WATER GLOBAL PRACTICE • WORKING PAPER

Invisible Bonds

Transboundary Resilience Building in the Horn of Africa

Lessons from World Bank Regional Projects and Advisory Services and Analytics

Angelica V. Ospina and Erwin De Nys

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The Horn of Africa

"I am the golden ancient victory
I am made of many jigsaw pieces
the drop of rain that never met the sea
I am the paradox, desolated
and integrated at the same time."

Excerpt from a group piece by Sudanese, South Sudanese, and Ethiopian poets https://literature.britishcouncil.org/blog/2016/sonnets-for-the-horn-of-africa/

Executive Summary

The Horn of Africa (HoA) is characterized by the paradox of being both integrated and isolated. The bonds of togetherness run deep among HoA countries[1], especially in the transboundary areas. Manifested through active pastoralist cross-border movements, market networks and trade, dynamic movement of people, and the shared impacts of shocks and stressors, the invisible bonds that exist between and in groups and communities in transboundary areas are at the core of the region's growth and developmental potential.

Despite the strong linkages in the region, there is also vulnerability and isolation. Regional integration remains challenging among countries with dissimilar resources and geometries. They face similar constraints of high poverty levels, food insecurity, weak formal institutions, lack of or inconsistent implementation of regulations and policies, insufficient knowledge and data, conflicts over identity, resource control, and representation, and dissonance between formal and informal institutions and forced displacement, among others. The dynamics of cross-border regions and the constant movement of people and their animals often translate into more easily transferrable vulnerabilities (e.g., insecurity, conflict over contested land use, access to water or pasture, animal diseases), exacerbating governance and socioeconomic challenges. In these regions, the notion of resilience—understood as the capacity to prepare for these types of disruption, recover from shocks, and grow from a disruptive experience (World Bank 2021b)—is more relevant than ever.

Climate change poses new challenges to the HoA's resilience. These include the prospect of a warmer future with increased variability and frequency of extreme rainfall events and intensified cycles of floods and drought. With arid and semi-arid lands (ASALs) covering much of the region, recurrent cycles of drought have advanced desertification and land degradation, generating a large number of displaced communities. Intensified by fragility, conflict, and violence (FCV), these impacts have increased tensions in and across borders. FCV and climate shocks are contributing to food insecurity, increased tensions over scarce natural resources, particularly over water and land, and heightened risks to public health.

The unprecedented impacts of COVID-19 and the 2019-21 locust outbreak emphasize the need for a virtuous cycle between political actions and effective policy coordination and implementation, from regional to local levels. The pandemic has exacerbated the region's development challenges, compounding the impacts of the locust infestation on food supply and local livelihoods. The confluence of these factors heightens the urgency of building trust and collaboration toward joint regional solutions and supporting national strategies for "building back better." More than ever, an integrated and coordinated approach is needed to build the region's resilience to the borderless impacts of climate change, environmental degradation, and FCV, among other shocks and stressors.

Deepening economic integration and regional cooperation underpin transboundary resilience, which in turn helps the region meet its growth and development goals. Building resilience is one of the pillars of the Horn of Africa Initiative (HoAI), supported by the World Bank Group, the European Union (EU), and

the African Development Bank (AfDB) to foster effective policy coordination and implementation and deepen integration among the HoA member states.[2]

In addition to the crucial role of national governments, regional entities such as the Intergovernmental Authority on Development (IGAD) are working actively with countries and development partners to solidify HoA's resilience foundations. The significance of transboundary areas is highlighted in IGAD's Drought Disaster Resilience and Sustainability Initiative (IDDRSI), which fosters cross-border cooperation and articulated solutions, including ecosystem-based management in cross-border ecological zones, capacity building, community cooperation, and harmonized policies and procedures.[3]

In the dynamic and complex context of the HoA, the World Bank has experience with regional, transboundary, and national approaches to resilience strengthening, with more than 20 projects invested in cross-border initiatives in the region (over $4 billion). This report's review of World Bank resilience initiatives suggests that multiple benefits can be leveraged from adopting a regional approach to resilience building. Critical factors that add value to the adoption of a regional approach include:

- Shocks and risks are borderless, and hence, there is potential for economies of scale in developing and applying common tools, analytics, systems, investments, and technologies, among others, to monitor, reduce, and respond to shared shocks and risks that affect HoA countries.
- Given the cross-border nature of some shocks (e.g., droughts, riverine floods), robust analytics and information systems need to consider neighboring countries. Action (or lack of) to address or mitigate shocks and risks in one country can reduce (or increase) the impact felt in other countries.
- Even localized shocks in one country can have negative (e.g., economic) impacts on other countries due to the high connectivity and frequent flow of goods and people across borders (e.g., localized landslides or floods blocking international highways). Hence, there is a need for coordinated monitoring, preparedness, and response among countries.
- Sharing resources and risks can benefit countries by leveraging additional resources or diversifying risks (e.g., regional risk pools).

This report responds to an increasing demand from regional stakeholders for a deeper understanding of transboundary resilience to strengthen project design and implementation and bolster cross-scale solutions at the regional, national, subnational, and local levels. The document presents an overview of the findings of a stocktaking exercise conducted among selected regional resilience initiatives and Advisory Services and Analytics (ASAs), supported by the World Bank in the HoA. It uses lessons learned to strengthen the knowledge base on resilience design and implementation, and it identifies key approaches to build transboundary resilience to inform future investments.

The report introduces a conceptual framework to strengthen resilience initiatives in transboundary settings. The **Transboundary Resilience (T-Res) framework** is a novel tool for practitioners involved in the design and implementation of resilience projects in the HoA, in particular World Bank task teams,

national counterparts, and regional entities. It has **two components** that enhance transboundary resilience building and are key to **strengthening the design** of transboundary projects.

- **Resilience levers** are key entry points to strengthen resilience capacities: the *absorptive*, *adaptive*, or *transformative capacities* of communities, institutions, assets, or services in transboundary areas.
- **Cross-scale interactions** are dynamic linkages between the local, subnational, national, and regional levels that ensure inclusive, end-to-end resilience impacts.

As suggested by the document's HoA examples, the T-Res framework can be used to analyze, visualize, and inform the design and scope of regional and transboundary projects. Its main components and the conceptual foundations of transboundary resilience are explained in section 2. The T-Res framework contributions to the design of the HoA Groundwater for Resilience program are discussed, too.

Section 3 focuses on practice. The review of World Bank projects in the HoA region reveals that **robust resilience approaches** that **deepen regional integration** can help to achieve impacts across scales. These approaches involve strengthening synergies and articulation across levels, from local to regional, and across sectors.

Toward that end, regional projects have adopted different yet complementary approaches to build transboundary resilience, responding to context-specific priorities. The analysis has identified six main approaches to build the HoA's resilience to shocks and stressors, focused on ensuring (a) *community inclusion*, (b) *resilient institutions*, (c) *robust decision-making*, (d) *win-win solutions*, (e) *multi-shock preparedness and recovery*, and (f) *empowering innovation*.

These approaches are not exclusive of each other; in fact, regional project activities often intersect them. For example, the Regional Pastoral Livelihoods Resilience Project (RPLRP) strengthens the institutional resilience of national and regional entities through enhanced capacity on water resource development and sustainable land management. It also contributes to win-win solutions and complementarities through the improvement of market access and trade for pastoralist and agropastoralist livelihoods.

Regardless of the approach adopted, the **role of national and regional HoA entities** is at the core of transboundary resilience building. National entities are crucial to establish and maintain effective linkages across scales, thus ensuring that the benefits of regional policies and coordinated strategies trickle down to the subnational and local levels, and that their impact travels up to inform subsequent national and regional actions. The analysis calls this "end-to-end resilience," and is particularly important in dynamic, multi-shock contexts such as the HoA.

Regional entities, such as IGAD, assist the HoA's ability to respond more effectively to transboundary challenges and opportunities. IGAD has been key in the regional projects included in this analysis as a development broker in cross-border interventions, as well as in facilitation and convening, knowledge generation, curation, and sharing. Going forward, it is important to further clarify regional entities' roles and strengthen their efficacy to solidify the resilience capacity of HoA countries, including achieving the objectives of the IDDRSI.

Despite the potential of building the HoA's resilience from a transboundary perspective, the path toward effective regional integration faces challenges. Country disparities, distrust and fragmentation, limited traction of regional platforms, lack of clear roles for formal and informal institutions, and resource and capacity constraints, among others, could curtail the potential for transboundary cooperation, economies of scale, and win-win solutions. Strengthening resilience **monitoring and evaluation (M&E)** can be used to track project progress, learn and adjust amid change, and better understand and respond to the dynamic nature of transboundary areas.

Context-relevant approaches, having effective roles for national and regional entities, and robust resilience measurements are crucial to building transboundary resilience. These aspects complement the T-Res conceptual framework and need to be part of the design of transboundary projects.

Because of the HoA's complex vulnerability, the main challenge to building resilience is not limited to addressing the frequency or intensity of a single shock or event. In a region characterized by highly porous boundaries, the main challenge—and opportunity—is to embark on a regionally coordinated, country-led, and community-driven process to better anticipate, respond, and adapt to the compounded impacts of shocks and stressors.

The **invisible bonds** that unite the HoA countries provide strong roots for collaboration and joint solutions. Going forward, regional stakeholders face a unique opportunity to reevaluate the institutional setup and the capacities needed to build transboundary resilience. They should consider the benefits and potential trade-offs of integration, focusing on the priorities and the needs of the poorest populations. The impacts of future investments in the region can be increased through strengthening the design of transboundary resilience initiatives. These design methods would use a more holistic, system-wide perspective, present effective cross-scale linkages, and have clear institutional roles and robust M&E approaches.

It is expected that the T-Res conceptual framework, analysis, and recommendations in this report will inspire new transboundary thinking among World Bank task teams and resilience practitioners, as well as helping to inform the design of future resilience investments in the HoA region.

Notes

1. Depending on how the HoA is defined, it is home to anywhere from 128 million to 275 million people. The most conservative definition of the HoA includes only four countries on the peninsula—Djibouti, Eritrea, Ethiopia, and Somalia—which share significantly across ethnicities and languages. The HoAI adds Kenya to the four core countries. The broadest definition is used by IGAD and is commonly referred to as the Greater Horn of Africa, which includes eight member countries: Djibouti, Ethiopia, Eritrea, Kenya, Somalia, South Sudan, Sudan, and Uganda.
2. For more information, see the HoAI's website, www.hoainitiative.org.
3. IDDRSI's cross-border cooperation follows a cluster approach through multisectoral interventions guided by the IDDRSI's priority intervention areas. Further information is available at the IGAD website, https://resilience.igad.int/.

Abbreviations

AfDB	African Development Bank
ASA	Advisory Services and Analytics
ASAL	arid and semi-arid land
CIWA	Cooperation in International Waters in Africa
DRDIP	Development Response to Displacement Impacts Project
EU	European Union
FCV	fragility, conflict, and violence
HoA	Horn of Africa
HoAI	Horn of Africa Initiative
IDDRSI	IGAD Drought Disaster Resilience and Sustainability Initiative
IGAD	Intergovernmental Authority on Development
IPRM	IGAD Protocol for Resilience Measurement
M&E	monitoring and evaluation
O&M	operations and maintenance
PAD	Project Appraisal Document
PDO	Project Development Objective
RPLRP	Regional Pastoral Livelihoods Resilience Project
SDG	Sustainable Development Goal
ToC	Theory of Change
T-Res	Transboundary Resilience framework

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Chapter 1. Introduction and Purpose

Transboundary resilience can be understood through a storytelling lens profoundly rooted in the invisible bonds among those who live across invisible boundaries. Each day, the borderlands of the Horn of Africa (HoA) are interconnected through thousands of invisible bonds in the form of pastoralist movements, trade, seasonal migration, and a constant flow of goods and services that are at the core of the region's economy and social fabric. But the fluidity of transboundary areas can exacerbate challenges, such as through illegal trafficking, conflict and insecurity, pressures on scarce natural resources, animal diseases, and spillover effects from climate change, pandemics, and other concurrent and protracted shocks.

Coordinating political action across complex transboundary settings remains challenging for national and regional entities that face capacity and resource limitations. Strengthening resilience is crucial to ensure the HoA's capacity to effectively prepare for, respond to, and "build back better" from the impact of short-term hazards and chronic stresses.

While there is no standard definition of *resilience*, nor is there a one-size-fits-all approach to building it, the concept can be broadly defined as the capacity to prepare for disruption, recover from shocks, and grow from a disruptive experience (World Bank 2021b). Key elements of resilience in transboundary areas relate to (a) building capacity to absorb, adapt, or transform,[1] and (b) ensuring a dynamic, systems-based approach by working with multiple actors and sectors and across local, subnational, national, and regional levels to address shocks and stresses (Ospina and Kumari Rigaud 2021).

In the HoA, transboundary resilience building goes beyond strengthening individual capacities. It also involves enabling functional linkages among the local, subnational, national, and regional levels, as well as supporting effective cross-sectoral approaches that translate into better lives for the poorest and most vulnerable populations. It requires robust national and regional entities with the capacity to respond to today's challenges and opportunities, prepare for those of tomorrow, and thrive despite uncertainty. And it requires building trust as a key foundation for regional collaboration and joint solutions, including overcoming challenges related to policy harmonization.

Building transboundary resilience is a long-term endeavor. Regional entities such as the Intergovernmental Authority on Development (IGAD) are stepping up to the challenge, working closely with member states and development partners to solidify the region's resilience foundations, identifying opportunities to strengthen synergies and benefit from economies of scale. Initiatives such as IGAD's Drought Disaster Resilience and Sustainability Initiative (IDDRSI) have placed cross-border approaches at the forefront of regional efforts to tackle shared challenges and build people-center resilience (box 1.1).

The importance of gaining a deeper understanding of transboundary resilience and its implications in the HoA has been heightened by the impacts of climate change, fragility, conflict, and violence (FCV), food insecurity, vulnerable livelihoods, COVID-19, and the recent locust outbreak, among other shocks

BOX 1.1. IGAD's Drought Disaster Resilience and Sustainability Initiative

IDDRSI is a holistic and comprehensive plan aimed at building the resilience of vulnerable communities to the effects of recurrent droughts and achieving simultaneous growth and sustainable development in the IGAD region (IGAD Secretariat, Djibouti 2019). Cross-border cooperation is a key feature of IDDRSI. Its strategy recognizes that while drought-prone communities face common challenges and are often interconnected through shared natural resources and regional trade and transboundary human and animal movements, individual IGAD member states may have specificities and areas of emphasis.

and stressors that curtail the countries' growth and development potential. This document provides an overview of key findings that emerged from a stocktaking of selected regional resilience initiatives and Advisory Services and Analytics (ASAs) supported by the World Bank in the HoA. It is aimed at an audience of resilience practitioners interested in transboundary resilience building in the HoA, particularly HoA's national and regional entities, IGAD, and World Bank task teams.

To set the foundations of the analysis, the first section of the report focuses on *why* transboundary resilience is crucial in contexts such as the HoA, and on *what* it means from a robust conceptual lens. It introduces a novel framework—the *Transboundary Resilience (T-Res) framework*—and provides examples on how it can be used to gain a deeper understanding of cross-border resilience initiatives. This section illustrates how the T-Res framework can be used to inform and strengthen the design of the *Horn of Africa Groundwater for Resilience program*, involving Ethiopia, Kenya, Somalia, and IGAD. This regional initiative is supported by the World Bank.

The second section delves deeper on *how* to build transboundary resilience in development practice. It highlights (a) the main approaches adopted by World Bank regional projects to strengthen resilience in the HoA, (b) the key lessons related to the role of national and regional entities in resilience building, and (c) considerations to ensure monitoring and evaluation (M&E) of robust resilience practices. These three practical aspects complement the conceptual foundations of the T-Res framework, helping World Bank task teams and practitioners to strengthen transboundary resilience design and implementation.

The last section centers on *what's next?*. It presents key aspects that can help inform future resilience investments in the region.

This stocktaking was part of the World Bank's Strengthening Resilience in the Horn of Africa P-ASA, aimed at strengthening the foundations for regional approaches to resilience building in the region through an improvement of the knowledge base and institutional capacity and the scoping of potential investments. A list of the projects and ASAs included in the analysis, as well as the limitations of the methodology, are available in appendix A.

Note

1. **Absorptive capacity** refers to the ability to prepare for, mitigate, or prevent negative impacts of shocks and hazards to preserve and restore essential basic structures and functions. **Adaptive capacity** refers to the ability to adjust, modify, or change characteristics and actions to moderate potential future impacts from shocks and stresses to continue to function without major qualitative changes. **Transformative capacity** refers to the ability to create a fundamentally new system to avoid negative impacts from shocks and stresses. Transformation takes place over longer periods of time because it requires structural change.

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Chapter 2. Conceptualizing Transboundary Resilience

Resilience can be thought of as the DNA of complex development systems. Broadly defined as the capacity of systems—countries, communities, value chains, and organizations—to absorb, adapt, and potentially transform amid the impact of short-term shocks and long-term stressors, resilience is highly localized, unique to each context.

This uniqueness occurs because shocks and stressors do not take place in isolation: they often have simultaneous effects of different magnitude over the short, medium, and long term. Shocks and stressors are often mutually reinforcing. A period of severe drought can intensify conflict over scarce resources; a disease outbreak can exacerbate food insecurity. They do not affect systems in the same way. The effects of shocks and stressors are specific to the geography and scale (local, subnational, national, and regional). They depend on resource availability, the differentiated needs of social groups (e.g., women), and the capacity of individuals, households, communities, and institutions to prepare for, respond, and adapt to change.

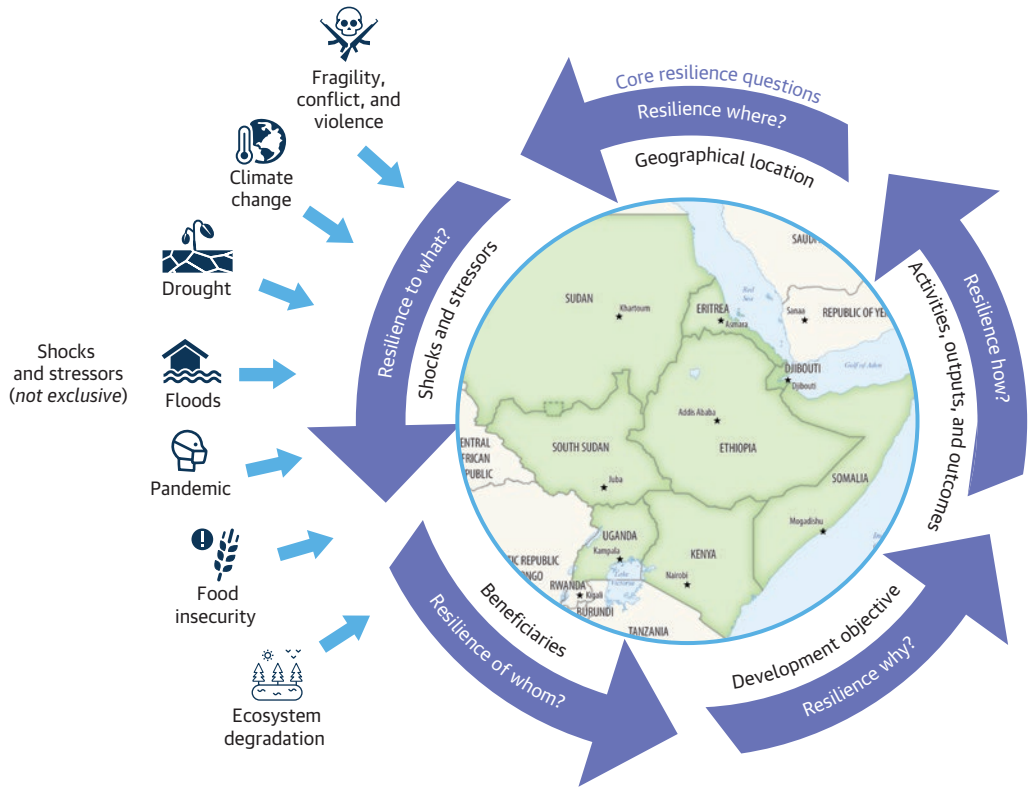
Horn of Africa (HoA) countries experience a broad range of shocks and stressors, including fragility, conflict, and violence (FCV), climate change, drought and floods, and food insecurity, which have been exacerbated by the unprecedented impacts of COVID-19 and the locust outbreak. Resilience building is becoming increasingly important in the design and implementation of development programming, particularly to achieve impact in complex transboundary regions.

