id21 natural resources highlights #3

conservation

communicating international development research

Ecosystems and human health

In the past 50 years, humans have changed ecosystems more rapidly and extensively than at any other time. Policymakers must consider how these changes affect human health and well-being and the health implications of possible future environmental changes.

A report from the Millennium Ecosystem Assessment focuses on the complex relationship between ecosystems and health. Ecosystem services provide food, water, shelter and clean air. Changes in ecosystems can affect people's livelihoods, income and migration patterns. They can also cause political conflict. These changes in economic and physical security, freedom, choice and social relations also have impacts on health and well-being.

For most countries, recent changes to the world's ecosystems have provided substantial benefits. For example, converting large amounts of land to agricultural use has increased food production. Holding greater amounts of water in reservoirs has increased water supplies. However, poorer populations are more vulnerable to the adverse health and well-being effects that arise from environmental changes. Richer populations, who exert most pressure on global ecosystems, are less vulnerable to these negative health effects.

As human well-being declines, there is a decline in the options available for people to use natural resources sustainably. This puts greater pressure on ecosystem services and can create a downward spiral of increasing poverty and further environmental degradation.

- Globally, the annual absolute number of people killed, injured or made homeless by natural disasters resulting from ecosystem change is increasing.
- Water scarcity is increasing for up to two billion people worldwide. This causes problems with food production, human health and economic development.
- In poor countries, people's health is highly dependent on food from local ecosystems. Changes to these ecosystems can reduce their supply of quality food.
- The destruction of wildlife habitats, for example through logging and road building, increases infectious disease risks. This can be due to changes in the distribution and availability of surface water and agricultural land-use changes.

The increasing exploitation of ecosystem services and the declining condition of most ecosystems are likely to cause irreversible changes to the environment. However, there are various options for policymakers to minimise the impacts of ecosystem destruction on human health and well-being. The researchers suggest that enhancing human well-being while conserving ecosystems requires wide-ranging reforms of governance, institutions, laws and policies.

- Market mechanisms do not automatically address poverty and equity goals.
- Intervention strategies will be more effective in reducing poverty when they respect different degrees, and types of use, of ecosystem services by different communities.

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Evolving environmental management

Poverty reduction and environmental management are increasingly seen as closely related. However, public sector environmental management institutions often focus more on conservation than poverty reduction.

Most natural resources in east Africa are under pressure. This is due to population increase, growing demands for resources, a decline in public investments, poorly defined property rights and economic policies that provide incentives for overexploiting resources. Environmental institutions have struggled to promote wealth creation through the sustainable use of natural resources. They have rarely been able to create situations where poorer people, who depend on natural resources, can sustainably lift themselves out of poverty.

Research from the IDL Group, UK, reviews the changing roles of environmental management institutions in Uganda, Tanzania and Kenya. Governments are taking environmental management more seriously. The environment is increasingly being seen as the foundation of economic growth and poverty reduction and environmental management provisions are now part of national constitutions. This means that the government is legally responsible for providing a clean and healthy environment for its citizens.

- National poverty reduction strategy papers (PRSPs) in all three countries emphasise the need to include environmental and natural resources management in poverty reduction objectives. However, PRSPs do not make clear what needs to be included or how this is supposed to happen in practice.
- Kenya and Uganda have both created National Environmental Management Authorities. However, in Uganda, the authority has come under significant political pressure, which has undermined its power to make decisions. It is almost entirely funded by the World Bank, which further undermines its independence.
- Policy reforms in natural resource sectors (such as tourism, forestry, fisheries and agriculture) reduce the role of government and emphasise the role of the private sector. This means that corporate social responsibility will be important if the reforms are to reduce poverty.

Whilst environmental policy reforms are encouraging, there are potential problems. Private sector-led liberalisation has been adopted as the key approach to economic growth: this does not always guarantee sustainable environmental exploitation.

Further policy changes still need to happen to meet the challenges of equitable environmental governance. In addition:

- More research is needed to provide quantitative data that demonstrates how the environment and natural resources contribute to poverty reduction. This will support future policy reforms.
- Civil society organisations that represent public interest need support, in terms of funding and recognition in policy debates. This will be vital in ensuring the effective regulation of the private sector.

