Climate Adaptation and Risk Reduction in Latin America and the Caribbean (LAC)

Climate Adaptation Learning Activity

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About the Regional Learning Event

In May 2024, the Climate Adaptation Learning Activity (CALA), funded by the United States Agency for International Development (USAID) Bureau for Humanitarian Assistance (BHA), hosted the first in a series of regional peer-to-peer online learning events. This learning event convened 132 regional implementing partners and other stakeholders to discuss climate adaptation and risk reduction in Latin America and the Caribbean (LAC). Specifically, discussion sessions offered participants a chance to share climate adaptation experiences, programmatic challenges, promising practices, and outstanding evidence gaps in the following topics:

- climate information services for community-led early warning, response, and adaptation;
- climate-resilient agriculture;
- urban adaptation and risk reduction programming;
- natural resources management including nature-based solutions;
- equity, inclusion, and gender in climate adaptations;
- community-led climate adaptations; and
- knowledge and evidence gaps.

Event Quick Facts

Dates: May 8–9, 2024

Theme: Climate Adaptations and Risk Reduction Programming

Regional Focus: Latin America and the Caribbean

Represented Countries: Barbados, Belize, Brazil, Colombia, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Peru, St. Vincent and the Grenadines, Trinidad and Tobago, and the United States.

Participants: Total of 132 stakeholders, including 28 organizations and 21 local partners.

Overview of the BHA Climate Adaptation Strategy for the LAC Region

The Deputy Regional Director for the LAC Region shared the following overview of BHA's regional climate adaptation strategy:

Key BHA priority areas for climate adaptation in the LAC region include:

- frontline communities sustainably manage climate risks;
- strengthen coherence across climate and the humanitarian-development-peace (HDP) nexus;
- expand and improve climate early warning and early action; and
- accelerate climate-resilient humanitarian action.

These priorities are to be achieved by **interventions focused on**:

- integrating shock-responsive mechanisms into response programs;
- building climate-smart approaches into response actions;
- strengthening coordination between humanitarian, development, and peacebuilding assistance; and
- adopting climate-resilient designs in shelter and settlement activities.

BHA plans to support **strengthened climate-sensitive disaster risk reduction** in the LAC region by:

- developing innovative climate adaptation solutions in high-risk communities
- building capacity to reduce impact, prepare for, and respond to new and emerging climate hazards;
- supporting host governments to create inclusive plans, strategies, and policies to reduce climate risk;
- strengthening early warning systems in vulnerable communities; and
- enhancing anticipatory actions to reduce recurrent impacts of climate risks.

Regional Learning Event Highlights

The following sections summarize topic-specific discussions among climate adaptation program implementers. These discussion groups were led by technical experts in relevant aspects of climate change programming and guided by a series of convening questions.

Climate Information Services for Community-Led Early Warning, Response, and Adaptation

This session explored challenges and lessons learned in developing accessible, accurate, and collaborative climate information services.

Challenges

- **Access to climate information services does not meet the need.** Many countries still struggle to provide climate information services at the regional and national levels. At the local level, there is a gap in forecast accuracy due to the lack of meteorological stations.
- **There is a significant gap between generating, disseminating, and using climate information.** Academic, private, or public sector institutions may have access to climate information services but are often unable to share information at a time and in a format that can effectively inform community-level

responses. Lack of access to digestible and timely information adversely impacts community participation and mobilization for climate adaptation.

- **There is a gap between obtaining climate information and financing adaptations.** While stakeholders like farmers may have access to information, linking financial means for climate-resilient seeds, fertilizer, or cash transfers to respond to climatic shifts is challenging. Further, communities need support to choose the best adaptation measures.

> *The distribution of climate information is a pressing issue, often failing to reach those who need it most. This information tends to remain in the hands of those in power, potentially excluding the voices of the entire community.*

Lessons Learned

- **It is important to communicate complex, technical information in a way that is understandable and tailored to the target audience.** For example, the World Food Program in El Salvador uses a variety of platforms, such as radio broadcasts and agriculture meetings, to disseminate context- and language-appropriate messaging.
- **Communities are key generators of climate information and knowledge.** In Honduras, communities co-create an agro-climatic bulletin board for smallholder farmers in the dry corridor with national information, local expertise, and community knowledge. A relatively young NGO in Colombia (Climalab) described training young people in advocacy and data analysis to lead community-driven adaptation and risk management projects and public policies. Empowered communities can influence decision-making processes and bridge the gap between local needs and government actions.