A stocktaking exercise was conducted on some regional projects and ASAs, supported by the World Bank in the HoA, to gain insights into the meaning and implications of transboundary resilience building in the region (appendix A). The analysis identified *core resilience questions* for each regional project *(resilience where?, to what?, of whom?, why? how?)* to identify the projects'overall approach to resilience (figure 2.1). An example of the analysis of core resilience questions for a regional project is available in appendix B.

While each project adopted a distinctive approach to building resilience (a unique scope, thematic focus, and components), the analysis has revealed that they share a transboundary nature. The features that characterize transboundary areas underpin the design and implementation of regional projects in the HoA, and determine the way in which projects are addressing the dynamics, complexity, and fluidity of cross-border areas.

The HoA's borderlands have a continual inflow and outflow of people, resources, and services. Borderlands can be defined as political and social spaces created by the interplay of power, geography, and the specific social and historical context (Vemuru et al. 2020). Across the porous boundaries of the HoA, seasonal and cross-border mobility of pastoral and agropastoral communities, market networks and trade, shared rangelands and water resources, and migration have formed deep linkages among individuals, communities, and institutions at the local, national, and regional levels.

FIGURE 2.1. Core Resilience Questions



The high degree of interconnectedness in the region's transboundary areas magnifies the impacts that shocks and stressors have on an already vulnerable region. It faces transboundary and zoonotic diseases, cross-border pressure on degraded and scarce natural resources, drought, illegal trafficking, and FCV. Formal and informal institutions affect the borderlands' resilience. Informal institutions maintain social capital and cross-scale communication across borders due to deeply rooted ancestral relationships, shared culture, and language. Informal institutions and clan or ethnic affiliations dictate cross-border migrations and transhumance and regional trade flows. They help to manage trade relations and oversee access to natural resources (e.g., groundwater) and conflict resolution.[1]

The need to gain a more in-depth understanding of *resilience building in transboundary areas* has gained further momentum with the exacerbation of climate change impacts, and with the borderless nature of concurrent mega-shocks (COVID-19, desert locusts, drought) and their impending effects on the region's food security. Transboundary dynamics affect the HoA's approach to regional integration and for ongoing and future resilience investments, among them:

- ***Identifying interdependencies***, including spillover effects and potential trade-offs. This refers to the way in which policies, activities, or interventions may affect, both positively and negatively, different stakeholders in the short, medium, and long term. These interdependencies further strengthen regional integration.

- ***Fostering win-win solutions and economies of scale,*** with clear national and regional benefits. This involves building on the countries' comparative advantage to address the needs and the priorities of the most vulnerable populations, including those living in the borderlands.

- ***Strengthening formal and informal institutions,*** including country systems and national governments, because they play a key role in investment sustainability. This includes articulating the role of customary institutions in resilience building strategies and increasing institutional capacities to deal with multiple, concurrent shocks (drought, locust, COVID-19, food insecurity) and uncertainty.

- ***Pursuing a regional coordinated approach*** to achieve solutions that require joint country efforts to widen development gains. Coordination and harmonization can help to ensure return on investments and to manage effectively shared risk (FCV, drought).

Using a robust conceptual lens can help to address these factors as an integral part of the design and implementation of transboundary resilience initiatives.

2.1 Transboundary Resilience Framework

The Transboundary Resilience (T-Res) framework is a robust conceptual lens to better understand the meaning and implications of transboundary resilience in the HoA. It offers a multisector, multiscale, action-oriented perspective. Each of these aspects is at the core of the T-Res components. The framework reflects the key features that distinguish transboundary resilience building in the HoA, identified through the analysis of World Bank projects and ASAs.

T-Res Framework's Contribution

T-Res is a project-oriented framework that can be used to design resilience initiatives, helping teams to identify, visualize, and strengthen their approach to resilience building in transboundary areas. Its audience is resilience practitioners, particularly national governments, regional entities, the Intergovernmental Authority on Development (IGAD), and World Bank task teams involved in the design and implementation of transboundary resilience projects in the HoA. The framework aims at supporting practitioners by:

- **Making more explicit or visualizing the multiple feedbacks and interactions in transboundary areas, including the potential impacts and spillover effects of project activities.** These feedbacks and interactions can help to develop the project's Theory of Change (ToC) , and identify linkages and interactions that may need to be tracked or measured during the project's implementation, contributing to the project's monitoring and evaluation (M&E) system.

- **Establishing and prioritizing entry points to build resilience in the borderlands.** By identifying context-specific resilience levers and interdependencies, the T-Res framework can help teams set up clear project boundaries at the design stage, including priority interventions, quick wins, and potential sequencing toward longer-term outcomes.

- **Identifying cross-scale linkages to achieve the project's development objective.** From a transboundary perspective, these linkages are crucial to achieve end-to-end resilience, that is, to ensure the project's impact at the local, subnational, national, or regional levels. Cross-scale linkages can involve both trickle-down and travel-up interactions across levels. For example, actions at the regional policy level can have *trickle-down* implications at the national, subnational, and local scales, while actions at the local and subnational scales can inform national and regional policy formulation (*travel-up*).

- **Encouraging reflection about partnerships that may be needed to achieve the project's intended impact.** Visualizing cross-scale linkages during project design can help to identify partnerships and collaborations that may be required for activities to achieve the desired impact on the ground.

- **Identifying gaps and opportunities that could be addressed by the project or by national or regional entities.** This can help inform the selection of project partners and stakeholders who need to be engaged in the project's design and implementation.

- **Identifying potential areas for cross-sectoral collaboration,** and opportunities for articulation with development partners, the private sector, civil society, academia, and other stakeholders.

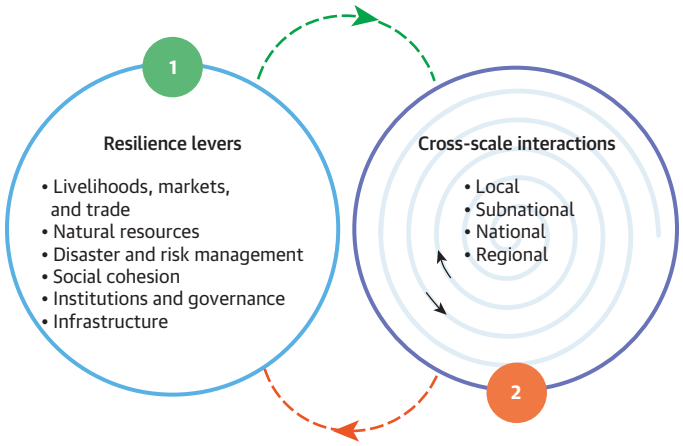
T-Res Framework Components

Building on the characteristics of transboundary areas, the T-Res framework has **two interrelated components**: **resilience levers** and **cross-scale interactions** (figure 2.2). Action on context-relevant levers, across scales, can contribute to build transboundary resilience.

T-Res Component 1: Resilience Levers

Resilience levers bolster transboundary resilience. These key entry points strengthen core resilience capacities, or the *absorptive*, *adaptive,* or *transformative capacity* of communities, institutions, assets,

FIGURE 2.2. T-Res Framework Components



or services in transboundary areas. The resilience levers correspond to key thematic areas addressed through the project's activities. While not exclusive, there are six common levers of transboundary resilience projects:

- **Livelihoods, markets, and trade**[2]
- **Natural resources**
- **Social cohesion**
- **Institutions and governance**
- **Disaster and risk management**
- **Infrastructure**

These levers are mutually reinforcing, have a transboundary nature, and can be addressed through different project components. While all the levers have direct and indirect impacts on livelihoods, livelihood support- related activities may be more specific to localized contexts.

Salience of Resilience Levers and Sequencing

T-Res framework users can select **one or two primary resilience levers** that encompass the **project's areas of focus**. These levers correspond to priority intervention areas (with high potential impact for long-term resilience and short-term quick wins). They should be in line with the Project Development Objective (PDO) and components. Project activities related to these levers build resilience capacities.

Each resilience lever has possible levels of engagement of project stakeholders, from higher-level political commitment and trust building to local community engagement. Each level involves a different timeframe and can enable quick wins or be the foundation for long-term collaborative processes and joint solutions. Considering these levels of engagement can help inform the sequencing of project activities.

For example, **key resilience levers** for a project aimed at strengthening the capacity of water resources management entities to plan, develop, and manage groundwater resources in the HoA (PDO) would be **institutions and governance** and **natural resources**. These levers align with **project components** aimed at (a) strengthening the institutional capacity of water resources management entities and supporting groundwater governance and (b) groundwater development investment operations. In turn, **activities** under those components can help to build adaptive capacity to context-relevant shocks, such as drought.

With **sequencing**, using the **disaster and risk management** lever as an example, a logical start is by conducting common analytics (e.g., a disaster risk assessment) and associated capacity building. Building on that, further efforts can focus on real-time data sharing on hydrology and meteorology, resources to

enable cross-supporting disaster response (e.g., heavy equipment, research and rescue teams) through protocols and memorandums of understanding, and sharing risks through risk pools (the latter requiring trust building and longer time).

Impact of Resilience Levers

T-Res framework users can identify the **expected impact** or the **footprint of resilience levers**. Project activities related to the *primary resilience levers* are expected to have a high or direct impact on project beneficiaries, while those related to *secondary resilience levers*, a low or indirect impact. This can, in turn, help inform the sequencing of project activities. Framework users can take the analysis further by specifying the **time scale of expected impact** (*short, medium, or long term*).

For example, in a regional groundwater initiative, project activities related to the resilience levers of **institutions and governance** and **natural resources** are expected to have a **high direct impact** on targeted communities and institutions, and they can be achieved in the short to medium term. Activities related to secondary levers (e.g., social cohesion) would have a lower indirect impact, depending on the project's design.

T-Res Component 2: Cross-Scale Interactions

Cross-scale interactions are at the core of transboundary resilience building. The dynamic linkages and interactions between the local, subnational, national, and regional levels ensure sustainable and inclusive solutions and maximize project impact through *trickle-down* and *travel-up* effects. These dynamic, cross-level feedback and interactions enable end-to-end resilience.

There are both **vertical and horizontal interactions taking place across and in scales** (e.g., feedback dynamics in communities themselves). Both are relevant in the design of resilience initiatives, particularly to identify potential trade-offs in fragile transboundary areas.

Critical Cross-Scale Interactions

T-Res Framework users can identify the main cross-scale interactions at each level needed for the project's impact and the **key stakeholders or partnerships** as part of the project's design and implementation. Just as every project design and context of implementation are unique, project activities related to resilience levers require a particular set or combination of cross-scale interactions.

For a regional groundwater initiative example, activities related to the **institutions *and* governance lever** require coordination between local, national, and regional stakeholders (community members, national governments, and regional entities) to ensure groundwater governance across scales.

A project focused on strengthening **social cohesion** in the borderlands should emphasize feedback between the local and subnational levels and linkages between the national and regional level to coordinate trade and people's movement. Further examples of each of the T-Res framework components are available in appendix C.

Overview of Transboundary Resilience (T-Res) Framework

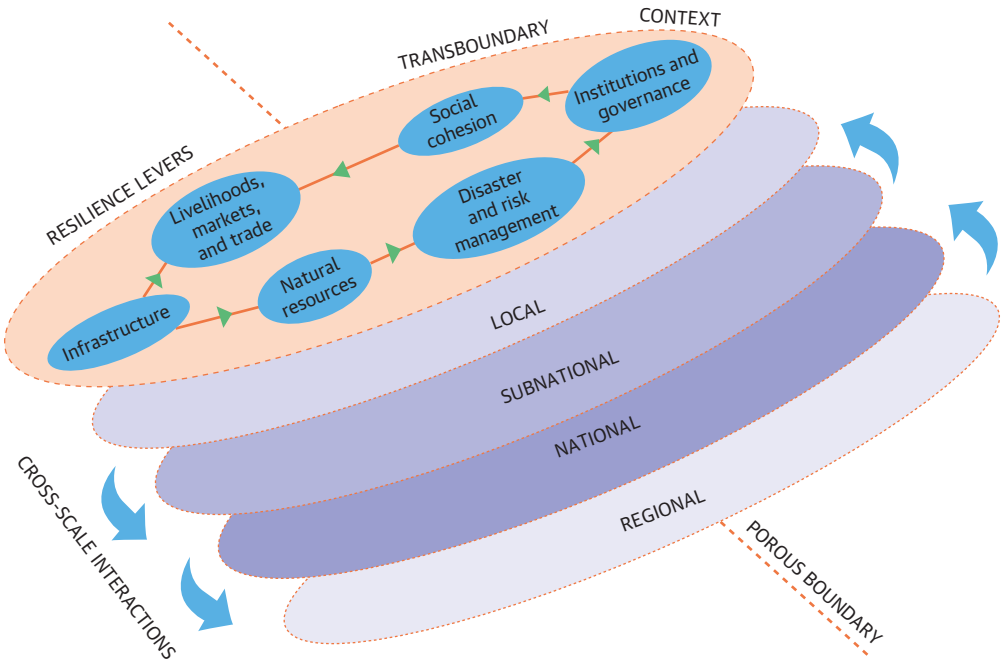
The components of the framework (figure 2.3) are in line with IGAD's Priority Intervention Areas for building resilience in the HoA[3] and align with the region's approach to resilience as a multidimensional, multisectoral concept. The resilience levers connect to the thematic areas of emphasis that IGAD member states have identified as priorities to achieve drought- and disaster-resilient communities, institutions, and ecosystems by 2027. Cross-scale linkages are at the core of IDDRSI's role as a regional platform for the coordination of cross-border development, connecting national platforms with regional resilience goals.

The T-Res framework was applied as part of the analysis of four regional projects[4] to visualize their approach to transboundary resilience building. At the time of the analysis, two of the projects were under advanced implementation, so the application of T-Res provided a snapshot of their approach to transboundary resilience and the areas of emphasis. The remaining two projects were in the design stage. For the latter, T-Res provided a visualization of the projects' design from a transboundary perspective to help teams identify potential gaps, synergies, and linkages across scales that could help inform and strengthen the design process.

2.2 T-Res Framework in Practice

While having a robust theoretical framework is key to inform the design of resilience initiatives, particularly in complex transboundary settings, it is only part of the equation. Ensuring the framework's

FIGURE 2.3. Overview of T-Res Framework



functionality is essential so it can become a tool for practitioners and decision-makers during the design, monitoring, and implementation of resilience programming. This subsection provides an overview of the experience applying the T-Res framework to inform and strengthen the design of the Horn of Africa Groundwater for Resilience program (P174867). The program aims to increase sustainable access and management of groundwater as a key contribution to strengthen the climate resilience of targeted communities in the region. It comprises two overlapping phases over a seven-year planning horizon (2022-28), with three countries—Kenya, Ethiopia, and Somalia—and IGAD ready to start in the first phase.

Appendix D provides additional examples of the application of the T-Res framework to regional resilience projects supported by the World Bank in the HoA, in which the framework allowed mapping and visualizing particular approaches to transboundary resilience building. Further testing and piloting of the framework will be required to refine the operationalization of the framework and its role in transboundary project design.

Context of the HoA Groundwater for Resilience Program

Groundwater plays a crucial role in the HoA's economy and constitutes one of the main sources of drinking water during times of drought (IWRA 2018). An estimated 400 million people in Sub-Saharan Africa (about 36 percent of Africa's population) source their domestic water supply from groundwater. Home to large pastoral and semipastoral communities with a growing young population (Vemuru et al. 2020), the region's borderlands are either on top or near major groundwater aquifers, some of which are transboundary.

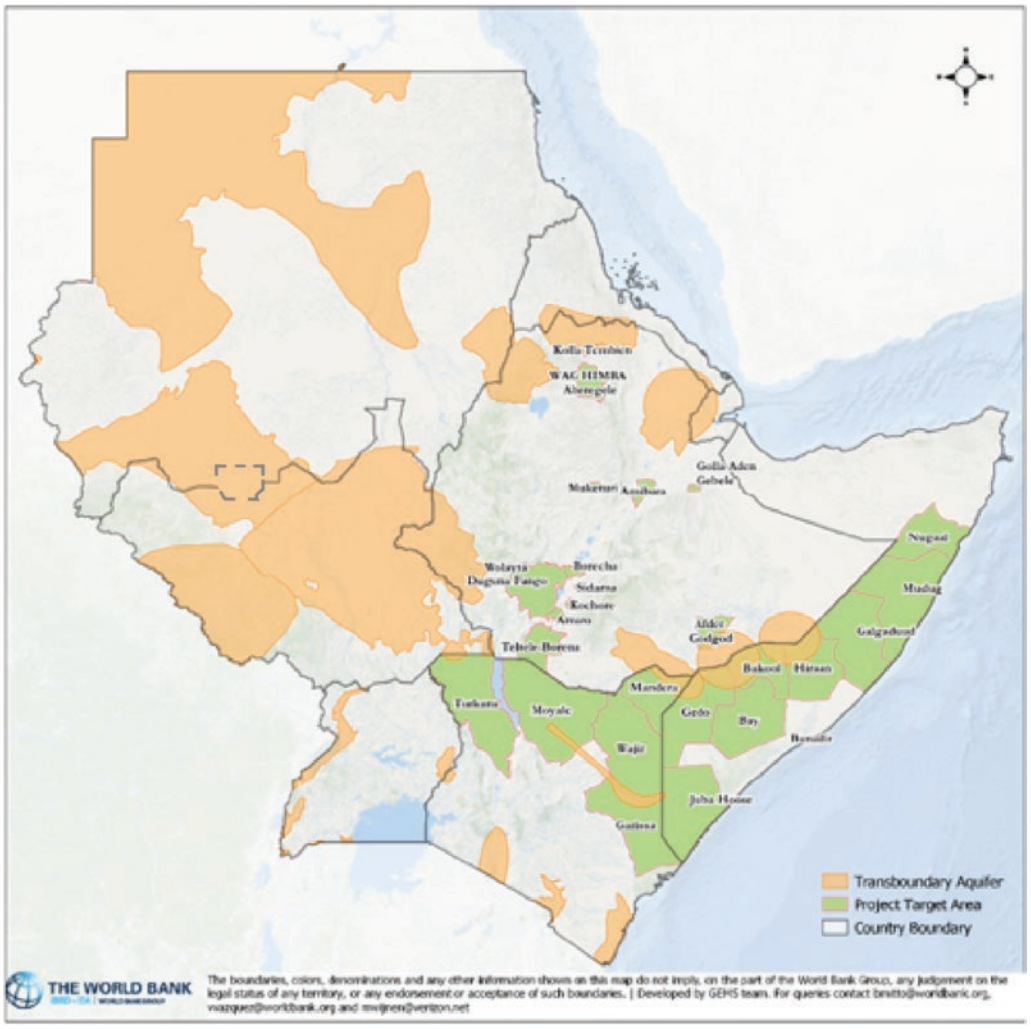
The region has 11 transboundary aquifers (TBAs) (map 2.1). The high yielding, productive aquifers are along cross-country border areas, including between Uganda and Kenya, Somalia and Kenya, Eritrea and Ethiopia, and Djibouti and Ethiopia. Member countries of the Horn of Africa Initiative (HoAI)[5] (Djibouti, Eritrea, Ethiopia, Kenya, and Somalia) have identified groundwater as a priority area of action.

