Land and natural resources are discrete, finite, and fundamentally important assets. In developing countries, they constitute a substantial part of personal and national wealth. A country’s approach to land and resource governance (LRG) contributes significantly to its broader socioeconomic development. LRG is increasingly recognized as a foundational component of many key environment and sustainable development strategies, and effective LRG strategies at all scales can contribute to achieving positive human well-being and environmental outcomes (White House, 2021).

Strengthened LRG is a catalyst for sustainable economic growth. If well governed, land and natural resources are also fundamental for achieving many other development objectives, from conserving biodiversity and mitigating the impacts of climate change, to empowering women and bolstering civil society. If poorly managed, they can exacerbate environmental degradation and conservation crimes, and increase inequality, corruption, and conflict.

This reference sheet is part of a series of materials aimed at USAID Missions and other Operating Units interested in integrating LRG into their programming. Each reference sheet in this series briefly outlines existing evidence on the links between LRG and an adjacent development topic—in this case, climate change—and provides practical guidance for integrating LRG considerations across the Program Cycle.
Why LRG Matters for Climate Change

Climate change represents an existential threat to communities worldwide. In addition to directly causing environmental degradation and threatening livelihoods, climate change is also a threat multiplier, exacerbating existing challenges and inequalities. Its effects will be the most severe in developing countries.

The Biden Administration’s EO14008: Executive Order on Tackling the Climate Crisis at Home and Abroad, re-centered climate change within federal policymaking and called for a government-wide approach to address the issue (Ibid.). Climate change is a top priority for USAID leadership, and the Agency requires the consideration of climate change issues at each stage of the Program Cycle (Brown and Morgenstern, 2021). LRG has an important role to play in this work.

LRG systems create incentives for sustainable or unsustainable land uses (McLain, Lawry, & Ojanen, 2018). Effective LRG promotes proper management and careful restoration of land, resources, and ecosystems more broadly, which can help to mitigate the impacts of climate change. Strengthened LRG, for example, can ensure that nature-based solutions, or NbS (which have been identified as making a significant contribution to rapid decarbonization) are centered on environmental justice as well as climate action (UNEP, 2020). Investing in land rights’ recognition, responsible land management, inclusive land use planning, and natural climate solutions (especially in tropical forests, which are some of the most effective landscapes for carbon sequestration), represent cost-effective ways to achieve significant climate mitigation (Griscom et al., 2020).

Equitable LRG systems that recognize and protect the rights of women and girls to access, use, control, own, and benefit from land and the natural resources found on land can also contribute to positive climate action. The adverse impacts of climate change disproportionately affect the poor (IPCC, 2019) and among the poor, women face unique challenges. Secure LRG can help women by creating positive incentives to invest in and improve housing and farming plots, helping improve resilience and increase their adaptive capacities (Meinzen-Dick et al., 2019). Additionally, with secure LRG, women often have new opportunities to participate in land use management and land use planning processes, bringing their diverse knowledge and experiences to help identify and implement sustainable approaches to climate action (IUCN, 2015).

Well-constructed policies that uphold and strengthen Indigenous Peoples’ and local communities’ (IPLC) land and resource rights can work in conjunction with other policy levers to avoid deforestation and aid in carbon sequestration. Indigenous Peoples and local communities own or manage more than a quarter of the world’s lands, which intersect with 40% of land-based Protected Areas and intact landscapes, and there is clear and growing evidence that the lands that Indigenous Peoples and local communities manage are highly effective at sequestering emissions (USAID, 2021). For example, research shows that securing Indigenous land rights is five to 42 times less expensive than the...
average cost of CO₂ trapped through fossil carbon-capture and storage (Ding et al., 2016). And yet despite these documented benefits, and despite the fact that Indigenous Peoples’ and local communities’ relationships with the environment are profoundly affected by climate change, their lack of secure and documented land rights often lead to their exclusion from climate decision-making processes. This minimizes their ownership, voice, knowledge and leadership, and detracts from global efforts to address climate change.

Moving beyond mitigation, societies around the world must begin adapting to climate change. Although individuals and communities often relocate temporarily in response to environmental disasters such as storms and wildfires, climate change is increasing the severity of slow-onset processes like sea level rise, variation in seasonal precipitation, and extremes of temperature (McAuliffe, Bauloz, & Kitimbo, 2019). These environmental changes put long-term pressure on lands and, by extension, communities. This limits their options and prospects.

