level decision making.

17. Initiate, possibly with higher level support, suitable pilot workshops and exchange platforms to build or enhance adaptive capacity locally (including climate change mitigation/adaptation, disaster risk reduction and development approaches focused on poverty and food security) and to support livelihoods-oriented initiatives that take into account climate change response, disaster risk reduction and poverty alleviation.

18. Recognize indigenous knowledge systems and utilize these systems to support development of robust, culturally and contextually-appropriate local adaptation actions (Ford *et al.*, 2016).

Analysis and tools

19. Ensure that (a) monitoring and evaluation of local mitigation and adaptation initiatives incorporates distributional impacts, equity, and fairness (class, gender, ethnicity), and conversely (b) monitoring and evaluation of local poverty reduction and food security initiatives includes mapping of the rural climate vulnerability context, and incorporates climate impacts and climate risk.

20. Assess structural barriers to poverty reduction, such as power, agency, place-based vulnerability, and relationships with global drivers and markets, as well as structural roots of poverty that contribute to climate vulnerability (e.g. access to services/resources), to determine what poverty reduction and adaptation tools and strategies best fit local needs.

21. Include livelihood analyses, using a whole-of-value-chain approach, in climate vulnerability assessments, and carry out assessments at household and community level, to better understand where potential vulnerabilities may intersect or overlap.

22. Link the analysis of poverty and climate responses to other analyses, such as FAO Disaster and Loss Assessment methods, with attention to collecting data on events or crises in rural communities.

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7 IMPLEMENTING THE CLIMATE-POVERTY APPROACH: PATHWAYS AND CONSIDERATIONS

Implementation of the climate-poverty approach has been, to this point, provided as a series of recommendations for policy, institutional development, practices and programmes, and analysis and tools – based on the five strategic elements and the cross-cutting programmes described earlier. This section focuses not on these specifics, but rather on the pathways and modes of implementation, and on a range of considerations that need to be incorporated in any implementation scheme.

7.1 Implementation pathways

Here the idea of implementation pathways is explored in terms of (1) the context involved, (2) the relevant time scale (short-term, long-term), and (3) the appropriate (organizational) level, and the idea of scaling up and scaling down.

Implementation in context

Implementing the approach will likely involve a mix of ingredients in any given situation. For example, a high-level governance-oriented approach to addressing the climate-poverty nexus may be based on operational underpinnings, such as a common assessment framework (e.g. for vulnerability) applied across agencies. Similarly, institutional and operational aspects may interact, e.g. in a review of budgets across departments, to assess feasibility and needs for policy implementation. The mix of ingredients required for effective implementation, and the interactions amongst these, will be important to consider, based on determining which of the recommendations provided in this report are relevant to any given context.

To illustrate this, and specifically the idea that the path taken, and the outcome desired, will depend on the context involved, Figure 5 shows one of many possible pathways for each strategic element. Each path reflects implementation choices, leading (it is hoped) to a desired (context-specific) outcome.

Implementation at the appropriate time scale: Short-term and long-term

Climate change impacts can be long term (e.g. sea level rise and ocean acidification), or short term, with the increasing frequency and intensity of short-term events (e.g. extreme weather such as hurricanes and cyclones resulting in floods or landslides). Poverty and food insecurity also are relevant in multiple time frames. Disasters tend to be seen as short-term events, but certainly there are longer-term causes, and effects. The differences in time frames have implications for linking climate responses and poverty responses, e.g. in terms of how to best sequence the responses according to locally identified priorities. For example, in applying a social protection approach, a situation of chronic poverty may call for consistent social protection to provide support to build an asset base, improve coverage and target those living in remote, climate-vulnerable locations. On the other hand, with transient poverty, the preferred approach may be one of disaster-responsive social protection to avoid liquidation of assets after crises. In terms of disasters, responses may tend to be relatively short-term (at

FIGURE 5. THE FIVE STRATEGIC ELEMENTS WITH EXAMPLES OF MULTICOMPONENT IMPLEMENTATION SCHEMES THAT LEAD TO CONTEXT-SPECIFIC OUTCOMES.