Groundwater contributes to resilience building in the region's borderlands. For the purposes of this program, *climate resilience* refers to the capacity of entities or communities to absorb, adapt, or transform in the face of climate change impacts, whether short-term shocks (droughts, floods) or long-term stresses (temperature changes). It includes novel forms of social engagement that enable the achievement of long-term development goals.

Groundwater is often the most reliable source of stable supplies of water for domestic, agriculture, and livestock use. It acts as a natural reservoir during times of drought, facilitating adaptation to high climate variability and shocks. Groundwater offers natural storage of a different magnitude than annual rainfall or river flow, is less affected by evaporation losses, and has longer detention time than surface water. Therefore, it is better buffered compared to surface water and is more resilient to droughts over multiple years.

In addition to its role and potential as part of the region's response to increasing climate change impacts, groundwater—and investments in it—can address drivers of FCV that exacerbate the vulnerability of cross-border areas. These include water-related communal disputes and tensions related to scarce

MAP 2.1. **Project Areas and Transboundary Aquifers in the Horn of Africa**



Source: IGRAC and UNESCO 2015.

water resources and water security, among others (Vemuru et al. 2020). Groundwater is a main source of water for the estimated 4 million refugees and 9 million internally displaced persons in the HoA. This dependence reinforces the need for sustainable use and management of the resource as part of the region's development and stability.

Despite the considerable potential of enhancing access to groundwater sources to prevent conflict and address drivers of fragility in the region, including water-related communal disputes in the borderlands, groundwater remains neglected and largely untapped. The HoA faces challenges related to the lack of **inclusive** community use of groundwater, **infrastructure**, **institutions**, and **information**. The Groundwater for Resilience program addresses these challenges by increasing the sustainable access and management of the resource, with the aim of increasing community resilience in the long term.

In the context of the Groundwater for Resilience program, the term ***borderlands*** refers to closely interconnected areas around porous physical borders characterized by high mobility and flows of people and commodities across space and entrenched marginalization. The definition is flexible because borderlands may have a variable geometry depending on the country.

Applying the T-Res Framework

Recognizing the high level of fragility and the complexity of the HoA region, the T-Res framework strengthened the resilience design of the Groundwater for Resilience program in three ways:

- *Facilitating the adoption of a robust, systemwide approach to resilience building,* including key levers and interdependencies. These helped to identify program components and subcomponents.
- *Helping to understand the program's cross-scale interactions* (how the components and activities cut across local, subnational, national, and regional levels) and their implications.
- *Strengthening the Theory of Change (ToC) and resilience narrative,* including addressing the core resilience questions.

An overview of the T-Res framework's contribution to each of these aspects is provided below.

T-Res: Adopting a Systemwide Approach to Resilience Building

The T-Res framework deepened the analysis of the program's context from a resilience perspective by identifying *resilience levers* and key interdependencies (figure 2.4). Identifying these interdependencies is critical to build resilience in cross-border areas of the HoA. In these complex and highly dynamic areas, robust project design requires understanding the strong linkages that exist between scarce natural resources, such as water, with sources of FCV, and with the ability of vulnerable borderland communities to cope with and adapt to climate change, among other shocks and stresses.

Given that the focus is on the sustainable use and management of **groundwater**, the primary lever or entry point to build resilience is **natural resources**. The resilience levers are interconnected. The arrows (figure 2.4) represent the influence of program activities related to a certain lever and on activities conducted as part of another lever.

Table 2.1 summarizes the main **groundwater interdependencies** as part of the Groundwater for Resilience design. The interdependencies inform the identification of project components, subcomponents, and activities that address regional groundwater challenges. They are the main areas in which program activities could have positive transboundary spillover effects and contribute to strengthening the communities' resilience.

FIGURE 2.4. T-Res Levers for Groundwater for Resilience Program

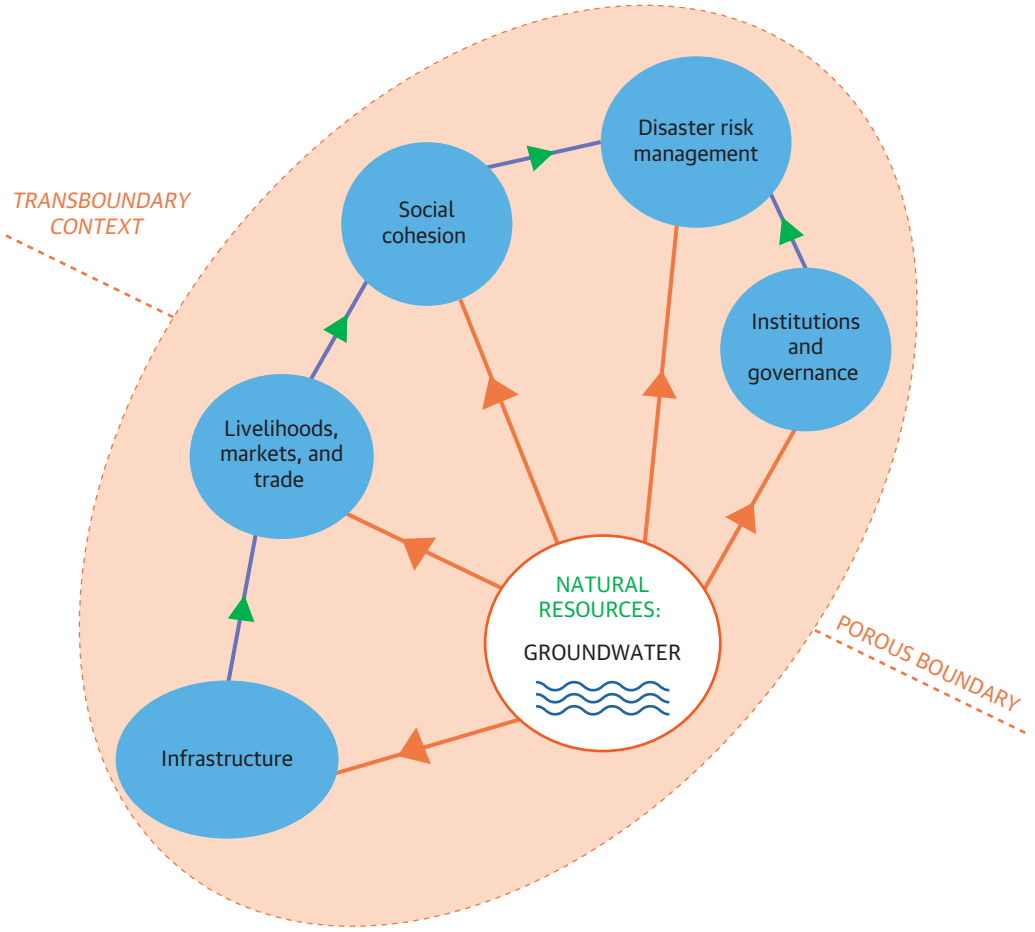


TABLE 2.1. Primary Resilience Lever and Interdependencies in HoA Groundwater for Resilience Program

PRIMARY LEVER	Primary Resilience Lever: NATURAL RESOURCES INTERDEPENDENT LEVERS
NATURAL RESOURCES: Groundwater ***Sustainable access and management of groundwater***	**Livelihoods, markets, and trade** • Effective access and management of regional groundwater resources play an important role in sustainable livelihoods. Home to large pastoral and semipastoral communities, the HoA borderlands are either on top of or near major groundwater aquifers. Some of these aquifers coincide with livestock trading routes that are key for local livelihoods. • Enhancing groundwater access can support agricultural and livestock activities through improved livestock rearing, groundwater-based small-scale irrigation, sand dam pilots for community gardens, nature-based solutions for enhanced groundwater recharge, and soil and water conservation practices, among others.

table continues next page

TABLE 2.1. continued

PRIMARY LEVER	Primary Resilience Lever: NATURAL RESOURCES INTERDEPENDENT LEVERS
	Institutions and governance
	• Water resource scarcity and lack of natural resource sharing agreements between states (e.g., on transboundary rivers and aquifers) constitute drivers of fragility in the HoA. Tensions related to water resources and water security can affect or exacerbate protracted conflicts and raise tensions between national and subnational government entities, among others. Strengthening institutional capacity for collaborative management of TBA is key to address drivers of conflict and fragility and foster regional collaboration. • Women's participation in the formal decision-making spaces that govern groundwater is low in the region, yet it is key to inclusive and sustainable management and use. • Improving the capacity of formal and informal institutions in groundwater O&M functions is key for sustainability, fostering local leadership, and ownership of the resource. • Strengthening groundwater governance can benefit local livelihoods, trade, and regional security, reducing fragility and fostering cross-border economic connectivity.
	Social cohesion
	• The HoA is home to a large number of forcibly displaced people. Addressing the nexus between FCV and water is key to ensuring the peace building potential of water investments. Transboundary spillover effects from regional conflicts can trigger an increase in forced displacement, potentially exacerbating water insecurity and fragility. Enhancing access to groundwater sources can contribute to addressing drivers of fragility in the region, including water-related communal disputes.[a] • Community inclusion can ensure that vulnerable communities are effectively engaged in the management and use of local groundwater resources, including the involvement of women and other vulnerable groups in local planning, O&M, and monitoring. Self-governing groundwater arrangements convened by beneficiary communities are more sustainable than those that are top-down and can help prevent communal conflicts and tensions. • Targeting groundwater gender gaps can enhance social cohesion. These include the disproportionate amount of time that women and girls in rural areas spend fetching water for the household, women's low participation in collective action groups, and underrepresentation in technical and managerial roles in agencies governing groundwater management.
	Infrastructure
	• Developing water infrastructure and investing in water retention and irrigation infrastructure can play a key role in the region's poverty reduction and food security, which are crucial to enhance climate resilience (e.g., water retention and irrigation contribute to the ability of communities to absorb the impacts of drought, bridge dry periods, and adapt through livelihood diversification).
	Disaster risk management
	• Groundwater is one of the main sources of drinking water during times of drought and offers natural storage of a different magnitude than annual rainfall or river flow. It is less affected by evaporation losses and has longer detention time than surface water. • Improved groundwater information and monitoring can strengthen drought contingency plans and early warning systems to inform flood preparedness and response.

Source: World Bank.
Note: FCV = fragility, conflict, and violence; HoA = Horn of Africa; O&M = operations and maintenance; TBA = transboundary aquifer.
a. Vemuru et al. 2020.

T-Res Framework: Understanding the Groundwater for Resilience Program's Cross-Scale Interactions to Enhance Design

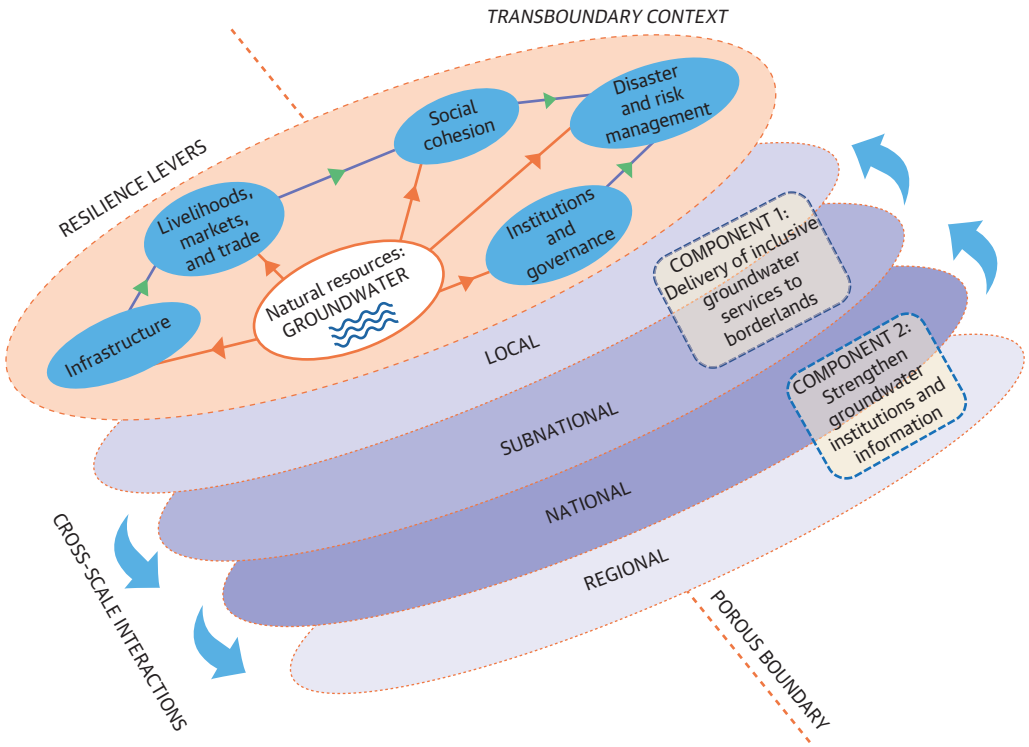
The team used the T-Res framework to highlight the cross-scale nature of the HoA Groundwater for Resilience program and emphasize how groundwater action at the local, subnational, national, and regional levels can build end-to-end resilience. As part of the program's design, the team identified a series of key cross-scale interactions and feedbacks needed to build climate resilience through groundwater (figure 2.5).

Applying the T-Res framework allowed the team to identify:

- ***Program-specific cross-scale interactions.*** Each program component and associated activities require cross-scale interactions to achieve impact.

- **Component 1** activities focus on maximizing the benefits of groundwater access through infrastructure development and community-driven approaches, including inclusive, bottom-up solutions to ensure local impact. Component 1 focuses on activities at the community, local, and subnational levels.

FIGURE 2.5. T-Res Framework: HoA Groundwater for Resilience Program



Source: World Bank.

- **Component 2** activities are aimed at enhancing groundwater management by strengthening national and regional institutional capacities and by expanding the HoA's information and knowledge base on groundwater resources. Component 2 focuses on activities at the national and regional levels. IGAD's regional activities will require robust interactions between those two scales.

- ***Dynamic cross-scale feedbacks.*** The arrows (figure 2.5) represent cross-scale feedbacks between the local, subnational, national, and regional levels. Illustrative examples of these dynamics in the context of the HoA Groundwater for Resilience program are provided below.

HoA Groundwater for Resilience Program: Cross-Scale Interactions

Local (borderlands). Program activities will foster groundwater readiness by supporting the development of the resource through small and medium infrastructure subprojects, emphasizing O&M services. It will strengthen the capacity of targeted communities to use groundwater resources rationally and sustainably to advance agricultural services, low-carbon livestock development, and natural resources management, and improve service delivery to vulnerable populations. Planning infrastructure and implementation through groundwater development investment operations involves **coordination at the local, subnational, and national levels** to ensure sustainability, including groundwater governance, citizen engagement in the management of the resource, and institutional capacity of formal and informal institutions.

Subnational and national. Program activities will build the capacity of targeted entities and institutions to manage and use the resource sustainably by strengthening groundwater knowledge and information. The focus on groundwater information and expertise includes novel mechanisms for knowledge sharing on groundwater **among HoA countries and across the local, subnational, and national levels,** including exchange visits of country experts, collaborative programs with local universities, groundwater monitoring, and documentation and dissemination of newly acquired knowledge. It includes new technologies to enhance information sharing, data collection, and analysis.

Regional. The program will build trust and enhance information and data sharing among HoA countries, as well as strengthen the capacity of national and regional entities (e.g., IGAD) to enable and facilitate transboundary groundwater collaboration and governance, setting the foundation for long-term integration. **Regional- and national-level articulation** ensure effective implementation and impact of program activities, including:

- Setting up a regional groundwater center through IGAD and a network of national groundwater centers.

- Developing a joint regional risk assessment.

- Providing capacity building on a wide range of topics related to groundwater management.

- Developing policy instruments for sustainable groundwater exploration and management in the HoA.

- Developing a regional groundwater policy and strategy and consolidation of a sustainable institutional and policy framework for TBAs.

- Preparing feasibility studies for joint planning in three TBAs of the region.

Strengthening the Theory of Change and Resilience Narrative

The T-Res framework components (identifying the project's levers and interdependencies and cross-scale linkages) can help to prepare the Groundwater for Resilience Theory of Change (ToC) (figure 2.6). Applying the framework as part of the ToC's design contributed to:

* Identifying activities to address the resilience levers (table 1), acknowledging their interconnectedness and causal effects. These causal effects—linkages between groundwater infrastructure development and the strengthening of institutions and governance—established a logical flow between activities, outputs, and outcomes. The program team used them to sequence activities, such as strengthening institutions as the basis to and in parallel of infrastructure development.

* Identify challenges and opportunities related to cross-scale articulation at the local, subnational, national, and regional levels and the activities needed to address them, including stakeholders who need to be involved in the project's design and implementation (community leaders, county representatives).

* Identify key entry points to build the region's climate resilience (key resilience levers) and their linkages with the program's outcomes:

  - *Sustainable access to groundwater to cope with and adapt to drought*, related to the resilience levers of infrastructure, livelihoods, markets and trade, and disaster and risk management.

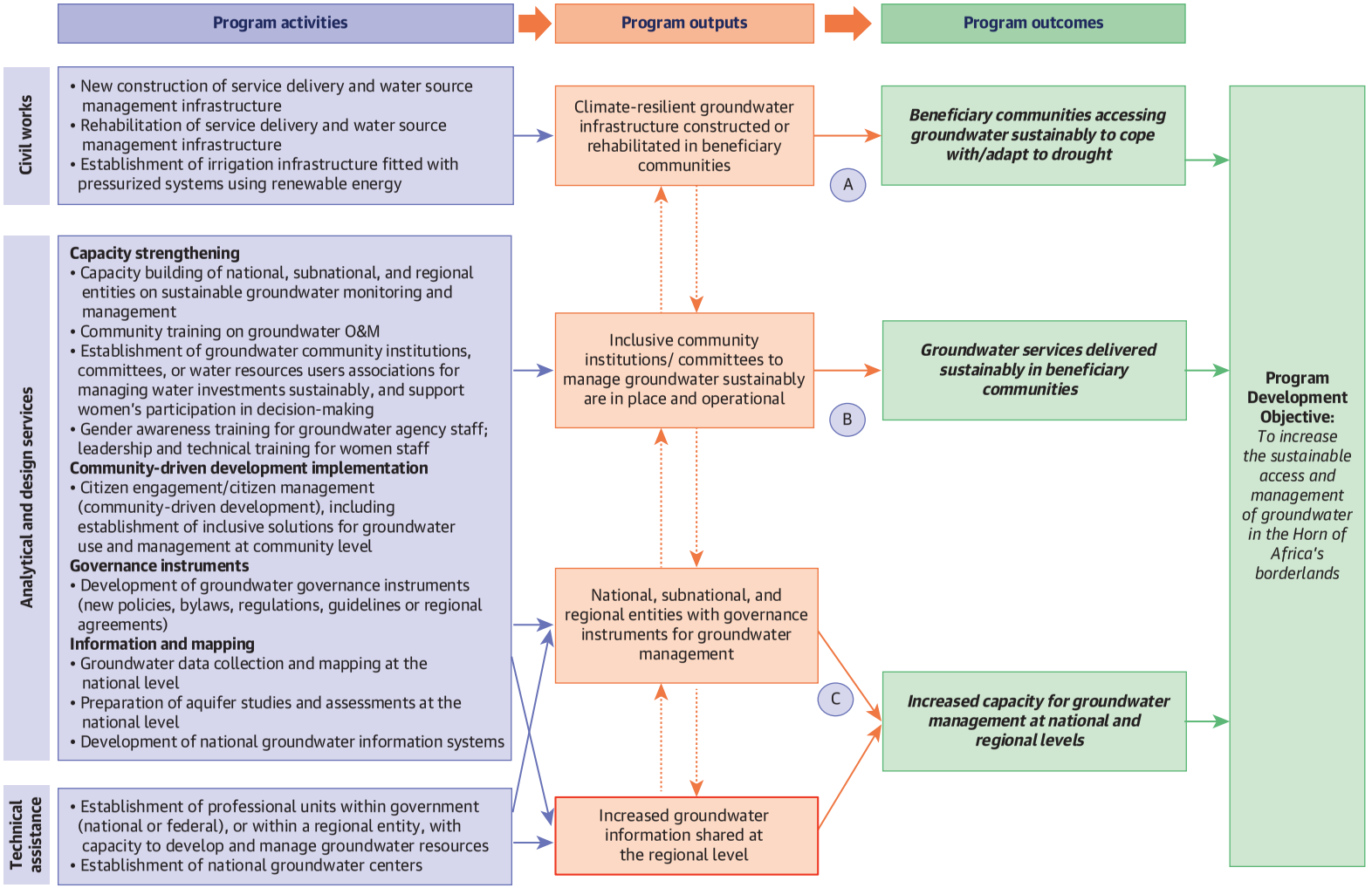
  - *Sustainable delivery of groundwater services,* related to the resilience levers of social cohesion and institutions and governance.