LRG programs can address climate-related displacement and conflict at multiple scales, from strengthening localized community action plans to informing global migration frameworks. When migrants receive LRG support during relocation (which can include support for the preservation of their traditional knowledge systems as well as access to land for housing or to grow food), this increases their resilience. If they have titles or other proof of the housing and land they leave behind, they may be better able to protect these assets, access compensation in the case of destruction, and make more informed decisions about where they will go. In general, formal recognition of land rights is associated with better environmental outcomes (Hajjar, Persha, & Patterson-Stein, 2021; Pacheco and Meyer, 2021). Focusing on solutions that can accommodate different governance mechanisms while putting local people at the center of planning and management should be a priority (Fischborn and Sandwith, 2021).

LRG is a facilitator of NbS to climate change. These include projects to help communities and ecosystems thrive in a changing climate, natural climate solutions that address climate mitigation, and ecosystem-based adaptation (EbA). Interventions that focus on climate resilience must have LRG at their core or risk exacerbating conflicts and further marginalizing women and girls (Goddard and Lempke, 2013). Formal recognition of rights facilitates the equitable sharing of benefits arising from climate change interventions like payment for ecosystem services (PES) activities, or climate finance interventions on communally-held lands.

However, if LRG is not taken into account when considering adaptation and mitigation efforts, this can cause conflicts and exacerbate existing inequalities, especially for women (Olson, 2018). Climate change is not gender neutral, as women are often the most impacted by environmental degradation and climate-induced disasters. Women also often lack adequate control and access to land and land-based resources, and this lack of control impacts their ability to manage land, including for mitigation purposes (Arneth et al., 2019). However, women and girls, when empowered to harness their knowledge and skills, can lead climate action and make a powerful impact (ISPONRE, UNEP, & UN Women, 2021). For these reasons, secure land rights are integral to improving women’s resilience to climate change.

Finally, adaptation or mitigation initiatives undertaken by countries to decarbonize in line with the Paris Agreement, to meet their Nationally Determined Contributions (NDCs), or to align with the Sustainable Development Goals (SDGs) have the ability to profoundly alter institutions of governance, to affect property rights, and potentially to lead to injustices (Cotula, Finnegan, & Macqueen, 2011; Griffiths, 2018). The “transformative” change called for by the Intergovernmental Panel on Climate Change (IPCC) demands rapid action by governments (IPCC, 2018); and if communities’ rights are not formalized and placed at the forefront of both sustainable development and climate planning, they may further exacerbate inequalities, especially in cities (Anguelovski et al., 2016). Fundamentally, integrating LRG considerations into adaptation and mitigation actions ensures greater resilience to the impacts of climate change, improves land stewardship, and protects the rights of communities.
HOW DOES CLIMATE CHANGE IMPACT LAND AND RESOURCE GOVERNANCE?

While LRG programming can help to achieve development objectives related to climate change, especially mitigation and adaptation, it is also important to consider the impact of climate change on land and resource governance:

• The environmental impacts of climate change may cause unpredictable shifts in the use and value of land and resources: farmland may be damaged by saltwater intrusion, erosion, or desertification; coastal property may disappear beneath the waves; ports may need to change location; and entire agricultural regimes may become unsustainable in new “climate realities,” whereas other areas may see property values rapidly increase.

• These impacts have the potential to destabilize governance and property rights regimes, generate land and resource conflicts, and create regulatory vacuums that powerful actors can use to their advantage to grab land.

• Climate-related movement is on the rise, and it is estimated that an additional 143 million “climate migrants” will be displaced from their homes in Sub-Saharan Africa, Southeast Asia, and Latin America by 2050 (Rigaud et al., 2018). This mass movement of people will likely create new pressures on land and resources, possibly creating or worsening conflict.
Insights from the Field and Research

Past and ongoing USAID projects and research demonstrate that land and resource governance programming can effectively contribute to climate change-related development objectives. Below are examples of recent projects and research that incorporated LRG to mitigate the impacts of climate change and/or assisted vulnerable communities better adapt to the changing planet.

**MITIGATION**

In Zambia, USAID’s Tenure and Global Climate Change (TGCC) project aimed to reduce carbon emissions from deforestation through participatory natural resource management and the issuance of customary land certificates. An impact evaluation of the project found that securing customary tenure within the project area was associated with increased agroforestry adoption (USAID, n.d.).

In Zambia, USAID’s Integrated Land and Resource Governance (ILRG) program is increasing women’s participation in Community Resource Boards (CRBs), which manage natural resources and wildlife inside Game Management Areas, protected areas buffering national parks. Studies show that involving women more fully in local forest governance can improve forest and other natural resource management (Agarwal, 2009).

