# Biodiversity, Livelihoods and Poverty

## Lessons learned from 8 years of development aid through the Biodiversity Fund

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The Netherlands:
Hivos and Oxfam Novib

# Foreword

'Biodiversity conservation' to many conjures up an image of a wildlife reserve, in which rare species and fragile ecosystems are protected from human interference. While this approach has merit and is undoubtedly necessary in some situations, there are many more cases where biodiversity may be used in a sustainable way to support livelihoods, conferring benefits on both the ecosystem itself and the communities who live there.

While everyone benefits from the richness of global biodiversity, the livelihoods of small-scale farmers, forest dwellers and fishing communities in developing countries are bound to it particularly closely. The rural poor depend heavily on the biodiversity inherent in their traditional crops and livestock as well as local off-farm natural resources, which provide them with food, medicines, building materials and various sources of income. Access to genetic biodiversity, species biodiversity and ecosystem biodiversity not only reduces people's vulnerability, but also provides such important services as natural pest control, water recycling and climate regulation. Economic development is frequently associated with a loss of biodiversity, and it is usually the poorest that suffer the most serious consequences. Yet, they seldom have a voice in decision-making and, all too often, their needs are overshadowed by those of more powerful groups.

Both Hivos and Oxfam Novib manifest the intimate link between biodiversity and poverty reduction and the two organisations are committed to ensuring that sustainable biodiversity management goes hand-in-hand with fair and equitable development. In an effort to promote pro-poor biodiversity conservation and use, an area of development work that currently receives little funding, the two organisations approached the Netherlands Ministry of Foreign Affairs with the idea of developing a Biodiversity Fund. The Fund was established in 2000, with a mandate to support international and regional organisations that work to revive and expand sustainable production and marketing systems, at the same time protecting the rights and interests of farmers, fishers and collectors of non-timber forest products.

Eight years on, much has been learned from the programmes supported by the Biodiversity Fund. This publication, which is based on a formal evaluation study (AidEnvironment and Mekon Ecology, 2008), summarises the main lessons learned. The first section sets the scene by explaining the importance of biodiversity in pro-poor livelihoods development. Chapter 2 highlights what has been learned from initiatives concerned primarily with production and markets, and Chapter 3 looks at lessons emerging from relevant lobbying, advocacy and networking activities. The final section draws conclusions and makes recommendations for future work.

We hope this summary will prove useful for policymakers, non-governmental organisations, advocacy specialists, poverty development experts and others interested in pro-poor biodiversity conservation and use. As the world witnesses the major challenges associated with climate change, we are reminded of the importance of biodiversity for mitigation and adaptation, not only for the livelihoods of the poor, but also for the well-being of all of us on earth. The lessons learned from the Biodiversity Fund, illustrating the close links between environmental sustainability and economic justice, are likely to remain relevant into the future.

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# 1 Introduction

"At least 40% of the world's economy and 80% of the needs of the poor are derived from biological resources…the richer the diversity of life, the greater the opportunity for medical discoveries, economic development, and adaptive responses to such new challenges as climate change."

*Convention on Biological Diversity*

## What is biodiversity and why does it matter?

Biological diversity – or biodiversity – refers to the natural variety of life on earth. Over billions of years, the process of evolution has resulted in an enormous number of species of animals, plants and micro-organisms. These species exhibit a wide variety of genetic differences and live in a broad range of ecosystems. Humans use species diversity to support such industries as agriculture, cosmetics, pharmaceuticals, pulp and paper, construction and waste treatment. Genetic diversity confers great resilience on species, allowing them to adapt to changing conditions. Wider ecosystem diversity supports the vital natural processes of crop pollination, pest control, soil formation, water recycling and climate regulation. Biodiversity is thus essential to the future health and resilience of the earth and all its inhabitants, particularly in the face of global challenges like climate change.