  - *Increased capacity for groundwater management at both the national and the regional level*, related to the resilience levers of institutions and governance.

To further strengthen the program's ToC from a resilience perspective, the team established linkages between program activities and the resilience capacities (coping, adapting, and transforming). Illustrative program activities and their contribution to resilience capacities in each participating country are available in appendix E. Integrating a stronger resilience lens and explicit linkages between proposed activities and outputs with climate adaptation and drought resilience is expected to contribute to the program's climate change co-benefits, in line with the World Bank's corporate climate commitments.

Using the T-Res framework involved establishing a clear resilience lens, including (a) providing working definitions of such key terms as *resilience*, *resilience capacities*, and *transboundary areas* in the project's

FIGURE 2.6. Theory of Change: Horn of Africa Groundwater for Resilience Program



Source: World Bank.

Note: Critical assumptions: Feasibility studies / mapping inform the development of context-specific infrastructure solutions. National entities willing to engage in data collection and information sharing across levels; community buy-in regarding sustainable GW access and management. Countries demonstrate willingness for regional information sharing.

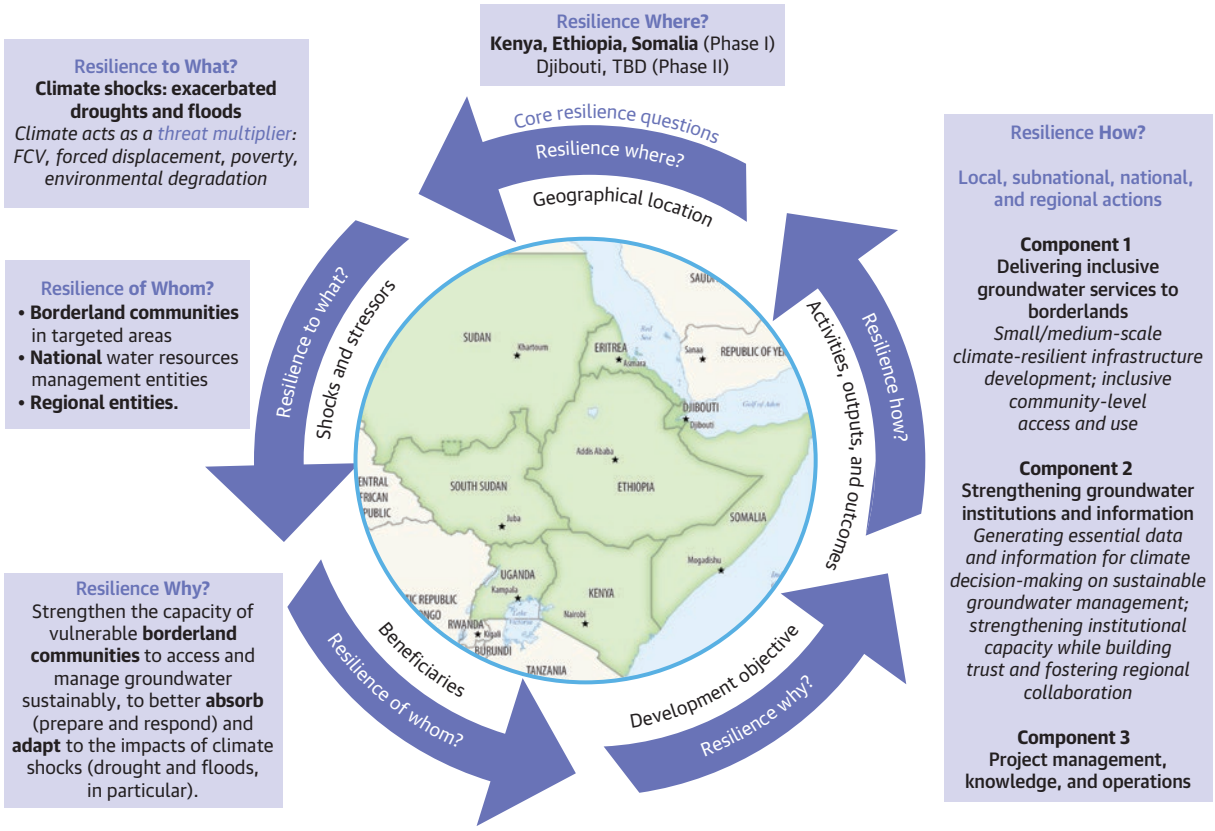
description and (b) identifying the core resilience questions (figure 2.7). This exercise informed and solidified the project's focus on resilience building to set boundaries[6] and help identify the PDO and project components.

Addressing the core resilience questions helped to strengthen the program's resilience approach reflected in the Project Appraisal Document (PAD) (box 2.1).

> Identifying the program's resilience levers and cross-scale interactions proved that the *how* is as important as the *what* when seeking to build resilience in contexts of fragility and weak capacity. Building legitimate institutions (those with capacity and accountability) requires trust, which can be built up through inclusive approaches, downward accountability, and the delivery of quick wins. However, time is required to strengthen institutional capacity.

The interconnections and feedbacks revealed in the T-Res framework can help inform the development of a **learning agenda** for the HoA Groundwater for Resilience program, such as by helping to identify

FIGURE 2.7. Core Resilience Questions: Horn of Africa Groundwater for Resilience Program



Source: World Bank.

BOX 2.1. Resilience Approach in the Groundwater for Resilience Program

The program has a very explicit design to strengthen climate resilience over the long term, acknowledging that climate change acts as a threat multiplier that will continue to exacerbate the region's development challenges.

Component 1 activities will support the use of groundwater to strengthen local livelihoods and income generation, which are key to ensure diversity and flexibility to adapt to droughts and floods, while avoiding soil erosion and enhancing carbon sinks and soil productivity for food and water security. Enhanced groundwater infrastructure will support local livelihoods and help respond more effectively to climate shocks such as drought and floods. Enhanced community readiness and participation in groundwater management will contribute to strengthen local adaptation actions through citizen engagement, while promoting the use of renewable energy and nature-based solutions to minimize the carbon footprint of interventions.

Component 2 activities will strengthen institutional capacity to manage groundwater resources more effectively in drought prevention and response. Improved groundwater information will help inform planning processes, enhancing preparedness (e.g., for periods of drought, floods, to mitigate the effects of seasonality), as well as increase collaboration between national and regional stakeholders (e.g., information and knowledge exchange and coordination).

knowledge gaps that could be addressed through the program's implementation, thus helping to gain deeper insights into resilience building in the region. Further application will be needed to refine and adjust its use to particular needs of project teams and reflect different sectoral priorities in transboundary areas. The next section focuses on lessons emerging from World Bank initiatives, highlighting aspects that need to be considered to build transboundary resilience in the HoA.

Notes

1. *Groundwater Management in the Horn of Africa* (World Bank, forthcoming) was prepared as part of the World Bank's Strengthening Resilience in the Horn of Africa P-ASA (P172358).
2. Livelihoods include pastoral and agropastoral income generation activities, as well as cross-border markets and trade networks across porous transboundary areas.
3. IGAD's priority intervention areas are (a) natural resources and environment management; (b) market access, trade, and financial services; (c) enhanced production and livelihoods diversification; (d) disaster risk management; (e) research, knowledge management, and technology transfer; (f) peace building, conflict prevention, and resolution; (g) coordination, institutional strengthening, and partnerships; and (h) human capital, gender, and social development.
4. The Regional Pastoral Livelihoods Resilience project; the Development Response to Displacement Impact project; the Nile Cooperation for Climate Resilience project, and the Horn of Africa Groundwater Initiative.
5. HoAI was launched in 2018 to forge closer economic ties in the subregion.
6. Defined in the PAD in terms of location of investments, scale of investments for service delivery, type of services, and type of aquifers.

Chapter 3. Building Transboundary Resilience

The Horn of Africa (HoA) is a complex and diverse region in which localized resilience programming is pivotal to ensure sustainable impact. As the conceptual foundations in the previous section suggest, context-relevant approaches are key to effectively anticipate, respond, and adapt to the shocks and stressors that affect HoA communities, assets, and institutions, particularly in highly vulnerable transboundary areas. Integrative and well-articulated cross-sectoral approaches are crucial to address these complex challenges.

The Transboundary Resilience (T-Res) framework provides a conceptual lens to gain a deeper understanding of transboundary resilience. But the challenges that HoA resilience practitioners and decision-makers face are very practical in nature. They require bridging robust theory with effective project design and implementation. Building on the conceptual basis presented in section 2, this section provides insights on *how* to build resilience in the region, based on the lessons learned from the stocktaking exercise of regional World Bank projects and Advisory Services and Analytics (ASAs).

The analysis of regional World Bank experiences in the HoA suggests three salient elements needed to achieve transboundary resilience: (a) adoption of a context-relevant resilience approach (or combination of approaches), (b) clear roles and engagement of national and regional entities in resilience building, and (c) robust resilience monitoring and evaluation (M&E) system. While not unique or exclusive, these aspects play a crucial role in building end-to-end resilience, as detailed below.

3.1 Approaches to Transboundary Resilience in World Bank Projects

To gain an in-depth understanding of how regional World Bank projects are addressing resilience challenges and opportunities in the HoA, the stocktaking analysis focused on (a) identifying core resilience questions (resilience *to what, where, of whom, what for,* and *how*) for each project, and (b) developing *resilience attributes pathways maps* to visualize the project's structure and approach to strengthen resilience capacities. Samples are available in appendix B and appendix G. All the projects share commonalities related to their transboundary nature. Referring to the components of the T-Res framework, these commonalities consist of (a) one to three key, interconnected resilience levers, and (b) cross-scale interactions through project activities conducted at the local, subnational, national, and regional levels. However, each project has identified or pursued a unique or differentiated approach (or combination of approaches) to build transboundary resilience.

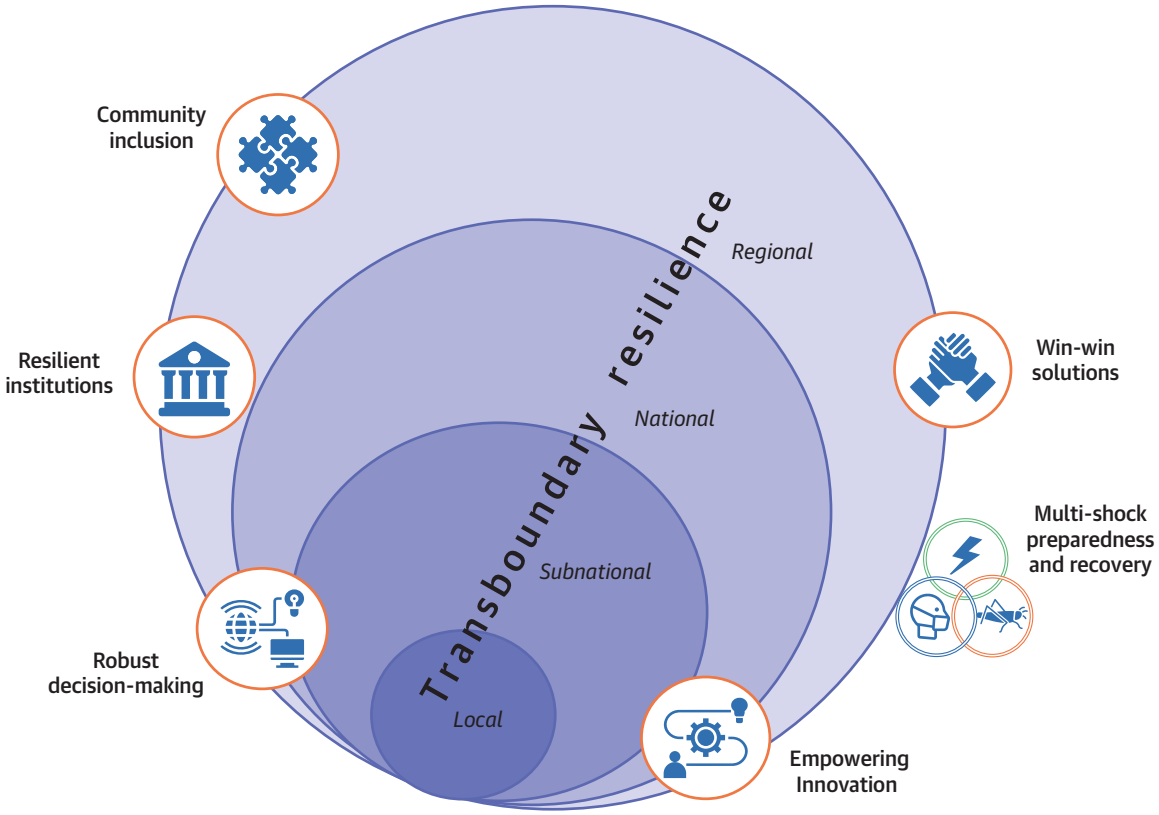
Six main approaches to transboundary resilience building (figure 3.1) have been identified through the analysis of World Bank regional projects and ASAs. Further details are provided in table 3.1. Appendix F summarizes the main lessons identified through the analysis of key reports included in the stocktaking exercise.

The six approaches identified are mutually reinforcing and are not exclusive. Robust decision-making through end-to-end information and knowledge systems can strengthen community inclusion. Resilient national and regional institutions can foster win-win solutions and build on comparative advantages. Empowering innovation solutions can contribute to multi-shock preparedness and recovery in multi-shocks. Analyzing a broader sample of regional projects may identify additional approaches.

A single project or intervention can adopt more than one approach to build transboundary resilience. Project components can focus on strengthening the resilience of regional institutions and supporting empowering innovation, both contributing toward a common development objective.

While each approach contributes to resilience building, on their own they may be insufficient to achieve transboundary resilience across multiple scales. Transboundary resilience is the sum of many dynamic parts. Fostering synergies, complementarities, and alignment among different approaches is key to achieve impact at scale.

FIGURE 3.1. Approaches to Transboundary Resilience Building in the Horn of Africa



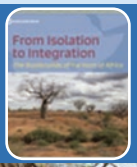
Source: World Bank.

TABLE 3.1. Overview and Examples of Resilience Approaches in the Horn of Africa

COMMUNITY INCLUSION

Support localized cross-border collaboration and integration of formal and informal institutions and civil society to strengthen the social compact, accountability, and inclusion; implementation of a Community Demand Driven (CDD) approach.

** Further examples in 'From Isolation to Integration: The Borderlands of the Horn of Africa,'* World Bank, 2020.



Regional Pastoral Livelihoods Resilience Project (P129408)

EXAMPLE: Resilient Institutions

Through strengthening the capacity of national and regional entities to manage natural resources, including water resources access infrastructure, policy harmonization at the regional level on rangeland management, and supporting legal frameworks for secure access to natural resources

Development Response to Displacement Impacts Project (DRDIP) in the HoA (P152822)

EXAMPLE: Community Inclusion

Through the improvement of access to basic social services, expanding economic opportunities, and enhancing environmental management for communities hosting refugees in targeted areas; including Interventions addressing host communities' energy requirements, social services and productive activities, as well as gender inclusion.

RESILIENT INSTITUTIONS

Progressive policy, forward-looking and sustainable capacity needed by national and regional institutions to anticipate and respond, adapt and transform; including a renewed vision.

** Further examples in 'Somalia Livestock Sector Development Strategy,'* Ministry of Livestock, Forestry and Range, World Bank / FAO, June 2019.

ROBUST DECISION-MAKING

Strengthen decision making and action through end-to-end information and knowledge systems, the next generation of data analytics, new technologies and novel mechanisms for knowledge sharing and ownership.

** Further examples in 'Turbulent Waters: Pursuing Water Security in Fragile Contexts. World Bank, 2017*

Horn of Africa Groundwater Initiative (P169078)

EXAMPLE: Robust decision-making

Through the development of a dedicated Regional Groundwater Center and a Water Information Database for the region, as well as technical studies to determine the availability, variability, and natural recharge of shallow groundwater, accompanied by validation workshops with local stakeholders.

(Continued)

TABLE 3.1. Overview and Examples of Resilience Approaches in the Horn of Africa (Continued)

Regional Pastoral Livelihoods Resilience Project (P129408)

EXAMPLE: Win-win solutions

By facilitating the international and intra-regional trade of livestock and livestock products to improve the market access of the agro-pastoralists and pastoralists, including harmonizing and simplifying regional trade policies and standards.

WIN-WIN SOLUTIONS

Build trust, strengthen political will and engagement across levels to pursue win-win solutions and complementarities, building on comparative advantages, maximize benefits and leverage economies of scale.

** Further examples in 'Confronting Drought in Africa's Drylands: Opportunities for Enhancing Resilience'.* World Bank, 2016.

MULTI-SHOCK PREPAREDNESS AND RECOVERY

Coordinated, end-to-end solutions to better prepare for and adapt to concurrent shocks and stressors. Going beyond crisis response by leveraging opportunities to leapfrog, build-back better, and achieve development goals.

** Further examples in 'Poverty and Vulnerability in the Ethiopian Lowlands: Building a More Resilient Future. WB; UK's Department for International Development, 2019*

EXAMPLE: Multi-shock preparedness and recovery

The WB's response to the locust outbreak involves coordination and early warning preparedness, including putting in place a robust system integrating early warning, logistic (equipment, transport and human resources) and Early Response system to trigger timely control operations

Nile Cooperation for Climate Resilience (P172848)

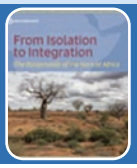
EXAMPLE: Empowering Innovation

Through improved climate sensitive regional water resources management and regionally relevant water related investments, including creating and using analytical tools and hydro informatics knowledge products and improved water resource planning decision support tools with expanded users.

EMPOWERING INNOVATION

Fostering innovative solutions that empower vulnerable groups, that are context appropriate, scalable and sustainable, and that are supported by the broader policy/macro-context. Key role of youth and youth networks and women; research, learning and ingenuity.

**Further examples in 'From Isolotion to Integration: The Borderlands of the Horn of Africa.'* World Bank, 2020



Source: World Bank.

Note: Examples are from World Bank regional projects and ASAs.

Operationalizing the approaches to transboundary resilience requires national and regional leadership and action. The approaches identified through this analysis are part of a much more complex regional resilience mosaic. Their effectiveness requires coordinated and phased actions in the short, medium, and long term across local, national, and regional levels. Regional entities such as the Intergovernmental Authority on Development (IGAD) help to mediate and facilitate that process.

3.2 Role and Engagement of National and Regional Entities

The Horn of Africa's national and regional entities play a crucial role in transboundary resilience building. In a broad sense, they enable effective cross-scale interactions to ensure that resilience actions *trickle down* from the regional to the local level and *travel up* from the local level to inform subnational, national, and regional initiatives. These feedbacks between and across levels allow end-to-end resilience.