In Indonesia, USAID’s LESTARI Project worked with the national government to reduce greenhouse gas emission from land use and to conserve biodiversity in forest and mangrove ecosystems. The project applied a landscape approach, integrating forest and peatland conservation with low emissions development on degraded land. Among other aims, LESTARI worked to improve land use governance and succeeded in reducing 76 million tons of greenhouse gas emissions from the land use sector.

In Ghana, the ILRG program partnered with The Hershey Company and Ecom Agroindustrial to restore forest and support resilient agroforestry. The project tested a cost-recovery model for mapping and documenting farm parcels and financed agroforestry farm rehabilitation. The project is also implementing a PES scheme funded by Hershey and managed by Ecom, with technical assistance from USAID. The PES will provide incentive payments directly to farmers for verified environmental outcomes. This intervention will be combined with tree planting, alternative dispute resolution, and participatory land use planning.

In Vietnam, USAID’s Vietnam Forests and Deltas (VFD) program, implemented between 2012 and 2021 improved forest management in the country’s Thanh Hoa and Nghe An provinces, and helped develop the national policy for the country’s Payments for Ecosystem Services (PFES) program. VFD’s work with the World Bank’s Forest Carbon Partnership Fund has resulted in the release of $650,000 for the development of Vietnam’s Reducing Emissions from Deforestation and Forest Degradation (REDD+) program, improved management of nearly 1.5 million hectares of biologically significant lands or natural resources, and reduced or sequestered nearly 54 million tons of greenhouse gas (GHG) emissions.

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1 These findings are consistent with an assessment of the Community-Based Forest Management Program (CFP), a USAID-funded program focused on reducing emissions from deforestation and forest degradation (REDD+) in eastern Zambia, which found that more secure tenure is associated with better forest conditions.
ADAPTATION

The ILRG program is empowering women potato farmers in West Bengal to mitigate and adapt to climate change through a partnership with PepsiCo. During the first two years, USAID and PepsiCo have provided gender awareness training to all PepsiCo staff in West Bengal and agricultural extension services to over 1,000 women potato farmers. Additional training on sustainable farming practices like composting, reducing crop residue burning, soil testing, responsible pest control, and using drip irrigation contributes to climate change mitigation and adaptation efforts by maintaining soil carbon levels, reducing air pollution and CO2 emissions, and reducing pesticide runoff and water contamination. In addition, the partnership is increasing women’s access to productive resources, information, and income diversification, reducing women’s vulnerability, and increasing household resilience.

In the 2016 report, Where the Land Meets the Sea, USAID suggests that mangrove forest governance and tenure security face major challenges, impacting climate change programming. Because mangroves are situated between the land and sea, their management is complex, leading to fragmentation across jurisdictions. Without the recognition of customary land rights over mangroves, these ecosystems tend to deteriorate, hampering broader adaptation to rising seas. A transition is underway towards increased community participation in management, and experimental community-based approaches and further research should focus on the role and influence of international organizations and NGOs in shaping management approaches, as well as the role of gender.

In Burkina Faso and Niger, USAID’s Resilience and Economic Growth in the Sahel–Enhanced Resilience (REGIS-ER) project worked to increase the resilience of chronically vulnerable people, households, communities, and systems in the agriculture and aquaculture sectors by increasing sustainability, strengthening governance and institutions, and improving health. The project enabled effective, flexible, and inclusive natural resource management that is capable of adapting to changing conditions associated with population pressure and climate change. Because of REGIS-ER, more than 17,000 vulnerable stakeholders were trained in climate change adaptation techniques to improve natural resource use and productivity. Further, 1,100 hectares of degraded lands were restored for tree or crop production.

In the 2018 report, Ecosystem-based Adaptation and Coastal Populations, USAID argues that development programming that protects and restores coastal ecosystems can reduce vulnerability of coastal zones to climate risks, including risks to food security, health, livelihoods, water supply, economic growth, and sanitation. The report suggests that EbA approaches are very effective for building resilience in coastal land management and adapting to climate change but require incentives for and engagement with local and cross-sectoral stakeholders. Any programming should also implement an integrated approach that centers EbA within broader development strategies.
LRG programs can address climate-related displacement and conflict at multiple scales, from strengthening localized community action plans to informing global migration frameworks. When migrants receive LRG support during relocation, including support for the preservation of their traditional knowledge systems or access to land for housing or to grow food, this increases their resilience. If they have titles or other proof of the housing and land they leave behind, they may be better able to protect these assets, access compensation in the case of destruction, and make more informed decisions about where they will go. In general, formal recognition of land rights is associated with better environmental outcomes.
To make the case for LRG as a climate change solution, use the following talking points that link LRG with critical climate change outcomes, policies, and priorities.