Note: Here the first three strategic elements would be utilized to an extent depending on the relevance of the corresponding entry point (discussed earlier), and the fourth and fifth strategic elements would be particularly relevant to institutional and local implementation of the approach, respectively.

least initially), while risk-informed development is also needed in the long term; this includes building the capacity and preparedness for future disaster responses.

Finally, it is important to note that both climate change and poverty interact with other relevant drivers, which can be fast or slow, short or long term, and acute or chronic. Accordingly, attention to multiple time scales is essential.

Implementation at the appropriate level: Scaling up and scaling down

A fundamental consideration in the development of this proposed approach is the need for the corresponding change process to work effectively, in a practical sense, at multiple levels. Accordingly, the approach includes suitable policies, institutions and practical approaches needed for on-the-ground projects and programmes, in local communities, through to macro-level initiatives on climate responses and development measures at national, regional and international levels. The climate-poverty approach, then, is applicable as much to individual communities (e.g. coastal communities) as to the national level (e.g. SIDS) and to multi-national regional bodies (e.g. the Pacific Islands).

Tuning responses to the appropriate spatial or jurisdictional level will improve the effectiveness of interactions among the responses, and to this end, the principle of subsidiarity tells us to prioritize decision-making at the 'lowest' (most local) level that is feasible in a given situation. This drives the balance between the national level and local-level contexts, along with cross-scale (and cross-sector) connections.

While there are some commonalities across locations in implementing approaches to address the climate-poverty nexus, there is also inherent heterogeneity, and the corresponding need for location-specific responses. This is illustrated with respect to climate change adaptation trends in SIDS:

Vulnerabilities … vary between islands within nation states. Seychelles, for example, is constituted by 15 islands [–] 12 continental, 2 coralline and 1 atoll … An adaptation response developed for Mahe, a continental island susceptible to orographic or relief rainfall and river flooding (Campbell, 2006), may not be appropriate for Aldabra, an atoll with four main islands and susceptible to king tides, high waves, storm surges, water shortages, droughts and health risks (Campbell, 2006). Additionally, the extent to which sufficient attention is paid to a particular vulnerability will also vary between islands within nation states, island countries and regions. Adaptation priorities differ and may not fit well with assumptions regarding the particular climate, climate-induced and non-climate-induced vulnerabilities that should be addressed (Robinson, 2017).

A crucial matter relating to the multiple levels for implementing the approach is that of scaling up and scaling down. Consider the case of small-scale fisheries. The Small-Scale Fisheries Guidelines, described earlier, represent perhaps the most integrated and comprehensive vehicle globally for fishery development and governance. In particular, the Guidelines not only include poverty considerations (e.g. social development, employment and decent work), disaster risk reduction measures, and climate change aspects, but also address the interactions of these, i.e. implicitly incorporating consideration of the climate-poverty nexus. The matter of scaling up and scaling down is inherently contained in the Guidelines. While there is an aspect of scaling down in applying these international guidelines to local fisheries around the world (i.e. developing context-specific solutions, with local actors, within a broader policy framework), there has also been a fundamental scaling up in that the Guidelines themselves, as they evolved from on-the-ground realities in many small-scale fisheries and were brought together by fishers, civil society, FAO and others, in an impressive emergent process of synthesis (Jentoft, 2014). Accordingly, a multi-level process of improving approaches to address the climate-poverty nexus includes scaling up and scaling down, perhaps best accomplished in an iterative feedback manner.

7.2 Practical considerations

Whatever the pathways being followed for implementation of the approach, there are certain ubiquitous aspects that must be considered. Here, brief discussions are provided of (1) the crucial consideration of underlying values, (2) operational approaches needed in practice (a suitable business case, financing, appropriate incentives, capacity-building and knowledge development, awareness, education and communications, and monitoring), and (3) consideration of the assumptions and risks involved in implementing the approach.

Values

Normative considerations were listed early in this report as a guiding aspect of the approach presented here, in considering the links between poverty reduction and climate change responses. In particular, the focus has been on achieving outcomes that are equitable and effective in responding to both climate change and poverty (and food insecurity), prioritizing the needs of the most vulnerable and poor. This implies incorporating social inclusion, empowerment of affected populations, special attention to gender and ethnic issues, and the rights and the reality of Indigenous peoples. Also important is to draw on multi-disciplinary perspectives and knowledge bases, including Indigenous and local knowledge, in order to reflect the full human experience of climate change (Allison and Bassett, 2015). While these values provide guidance on the directions to take in climate and poverty responses, there are bound to be, nevertheless, significant trade-offs to be made.