IGAD has a prominent role in the analysis of transboundary resilience efforts in the HoA. As suggested by the experience of cross-border projects and by the Drought Disaster Resilience and Sustainability Initiative (IDDRSI), IGAD provides four main areas of support to country members:

- **Facilitation and convening**, or bringing countries together to discuss common challenges (e.g., address conflict and fragility, cross-border trade, mobility, natural resource depletion).
- **Coordinating and harmonizing interventions** by multiple actors, in particular development partners, by providing a platform for multistakeholder dialogue.
- **Regional knowledge generation, curation, learning and sharing**, which strengthen regional capacities.
- **Shaping progressive policies to achieve a more open policy environment**, thus helping to build more durable solutions in the region.

To build transboundary resilience, initiatives need to identify clear roles for regional and national entities and ensure mechanisms for stakeholder engagement throughout the project cycle. This requires consideration of both opportunities and challenges faced by entities at various levels to ensure the efficacy of current and future transboundary programming. Table 3.2 provides a snapshot of key opportunities and challenges faced by HoA national and regional entities in transboundary resilience building, identified through the analysis of World Bank projects and ASAs in the region.

Community engagement needs to be part of the efforts to strengthen absorptive, adaptive, and transformative resilience capacities in transboundary areas, and constitutes both a challenge and an opportunity. For example, the early warning systems for desert locust infestation cannot function properly without field alerts, because there is no self-standing product that can detect insect swarms and bands. Under the current impacts of climate change, the potential area for locust breeding becomes larger, and therefore, community involvement in local monitoring is pivotal. There is a need to further explore the roles of informal and formal community institutions in transboundary resilience building, including better support and coordination from national and regional entities.

TABLE 3.2. Opportunities and Challenges for National and Regional Entities

OPPORTUNITIES	
Shared critical challenges with transboundary implications (vulnerability of pastoralist livelihoods, conflict and insecurity, drought, water resource scarcity) provide an incentive for regional solutions and can foster political willingness to collaborate.	A focus on transboundary resilience, as it zooms in systemwide, cross-scale solutions to maximize benefits, broadens the scope of traditional programming perspectives.
The challenges associated with concurrent mega shocks (COVID-19, locust outbreak) are heightening public and political awareness and the need for coordinated solutions.	World Banks's role and experience with national governments and country systems, building on long-term engagements, such as adopting a process or program through a project approach to strengthen transboundary resilience.
Deepening trust horizontally and from the bottom up—by establishing joint understanding and awareness from the local to the subnational and national levels—generates a solid foundation and a demand for regional resilience. This involves building trust among formal and informal institutions across levels.	Moving beyond disaster preparedness to strengthening adaptation options and capacity for long-term transformation, understanding resilience as a process.
Provide tailored and innovative responses to resilience challenges through specialized institutes (e.g., IGAD's Climate Prediction and Application Center; Center for Pastoral Areas and Livestock Development).	Foster coordinated solutions building on proven practices and lessons learned through existing and emerging platforms (IGAD's IDDRSI).
CHALLENGES	
Disparities between countries, including the lack of a level playing field because of differences in size and resources, capacity, power, and policy environment.	Lack of a holistic understanding of the spillover effects of shocks and stressors and how to address those effects across levels, and a limited understanding of the advantages of shared resources and joint solutions.
Limited traction of regional platforms with bigger actors in the region.	Distrust, silos, and fragmentation involving lack of policy harmonization and coordination (including coordination among projects), leading to missed synergies or duplicated efforts.
Sustaining built capacities and maintaining human networks over time (e.g., due to high staff turnover) and ensuring financial sustainability **a**fter donor funding.	Low ownership and commitment by specialized ministries and bureaus to implement planned activities.
Information and data gaps that need to be filled to inform decision-making processes and address the root causes of fragility and vulnerability. Data-related challenges include availability, access, and sharing.	Lack of a clear delineation of responsibilities among entities, including a loose integration of the projects' plans with national and subnational plans. Misalignment of incentives between regional and national entities and other stakeholders, leading to challenges to regional coordination and action.

Source: World Bank.
Note: Issues identified are indicative, not exclusive. IDDRSI = Drought Disaster Resilience and Sustainability Initiative; IGAD = Intergovernmental Authority on Development.

3.3 Transboundary Resilience M&E

M&E plays a pivotal role in processes of resilience building, particularly in highly complex and dynamic transboundary contexts such as those in the HoA. The analysis of regional World Bank projects suggests that further efforts are needed to address challenges related to tracking and quantifying resilience progress and impact toward the achievement of resilience outcomes. Strengthening transboundary resilience M&E involves three key aspects:

- *Ensuring a more granular evidence base on resilience impacts*, including both quantitative and qualitative data on resilience building processes, over time. This evidence base is needed for identifying emerging gaps and opportunities and distilling lessons to inform further alignment of resilience investments.

- *Considering key transboundary features in the design of the M&E system* to capture transboundary dynamics (e.g., measuring feedbacks, trade-offs, spillover effects, and opportunities for economies of scale) and strengthen adaptive management.

- *Strengthening knowledge and information systems*—including resilience data collection, accessibility, dissemination, and use—with digital technologies and other innovative and bottom-up approaches. This is crucial to ensure that the cross-boundary, cross-scale impacts of resilience initiatives are being tracked and understood, and that the emerging lessons are used to adjust and inform ongoing and future programming.

The World Bank developed a number of case studies as part of the Results Monitoring and Evaluation for Resilience Building Operations (ReM&E) project, aimed to develop and increase the application of systematic, robust, and useful approaches to M&E for resilience-building projects and programs (World Bank 2017c). The case studies suggest a number of good practices that are relevant in transboundary resilience building, including:

- Strengthening project design with the help of resilience M&E experts

- Engaging relevant stakeholders in the project's M&E design

- Embedding strong resilience framing in project design

- Securing resources to deploy demand-driven data collection and analysis approaches to use at various scales

- Building multiple M&E approaches into project design

- Clearly defining resilience-relevant indicators and providing guidance on measurement approaches

- Balancing indicator ambition with practicality

- Making a clear case and choosing clear objectives for impact evaluation

- Undertaking evidence-based learning throughout the course of the project to improve implementation and enhance results, in addition to accountability

To better monitor adaptation and resilience-related action, the World Bank Action Plan on Climate Change and Resilience created a Resilience Rating System to complement existing methodologies on tracking climate-related finance, and increase ambition for climate-aligned development

(World Bank 2021b). The Resilience Rating System evaluates the resilience of the *project design* and resilience through *project outcomes*. Resilience *through the project* is meant to help prioritize and promote investments that support transformation toward resilient development pathways as they relate to current and long-term climate impacts, which is relevant to achieving resilience impact in transboundary areas. Details can be found at World Bank (2021b). Project teams can refer to World Bank (2017b) on ReM&E as guidance to strengthen progress measuring, including the development of the project's Theory of Change (ToC) and the selection of indicators[1] using a resilience lens.

There are important efforts aimed at strengthening resilience M&E at the regional level. Despite the challenges involved in measuring resilience in multi-crisis and highly dynamic contexts, IGAD and its member states are advancing in the development of the IGAD Protocol for Resilience Measurement (IPRM), aimed at providing guidelines for measuring resilience across the region. Once adopted, the proposed framework will be used to present the state of resilience per member state and across the region at a particular time.[2] The 13 high-level indicators proposed to measure resilience under IPRM (box 3.1) are aligned with IDDRSI's priorities, the Sendai Framework for Disaster Risk Reduction, and the Sustainable Development Goals (SDGs), and can serve as a reference for future regional resilience initiatives.

BOX 3.1. IGAD IPRM High-Level Indicators

The following indicators are from IGAD (2020).

- **Indicator 1.** Extent of climate change adaptation integration in national development plans
- **Indicator 2.** Domestic Food Price Volatility Index (VI)
- **Indicator 3.** Proportionate value ($) of economic loses attributed to shocks
- **Indicator 4.** Proportionate value ($) of livestock lost during shocks
- **Indicator 5.** Proportion of agricultural area under sustainable land management.
- **Indicator 6.** Proportionate number of people in need of food assistance as a result of shocks
- **Indicator 7.** Proportionate value ($) of admissible country humanitarian aid requests during shocks
- **Indicator 8.** Functional legal frameworks for disaster risk management and resilience building
- **Indicator 9.** Number of timely early warning information disseminated that translates into early action
- **Indicator 10.** Proportion of conflict and natural disaster-related deaths
- **Indicator 11.** Prevalence of acute malnutrition by children under 5
- **Indicator 12.** Proportion of vulnerable social groups with access to social safety nets
- **Indicator 13.** Proportionate access to critical infrastructure (i.e., health, water, roads, bridges, schools, markets) by population

Resilience Attributes and Transboundary Resilience M&E

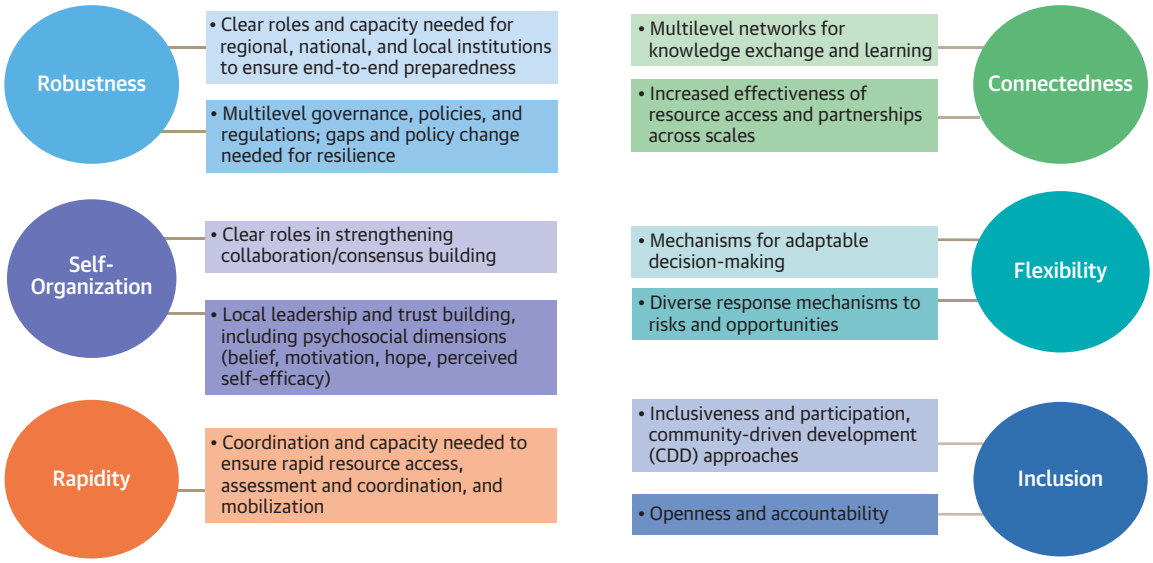
The resilience attributes (*robustness, learning, redundancy, rapidity, connectedness, diversity, flexibility, self-organization*, and *inclusion*) are a nonexclusive set of characteristics critical for vulnerable systems to build resilience. Integrating **resilience attributes** into transboundary project designs can help teams to gain a more in-depth, granular perspective on the project's approach to resilience building in borderland communities and the impact of resilience investments over time. Working definitions of the **resilience attributes** and **markers** (features that help to identify and distinguish each attribute and track progress toward resilience outcomes) are available in the World Bank's Resilience Booster online tool,[3] and in appendix G.

The resilience attributes can help to refine and strengthen a project's approach to transboundary resilience building to maximize its development impact (Ospina and Kumari Rigaud 2021). They can help teams to identify key areas of action and complement the resilience M&E system, as follows:

- The use of resilience attributes and associated markers allows teams to complement the project's indicators with qualitative measures of progress in resilience building at the project's start (baseline), midterm, and completion. This requires the integration of the attributes as part of the project's M&E to ensure consistency in the tracking of progress throughout the project cycle, as well as articulation and complementarity with other collected data.

- The attributes can help to identify potential activities or areas of project focus to strengthen the resilience of local, national, and regional stakeholders (e.g., borderland communities, informal institutions, formal entities) and their role in transboundary resilience building (see figure 3.2).

FIGURE 3.2. Examples of Resilience Attributes and Markers in Transboundary Resilience Building



Sources: Ospina and Kumari Rigaud 2021; World Bank 2017b.

In highly volatile and fragile contexts such as the HoA's borderlands, the use of innovative, technology-supported tools can be key to ensure continual monitoring and assessment of resilience progress. Tools such as the Geo-Enabling Initiative for Monitoring and Supervision have been used extensively in fragility, conflict, and violence (FCV) areas to leverage low-cost and open source technology that allow digital real-time data collection and analysis. This can help strengthen the project's M&E by enhancing remote supervision, implementing real-time risk monitoring, and strengthening coordination among projects and partners (World Bank 2021a).

Robust resilience M&E is a key component of transboundary resilience initiatives and an area of increasing interest and demand by HoA countries and regional stakeholders. Therefore, future efforts to strengthen transboundary resilience M&E should be linked to learning and adaptive management, allowing lessons to inform better design and more effective implementation.

Notes

1. For information on the World Bank's guidance on resilience M&E see World Bank (2017a, 2017b).
2. The IPRM will be grounded on selected indicators used to measure the progress of IDDRSI toward achieving impact on building resilience in the region and demonstrating value-for-money for regional investments. The indicators will be tracked by individual member states and progress compared against targets by IGAD resulting into periodic state of resilience reports (IGAD 2020).
3. The resilience attributes are at the core of the Resilience Booster, an interactive tool created to support development practitioners, including World Bank task teams, who are designing or working on climate-resilient projects. The tool helps teams to think through, specify, and design project activities that build resilience by integrating resilience attributes. See the World Bank "Resilience Booster Tool" web page, https://resiliencetool.worldbank.org/.

Chapter 4. Considerations Going Forward

"A borderlands perspective encourages a more systematic analysis of the trade-offs of different sets of policy goals and interventions. It also means being more spatially attuned to who bears the costs of these various interventions."

Transboundary resilience is at the core of the Horn of Africa's (HoA's) identity. It is a region that is both deeply integrated through invisible bonds and by the risks and challenges to regional integration. Therefore, future resilience investments face a unique opportunity to make an impact on the region's growth and development trajectory.

Building resilience in transboundary areas poses similar challenges to those faced by public goods. It can be difficult to convince countries to undertake coordinated action when many of the benefits will accrue to the broader region, take time, and can be challenging to measure. Working effectively across sectors—including putting in place appropriate institutional incentives—can mobilize joint efforts quickly in response to emergencies and support coordinated strategies to anticipate and respond to long-term threats to the region's development.

Filling institutional capacity gaps requires a long-term, forward-looking perspective. This involves (a) building skills needed to anticipate and respond to current shocks and stressors affecting the region and (b) identifying and addressing the skills required to build back better, informed by scientific data and anchored in cross-sectoral, transversal solutions that render both national and regional benefits. The following are **key considerations** to build transboundary resilience in the HoA:

- **Multidimensional impacts and deficits require regional solutions and geographically focused actions.** Balancing regional and local focus requires an effective coordination of resilience actions and activities across scales, engaging stakeholders at the community, subnational, national, and regional levels. At the same time, World Bank experiences indicate that the most effective approaches to resilience building in transboundary areas are those that adopt a long-term perspective to achieve sustainable change.

- **Transboundary resilience is a dual process: one that involves inward resilience building in national systems and institutions and outward resilience building as a region.** As regional projects indicate, this involves establishing a solid inward resilience capacity at the local, institutional, and national levels, including trust, awareness, and networking across sectors and scales. This inward national capacity is necessary to achieve outward resilience in the form of regional articulation and transboundary collaboration. Joint approaches that strengthen resilience capacities at both the national and the regional levels can go a long way in ensuring meaningful stakeholder engagement. The role of regional entities can be strengthened by looking at both dimensions, such as at the resilience of the Intergovernmental Authority on Development (IGAD) as an institution, and at its role enabling, facilitating, and supporting regional resilience processes.

- **To ensure a positive resilience impact, the transboundary implications of regional projects need to be considered starting at project design.** This involves identifying interdependencies, linkages, and trade-offs in the targeted area (e.g., dynamics linked to the movement of people and their animals, cross-border trade, displacement and conflict, and the role of formal and informal institutions, among others) and the way in which project activities may affect and be affected by them. Resilience building needs to consider the role, needs, and priorities of social groups and their coping mechanisms from a gender-disaggregated perspective. This includes strategies men, women, boys, and girls adopt when facing shocks and stressors, and the trade-offs that may take place. For example, livelihood diversification may contribute to household resilience and women's economic empowerment, but can increase women's workload and responsibilities, affecting reproductive and caring tasks.

- **Peace and stability are inextricably linked with resilient livelihoods, sustainable natural resource management, and food security, particularly in vulnerable borderlands of the HoA.** To ensure resilience impact, practitioners and decision-makers must recognize and not oversimplify the interconnectedness between climate change, conflict, and fragility. Climate change could amplify or inhibit cross-border movements, depending on the contexts that drive individuals to migrate (Clement et al. 2021). Cross-border movements and migration must be part of the holistic design and implementation of transboundary resilience initiatives, including the needs of both sending and receiving areas, so they are adequately prepared to ensure the resilience of those who remain and to integrate additional flows of people (Clement et al. 2021).

- **The Transboundary Resilience framework (T-Res) can be a valuable tool in the design of regional programs of projects seeking to apply a more in-depth, systematic transboundary resilience lens.** There are strong linkages between transboundary resilience building, fragility, conflict, and violence (FCV), and robust project design. Many of the fragile borderland communities are characterized by frequent intercommunal conflicts and violence driven by competition for scarce resources. Through the identification of resilience levers and cross-scale interactions, the T-Res framework can help teams to consider how projects may exacerbate tensions among cross-border communities (e.g., by drawing an influx of people into the project location, or by targeting support for one community over another), and to integrate activities based on citizen engagement, gender, and conflict-sensitive approaches. Adopting a more holistic transboundary lens can help teams identify novel entry points to address the drivers of FCV across scales, and to build resilience in multicrisis contexts. A robust, holistic resilience lens will be particularly crucial for the HoA region to achieve its long-term growth and development goals in a post-COVID-19 context.

  T-Res offers a multisectoral, multilevel framework to assess development challenges that can inform regional programming, country strategies, and individual project design. It can also contribute to the design of Theories of Change (ToCs) for resilience programs and projects in transboundary areas. The framework can be used as a tool to systematically think through how to effectively structure resilience-focused interventions.

- **Future resilience investments should consider bundling proven transboundary solutions, building on the lessons learned from cross-border initiatives, and strengthening the region's capacity on immediate response and long-term transformation.** This involves further institutional efforts toward cross-sectoral alignment and coordination, as well as the integration of lessons from World Bank projects (e.g., Regional Pastoral Livelihoods Resilience, Development Response to Displacement Impacts, Nile Cooperation for Climate Resilience, and the HoA Groundwater Initiative), the HoA Initiative (HoAI), and from IGAD's experience as a development broker, such as through the Drought Disaster Resilience and Sustainability Initiative (IDDRSI). Potential regional solutions should consider the emerging and projected impact of megatrends, such as demographic growth, youth bulge, technology adoption, climate change, and rapid urbanization, and opportunities to strengthen synergies between programs and sectors.

- **Given the complexity of transboundary areas, careful consideration should be given to the sequencing of interventions at the portfolio and project levels.** During the design stage, this involves considering how to sequence resilience-focused operations or even project components, because this can build momentum and provide incentives for continued cooperation in a challenging political economy and FCV context. For example, finding an appropriate, context-specific sequencing can help deliver quick(er) wins, such as investments at the local level for enhanced service delivery, that can then help build trust, create buy-in, and lay the groundwork for longer-term and more structural reforms to strengthen resilience, such as institutional or governance reforms.