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'The Evolving Roles of Environmental Management Institutions in East Africa: From Conservation to Poverty Reduction', by Claire Ireland and Godber Tumushabe, in *Reducing Poverty and Sustaining the Environment*, Earthscan: London, edited by Stephen Bass, Hannah Reid, David Satterthwaite and Paul Steele, 2005

Depending on nature

Humans rely on ecosystem services to provide food, water, shelter, medicines and cultural inspiration. Ecosystems also regulate our climate. However, the biological diversity that delivers these services is being lost and the livelihoods of millions of people around the world are also deteriorating.

Stopping the decline in ecosystem services is a major global challenge. Many activities already take place to prevent ecosystem degradation. Governments have made political commitments to natural resource governance, including Agenda 21, the Kyoto Protocol and the Millennium Development Goals. Financial assistance is increasing, although this is still missing a link to major sources of investment funds. Technology, especially information management, is advancing the ability to improve both the environment and human well-being.

However, this is not enough. The World Conservation Union (IUCN) suggests that greater investments in biodiversity conservation will help to maintain the flow of ecosystem services upon which human development depends.

The research shows:

- Experience from the forest and water sectors shows that devolving decision-making power to local communities over the use and management of natural resources can create benefits. These include greater food security and more equal power relationships.
- Traditional approaches to nature protection have had serious adverse effects on poor people by limiting their access to biological resources and ecosystem services.
- Poverty reduction efforts that do not consider environmental issues can have adverse effects on natural resources.

The researchers argue that immediate action is necessary in three areas: improving natural resource governance; increasing investment in conservation, and; using relevant technology, especially for landscape-scale management. Under these banners, the researchers make recommendations to ensure that supporting ecosystem services is central to all development efforts.

To improve governance, it will be necessary to:

- integrate ecosystem management for human wellbeing into development planning and implementation
- decentralise natural resources management
- mainstream the multilateral environmental agreements in development planning and implementation
- promote equity, particularly gender equity, in natural resource management.

To increase investment:

- include biodiversity concerns in business planning and operations
- adapt investment plans to deal with the predicted impacts of climate change
- explore and support systems that make payments for ecosystem services.

To manage ecosystems at landscape scales:

- ensure that all water management schemes ensure minimum environmental flows
- incorporate representative networks of protected areas into landscape management
- restore degraded landscapes and seascapes to benefit people and nature.

Finally, it is vital to monitor progress in achieving conservation and development goals to ensure the effective and efficient use of scarce natural resources.

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Fighting global environmental degradation

Environmental sustainability is essential to achieving the Millennium Development Goals (MDGs). How can principles of sustainability be integrated into all environmental policies and management strategies?

Every ecosystem in the world provides benefits that contribute to human health. Many also contribute to people's livelihoods. The world's poorer people depend most heavily on healthy, well-managed ecosystems for their survival. However, although 1.3 billion people in the world live on land of poor quality, environmental sustainability is not addressed in most poverty reduction strategies. Research from the United Nations Millennium Task Force analyses the world's major environmental problems and suggests a range of policy responses.

The world is experiencing unprecedented environmental changes, which makes ecosystem management more difficult. If left unmanaged, the environment will continue to deteriorate and efforts to meet the MDGs will fail. The research identifies the most significant causes of environmental change:

- Climate change is most significant. A stable climate regulates all ecosystems, affecting human health, agricultural and marine productivity, and the distribution and health of species. As temperatures rise, millions of people will be displaced and the prevalence rates of many diseases are expected to rise.
- Land cover changes because of logging, urbanisation, the conversion of natural vegetation to agriculture and road construction. This affects many ecosystem functions, such as the capacity of soil to retain water.
- The over-exploitation of resources to below sustainable levels is common, for example over-fishing.
- Invasive species from different environments are increasingly forcing out native species in many places.
- Pollution of air, soil and water by chemical and organic wastes damages ecosystems, affects human health and reduces agricultural production.

Despite three decades of international attention to environmental degradation, and numerous multilateral environmental agreements, most environmental problems have worsened. Reducing environmental problems requires dramatic changes to human lifestyles, not least in our patterns of resource consumption. However, international and national policy changes are also necessary, as are effective partnerships between governments, the public sector and local communities.

A lack of clear objectives and insufficient direct investment are some of the obstacles to achieving positive changes.

To overcome this, the research recommends:

- strengthening laws and policies for environmental protection, and correct market failures and distortions
- improving access to information about the solutions to environmental problems, both from scientific research and local knowledge
- including environmental sustainability policies in all development project proposals.

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