Operational approaches

Implementing the approach, as with any initiative, requires certain fundamental operational aspects. Several of these are described here.

Business case, financing and incentives. Developing and communicating an evidence-based business case for improving approaches to address the climate-poverty nexus, in policy and practice, can be a first step toward financial sustainability. This may be accomplished in part through (a) economic analysis of adaptation and of poverty reduction measures (including distribution of costs and benefits) at different levels, and (b) analysis of the cost-effectiveness of applying nexus approaches (e.g. considering economic and organizational costs and savings, and the investment return from interventions recommended and implemented). The next step is to develop proposals for short- and medium-term funding in synergy with existing funds, and to locate suitable funding sources where necessary. As described in this report, and elsewhere, poverty reduction aspects can be integrated into current climate finance approaches. The third prong, in addition to the business case and funding sources, is to create suitable incentives to motivate action and innovation toward nexus strategies, within the private sector and civil society.

Capacity building and knowledge development. Throughout the discussion of the five strategic elements, capacity development plays a key role. The key here is to develop both (a) the understanding of climate-poverty interactions, including specifically how climate responses and poverty responses interact, and (b) the capacity to take action, in policy and practice, to improve the nexus of responses. To support capacity building, broad mechanisms for knowledge development on the nexus and related impacts can be applied, across scales and sectors at multiple levels (local, regional, national awareness). This strengthens institutional knowledge and capacity among partners, and improves motivation to engage in integrated approaches. Means to accomplish this may include knowledge exchanges, such as training workshops on linking climate and poverty responses. There is also a role to be played by research institutions, such as universities and colleges. Partnerships in knowledge development can be usefully formed around priority needs, given that climate change, and the required responses, are bringing the world into new territory, requiring social and institutional innovations; the research community has a crucial contribution to make.

Awareness, education and communications. Related to, but distinct from matters of capacity and knowledge, a significant level of awareness-raising and education can be needed to deal with the

climate-poverty nexus. This need arises as a result of many factors. Climate is a relatively recent addition to the mandates of governments, and accordingly many components of governmental institutions (as well as those in the private sector and civil society) are still building their capacity to deal with climate issues. On the other hand, with climate a fast-growing concern, a full understanding of poverty and food security issues may be relatively lacking in climate discussions. Further, all of these shortcomings are likely present within the general public as well as within institutions. And even where both poverty and climate are discussed, the nexus of the two may not be fully developed. Accordingly, information and communications campaigns, and insertion of education programming on the topics into schools and other bodies, are important initiatives.

Monitoring. Improved assessment and monitoring capacity is needed for (a) climate mitigation and adaptation, and (b) poverty reduction and food security, individually, but this is also crucial in an integrated way, at multiple levels, in order to strengthen capacity to design and evaluate programmes and initiatives to address the climate-poverty nexus. A key aspect of this is the common use of a set of indicators across SDG 1, SDG 2 and SDG 13 (as well as potentially SDG 14, SDG 15 and SDG 16, among others), since jointly measuring progress is crucial for moving in a coherent and coordinated manner. Means for better monitoring could include improving available data on the nexus and appropriate tools for monitoring of effectiveness of nexus approaches, together with opportunities for innovation.


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Assumptions and risks

The approach proposed in this report is based on certain assumptions about how the world works, especially in terms of human behaviour and institutional dynamics and constraints. There are, accordingly, various risks faced in following a given strategy, in pursuit of a vision for the future, in this case one that seeks to improve the linkages between, and thus the overall effectiveness of climate responses and poverty responses. The following are some of the many examples of assumptions made in developing the approach, which will need to be assessed in implementation initiatives:

- Direct and indirect (context) drivers can be identified and addressed, so that measures to link climate responses and poverty responses can be carried out in a manner that is not thwarted by other factors within the overall system (whether at a local, national or global level).
- The governance structure is responsive, in the sense that policy windows for change, of the manner described here, exist and can be supported by coordinated action, within a suitable enabling environment.
- Lead institutions and partners/stakeholders express willingness to address the status quo, with institutional structure and power dynamics taken properly into account.
- Effective accountability, fairness and equity are present within implementation mechanisms, or can be developed in a timely manner, so that those most vulnerable and in poverty are treated in a manner befitting a focus on the climate-poverty nexus.
- Monitoring is designed and carried out to support awareness and accountability, in a manner that helps move from policy to implementation of the climate-poverty response nexus.
- There is space for meaningful participation by local actors across multiple levels, with levels of empowerment and capacity sufficient for local/community engagement in nexus processes.

