

Investing in Landscapes for Integrated, Inclusive, and Climate-Resilient Development

LOOKING AT THE BIG PICTURE TO MAXIMIZE BENEFITS

Despite economic growth in many parts of the world, development needs are great and taking a toll on natural resources. Environmental degradation perpetuates poverty in which the most vulnerable people lack access to adequate resources needed to survive. Poor management of natural resources also threatens the gains achieved by growing economies.

In rural areas, where 78 percent of the world's poor lives, environmental neglect contributes to degraded land, water scarcity, falling yields, and economic migration. In cities and coastal areas, the lack of environmental and spatial planning translates into costly and scarce water, food, and energy supplies, pollution-related disease, and increased vulnerability to natural disasters such as floods or tsunamis. The World Bank supports a more integrated approach for



managing land and coastal resources sustainably and for multiple purposes and functions—a landscape approach. Managing renewable natural resources in an integrated way across different land uses and connecting them at landscape level provides the basis for enhancing people's livelihoods, security, and resilience to climate variability and change. For policy makers, it is a chance to plan across economic sectors to minimize trade-offs and reap more value from existing resources

- **Poverty:** 42 percent of the world's poorest live on land that is classified as degraded.
- **Loss:** Every year, 24 billion tons of fertile soil is eroded and 12 million hectares of land are degraded through desertification and drought. Land degradation costs the world US\$10.6 trillion/year.
- **Opportunity:** About 2 billion hectares of degraded forest land could be restored to functional, productive ecosystems, delivering multiple development and climate benefits.

by focusing on development challenges at the right scale.

Working across sectors at the landscape level promises to deliver many of the solutions to our most pressing challenges. However, unlocking these wins on a meaningful scale will not be easy; it requires new levels of planning coordination, regulations, investments, and knowledge sharing.

The World Bank has been working at a landscape level for over two decades, drawing lessons from successes such as the Loess Plateau, in China, where a large-scale erosion control program, including natural regeneration and bans on grazing, returned a devastated plateau to a thriving landscape supporting sustainable agricultural production, and improving the livelihoods of 2.5 million people. Ten years later, a similar approach helped increase incomes and fight deadly erosion in the Humbo Mountain area of Ethiopia, generating carbon credits as an added benefit of landscape restoration.

Through analytical work, the Bank has made a solid case for investing and managing land and natural resources more strategically, for multiple uses and multiple benefits. For example, in the Indian state of Himachal Pradesh, two key growth sectors—tourism and hydropower generation—depend on the sustainable management of forest landscapes. The World Bank provided technical assistance to help the state value the water regulation and soil retention services that forest landscapes provide to improve hydropower’s effectiveness.

LANDSCAPE APPROACHES CENTERED ON NATURAL RESOURCE MANAGEMENT

The World Bank’s Environment and Natural Resources (ENR) Global Practice works with experts across economic sectors to put effective programs in place that prioritize sound natural resource management as the basis for inclusive and resilient growth. It uses its convening power and global experience to bring together national and local stakeholders around a shared vision for improved natural resource manage-



ment in a given landscape, then delivers projects that put lives and economies on a more resilient pathway out of poverty.

In practice, the landscape approach is about land-use planning and connecting the dots between protected areas, forests, woodlands, agro-silvopastoral lands, watersheds, croplands, and irrigated agricultural lands for the provision of ecosystem services, adaptation to climate change, and increased productivity.

Landscape restoration techniques that improve crop yields, reduce erosion, and enhance the provision of water include, for example, agroforestry and silvopastoralism that integrate trees on farms and ranches, cross-slope barriers and farmer-managed natural regeneration to fight soil erosion, conservation area management to protect water sources, and climate smart agriculture that uses less water and builds up soil for more resilient crops. Many of these interventions deliver a “triple win” by increasing livelihoods, enhancing resilience to climate change, and storing carbon to mitigate climate change.

RECENT LANDSCAPE PROGRAMS

The ENR Global Practice supports global partnerships, regional programs, and country-specific investments and technical assistance to transform the lives of people in rural, coastal, and peri-urban areas, through ambitious landscape programs. Next are a few recent examples.

The Great Green Wall Initiative in the Sahel and West Africa

The Great Green Wall Initiative is a trans-African initiative led by the African Union that aims to reverse land degradation and desertification, boost food security and support local communities to adapt to climate change in the Sahel and West Africa. The Bank's TerrAfrica Platform supports this initiative through an umbrella program active in 12 countries (Benin, Burkina Faso, Chad, Ethiopia, Ghana, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan and Togo). A regional hub provides opportunities for knowledge exchange and communication across this portfolio. The Great Green Wall Initiative also leverages finance from the Global Environment Facility (GEF), the Forest Carbon Partnership Facility, Norway, the European Union, and government contributions. By doing so it ensures a long-term, programmatic and coordinated approach to investments in resources and ecosystems.