- **Tailoring support for diverse groups of beneficiaries is essential to build transboundary resilience.** Linked to the core resilience questions (*resilience of whom?*), a robust resilience design must consider how to most appropriately adapt interventions based on the characteristics and needs of local beneficiaries. In marginalized and lagging regions, such as borderland areas, beneficiaries may include forcibly displaced populations, conflict-affected groups, food insecure populations, and communities that have been historically marginalized politically, economically, and socially. In these contexts, teams must consider how to effectively target and include some of these vulnerable communities in the design. They can then tailor implementation modalities accordingly, such as applying conflict-sensitive approaches and "do-no-harm" considerations, establishing adequate citizen engagement mechanisms, and partnering with community service and other organizations on the ground with a greater ability to reach these groups.

- **Community-level institutions—both traditional or customary and other community-based organizations—underpin the achievement of resilience outcomes, particularly in the borderlands.** Opportunities should be identified to engage such institutions in transboundary resilience building initiatives. Community institutions often enjoy social legitimacy in ways the state does not. Their role can fill governance deficits left by ineffective states and build on common sociocultural characteristics of people across borders in some cross-boundary locations.

- **Transboundary resilience and leaping forward require strong national capacity and regional platforms.** Future investments need to balance support between robust *regional platforms* and *country*

systems to ensure sustainable, trickle-down resilience benefits and uptake. This involves further trust building between and in countries, accountability, and clear roles for formal and informal institutions and platforms. Additionally, the impact of regional institutional agency, such as through policy processes and knowledge systems, on transboundary resilience should be further explored, including the degree of readiness and the capacity of regional platforms to respond to an increasing resilience demand. The resilience attributes could be a useful approach to strengthen the business model of regional entities that play a role as vehicles, conveners, and facilitators of transboundary resilience.

- **Effective partnerships and political incentives are key to advancing cooperation and resilience building.** Transboundary cooperation takes place in a much broader bundle of international relations, which can be especially complex in regions affected by FCV. Regional and even geopolitical realities can make or break regional initiatives. It is pivotal for countries to have a clear understanding of the benefits of cooperation, incentives, and ways in which cooperation can be achieved. As the experience of the past two decades of programming in the Nile Basin indicates, addressing the complex vulnerabilities that affect the HoA requires working with a broad set of development partners, including United Nations agencies and bilateral institutions.

- **Institutions involved in promoting resilience at regional and national levels and local, formal, and informal institutions do not work in the same way or have the same incentives.** The goals and varied nature of these institutions influence how information flows and collaboration take place in the region. Considering these differences is key for effective resilience programming in complex transboundary settings.

- **Building resilience in transboundary settings requires robust data and information.** Monitoring and evaluation (M&E) systems are important tools for teams to document, learn, and adapt to change. This involves both quantitative and qualitative measurement approaches that capture the rich dynamics of change taking place continuously in transboundary areas. Integrating resilience attributes into the project's design and monitoring can provide further insights about its impact on absorptive, adaptive, and transformative resilience capacities over time. Important lessons on resilience M&E have emerged from regional projects in the HoA and efforts led by regional entities such as IGAD (Protocol for Resilience Measurement, or IPRM).[1] These initiatives provide a valuable opportunity for collaboration, including the use of the T-Res framework and the resilience attributes, to deepen the understanding of transboundary dynamics and strengthen resilience measurement across scales.

- **Learning and adaptive management can be facilitated by the development of a *transboundary resilience research agenda*** that underpins emerging programming and that helps to inform future investments in the HoA region.

Note

1. Information about IGAD's IPRM is available at IGAD (2020).

Appendix A. Regional Projects and ASAs in the Stocktaking and Limitations

Regional Projects

- Regional Pastoral Livelihoods Resilience Project (P129408)
- Development Response to Displacement Impact Project (P152822)
- Nile Cooperation for Climate Resilience (P172848)
- Nile Cooperation for Results Project (P130694)
- Horn of Africa Groundwater Initiative (P169078)

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- *Promoting and Mainstreaming Data Sharing for Disaster Risk Reduction in the Horn of Africa*, Regional Center for Mapping of Resources for Development (RCMRD), World Bank Group, Global Facility for Disaster Reduction and Recovery, 2015.

Limitations

The methodology used for the Stocktaking was desk research and semi-structured interviews, focused on a sample of World Bank regional projects in the HoA.

  - The sample selection was based on representativeness among Global Practices (GPs) involved in the P-ASA (Water, Social Protection and Environment), thematic coverage and timeline (focused on ongoing projects and projects under design), as well as a focus on building resilience to key transboundary shocks and stressors (drought, climate change, displacement, pastoralist livelihoods) from which regionally relevant lessons could be drawn.
  - The desk research analysis included the review of key project documentation available in the World Bank's operational repository (PCN, PAD, Mission reports, ISRs).

- No technical or impact assessments of specific activities or interventions were conducted. The study focuses on a higher-level analysis from a robust conceptual resilience perspective.
- The methodology didn't involve participatory sessions with the project teams due to time limitations.

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Appendix B. Core Resilience Questions for Resilience Projects

TABLE B.1. Development Response to Displacement Impacts Project (DRDIP)

Core Resilience Questions *(*based on the project's PAD)*				
PROJECT TITLE: Development Response to Displacement Impacts Project - DRDIP (P152822) + (P161067)				
RESILIENCE OF WHOM (beneficiaries)	**RESILIENCE WHERE (countries)**	**RESILIENCE TO WHAT (shocks/ stressors)**	**RESILIENCE WHY (PDO)**	**RESILIENCE HOW**
• **Communities** in refugee-hosting areas that have experienced negative impacts due to a refugee presence. Beneficiaries include the host and refugee communities. • **Institutional** beneficiaries include local governments, implementing agency staff, and the agencies responsible for refugees in each of the DRDIP countries as well as IGAD. (e.g. executive office of the president, line ministries, and specialized agencies handling refugee issues and delivery of essential services	• Djibouti, Ethiopia, Uganda, Kenya	• Forced displacement • Mixed migration	• To **improve access to basic social services**, expand **economic opportunities**, and **enhance environmental management** for communities hosting refugees in the targeted areas in the Recipient's territory	• Improve **access to basic social services and economic infrastructure** and improve the **service delivery capacity of local authorities** at the target subnational and local levels by financing community and strategic investments and capacity support initiatives. • Ensure that **environmental and natural resources are carefully and sustainably managed** so they can support current and future needs and livelihoods. • Improve **livelihoods and increase the incomes of refugee-hosting communities** based on a market-system approach • Ensure enhanced and effective project management, coordination, and implementation and support M&E

Key contextual factors - HoA	Broader vulnerability context	Rationale (WHY)
• **Region with a clear regional "spill-over effect" of countries' violence and insecurity.** Refugees' situation require coordinated regional response between humanitarian and development partners • **Enhancing the productive capacities and coping mechanisms of host populations** is an important step for safeguarding a asylum space for refugees, preventing further poverty and vulnerability. • **Addressing root causes of conflict.** Competition over the meagre livelihood opportunities and the dwindling natural resources is a driver of latent and potential conflicts between the hosts and the refugees. • **Demand for a coordinated, long-term development response** alongside the humanitarian response to avoid fragmentation and attend broader needs of host and receiving communities, with **stronger leadership at federal, state and local levels.**	• High numbers of displaced populations and refugees. • Climate change and environmental degradation acting as threat multipliers, compounding displacement. • Effects of displacement on poverty • Capacity constraints • Insecurity and endemic conflict with 'spill over' effects • Complex cultural, social, and political nature of conflicts is compounded by demographic shifts due to population growth and movement of people; imbalanced service provision; increasing competition for scarce natural resources; and harsh climatic conditions (e.g. frequent droughts and floods). • Impact of refugees on hosting areas include increased competition- direct and indirect—for basic social services; a degraded physical and natural environment; limited livelihood opportunities; and decreasing water availability; crowded health centers and classrooms; and increased distances, time, or cost for collecting wood for cooking lighting).	**HIGHLIGHTS FROM THE DEVELOPMENT CONTEXT** • Legal and policy frameworks: domestic refugee legislations lack a path to citizenship for refugees, and none allow for the local integration of refugees.. • Refugee-hosting communities' precarious socioeconomic situation is exacerbated by protracted displacement of refugees, increasing potential for conflict. Impacts of refugees include rising food and commodity prices, the depression of local wage rates, and increasing environmental degradation. Increased competition for basic social services such as health, education, and drinking water; a degraded physical and natural environment due to high pressure on biomass to meet energy and construction needs; limited livelihood opportunities; and decreasing water availability evidenced by deeper boreholes and increased costs for water transport; crowded health centers and classrooms; and increased distances, time, and/or cost for collecting wood for cooking and lighting. • Benefits and positive impacts of refugee presence for host communities include: refugee households serving as a market outlet for animal- and host-produced agricultural products; an increase in the availability of labor, especially for local agricultural production; and infrastructure investments made by UNHCR. • Weak capacity of government institutions in the refugee-hosting areas. DJIBOUTI • Djibouti's economy limits its ability to diversify production and increases its reliance on foreign markets, making it more vulnerable to external market downturns and hampering access to external capital. • Mixed migration asylum-seekers, refugees, trafficked persons, unaccompanied/separated children, and migrants in irregular situations. Pressure on local services. ETHIOPIA • Refugee- hosting woredas are characterized by harsh weather conditions, poor infrastructure, weak institutional capacity, and poverty. The presence of refugees puts further strains on already weak public services and economic infrastructures, on livelihood opportunities, jeopardizing the resilience of the communities hosting refugees. UGANDA • Substantial poverty and growing urban-rural and regional inequality • Lack of integration with northern Uganda creates challenges of social cohesion. Infrastructure gaps and bottlenecks, agricultural productivity and value addition need to be strengthened. *Current refugee policy framework is among the more generous/progressive in the region and globally.* KENYA • Poverty and inequality remain high, high influx of refugees. North and northeast regions in Kenya have experienced significant deficits in service delivery, infrastructure, and economic opportunities, exacerbated poverty impacts of presence of refugees on hosting communities. • DRDIP II will be an integral part of the broader 'North and Northeastern Development Initiative' (NEDI) for Kenya

Source: World Bank.

© Sarah Farhat/World Bank

Appendix C. Visualization of T-Res Framework Components

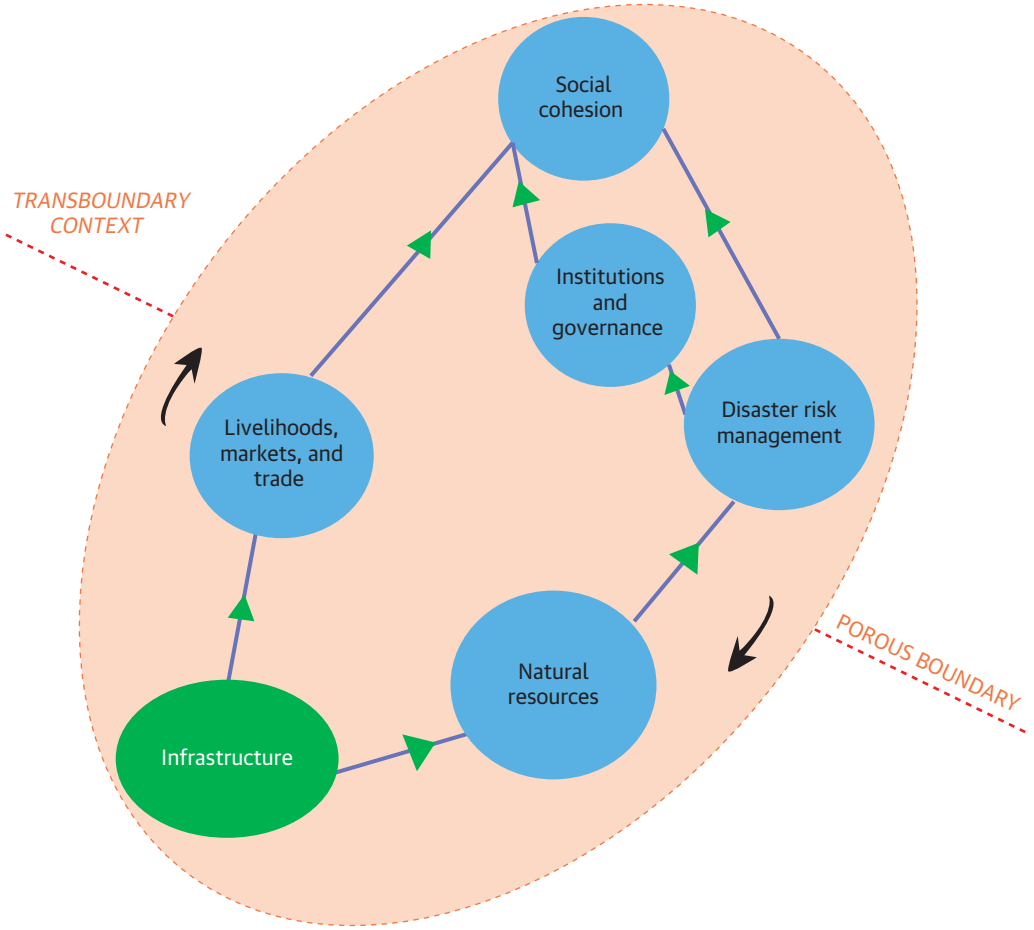
Figures C.1 and C.2 illustrate the components of the Transboundary Resilience (T-Res) framework applied to a sample transboundary resilience project. The text boxes provide options for teams that wish to use the T-Res framework to visualize and deepen the analysis of their project from a resilience perspective.

Resilience Levers

Figure C.1 presents an example of a project's resilience levers. It identifies:

- ***The project's key or primary resilience levers.*** In this example, **infrastructure** (circled in green) is identified as the primary lever of emphasis of the project.

FIGURE C.1. T-Res Component 1: Example of Resilience Levers



Source: World Bank.

- ***Interdependencies between the levers.*** The resilience levers are interconnected. The arrows represent the influence of project activities related to a certain lever on those conducted as part of another lever. For example, infrastructure investments can contribute to cross-border livelihoods and trade and to natural resource management. Project activities related to disaster risk management, such as community-based early warning systems, can contribute to social cohesion, and so on.

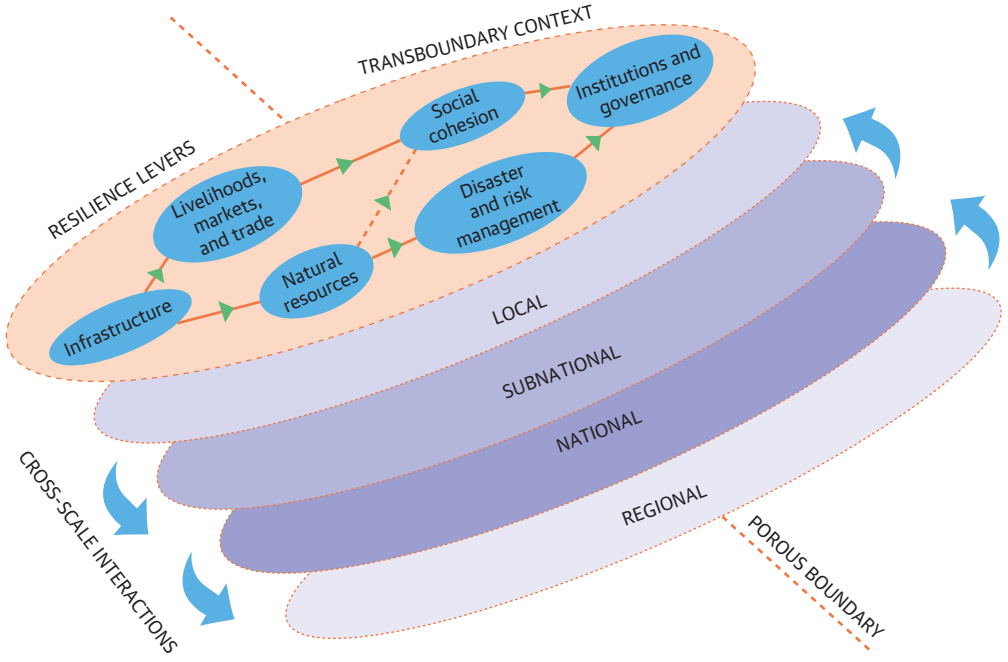
- ***Intensity of connections between levers.*** If the connection between the levers is tenuous or indirect, it can be represented with a dotted line (see the connection between disaster risk management and social cohesion). If the connection is strong, it can be represented with a ticker arrow.

Cross-Scale Interactions

Figure C.2 presents an example of a project's cross-scale interactions, located below the resilience levers.

- ***Dynamic cross-scale feedbacks.*** The arrows represent cross-scale feedbacks between the local, subnational, national, and regional levels. These linkages are crucial to ensure a project's impact (end-to-end resilience) in transboundary settings.

FIGURE C.2. T-Res Component 2: Example of Cross-Scale Interactions



Source: World Bank

- ***Project-specific cross-scale interactions.*** Each project component, and specific activities in those components, will require particular cross-scale interactions to have impact. For example, in figure C.2, the activities under the project component on **institutional capacity strengthening** will focus on **national and regional entities**, and they will require strong linkages between those two scales. Activities under the project component focused on **livelihood support**, such as trade policy or financial support for farmers, will take place at the **community and subnational levels**, but will require articulation with the **national level**.

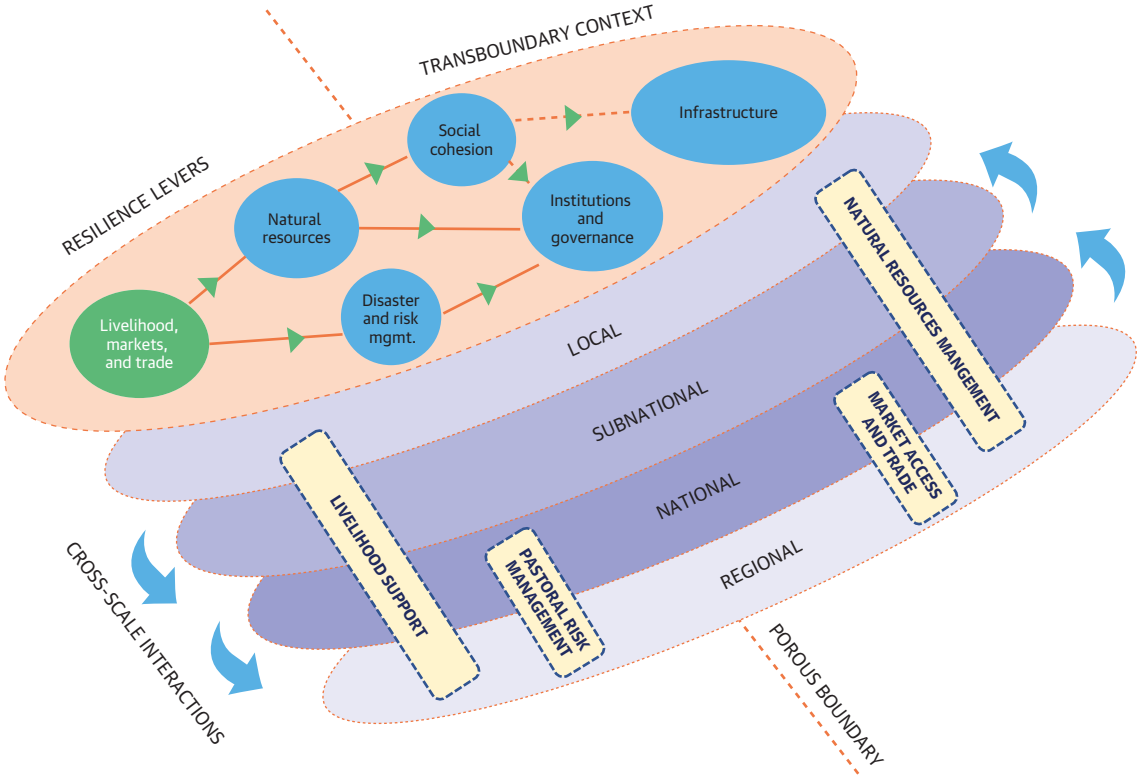
Appendix D. Application of T-Res Framework to World Bank Regional Projects

The examples included here correspond to the application of the Transboundary Resilience (T-Res) framework to two regional resilience projects supported by the World Bank in the Horn of Africa (HoA). The framework allowed mapping and visualizing the transboundary resilience approach of the projects, including their resilience levers and cross-scale interactions.