Good Practice Highlight

In Colombia, Medellín's integrated early warning system, SEAT, effectively links regional forecasts to local communities by forming coalitions of various municipalities and community groups. This system allows for both bottom-up and top-down approaches to alert and mobilize communities during extreme events.

Climate-Resilient Agriculture: Capacity Strengthening for Climate Change Adaptation

This session highlighted challenges and lessons learned in promoting climate-resilient agriculture as part of multi-sectoral climate adaptation strategies.

Challenges

- **There is a lack of coordination of information and resources between vulnerable communities affected by climate change and government policies and agencies charged with responding.** Government-driven policies to support climate-resilient crops and drought-resilient seeds often target large commercial farms, ignoring smaller farms.
- **It is difficult to balance the short-term focus of emergency projects with the need for long-term systemic change**. Limitations on funding and other support often constrain humanitarian responses, making them too short-term and poorly linked with longer-term post-shock restoration processes.

Consistent collaboration with community-level actors is critical for sustainable approaches to climate adaptation, but very difficult to achieve in 3 or 6 months.

Lessons Learned

- **Climate-smart agriculture should adapt to climate change while maintaining productivity and sustainability.** Participants discussed the balance between modifying traditional agriculture techniques and emphasized the importance of integrating considerations for the broader ecosystem, such as water, soil, and forest management.
- **It is possible to bridge short-term and longer-term climate adaptation efforts.** Useful approaches include supporting community participation in local climate change platforms, providing risk insurance, using humanitarian assistance to rebuild agriculture systems, and promoting nature-based solutions.

> *Climate-resilient agriculture should be understood more broadly to include the entire ecosystem including forests and water, essential for providing goods and services.*

- **Community organizations can effectively promote adoption of nature-based solutions.** Community organizations can be important sources of context-specific and culturally appropriate support for nature-based solutions in response to climate change, including in cases where outcomes of nature-based solutions take time to materialize. In Honduras, program implementers coordinated with community organizations to mobilize resources for reforestation within a targeted water catchment, resulting in substantial improvements in water access.

Good Practice Highlight

Participatory approaches and indigenous knowledge are crucial for successful adaptation strategies. Ethnographic research carried out with high-Andean communities near Cuzco, Peru helped identify and strengthen ancestral techniques for soil conservation and water management (e.g., rainwater collection and storage) that have proven effective for responding to climate change.

"Quick wins"—brief but impactful interventions—can also lead to more buy-in and long-term success. Quick wins are often achieved by improving household-level practices (e.g., crop-diversification, soil, water conservation) rather than through broader and longer-term efforts such as reforestation or ground-water recharge. For instance, USAID El Salvador worked with families dependent on coffee production and national agricultural institutes to identify and promote climate-resilient varieties, contributing to increased demand for hybrid seeds among smallholder famers.

Urban Adaptation and Risk Reduction Programming for Community-Led Early Warning, Response, and Adaptation

This session explored challenges and lessons learned in strengthening collaboration and technical capacity for urban climate change adaptation and disaster risk reduction activities.

Challenges

- **The diversity, limited capacity, and competing agendas of stakeholders in urban areas often poses challenges to coordinated action on climate adaptation.** Limited literacy, stakeholder turnover, and poor coordination between entities with overlapping responsibilities (e.g., disaster management authorities, other government agencies, civil society) often contributes to environments in which coordinated approaches to climate change are not prioritized over other immediate needs (shelter, protection, basic services, etc.).
- **Urban populations are vulnerable to landslides, water-related hazards, and extreme heat, but often underestimate their own risk.** Public campaigns are trying to raise awareness of climate risks, especially extreme heat events. Some urban areas are issuing early alerts of heat spikes and installing urban green areas with open air and shade trees to cope with increasing temperatures.