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8 CONCLUSIONS

As noted at the outset of this report, the world faces major challenges in finding effective ways to deal with poverty and food insecurity, and with climate change. Despite recent advances in understanding the links between poverty, food insecurity and climate change, there remains a need to improve the coherence and coordination of policy, institutional, financial and practical linkages between climate responses (mitigation and adaptation) and poverty reduction and food security initiatives, in order to reach the goals of the Paris Agreement and to strengthen interaction among the Sustainable Development Goals. This is particularly crucial because policies and actions, if not coherently designed and implemented, may have unintended negative impacts – such as climate responses contributing to increasing poverty and food insecurity, and development actions resulting in less efficient climate adaptation and mitigation responses.

The climate-poverty approach presented in this report has been developed with these aspects in mind. Using a participatory approach, insights have been provided from many perspectives, leading to inclusion not only of climate and poverty aspects, but also indigenous, gender, food security, disaster response, resilience, SIDS and coastal community perspectives, among many others. This has led to identifying strong opportunities to improve the ways in which policies and actions are designed and delivered, resulting in greater alignment of efforts towards cohesion, effectiveness and efficiency, more equitable and sustainable development and improved climate mitigation and adaptation outcomes overall.

To summarize, the climate-poverty approach is comprised of five strategic elements:

1. Pro-poor climate mitigation and adaptation
2. Climate-sensitive poverty reduction and food security initiatives
3. Cross-cutting and sectoral synergies
4. Coherence and coordination within and among institutions
5. Strengthening and supporting local initiatives

As described earlier, the first three strategic elements focus on improving the nexus within existing policy and institutional contexts. The first targets primarily climate-focused policy or institutions to bring poverty reduction, food security and rural development considerations more fully into the climate agenda. The second emphasizes the opposite direction, aiming to better integrate the climate agenda into primarily poverty, food security and development-focused policy or institutions. The third strategic element emphasizes adoption of existing and new synergistic approaches that address the climate-poverty nexus, included in sector-specific and broad-based institutions, policies and programmes that may not (to date) have explicitly incorporated poverty reduction and climate change.

The fourth and fifth strategic elements of the approach are more focused on implementation, with a recognition that addressing the climate-poverty nexus requires particular attention to (a) the institutional structure involved (and the accompanying policies

and programmes), and (b) the multiple jurisdictional (geographical) scales of intervention – covering global, national, and local (community) levels. In the context of this report, that means an emphasis on coastal communities (local), coastal areas (from sub-national, to multi-national coastal regions, and SIDS (national level).

The approach is based on the above five strategic elements, and also includes suggestions for institutional and policy improvements, as well as practical programmes and actions that could be considered as mechanisms to achieve the goals of each element, depending on their appropriateness within the context of the specific situation being considered (Section 4). These can be viewed at a number of different levels – notably, Section 6 highlights possible interventions for implementation of the approach in local communities.