Appendix D provides a more detailed overview of the application of T-Res to inform and strengthen the design of the HoA Groundwater for Resilience project (P174867). Further testing and piloting of the framework will be required, working closely with project teams, to refine the operationalization of the framework and its role in transboundary project design.

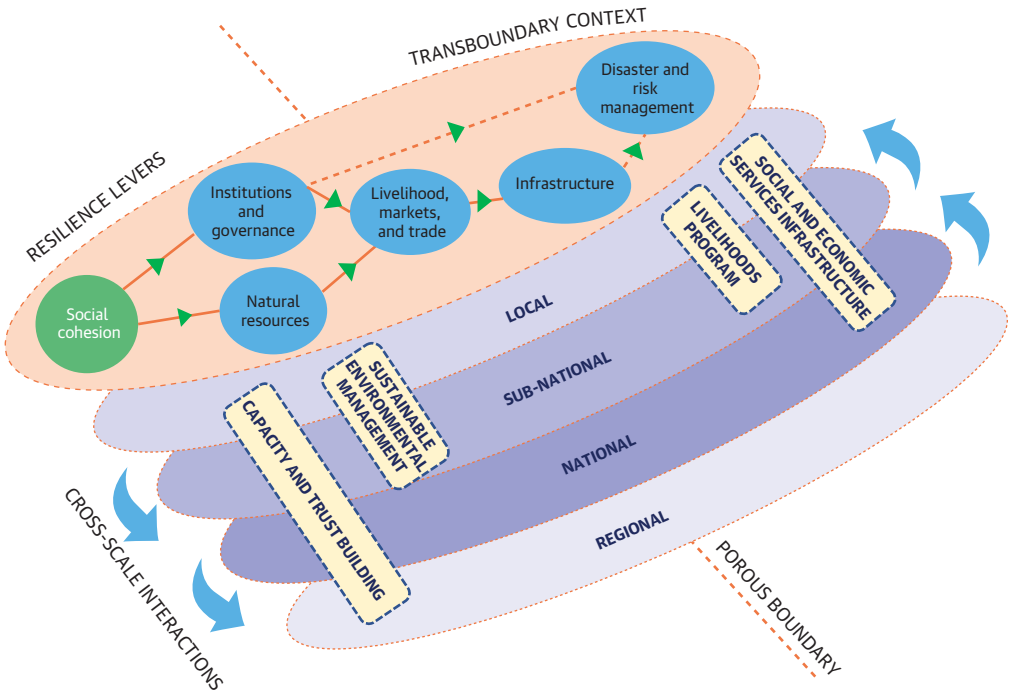
The transboundary resilience design of the Regional Pastoral Livelihoods Resilience (RPLRP) project focuses on one main resilience lever (*livelihoods, markets, and trade*) with direct, high influence on the levers of *natural resources* and *disaster risk management* (figure D.1). Project components cut across the local, subnational, national, and regional scales. Two components emphasize national and regional

FIGURE D.1. Application of T-Res Framework to Regional Pastoral Livelihoods Resilience Project



Source: World Bank.

FIGURE D.2. Application of T-Res Framework to Development Response to Displacement Impacts Project



Source: World Bank.

activities, which are linked to the role of the Intergovernmental Authority on Development (IGAD) in regional cooperation and harmonization.

The transboundary resilience design of the Development Response to Displacement Impacts project (DRDIP) focuses on one main resilience lever (*social cohesion*), with direct, high influence on the levers of *institutions and governance*, *natural resources* and *livelihoods, markets, and trade* (figure D.2). Project components cut across the local, subnational, national, and regional scales, with emphasis on the local and subnational levels, highlighting the project's focus on community-driven development.

Appendix E. Project Activities and Resilience Capacities

TABLE E.1. HoA Groundwater for Resilience Program

Project activity	Contribution to climate resilience	Resilience capacities
KENYA		
• Development and rehabilitation of groundwater infrastructure	Increase the resilience of rural communities to droughts by mainstreaming O&M of rural boreholes and enhancing the strategic borehole network, and by augmenting the availability of freshwater to enhance climate change adaptation through investments in managed aquifer recharge.	***Absorptive and adaptive***
• Strengthening the county drought contingency plans	The plans, critical for effective drought preparedness, will detail specific measures for each drought phase, including (a) monitoring and early warning systems; and (b) drought response governance, including roles and decision-making mechanisms.	***Absorptive***
• Support counties in developing and implementing uniformed web-based information management systems and decision support systems for the O&M of rural water supply schemes.	The web-based information management system will be used to collect real-time data on critical borehole indicators to facilitate rapid decision-making aimed at improving service delivery, enhancing drought preparedness and groundwater management.	***Absorptive and adaptive***
• Enhancing groundwater governance, including the knowledge base of the aquifer systems.	Strengthen decision-making and facilitate climate-informed mitigation policies and strategies.	***Adaptive and transformative***
SOMALIA		
• Development of hydrogeological surveys and research, aquifer assessments, and identification of potential water point area locations.	Provide an opportunity to enhance soil carbon sequestration in productive land use, thus reversing drought-induced land degradation and promoting sustainable land use practices.	***Absorptive and adaptive***
• Sectorwide capacity building in groundwater development, management, and monitoring, including needs assessment to identify how and where climate adaptation and resilience interact with enhanced water security.	Examples include the use of renewable energy to pump water, climate-smart agriculture practices, and sustainable aquifer management, which play a role in strengthening resilience.	***Adaptive***
ETHIOPIA		
• Groundwater monitoring in prioritized woredas, including measures aimed at protecting water sources, improving water quality, and increasing sustainable water use. Support drilling of monitoring wells and development of groundwater monitoring stations.	Increasing resilience to climate-exacerbated droughts and floods of targeted woredas through enhanced information access and use. The project will support relevant institutions to ensure regular monitoring of the information, which will be used for sustainable management and efficient utilization of groundwater sources.	***Adaptive***

(Continued)

TABLE E.1. HoA Groundwater for Resilience Program (Continued)

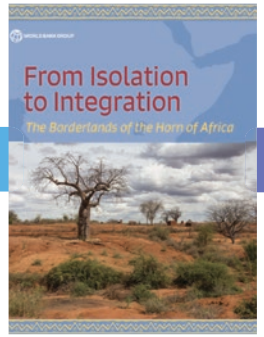
Project activity	Contribution to climate resilience	Resilience capacities
• Increasing rural and pastoral access to groundwater-based rural water supply infrastructure and system development.	Focusing on priority drought-prone woredas, the project will contribute to resilience by enhancing access to water services through groundwater source development, feasibility studies, and engineering designs, and the construction and rehabilitation of small- and medium-scale multivillage water supply schemes for community and livestock demand.	***Absorptive and adaptive***
• Provision of the irrigation system in the proposed project area.	Providing regular supply of water for agriculture will help farmers switch from rainfed agriculture to irrigated agriculture and help them adapt to changing rainfall patterns and drought events in the lowland.	***Adaptive***

Source: World Bank.

Appendix F. Lessons from World Bank ASAs to Strengthen Resilience Operations in the Horn of Africa

The analysis of selected World Bank Advisory Services and Analytics (ASAs) in the Horn of Africa (HoA) focused on the distillation of key messages related to the core objectives of this document: to identify the main lessons related to resilience building in the region (what works to build resilience), and how to achieve a more resilient HoA to inform the future pipeline of investment. The main lessons can inform and strengthen current and future resilience operations in the HoA region. They are summarized for each ASA in the stocktaking exercise (figures F.1-F.7).

FIGURE F.1. Resilience Building in *From Isolation to Integration*



What works to build resilience?

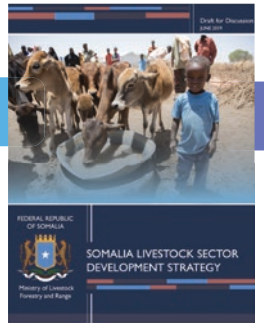
- A **borderlands approach** combines the three frameworks to provide a detailed understanding of livelihood, welfare, and mobility, and it can serve as a powerful tool for preparedness and adaptation.
- Address the **key challenges and drivers of fragility** (isolation, conflict and governance, displacement, poverty, and demography) and opportunities and so urces of resilience (spatial discounts, traditionalinstitutions, trade and mobility, extractive industries, regional institutions).
- **Local institutions** play a key role in regulating and facilitating economic activity and managing conflict, especially because formal institutions are often weak or absent.
- **Regional collaboration** is essential to the joint management of access to grazing lands and water, trade, and security. Cooperation is needed to harmonize policies on mobility and economic integration. Building on IGAD's regional platforms and policy frameworks, development actors need greater coordination of cross-border interventions.
- Pastoralists are increasingly using **technology**, such as mobile phones, to access information about market prices and trade opportunities. Satellite imagery can provide information on vegetation, informing better migration decisions and reducing livestock mortality rates.

How do we achieve a truly resilient HOA?

- A borderlands perspective encourages a more **systematic analysis of the trade-offs** of different sets of policy goals and interventions. It also means being more spatially attuned to who bears the costs of these interventions.
- Cross-border initiatives need to be **multisectoral and must address livelihoods, institutions, and stability/ security** in regional cooperation; establishment and strengthening of social contracts between states and borderland communities; local and community-based adaptation; local livelihood opportunities focused on at-risk youths and women; and support to formal and informal institutions.
- The **prospects for greater regional economic integration through trade and mobility** are considerable. Enhancing choice for border communities involves creating economic opportunities, building stronger linkages between communities on both sides of a border, and better integrating them with political and economic governance from the state centers.
- **Addressing the security and development deficits** in the borderlands will require integrated action on regional collaboration at the policy and institutional levels to ease the flow of capital, labor, goods, and services; investments in basic infrastructure and social services to mitigate the impact of geographic isolation and neglect; and support to formal and informal institutions to strengthen collaborative border management and their capacity for conflict management and violence prevention.
- Issues for **further dialogue around development investments** include the viability of mobile pastoralism; normative and legal commitments to and empowerment of regional institutions; integration of local concerns into the regional equation; enforcing a coordinated regional disbarment program; recognizing informal cross-border trade; and addressing protracted violent conflict (including traditional authorities).

Source: Vemuru et al. 2020.

FIGURE F.2. Resilience Building in "Somalia Livestock Sector Development Strategy"



What works to build resilience?

- Address **knowledge and data gaps** to strengthen decision-making, including socioeconomic and cultural characteristics of the livestock sector's stakeholders, potential participants, and consumers.
- Innovative **programmatic approaches** that layer different activities, have longer timeframes, make provisions for potential shocks and mega- trends, and provide enhanced flexibility.
- Develop a **coherent, nationwide strategy** for the development and growth of key sectors reflecting the **priorities and needs of different stakeholders**
- Considering **shifting gender roles is key for building resilience**, including the different strategies that men and women adopt when facing shocks and stressors.
- **Build trust** at the national level as a foundation for resilience, establishing linkages among sectors and ministries.
- Understanding the **dynamics of pastoralist systems in cross- border areas,** including (a) the current dynamics of nomadic pastoralist systems; (b) the specific needs of pastoral communities and their relationships with other livelihood groups; (c) reforms of regulations and land tenure rights; and (d) mechanisms needed to ensure emergency access for pastoralists to water and pasture and fodder during droughts.

How do we achieve a truly resilient HOA?

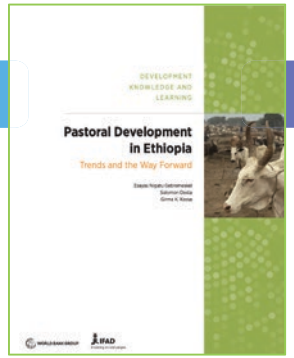
- Investment in resilience is needed to prevent livelihood loss, including **agricultural insurance, enabling households to diversify income, and a improving access to roads and clean water.**
- Large-scale investments in **watershed management and infrastructure** that would mitigate the impact of extreme cycles of rainfall, floods, and drought.
- **Improve communications** in the sector regarding sector policies, regulations, and domestic and export requirements; ensure processes are in place and resources are available; **incentivize the private sector** to rehabilitate prewar holding/resting grounds in strategic locations along both domestic and export trade routes; rehabilitate and expand critical public livestock watering infrastructure; and gather a critical set of **nationwide data and information**
- A **clear vision of the priority policy reforms** and interventions needed to alleviate the most bindingconstraints, and concerted action across federal and state levels to mobilize and guide public and private investment, with coordinated support by development partners.
- **Suitable technology** that is geographically, environmentally, climatically, economically, and culturally appropriate should be used to ensure resilience, reduce risk, and increase sustainability.
- **Safeguarding the diversity and optimizing the use of existing animal resources** is critical for both resilience and growth. This includes rehabilitating the deteriorated environment, especially the rangelands for grazing; and reducing the prevalence of transboundary and infectious diseases with improved management\ and control of animal diseases and pests.

Sources: GoS, Ministry of Livestock, Forestry, and Range, World Bank, and FAO 2019.

FIGURE F.3. Resilience Building in *Pastoral Development in Ethiopia*

What works to build resilience?

- Livelihood options in the pastoral system need to be supported through **appropriate technology and policy interventions** to make them more productive and resilient to shocks.
- **Access to vast and productive rangeland and key grazing resources** are critical factors without which pastoralism cannot be sustained. More comprehensive and integrated **participatory rangeland management** interventions that involve customary institutions should be institutionalized and implemented.
- Development efforts in pastoralist areas should be **based on a long-term view of the transformation of livestock production** to a more commercialized system and industrialization of the livestock production system. This involves investments in human capital, improved infrastructure, and market access.
- From a resilience perspective, **better access to health, education, and safe potable water and other social services** is directly linked to pastoralists' and agropastoralists' capacity to work, diversify, and earn income to improve their families' livelihoods and build resilience.
- **Best practices and cost-effective safety net interventions need to be scaled up** and replicated with the core aim of building resilience in dryland pastoral areas. Indigenous conflict management systems for peacebuilding and conflict resolution should be promoted.
- It is crucial to **invest in human capital development and institutional capacity building**, in both formal government and nonformal pastoral institutions, to institutionalize resilience building.
- **Rural financial policy and promotion of microfinance schemes** in pastoralist regions should recognize the uniqueness of pastoralist and agropastoralist areas' cultural and religious values.



How do we achieve a truly resilient HOA?

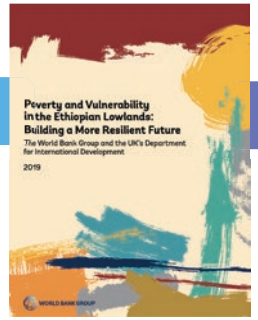
- Considering the challenges and opportunities in Ethiopia's **pastoral and agropastoral areas**, the following **strategic pillars of development** are recommended for future interventions to achieve resilience:
  - Livelihood support
  - Integrated rangeland and water development and secure access to key resources
  - Transformation and commercialization of the livestock industry in pastoral and agropastoral areas
  - Enhanced access and use of basic social and economic services
  - Enhanced social protection and disaster risk management
  - Institutional capacity building and other cross-cutting issues (including gender and youth employment)
- Development in pastoral and agropastoral areas requires **long-term commitment, flexible investment support, and a robust implementation institution** that involves the public and private sectors and customary institutions. Such development should take a value chain orientation and a community demand-driven approach accompanied by policy direction, expert guidance, and investment.
- The development program should have a **regional and cross-border dimension** to enhance coordinated disaster risk management, markets, mobility, and control of transboundary animal disease.

Source: Gebremeskel et al. 2019.

FIGURE F.4. Resilience Building in *Poverty and Vulnerability in the Ethiopian Lowlands*

What works to build resilience?

- An **understanding of the causes of vulnerability** is necessary for the design of policies that increase the overall resilience of household welfare to shocks. In the lowlands, **vulnerability associated with low human capital and assets** (poverty-induced vulnerability) is relatively more important than vulnerability associated with climatic and environmental shocks (risk-induced vulnerability) and should be a policy focus.
- **Water availability is a critical component** of lowland livelihood systems. However, there is a wide variety of conditions in the lowlands related to groundwater presence and availability. Water development in the lowlands needs to be undertaken with careful consideration of its wider environmental impact.
- To address the needs of lowland populations, government needs to **address the primary sources of fragility and vulnerability** in the region.
- Building resilience in the lowlands requires the ability to respond effectively to **transitory needs** arising from rapid onset emergencies, such as conflict, **and chronic needs** arising from slow onset environmental changes, such as drought and extreme weather events.



How do we achieve a truly resilient HOA?

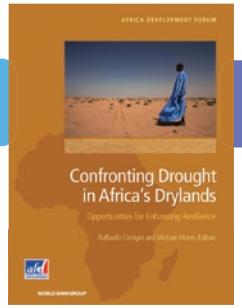
- A selective **policy agenda for the promotion of resilience in the lowlands** consists of three pillars:
  - Investing in human capital development through improved delivery of human development services.
  - Developing a safety net system that can deal with short-term crises and longer-term developmental needs.
  - Improving the efficiency of the livestock economy while encouraging economic diversification and improving infrastructure and connectivity.
- A **common policy framework** for initiatives to address poverty and vulnerability in the lowlands needs to be developed,including:
- Ensure the program design and financing responds to the relative size of poor and vulnerable caseloads in the lowlands, which are different from the highlands.
- Ensure there are appropriate, scalable instruments that can deliver support to those who are poor or vulnerable to poverty.
- Introduce one financial framework with appropriate financial instruments for a scalable system.
- Public investment will have to focus on **improving connectivityand market infrastructure** to enable greater links between lowland economic activity, urban demand, industrial activity, and trade corridors.
- The benefits of large-scale private or public investment in commercial agriculture in the lowlands need to be **assessed carefully against costs** (e.g., potential damage to the environment and livelihoods).

Sources: World Bank and UK Dept. of International Development 2019.

FIGURE F.5. Resilience Building in *Confronting Drought in Africa's Drylands*

What works to build resilience?

- Livestock keepers in the drylands can be made more resilient through **investments in improved management practices** combined with support to new, **complementary income sources.**
- Adding trees to current farming systems can further increase resilience **Irrigation** can provide an important buffer against droughts, particularly in the less arid parts of the drylands.
- **Improved crop production technologies** can deliver sizable resilience benefits by boosting productivity in rainfed agriculture. To ensure adoption, governments will need to address the technical, institutional, and financial challenges associated with the deployment of "best bet" technologies.
- In addition to serving as instruments that can be used to deliver safety net support, **social protection programs** can help build resilience at the household and community levels.
- **Scalable safety nets** can provide cost-effective protection against many shocks, but not complete protection against some low-frequency, high-severity events. **Risk transfer mechanisms** are needed to ensure that additional fiscal resources can be mobilized at short notice.

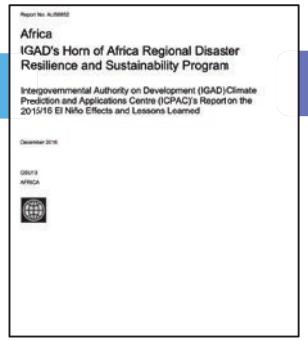


How do we achieve a truly resilient HOA?