Amazon Sustainable Landscapes Program

This program, recently approved for funding by GEF, aims to protect globally significant biodiversity and implement policies to foster sustainable land use and restoration of native vegetation cover in Brazil, Colombia, and Peru. The program aims to maintain 73,000,000 hectares of forest land, promote sustainable land management in 52,700 hectares, and support actions that will help reduce CO₂ emissions by 300 million tons by 2030. Together with the World Bank as lead agency, the World Wildlife Fund and the United Nations Development Programme will be implementing the program, which builds on decades of work in the Amazon by governments, bilateral and multilateral agencies, civil society organizations, and private donors, but takes, for the first time, an integrated and coordinated approach to protecting a significant portion of Amazon ecosystem.

Transfrontier Conservation Areas and Tourism Development in Mozambique

Landscape connectivity and integrated landscape management approaches were essential in the successful delivery of this program aimed at conserving biodiversity and promoting economic growth through nature-based tourism. Wildlife corridors play an important role for both marine and terrestrial species



such as whale sharks and African elephants; several of Mozambique's conservation areas share biodiversity and ecological linkages with neighboring countries; and different types of land and threats to biodiversity require collaboration across multiple stakeholders including local governments, communities, smallholders, and large-scale private land owners. The program bolstered cooperation among neighboring countries, expanded conservation areas, improved infrastructure, created new enterprises, revenue and jobs for local communities, and contributed to increasing tourism by almost 200 percent between 2006 and 2013. The program is now in its third phase—the Conservation Areas for Biodiversity and Development Project. Additional initiatives, financed by climate funds, will seek to rehabilitate degraded lands, reduce carbon emissions, and improve resilience in poor areas vulnerable to climate variability and change.

Integrated Silvopastoral Approaches to Ecosystem Management in Latin America

After years of intensive grazing in Colombia, Costa Rica, and Nicaragua, pastures were degraded, erosion was accelerating and livestock productivity was falling. A pilot project introduced silvopastoral techniques and payments for environmental services to rehabilitate degraded pastures and generate additional income. Integrating trees in pastures produced multiple wins: biodiversity, water quality, milk production and income rose, while methane emissions decreased. A follow-up project which runs till 2018 focuses on the adoption of environmentally friendly livestock breeding close to

strategic ecosystems and protected areas. This work is also being scaled up in the Orinoquia region of Colombia by the BioCarbon Fund, through a US\$67 million Integrated Sustainable Landscape Program that will incentivize socially and environmentally responsible investments in the region, including through the payment and equitable distribution of carbon credits, to help reduce poverty and climate vulnerability.

Climate Adaptation and Mitigation Program for the Aral Sea Basin

The program, approved in November 2015, seeks to reap the benefits from regional cooperation and collaboration to address the mounting challenges of climate change. The program will strengthen the knowledge and information base on climate change risks and provide financing and technical assistance to rural communities for climate-smart investments under the landscape approach. The program's success in Central Asia would indeed demonstrate that the sum is greater than the parts when it comes to acting quickly and smartly in a warming and increasingly interconnected world, by integrating multiple country priorities (water, energy, agriculture). The program will work in each of the major agro-ecological systems in Central Asia (mountains, foothills, rangelands, irrigated, and arid) in order to look at connectivity of different land uses.

Reducing the Cost of Forests and Rangelands Degradation in Tunisia

Technical Assistance provided by the World Bank quantified the damages resulting from degradation of forests and rangelands to bring attention to the problem and target responses at the appropriate landscape level. Approximately 70 percent of poor households in Tunisia are located in lagging areas, especially in the Central West and North West regions, which comprise more than 70 percent of the country's forests and rangelands resources. These ecosystems are home to 14 percent of the country's population; with an average income of less than US\$1.6 per capita per day, these communities are close to extreme poverty. Moreover, 40 percent of their income derives from forests and rangelands activities (for example, livestock, forestry, non-timber forest products),



demonstrating that the survival of these communities is highly dependent on resilient landscapes.

Biodiversity Conservation and Rural Livelihood Improvement in India

This US\$31 million project, financed by the World Bank, GEF, and the Government of India, helps address extreme poverty and supports economic growth through conservation-focused models at a landscape scale. These models go beyond the Protected Area boundaries, support the preparation and implementation of village microplans, and track benefits accrued to beneficiaries, including women. The project seeks to demonstrate the benefits of landscape conservation approaches at two pilot sites, then to scale up and replicate these successes elsewhere, while strengthening knowledge management, capacity, and coordination at the national level.

Mekong Delta Integrated Climate Resilience and Sustainable Livelihoods

In Vietnam, the proposed US\$300 million project would strengthen institutional coordination and planning across the Mekong Delta, and improve resilience of people's livelihoods and assets to climate change in selected vulnerable sub-regions. This would be achieved by strengthening information and decision support systems; reinforcing institutional coordination, planning and capacity; and identifying and financing "low-regret" investments, adopting an integrated landscape approach, in three key sub-regions of the Mekong Delta.