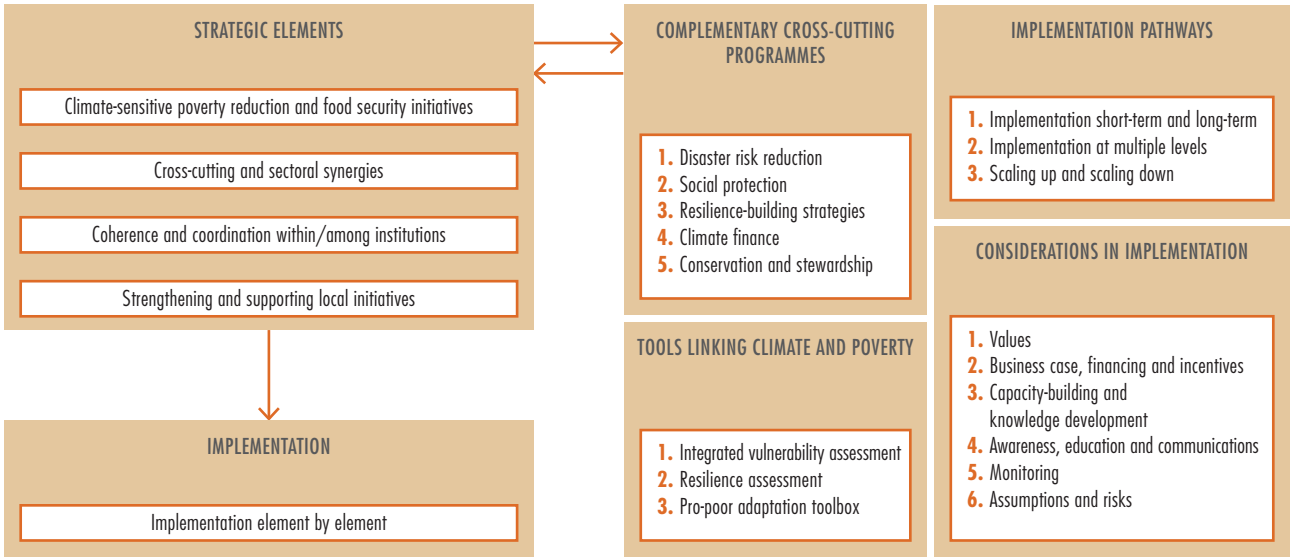
The five strategic elements, and their element-by-element implementation, are indicated on the left-hand side of Figure 6 below, which represents a summary figure for the approach.

The right-hand side of Figure 6 shows four components of the approach developed in Sections 5 and 7 of the report. These are summarized as follows:

- A set of existing cross-cutting programmes provide complementary mechanisms to support the approach, building synergies in implementation (Section 5). These include: (1) disaster risk reduction; (2) social protection; (3) resilience-building strategies and systems approaches (including livelihood systems and food systems); (4) climate finance; and (5) environmental conservation, stewardship and ecosystem approaches. These programmes are already present in a wide variety of institutional settings, such as FAO.

- The above cross-cutting programmes, and indeed other components of the approach, can draw on synergy-supporting tools (Section 5), such as (1) integrated climate-poverty vulnerability assessment; (2) resilience assessment; (3) integrated monitoring; and (4) pro-poor adaptation toolboxes.

FIGURE 6. **AN INTEGRATED APPROACH TO ADDRESSING THE CLIMATE-POVERTY NEXUS: THE FIVE STRATEGIC ELEMENTS WITH COMPLEMENTARY PROGRAMMES, TOOLS, PATHWAYS AND IMPLEMENTATION CONSIDERATIONS.**



Note: Implementation of the approach includes element-by-element recommendations concerning policy, institutions, programmes and actions. In addition, links to a set of existing cross-cutting programmes can be useful, accompanied by appropriate tools. Regardless of the level and scale of implementing the approach, there is a need to consider the pathways to be followed, and key considerations that can support efforts to improve the climate-poverty response nexus.

- Regardless of the level and scale of implementing the approach, there is a need to consider the choice of appropriate pathways to be followed, over time, to reach desired goals. Attention is needed to both short-term and long-term aspects, as well as implementation at multiple levels, with suitable scaling up and scaling down (Section 7).
- Finally, implementing the approach requires consideration of the underlying values, key assumptions and risks, and operational factors such as financing and incentives, capacity-building and knowledge development, and awareness, education and communications (Section 7).

The need for, and implementation of, the proposed integrated climate-poverty approach is illustrated through a diverse series of examples in this report. The many examples are drawn particularly from Small Island Developing States, coastal communities and coastal areas, with an emphasis on rural livelihoods in developing regions. Beyond these locations, the report is designed to be relevant broadly, on a global basis, for example, to small local communities living in drylands and other agro-ecosystems that are threatened by a changing climate, to inland nations dealing with poverty and climate change, and elsewhere.