Lessons Learned

- **Utilizing local resources and community-driven, context-informed approaches for risk reduction and early warning systems encourages community awareness and participation.** One example offered by island nations was the use of conch shells (a traditional form of communication) to provide early warning of disaster risk in contexts where communication infrastructure was insufficient.
- **Climate change can contribute to urban-to-rural migration** in instances where rural areas are cooler and infrastructure is less vulnerable to changing climate conditions than urban areas.
- **Integration of disaster risk management into national plans and collaboration between local and national governments improves urban preparedness and response.**
- **Strengthening community capacities through education, training, and mobilization can enhance disaster preparedness and response, but it takes time.** In Haiti, implementers are trying to reduce dependence on government and external assistance by cascading training on the impacts of climate change through existing services and knowledge sharing methods, such as formal and non-formal education, health services, and the private sector.

Natural Resources Management: Capacity Strengthening for Climate Change Adaptation

This session highlighted challenges and lessons learned in developing innovative and sustainable approaches to natural resources management, including nature-based solutions.

Challenges

- **Interventions around natural resources management can sometimes be maladaptive, focusing on short-term solutions that have negative consequences over the long-term.** For instance, participants highlighted how reforestation efforts intended to protect against erosion ultimately had a negative effect on the availability of groundwater.
- **Natural resources management faces financing and policy barriers.** While some LAC countries have policies supporting nature-based solutions, land tenure and sustainability issues require further attention. Accessing climate finance remains a challenge in low-income regions.

- **It is challenging to evaluate longer-term returns on investment in natural resources management**. Positive changes resulting from alternative approaches to natural resources management (e.g., forest management, groundwater recharge, soil restoration) take years to achieve and are not consistently measured by implementers. This can make it difficult to advocate for greater and more timely investment.

Lessons Learned

- **Community-centered solutions and small-scale interventions can effectively manage natural resources.** Projects among Andean communities in Peru prioritize cultural practices in agriculture and natural resources management. Using local ethnography and understanding historical strategies, the communities are capturing and storing water to address increasing drought.
- **Partnerships have successfully utilized nature-based solutions for disaster mitigation and climate adaptation.** Projects like PROSPERAMOS in Honduras and PREDES in Peru emphasize community involvement in managing degraded soil and natural resources. They focus on reforestation initiatives and integrating disaster risk reduction with climate change adaptation efforts, with communities playing a central role in resource management.

> *In high Andean communities, we must respect their way of life and how they want to manage their livelihoods; they must be understood with their ethnography and cultural practices. This is very important in agriculture and resource management.*

- **Effective adoption of nature-based solutions can contribute to multiple positive outcomes.** Shade management (e.g., for agroforestry crops like coffee or cocoa, or vegetative barriers) can manage temperature and improve soil health. In certain geographies characterized by significant heat, precipitation, and topographical variation, shade management can even improve watershed health and reduce erosion and risk of landslides. Mangrove conservation is also a common and cost-effective form of disaster mitigation in LAC to protect communities from tropical storm damage while generating potential economic benefit for coastal communities (through fisheries and forest products).

Good Practice Highlight

The LAC region is famous for water management and the regulated provision of water. Costa Rica, Columbia, Ecuador, and others have started watershed conservation funds to implement conservation activities. One implementing organization in Guatemala works with community authorities to manage and regulate the use of solar energy for water pumping. While the project has improved access to water for human use, the sustainability of the effort is in question due to increasing agricultural demands for water.

Nature-based solutions are proven to effectively mitigate rising temperatures. The city of Medellín, Colombia planted 800,000 trees across 700 hectares of intercity highway bands. Within 3 years, the average temperature had decreased by 2°C. Planting trees, intercropping, and employing agroforestry techniques can also mitigate heat stress and improve soil health for longer-term ecosystem restoration.

Equity, Inclusion, and Gender in Climate Adaptations

This session highlighted challenges and lessons learned in addressing climate risks among marginalized groups and promoting their effective engagement in climate adaptation decisions.

Challenges

- **Women, elderly people, youth, people with disabilities, and other marginalized populations regularly lack labor availability to adopt more labor-intensive climate adaptive production practices.** Efforts to support household-level climate adaptation often promote adoption of activities (e.g., climate-resilient agriculture, water conservation, improved shelter) that are particularly labor-intensive and not as accessible for households with limited labor availability.
- **Local stakeholders may work with aid agencies** to meet requirements for women's participation in activities but fail to strengthen capacity or create opportunities for their active engagement in or leadership of activity design or implementation.