- Integrating LRG into climate change policies and programs can improve resilience to the impacts of climate change while also protecting the rights of communities.

- Climate change is not gender neutral; securing women’s land rights is one important strategy to promote equitable climate action.

- Climate-related movement is on the rise, and experts estimate that an additional 143 million “climate migrants” will be displaced from their homes in sub-Saharan Africa, Southeast Asia, and Latin America by 2050. LRG programs can help reduce conflict and improve outcomes for climate migrants, the communities they leave behind, and the new communities they enter.

- Good LRG policies, in conjunction with other policy levers, can protect natural landscapes and biodiversity and reduce deforestation while improving incomes and economic growth.

- Investing in responsible land management is a cost-effective way to reduce emissions. Studies show that improving Indigenous land tenure is five to 42 times less expensive than the average cost of trapping CO2 through fossil carbon-capture and storage.²

Further Resources

PROGRAMMING LRG

Whether through standalone programs or as a component of larger programs, improving LRG can increase the effectiveness of USAID’s climate change work and improve outcomes.

The LRG Division in USAID’s Center for Environment, Energy, and Infrastructure (EEI) provides a wide range of evidence-based technical advisory services and tools to help Missions better understand LRG trends as they relate to climate change. The resources can help effectively plan, implement, and evaluate LRG programs. These include:

How to incorporate LRG across the Program Cycle (see Annex A):

- Integrating LRG into the Country Development Cooperation Strategy (CDCS)
- Designing LRG Projects and Activities
- Monitoring, Evaluating, and Learning from LRG Programs
- Geospatial analysis, strategic planning, and LRG assessments and analysis

Available mechanisms to support LRG programming (see Annex B):

ADDITIONAL LEARNING

Need more inspiration? Check out these additional resources linking LRG and climate change.

- Land and Development: A Research Agenda for Land and Resource Governance at USAID
- Issue Brief: Climate Change, Property Rights and Resource Governance
- Issue Brief: Land Tenure and Climate-Smart Agriculture
- Evaluation: Community-Based Forest Management Program in Zambia
- Evaluation: Supporting Deforestation-Free Cocoa Initiative in Ghana
- Evaluation: Tenure and Global Climate Change in Zambia
- Toolkit: Climate Risk Management
References


Integrating and Funding LRG across the Program Cycle

The EEI/LRG team is available to help Missions and Operating Units with each of the following Program Cycle analysis considerations.

Integrating LRG into the Country Development Cooperation Strategy

Incorporating LRG into the Country Development Cooperation Strategy (CDCS) process should start with examining how LRG will present the Mission with opportunities to achieve high-level development outcomes. The assessment above will assist in this regard. For example, if the Mission is contemplating a development objective (DO) related to democracy-building outcomes, understanding the impact of improved land and resource rights on these broader outcomes will help the Mission understand whether to incorporate LRG into the DO or Intermediate Result (IR) that feeds up to the DO. Even if the Mission determines that LRG does not warrant a DO or IR, it may still be useful to consider LRG trends, both during the life of the CDCS and beyond, as part of scenario planning.

Integrating LRG into Project Design and Implementation

Integrating LRG may entail a stand-alone project, or it may involve integrating LRG as a component of a broader project. The general process is as follows:

- **Initial Assessment**: Consider how an LRG project or component would contribute to achieving a DO or IR within the CDCS Results Framework. This step should involve an assessment of the particular development challenge, how LRG impacts that challenge, and how LRG solutions can contribute to addressing that challenge. This Toolkit (Sections 5 and 6, particularly) provides questions to ask and key considerations. One critical task is to identify key stakeholders, who may include national and municipal institutions (for example, the national or local land ministry), civil society organizations, other donors, private sector actors, and local communities within the planned intervention area. In particular, it is important to pay attention to stakeholders with traditionally vulnerable land and resource rights, including women, youth, ethnic minorities, and Indigenous Peoples.