Indeed, whatever the location, the approach provides guidance to international organizations such as FAO, and to member countries, towards improving policy, institutions, and programmes concerning the climate-poverty nexus. The approach also informs decision-making at all levels on supporting, and improving the effectiveness of, local initiatives linking poverty reduction and climate responses. This includes improving the engagement of local actors and communities, particularly in rural areas, with relevant policy arenas at various levels.

There is considerable evidence of the relevance of the approach and its strategic elements; nevertheless, there remains a need to undertake pilot projects and the further compilation of data in order to test the best modes for implementation. Those actions will be the next steps required to meet the important challenge of better linking climate mitigation and adaptation with poverty reduction and food security initiatives.

Glossary[19]

Adaptive capacity > The combination of strengths, attributes and resources available to an individual, community, society or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm or exploit beneficial opportunities (IPCC, 2012).

Climate change > Climate change refers to a change in the state of the climate that can be identified (e.g. by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods. The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition and climate variability attributable to natural causes (IPCC, 2018b).

Climate change adaptation > In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate (IPCC, 2014).

Climate risk > In the context of the assessment of climate impacts, the term risk is often used to refer to the potential for adverse consequences of a climate-related hazard, or of adaptation or mitigation responses to such a hazard, on lives, livelihoods, health and well-being, ecosystems and species, economic, social and cultural assets, services (including ecosystem services), and infrastructure. Risk results from the interaction of vulnerability (of the affected system), its exposure over time (to the hazard), as well as the (climate-related) hazard and the likelihood of its occurrence (IPCC, 2018b).

Climate variability > Variations in the climate (as measured by comparison with the mean state and other statistics such as standard deviations and statistics of extremes) at all temporal and spatial scales beyond that of individual weather events. Variability may be due to natural internal processes within the climate system (internal variability) or to variations in natural or anthropogenic external forcing (external variability) (IPCC, 2014).

Conservation > The protection, care, management and maintenance of ecosystems, habitats, wildlife species and populations, within or outside of their natural environments, in order to safeguard the natural conditions for their long-term permanence (IUCN, undated).

Disaster > Severe alterations in the normal functioning of a community or a society due to hazardous physical events interacting with vulnerable social conditions, leading to widespread adverse human, material, economic or environmental effects that require immediate emergency response to satisfy critical human needs and that may require external support for recovery (IPCC, 2012).

Disaster risk reduction > Disaster risk reduction is aimed at preventing new, and reducing existing, disaster risk and managing residual risk, all of which contribute to strengthening resilience and, therefore, to the achievement of sustainable development (UNISDR, 2017).

Food security > Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 2002).

Governance > The exercise of political, economic and administrative authority in the management of a country's affairs at all levels. Governance is a neutral concept referring to the complex mechanisms, processes, relationships and institutions through which citizens and groups articulate their interests, exercise their rights and obligations and mediate their differences (United Nations, 2007); The sum of the many ways individuals and institutions, public and private, manage their common affairs (Commission on Global Governance, 1995, p.2).

[19] All terms and definitions in regular type are from a recent FAO report by Ulrichs *et al.*, Managing climate risks through social protection (forthcoming, Rome). Terms and definitions in italics are provided in the present report with sources as indicated

Inequality > Uneven opportunities and social positions, and processes of discrimination within a group or society, based on gender, class, ethnicity, age, and (dis)ability, often produced by uneven development. Income inequality refers to gaps between highest and lowest income earners within a country and between countries (IPCC, 2018b).

Mitigation (of climate change) > A human intervention to reduce the sources or enhance the sinks of greenhouse gases (IPCC, 2014).

Nationally Determined Contributions (NDCs) > A term used under the United Nations Framework Convention on Climate Change (UNFCCC) whereby a country that has joined the Paris Agreement outlines its plans for reducing its emissions. Some countries' NDCs also address how they will adapt to climate change impacts, and what support they need from, or will provide to, other countries to adopt low-carbon pathways and to build climate resilience. According to Article 4 paragraph 2 of the Paris Agreement, each Party shall prepare, communicate and maintain successive NDCs that it intends to achieve. In the lead up to 21st Conference of the Parties in Paris in 2015, countries submitted Intended Nationally Determined Contributions (INDCs). As countries join the Paris Agreement, unless they decide otherwise, this INDC becomes their first Nationally Determined Contribution (NDC) (IPCC, 2018b).

