

Payments for Ecosystem Services



Nature supports the well-being of people, providing for physical needs such as food, clean water, and shelter and for mental health with spiritual and recreational benefits. It also provides regulating services that sequester carbon dioxide and build resilience to natural disasters, among others. Often protecting the ability of nature to provide those services is less expensive than a technological fix. Having farmers use fewer chemicals and protect trees and other river buffers, for example, is cheaper than building a new water treatment plant. Using these natural solutions often comes with a host of other benefits. Planting trees, for example, also cleans the air, sequesters carbon, and reduces flooding.

Payments for ecosystem services (PES) is a way to compensate people who are protecting nature or using sustainable practices that provide ecosystem services. Revenue is collected from people who benefit from these practices through taxes or other means and distributed to the providers. For the GEF and partners, PES is a way to secure long-term funding for conservation and sustainable use of natural resources, while correcting a fundamental economic market failure. PES, which includes carbon markets, is also a mechanism to support protected areas, Indigenous Peoples and local communities, and rural farmers who are already using sustainable practices. PES is also a cost-effective approach. It's estimated that New York City's pioneering PES program has saved over \$1 billion in avoided water treatment infrastructure.

With growing concern about climate change, implementing nature-based solutions through PES offers a "no regrets" approach that often delivers many other development benefits. These range from improved water security and reduced impact of natural disasters to global environmental benefits such as biodiversity protection and carbon sequestration.



Global Environment Facility leadership

The GEF has a long history of supporting the establishment and expansion of PES projects in developing countries around the world. In the past four years, the GEF has supported more than 90 projects that include PES at various scales that amount to over \$1 billion in grants. GEF resources often provide foundational support to help launch new PES mechanisms, such as establishing legal, regulatory, and institutional frameworks; undertaking scoping and analysis needs for establishing a fund; providing resources to establish an institution to manage the fund; consulting and communicating with buyers and sellers; and providing seed money for the new fund for early payments to sellers. Additional GEF resources can help a PES program expand to new ecosystems, better include Indigenous Peoples and local communities, and protect additional ecosystem services.

In Uganda, the GEF supported a randomized control trial alongside an investment in a PES project. Farmers received payments of approximately \$18 per hectare to keep trees on their land (rather than cut them down). The result was a halving of the deforestation rate with no evidence that activities had simply shifted elsewhere.

Lasting Results with Positive Externalities

Costa Rica's widely referenced PES program, established in 1996 with support from a GEF project, helped it transform from the country with the highest deforestation rates in Latin America to the lowest. The program started by paying cattle farmers to maintain steep areas as forest rather than convert them to pasture. As one key lesson, the program did not need to pay for the full value of services provided. It only needed to pay farmers the "opportunity cost"—what they would have made if they had used the land. The program also helped achieve other development goals, such as prioritizing the participation of Indigenous Peoples.

Another early success was the Water Fund of Quito, Ecuador: an initial investment of \$21,000 in 2000 grew to \$10 million in just a decade. Currently, this fund provides about \$1 million annually for conservation activities without additional grants, which is particularly important in economic downturns. It has helped replant vegetation, buy land for conservation, and build fences to keep livestock out of water sources; such activities have reduced erosion and cut pollutants in drinking water.

Building on these successes, the GEF worked with partners to create the Latin America Water Funds Partnership. Together, 24 water funds protect watersheds that provide water security for 89 million people while improving the livelihoods of at least 25,000 families—often indigenous or rural poor. In Colombia, for example, the partnership protects two national parks located high in the Andes mountains that provide as much as 80% of the water needs of Bogotá—a city of 11 million.

When the government of Jakarta, Indonesia needed to fix their dangerously bad air quality, they also turned to a PES program with GEF support. When peatland forests in the vicinity are cleared and planted with crops, they are much more prone to fires which only creates a further cycle of drying and soil degradation. The solution was to pay farmers around Jakarta to protect and restore peatlands. Beyond air quality improvement, the program delivered significant carbon and biodiversity benefits. Peatlands hold 50-70 times more carbon per hectare than any other type of tropical forest and are home to numerous threatened species of animals. The PES program continues beyond the GEF project, which was able to surpass expectations by removing the equivalent of 19 million tons of carbon dioxide from the atmosphere or 140% of its target.

Looking ahead

PES programs have proven to be an effective and lasting strategy to address numerous challenges, while protecting the environment. However, they require significant investment to get started and function properly. The GEF has played a catalytic role to build this architecture. GEF funding has leveraged financial contributions from bilateral, multilateral, and nongovernmental organizations, as well as concessional loans. Because the GEF works hand-in-hand with relevant governments, countries have ownership from the beginning. As a result, programs remain long after the initial investment.

The GEF will continue to support the establishment and expansion of these programs while promoting innovation. PES programs make it possible to use limited conservation resources from grants and official development assistance to leverage a variety of sources and mobilize domestic resources. The GEF is looking towards innovation in PES from various sources, including maturing carbon markets, developing biodiversity credits, and the growing focus on nature-based solutions. Having helped provide the proof-of-concept, the GEF expects PES programs will continue to grow in number and scope especially because they are an effective tool for achieving progress on the SDGs, the Paris Agreement, and the Global Biodiversity Framework.

About the GEF

The Global Environment Facility (GEF) is a multilateral fund dedicated to confronting biodiversity loss, climate change, pollution, and strains on land and ocean health. Its grants, blended financing, and policy support helps developing countries address their biggest environmental priorities and adhere to international environmental conventions. The GEF connects 185 member governments with sustainability leaders across civil society, Indigenous Peoples, and the private sector, and works closely with other environmental financiers for efficiency and impact. Over the past three decades, the GEF has provided more than \$22 billion in grants and blended finance and mobilized \$120 billion in co-financing for more than 5,000 national and regional projects.

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