- **Project Design**: Prior to developing a project, in addition to mandatory analyses, it may be beneficial to conduct additional analyses relevant to LRG, including political economy analysis, future scenario planning/analysis, youth analysis, and conflict analysis. As the project is being designed, it is key to embed local ownership in the process by consulting with key local stakeholders to ground-truth the appropriateness of the activities. It is especially important to include sub-national government actors as stakeholders.
Monitoring, Evaluating, and Learning from LRG Programs

Regular monitoring and review of LRG projects can support both adaptive management and accountability. All LRG activities should follow the Agency’s monitoring and evaluation guidance in ADS 201.

- **Develop a Project Monitoring, Evaluation, and Learning (MEL) Plan as part of project design and update it during project implementation.** The MEL Plan should define how the project team will collect, organize, analyze, or apply learning gained from project data collection, along with appropriate indicators and disaggregation. The MEL Plan should also define a learning plan, especially given the cross-cutting and context/setting-specific nature of LRG work. Such a plan might examine opportunities for relevant stakeholder engagement within the Mission, or with other donors, the national government, and beyond in order to enhance collaboration and synergies across sectors and settings. Similarly, a learning plan could highlight how to share and apply implementation lessons regarding opportunities, needs, or constraints in one context or setting, or around the complex interplay between sectors and rural/urban settings. Finally, a learning plan might specify analytical tools to be used, processes for developing participatory learning/research agendas, and reflective processes to ensure that triggers for change in approach are noted and acted upon. If the MEL Plan contemplates an impact evaluation, this evaluation should be planned at the outset of the project, as impact evaluations are more difficult to incorporate once a project is under way.

- **Facilitate an intentional approach to collaborating, learning and adapting (CLA).** CLA is particularly important for LRG activities because they are often components of larger projects, and because LRG interventions must work in concert with other activities to be effective. Collaboration approaches could include joint work planning and regular partner meetings that facilitate knowledge and/or data sharing. Discussions during these meetings could focus on challenges and successes in implementation to date, changes in the operating environment or context that could affect programming, opportunities to better collaborate or influence other actors, emerging risks that threaten the achievement of objectives, and/or other relevant topics.
Available Mechanisms

EEI/LRG manages an Indefinite Delivery and Indefinite Quantity Contract (IDIQ) and several Task Orders related to land and resource governance. The following mechanisms are available for Mission and Operating Unit (OUs) buy-ins.

- **Strengthening Tenure and Resource Rights II (STARR II) Indefinite Delivery Indefinite Quantity Contract (IDIQ):** Managed by EEI/LRG, the STARR II IDIQ is a $650 million, multi-faceted field support mechanism available for Missions and other Operating Units to buy into for activities through July 2025. STARR II is designed to provide short- and long-term technical assistance to improve land tenure, property rights, and resource governance through targeted interventions or integrated activities in support of broader development objectives. Missions and OUs can either buy into the existing STARR II Task Orders listed below, or procure a new Task Order under STARR II. Read more here.

- **Integrated Land and Resource Governance (ILRG):** This Task Order under the STARR II IDIQ is available for Missions and OUs to buy into activities through July 2021, with option years extending to July 2023. ILRG can provide short- and long-term technical assistance, analytical services, and field implementation across the following areas of support: land and resource law and policy development; policy implementation, including clarifying, documenting, registering, and administering rights to land and resources; building land and resource governance capacity of local institutions; and facilitating responsible land-based investment. Read more here.

- **Integrated Natural Resource Management (INRM):** This Task Order under the STARR II IDIQ is available for Missions and OUs to buy into for activities through July 2025. INRM provides on-demand support services and technical assistance across a wide array of environmental and natural resource management issues and sectors. The activity aims to strengthen the impacts of environmental programs, identify and adopt best practices for integration, respond to strategic shifts at the Agency, and build constituencies for integrated programming to achieve development and humanitarian assistance outcomes. INRM is designed to support the uptake of principles and approaches outlined in the Agency’s Environmental and Natural Resource Management (ENRM) Framework. Read more here.

- **Artisanal Mining and Property Rights (AMPR):** This Task Order under the STARR II IDIQ is available for Missions and OUs to buy into for activities through September 2021, with option years extending to July 2023. AMPR is USAID’s flagship project for addressing complex development challenges in the artisanal and small-scale mining (ASM) sector. The program is primarily focused on diamonds in the Central African Republic, but is designed to provide on-demand, short-term technical assistance to any USAID Mission and Operating Unit (OU) on development challenges associated with ASM. Read more here.

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Questions? Contact the EEI/LRG team at landmatters@usaid.gov.