Poverty > In pure economic terms, income poverty is when a family›s income fails to meet a federally established threshold that differs across countries. Absolute poverty measures poverty in relation to the amount of money necessary to meet basic needs such as food, clothing, and shelter. … Relative poverty defines poverty in relation to the economic status of other members of the society: people are poor if they fall below prevailing standards of living in a given societal context. An important criticism of both concepts is that they are largely concerned with income and consumption. …the basic needs perspective *goes* beyond the income perspective to include the need for the provision by a community of the basic social services necessary to prevent individuals from falling into poverty; and finally, the capability (or empowerment) perspective suggests that poverty signify a lack of some basic capability to function. …

Today it is widely held that one cannot consider only the economic part of poverty. Poverty is also social, political and cultural (UNESCO, 2019). This led to development of the 2018 Global Multidimensional Poverty Index which measures poverty in three dimensions, each with equal weighting, and each with associated indicators: Health (Nutrition, Child mortality); Education (Years of schooling, School attendance); Standard of living (Cooking Fuel, Sanitation, Drinking Water, Electricity, Housing, Assets [held by the household]) (UNDP, 2018).

Note that how poverty is understood and measured influences how it is addressed relative to climate change (Leichenko and Silva, 2014). Poverty can be experienced as transitory (associated with the impacts of acute or seasonal shocks or stressors) or chronic (ongoing over years, lifetimes, or generations) (Hulme, Moore and Shepherd, 2001). Poverty can also be compared across locations (e.g. LDCs, MICs, HICs) and across levels (extreme poverty, severe poverty, very poor, poor, vulnerable poor) (Shepherd *et al.*, 2014). Further, it can be defined subjectively according to local experience and perception (Narayan *et al.*, 2000a; Narayan *et al.*, 2000b) or as access to and use of entitlements, as in the capabilities approach (Sen, 1981).

Resilience > The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management (United Nations, 2016).

The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation (IPCC, 2014, p.5).

Social protection > A set of policies and programmes that provide cash or in-kind support to help people manage risks by smoothing consumption, thereby preventing the adoption of negative risk-coping strategies and their impoverishing impact (Ulrichs *et al.*, forthcoming).

Stewardship > …efforts to create, nurture & enable responsibility in landowners and resource users to manage and protect natural and cultural resources (IUCN, 2019); Ecosystem stewardship: a strategy to respond to and shape social–ecological systems under conditions of uncertainty and change to sustain the supply and opportunities for use of ecosystem services to support human well-being (Chapin *et al.*, 2010).

Vulnerability > The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards (UNDRR, 2017). It is referred to as social vulnerability when the objects discussed are people (Adger, 1999). The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity (IPCC, 2018b).

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ADDRESSING THE CLIMATE CHANGE AND POVERTY NEXUS

A coordinated approach in the context of the 2030 Agenda and the Paris Agreement

Climate change threatens our ability to ensure global food security, eradicate poverty and achieve sustainable development. About 736 million people live in extreme poverty, and the global response to climate change today will determine how we feed future generations.

By 2030, UN member countries have committed to eradicating extreme poverty and hunger for people everywhere. As ending poverty and hunger are at the heart of FAO's work, the organization is helping countries develop and implement evidence-based pro-poor policies, strategies and programmes that promote inclusive growth and sustainable livelihoods, as well as to increase the resilience, adaptive and coping capacity of poor and vulnerable communities to climate change.

In order to achieve this, FAO encourages an integrated climate-poverty approach to support policy development and action by policymakers, government officials, local-level institutions, communities, researchers, and development and humanitarian agencies worldwide. The approach has been developed with insights from many perspectives, and includes not only climate and poverty aspects, but also indigenous, gender, food security, disaster response, resilience, SIDS and coastal community perspectives, among others.

With a series of policy recommendations and tools to improve the design, delivery, and results of synergies and linkages between climate mitigation and adaptation, poverty reduction and food security actions, these synergies and linkages can make significant contributions towards achieving both the Sustainable Development Goals (SDGs) and Paris Agreement targets.

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