- Resilience of livestock-keeping households could be increased by **interventions falling outside the domain of conventional livestock improvement programs**, such as policies designed to bring about a more equitable distribution of livestock assets. Identify interventions that provide new income sources for poor livestock keepers, such as programs that provide payments for environmental services.
- **Integrated landscape management** could help to restore degraded areas in the drylands, boost productivity, and improve livelihoods. This requires strengthening the knowledge of the potential benefits, as well as institutional and coordination for implementation.
- **Reducing barriers to trade** could contribute significantly to the resilience of people living in drylands by making food more available and more affordable, including after a shock hits.
- **More transparent and better information** for civil society on the presence and effects of trade barriers and for government on the realities in local food markets may facilitate reforms.
- Enhancing the resilience of people living in the drylands will require a **combination of interventions to improve current livelihoods and interventions to strengthen safety nets.** For households that remain vulnerable to droughts and other shocks, policy makers will need to devise strategies to facilitate the transition to alternative livelihood activities.

Source: Cervigni and Morris, eds., 2016.

FIGURE F.6. Resilience Building in *Intergovernmental Authority on Development (IGAD) Climate Prediction and Application Centre (ICPAC)'s Report on the 2015/16 El Niño Effects and Lessons Learned*


Africa
IGAD's Horn of Africa Regional Disaster Resilience and Sustainability Program
Intergovernmental Authority on Development (IGAD) Climate Prediction and Applications Centre (ICPAC)'s Report on the 2015/16 El Niño Effects and Lessons Learned

What works to build resilience?

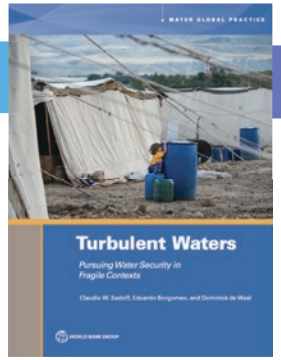
- **Early Warning and Awareness**
  - Timely delivery of early warning information on El Niño; provision of up-to-date information on the El Niño event using a variety of communication mechanisms. Importance of delivering information that is technically correct, using easy- to-understand language, and in some cases translated into the local languages and dialects.
  - Memorandums of understanding between the national meteorological services and relevant government agencies facilitate and promote improved communication and collaboration.
- **Preparedness and Early Action**
  - Timely dissemination of actionable information empowers government agencies and other relevant stakeholders to design and implement preparedness and mitigation interventions that help reduce the levels of disaster risks, particularly among the most vulnerable communities and sectors.
- **Role of the Media**
  - Inclusion of all print and electronic media, public or private, is crucial in creating awareness. In terms of advocacy, inclusion of civil society is useful in the dissemination of early warning information value chain.
- Role of the Media
  - importance of developing national contingency plans tailored to the context, and identifying and addressing coordination gaps among government agencies and the humanitarian agencies and nongovernmental organizations.
- **Coordination**
  - Regular communications among government and nongovernment stakeholders facilitate the implementation of preparedness and mitigation at all levels, reduce the risk of duplication of efforts or leaving vulnerable groups or communities unattended.
  - National governments that established dedicated coordination platforms, led by high-ranking government officials, (e.g., El Niño task forces led by the prime minister or vice president) showed higher efficiency.

How do we achieve a truly resilient HOA?

- Continue **the monitoring of global and regional climate phenomena** and **improve climate and weather forecasting capabilities** at the regional and country levels.
  - Ensure that timely, **actionable information** is delivered to the target audiences to empower communities to take early action.
  - Improve **coordination mechanisms** at the subnational levels.
  - **Packaging technical climate information** in a socially and culturally sensitive manner.
  - Countries need to improve their capacity to carry out credible, comparable (spatial and temporal) **assessments of damage and losses** generated by external shocks.
  - National governments should require their line ministers, relevant agencies, and research institutions to comprehensively **document the adverse impacts of disasters, including local events.**
  - Develop and implement better **resource mobilization strategies** that engage the private sector.
  - Countries need to develop sustainable, long-term **disaster risk financing strategies.**
  - **Enhanced regional coordination** is needed, particularly in areas that need to control epidemic outbreaks across neighboring countries' borders.
  - Improve **flexibility and efficiency of aid delivery mechanisms** to optimize the use of limited resources.
  - **Continue ongoing regional dialogue** to improve collaboration and coordination.

Source: IGAD 2016.

FIGURE F.7. Resilience Building in *Turbulent Waters*



What works to build resilience?

- **Water security** is a key component of resilient systems. Carefully designed investments in water security can contribute to **reversing the vicious cycle between water insecurity and fragility**. Investments that deliver basic services and preserve access to sustainable water resources are needed for communities in fragile and conflict-affected states. Such investments are an urgent development priority and a tangible demonstration of governments' ability and willingness to meet its citizens' needs.
- Investments in water security can provide a measure of resilience against water-related disasters and water crises, **mitigating potential trigger events** and preventing countries from sliding further into fragility.
- Countries are increasingly **developing transboundary waters** to meet escalating water demands and to more actively manage and develop large shared river systems and aquifers to strengthen resilience to climate change. Transboundary waters have led to cooperation more often than conflict between nations. Shared waters provide motivation for dialogue; the need to manage climate risks in transboundary basins can **motivate high-level policy dialogue and actions.**
- The complex interrelationships between water and fragility suggest that **robust water management systems should be a priority in fragile contexts.** Water- related investments need to increasingly address compound risks arising from FCV.

How do we achieve a truly resilient HOA?

- Investments in **cooperative transboundary water management** could help to deescalate tensions, promote stability, and provide resilience to hydrological shocks or river developments that might otherwise act as a trigger for conflict.
- **Cooperative efforts** could include sharing information to strengthen disaster risk management and ensure environmental flow of or coordinate the operation of dam cascades; establishing institutions such as river basin organizations or treaties to ensure transparency and equity in the management of shared basins; and promoting the joint planning, operation, or ownership of infrastructure to optimize the sustainability and productivity of the river system.
- During periods of **positive development opportunity, proactive, conflict-sensitive investments** may be designed to strengthen inclusive water resources management and water-related disaster risk management systems. These investments build resilience and help avoid or mitigate potential trigger events that cause or deepen fragility.
- To achieve water security and build resilience, interventions need to address three key mechanisms linking water insecurity to fragility:
- **Provide citizens with water services.** Investments to reduce inadequate and unequal access to water services can promote stability in fragile contexts.
- **Protect citizens from water-related disasters.** Disaster impacts and recovery options vary widely, so investments need to account for different gender, social, and economic circumstances.
- **Preserve surface, ground, and transboundary water resources.** Working toward sustainable water resources management and cooperative water sharing agreements is key to reverse the water security and fragility cycle.

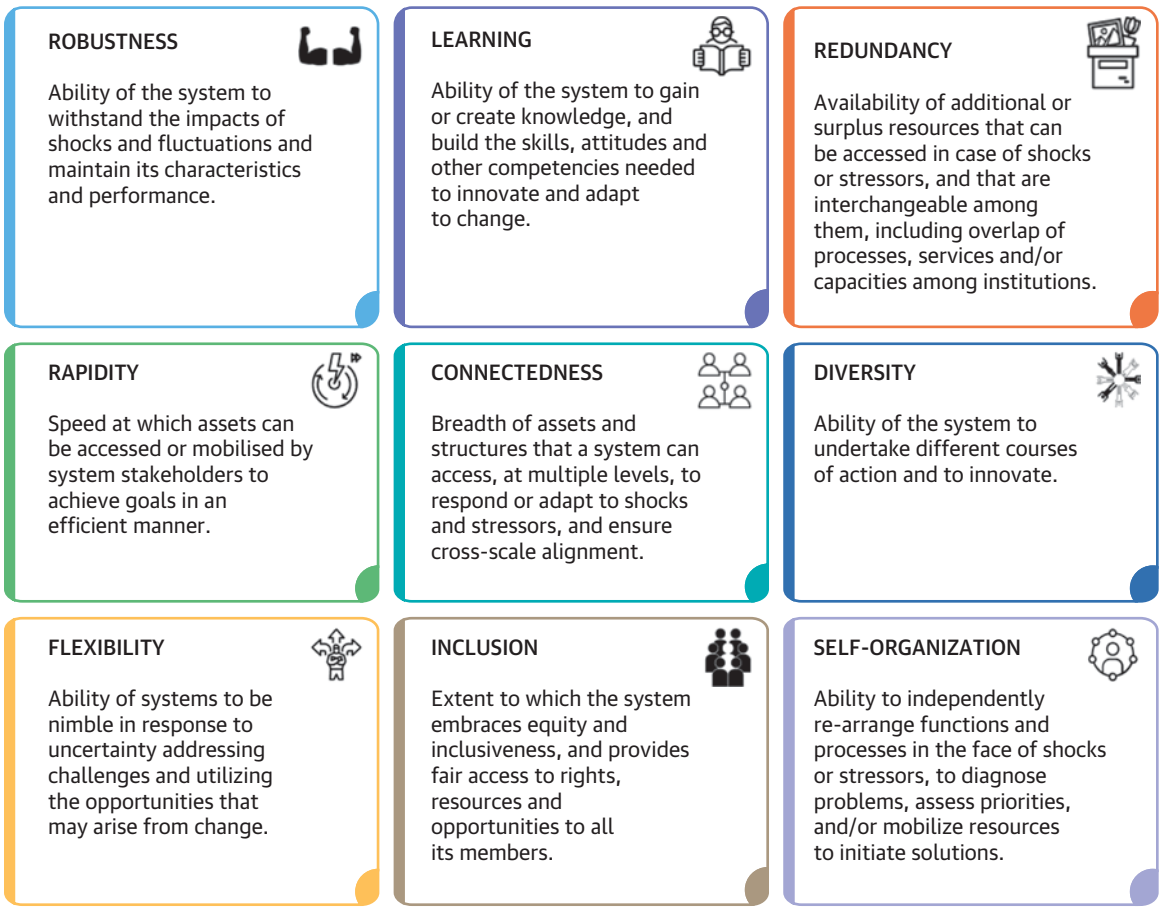
Source: Sadoff, Borgomeo, and de Waal 2017.

Appendix G. Resilience Pathways Maps: Regional World Bank Projects in the Horn of Africa

Stronger resilience design, monitoring, and impact require a more granular, in-depth understanding of resilience building in the project's context to identify the best approach to strengthen absorptive, adaptive, and transformative capacities. The integration of resilience attributes, defined as key characteristics that help build and secure resilience, can help to achieve climate-resilient outcomes through well-designed projects (Ospina and Kumari Rigaud 2021) (figure G.1). Figure G.3 summarizes resilience pathways in the Development Response to Displacement Project (DRDIP). Figure G.4 summarizes resilience pathways in the Regional Pastoral Livelihoods Resilience Project (RPLRP).

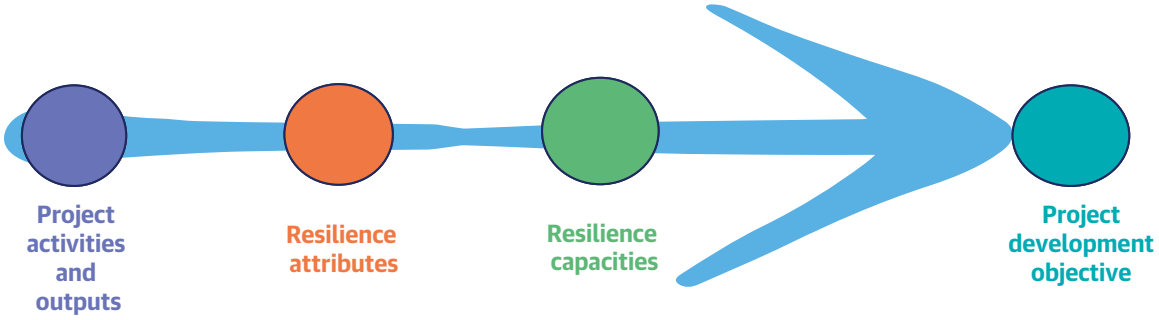
The integration of **resilience attributes** into the project design allows teams to identify and visualize how project components and corresponding activities and outputs contribute to key characteristics of resilient systems (i.e., resilience attributes) and strengthen resilience capacities to achieve the project's development objective. The resilience pathways map (figure G.2) provides a snapshot of those linkages.

FIGURE G.1. Resilience Attributes



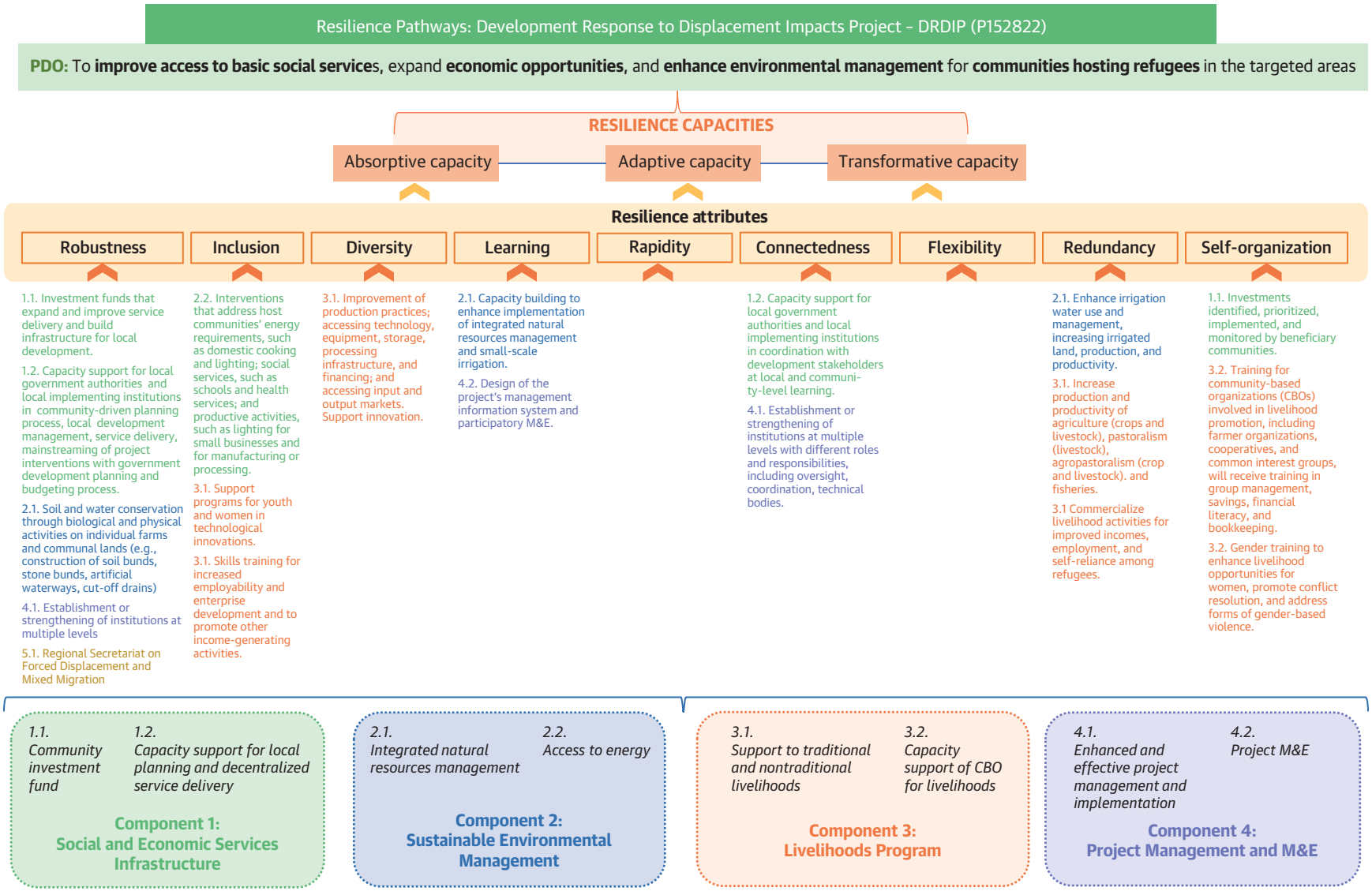
Source: World Bank 2020b.

FIGURE G.2. Resilience Pathways Map



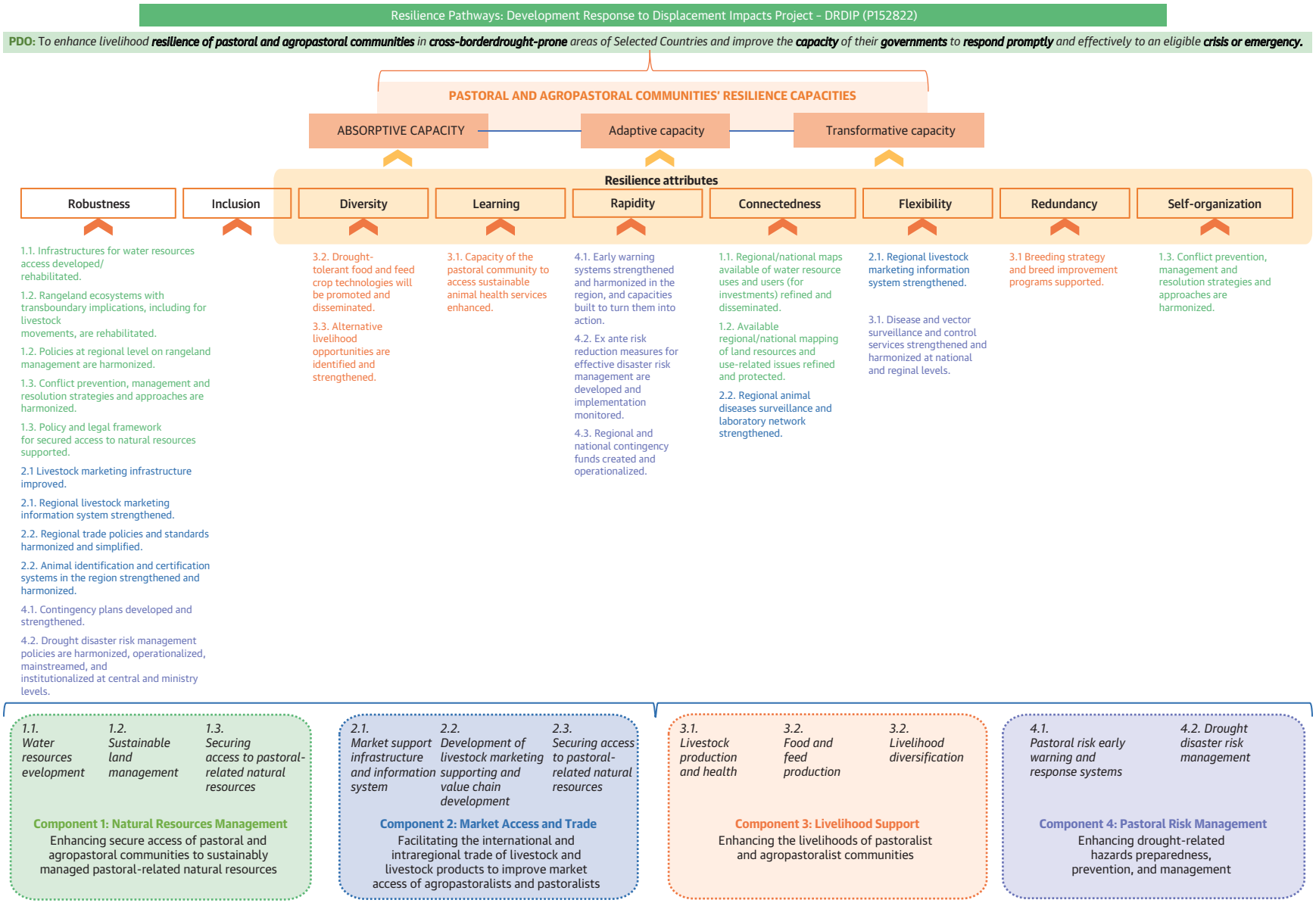
Source: World Bank.

FIGURE G.3. Development Response to Displacement Impacts Project (DRDIP)



Source: World Bank.

FIGURE G.4. Regional Pastoral Livelihoods Resilience Project (RPLRP)



Source: World Bank.

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