

OCTOBER 2011

ABOUT THIS PROJECT

Name

Ecosystem Services for Poverty Alleviation

Partners

UK Department for International Development, The Economic and Social Research Council, The Natural Environment Research Council

Time frame

2009 to 2016

ESPA regions

Amazonia, China, South Asia, Sub-Saharan Africa

ESPA themes

Biodiversity, coasts, forests, health, political economy, water

Objective

ESPA research will provide evidence and tools for decision makers to manage ecosystems in a way that helps reduce poverty and supports inclusive and sustainable growth.

Summary

The Ecosystem Services for Poverty Alleviation (ESPA) programme aims to deliver high-quality, cutting-edge research that will improve understanding of how ecosystems function, the services they provide and how they can reduce poverty and enhance wellbeing for the world's poor. Unique in its vision, which links ecosystem services to poverty alleviation through world-class science, the programme is generating new knowledge while empowering local communities.

Most recently, ESPA commissioned a series of 18 one- to two-year research projects demonstrating new ways of looking at links between ecosystems and human wellbeing. These projects are beginning to yield development benefits for local people, tools and guidance for decision makers, and influence on international policy arenas.

ESPA impacts

An interdisciplinary research programme applies new tools to show how ecosystem services can reduce poverty



We all rely on the services that healthy ecosystems provide. The world's poorest people are often most directly dependent — left empty-handed if firewood or fertile cropland becomes scarce, for example, or exposed to flooding from degraded watersheds. But many of these same people serve as custodians of globally important resources, such as forests that soak up carbon emissions.

There is also growing evidence that recent efforts to reduce poverty have had severe impacts on ecosystems, which could lead to greater vulnerability and poverty in the future. The relationship between ecosystems and poverty is increasingly recognised, but we still know little about how both sides can thrive in a rapidly changing world.

The Ecosystem Services for Poverty Alleviation programme produces knowledge and tools to address this challenge, through research in Amazonia, China, South Asia and Sub-Saharan Africa. Two years into the seven-year programme, we are seeing early impacts, from local communities to international policy.

Innovations and results

Four examples show how ESPA projects are innovating different aspects of environmental and development research. On Kenya's coast, a project called Swahili Seas — co-led by a top Kenyan ecologist — has struck a deal to sell carbon storage from conserved and restored mangrove forests. As the first 'carbon credit' project for mangroves, the project taps a new source of funding for community-based conservation. Practical solutions, such as carbon-accounting methods and spending priorities defined by the village council, provide a working model for other groups.

In Bolivia's Santa Cruz valleys, a local NGO is also arranging to pay local people for protecting forests. But here the focus is on improved research design and cost-effectiveness. The project takes an idea from experimental economics — controlled programme evaluations that scientifically measure impact — and applies it, for the first time, to conservation and poverty. Results will

reveal whether expanding the scheme across Bolivia would effectively protect forested watersheds and improve lives. Worldwide, such 'payment for ecosystem services' programmes could grow to billions of dollars a year — but first researchers and practitioners must learn to show how the money is well spent.

A project in eastern China has compiled histories of ecosystem services such as water quality and soil stability that support local livelihoods. Researchers reconstructed the unusually extensive records from clues layered in lake sediments. Combined with social and economic timelines, the new data are key to identifying crucial systems on the verge of collapse. The group has also borrowed a communications tool from the financial world, creating an Ecosystem Services Index, analogous to the Dow Jones Index, that combines the fates of six different life-sustaining resources into a single trendline — which has halved in 40 years.

Another group is re-examining human wellbeing in relation to ecosystems, promoting the new concept of 'just ecosystem management'. They argue that issues of justice — whose rights are recognised, how benefits are distributed or traded off — often determine whether socioeconomic gains from ecosystems reach those most in need. Their ongoing case studies around the world reveal that arguments about justice lie unseen behind many conservation debates, and they are helping policymakers address these issues for the good of poor people.

These projects generate benefits for local poor.

For example, part of Swahili Seas' US\$15,000-per-year carbon contract will employ local villagers and fund new community buildings. The Bolivian scheme has signed up farmers for in-kind payments such as beehives that allow steady income from intact forests, and its study of cost-effectiveness is being watched closely by development agencies such as DFID.

Global business and policy leaders are also demanding ESPA's emerging evidence: the Kenyan Prime Minister's office, for example, will use reports from Swahili Seas during 2011 UN climate change negotiations in South Africa. And ESPA's new tools for policymakers and practitioners — including the Ecosystem Services Index, workshops on justice thinking, a map of mangroves' value in Kenya, statistical models in China and Bolivia — are designed to be easy to spread elsewhere.

Next steps

ESPA is now commissioning large consortium projects to build on the lessons from earlier rounds of research, and will make other major research investments in the next two years. Meanwhile, the international community keenly feels the need to better understand poverty-ecology links. For example, the Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services, a global forum to be established next year, will bring together the best evidence in this field. ESPA's role is to feed new findings into that global debate, but also to help set the agenda going forward, identifying the next big questions to tackle.

NEW KNOWLEDGE

- ESPA projects demonstrate visionary ways to design research and measure impact. In Bolivia, an ESPA-funded project is applying a rigorously scientific approach, inspired by experimental economics, to measure whether a 'payment for ecosystem services' scheme can improve forest cover and people's lives.
- Other projects are also generating important new data, including some types of evidence usually unavailable — such as a detailed multi-decade record of six different ecosystem services, reconstructed from lake sediments in China.
- ESPA projects promote innovative concepts that can alter the way policymakers think about solutions. For example, case studies on 'just ecosystem management' highlight arguments about issues of justice and rights that underlie many conservation debates.



CREATING IMPACT

- ESPA is an unprecedented collaboration between three world-leading funders of research in development (DFID), social sciences (ESRC) and ecology (NERC). Interdisciplinary research programmes at this level are rare, and require all involved to move beyond their usual ways of conceiving global problems.
- Some initiatives, such as the first carbon credit project for mangrove forests, explore new sources of support for conservation and poverty alleviation and bring direct benefits to local people. Complementary to this, research measuring the cost-effectiveness of payment schemes will provide the evidence needed for funding pools to grow.
- Many ESPA projects are yielding new tools to influence policy, which other groups could emulate around the world. These range from a satellite-based map totalling up the market value of Kenya's mangroves, to an Ecosystem Services Index summarising ecological trends that threaten people's livelihoods.

The Ecosystem Services for Poverty Alleviation (ESPA) research programme funds high-quality, cutting-edge research to improve our understanding of the way ecosystems function, the services they provide and how they can contribute to poverty alleviation and enhanced wellbeing. This provides the evidence and tools to enable decision makers to manage ecosystems sustainably and in a way that helps improve the lives of the world's poorest people.

This story has been prepared and published by the ESPA Directorate.

The ESPA programme is funded by the Department for International Development (DFID), the Economic and Social Research Council (ESRC) and the Natural Environment Research Council (NERC), as part of the UK's Living with Environmental Change Programme (LWEC).