> *Indigenous communities, particularly women, face challenges in accessing land and participating in decision-making processes related to climate adaptation.*

- **Differing levels of literacy and numeracy among populations vulnerable to climate risks presents a challenge** to external agencies seeking to strengthen inclusive community engagement in climate adaptation activities.

Lessons Learned

- **It is important for external agencies to be aware of the distinct community-level governance and decision-making processes of the extensive indigenous populations in the LAC region.** Implementers should utilize these processes where possible to promote inclusive and collective approaches to climate adaptation.
- **Women and female-headed households often take longer to recover from climate-related shocks** than their male counterparts due to disparities in access to labor and productive resources.
- **It is important to promote climate-resilient agriculture and livestock practices in educational and livelihood support for rural youth** to strengthen household food security and address the exit of aging farmers from agriculture.
- **Communicating successful adaptation strategies and tailoring information to different literacy levels are essential for widespread understanding and implementation.** Lack of accessible education on climate change adaptation inhibits effective implementation, particularly for impoverished rural communities.
- **Climate adaptation efforts should address power imbalances and consider the diverse roles and responsibilities of all household members, including women and children.** One local organization in Columbia highlights power dynamics in climate adaptation strategies, particularly those aimed at addressing the distinct impact of water scarcity on women and girls.

Good Practice Highlight

Educating youth within existing systems can ensure the sustainability of climate adaptation practices. In El Salvador, youth are engaged in agriculture by integrating climate adaptation practices into the education system.

Community-Led Climate Adaptations

This session explored challenges and lessons learned in coordinating with local actors and strengthening capacity to lead longer-term climate adaptation strategies.

Challenges

- **Climate science is often poorly explained.** Efforts must be made to limit climate science jargon and enhance community understanding, starting with understanding communities' worldviews and localizing scientific information.
- **Several barriers exist to financing community-level adaptation initiatives, particularly donor regulations and resources that make funding available only after emergencies.** Creating more flexible financing for locally led adaptation and disaster risk reduction can contribute to more resilient communities.

Lessons Learned

- **Community organization and engagement are crucial for successful adaptation efforts.** Communities must own their adaptation processes and feel motivated to invest back into themselves. Participation must include marginalized groups like women, youth, and ethnic minorities.
- **Understanding community perceptions of risk and creating awareness upfront is essential for effective adaptation planning and implementation.** Additionally, communities may already have common-sense measures in place; practitioners should dig deep to identify and support existing measures.
- **Community engagement and involvement must be considered a long-term investment.** However, solutions with shorter timelines and quick wins can be useful in motivating and inspiring more community buy-in.

Good Practice Highlight

In a region of northern Guatemala with a majority Mayan population, young people are buying plots of land to invest in reforestation, agroforestry, and production of new, marketable products. This has led to an increase in earnings, and a sustainable response to the changing climate. By collaborating with local organizations, implementers can identify innovative and economically feasible adaptation approaches.

Knowledge Gaps

Participants identified several knowledge gaps that remain to be addressed, including:

1. What are the relationships between distinct climate hazards in LAC region countries? Implementers and donors tend to focus on predominant climate hazards and fail to consider the impact of multiple climate change factors on different populations.
2. How best to strengthen capacity for using available climate risk information for climate adaptation and response planning under different climate scenarios?
3. What can be done to collect, package, and disseminate climate information in a way that is appropriate to distinct audiences (e.g., policy makers, implementers, and affected populations)?

4. What significant results or impacts have emerged from interventions providing climate information services? How many people took up that information, what did they do with it, how did it help them?
5. What forms of traditional knowledge and practice (e.g., nature-based solutions) are best suited to mobilizing communities in the LAC region for collective climate action?
6. In the LAC region, what are the critical elements of climate-smart or climate-resilient agriculture that distinguish it from more common, traditional agricultural production practices?
7. How best to incentivize engagement of the LAC region's expansive youth population as "agents of change" in proactive approaches to climate adaptation (e.g., climate-resilient livelihoods, community-level planning, nature-based solutions, etc.)?

Acknowledgements: *CALA would like to thank the USAID Climate Adaptation Support Activity (CASA) for their assistance in summarizing notes and recordings from this regional learning event to help prepare this brief*

Disclaimer: *This brief is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of the Climate Adaptation Learning Activity (CALA) and do not necessarily reflect the views of USAID or the United States Government.*