Biodiversity is bound particularly closely to the livelihoods of resource-poor communities in developing countries. Small-scale farmers and traditional forest or coastal communities rely on many different 'wild' (non-farmed) species, both terrestrial and aquatic, to provide them with food, fuel, traction, building materials and medicines. Such resources provide daily essentials and a source of income, as well as the 'safety net' foods that keep people alive during times of hardship when staple crops fail. Smallholders' livelihoods are also built on the genetic diversity available within cultivated or farmed species of plants and animals. A broad genetic base allows crops and livestock to become adapted to changing conditions, such as outbreaks of pests and diseases. This feature has proved to be a useful element in the survival strategies of the rural poor, who cannot rely on chemicals, including veterinary drugs, due to their high cost and frequent unavailability. A broad genetic base also allows farmers to develop useful traits such as drought tolerance or processing quality.

On a more global level, access to biodiversity is what supplies national and international agricultural research – and other industries – with a continuous source of fresh genetic inputs. Time after time the need arises to revisit nature to find new genes from wild plants or new chemical compounds to save both crops and people from emerging diseases. Ecological services such as pollination and biological pest control would be impossible to replace. And the challenge of global warming puts renewed focus on the importance of ecological diversity in climate adaptation and mitigation. The biodiversity of ecosystem services is therefore of global importance and its erosion could threaten the future of the entire human race.

However, despite broad recognition of the value of biodiversity, the rate of global biodiversity loss has reached unprecedented levels. For example, the Food and Agriculture Organization of the United Nations (FAO) estimated that during the past 100 years about 75% of the genetic diversity of agricultural plant crops has been lost. Most of the 158 countries taking part in FAO's *State of the World Report on Plant Genetic Resources* identified genetic erosion as a serious problem (FAO, 1997). Large numbers of traditional, farmer-bred crop varieties are being replaced by commercial, uniform ones and vast areas are being planted with a single variety or a handful of genetically similar cultivars (some of which are genetically modified) that rely on capital-intensive inputs like irrigation, fertiliser and pesticides to maximise production.

Farmers' Rights over plant and animal genetic resources are also being eroded. Farmers' Rights are basically about enabling farmers to continue their work as stewards and innovators of agricultural biodiversity, and about recognising and rewarding them for their contribution to the global pool of genetic resources (ITPGRFA,

Since the Green Revolution of the 1960s, high-yielding hybrid rice varieties have been planted widely. Shown here are varieties undergoing field trials at the International Rice Research Institute (IRRI) in The Philippines, where they were first developed. Such varieties covered more than half of all rice lands in developing countries by the 1990s, replacing community-bred varieties on a massive scale. While the spread of this so-called 'miracle' rice has enabled food supply to keep up with population growth, it has also accelerated the rate of erosion of plant genetic resources. This not only threatens food security by leaving the crop vulnerable to pest and disease epidemics and changing environmental conditions, it also makes farmers more dependent on external inputs, reduces their control over their farming systems and increases their vulnerability to debt.

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www.farmersrights.org). While farmers traditionally relied on the free movement and sharing of seeds and germplasm, international seed and agrochemical corporations are gaining ever greater control over plant breeding, agricultural biotechnology and commercial seed sales with little consideration afforded to the impacts on farmers, food security and plant genetic resources.

Meanwhile, pro-industry national policies are encouraging large-scale development of natural resources, restricting access to land and materials for people who depend on biodiversity-conserving livelihoods. One of the biggest threats is that of illegal logging and large-scale conversion of ancestral domain land (over which land rights and access have not been legally established) to mining and monocropping. Examples include oil palm in Southeast Asia, and soya production and timber plantations in southern Latin America.

Ultimately, loss of biodiversity will accentuate inequality and marginalisation of the most vulnerable sectors of society by reducing access to the basic materials they need for a healthy life, and their freedom of choice. Biodiversity loss is therefore inextricably linked to poverty, the factor identified by the United Nations as the largest threat facing the future of humanity.

## Pro-poor biodiversity conservation and use

Increasing international recognition of the importance of biodiversity in poverty elimination and the lack of funding for this important area of development prompted Hivos and Oxfam Novib to approach The Netherlands Ministry of Foreign Affairs with the idea of establishing the Biodiversity Fund. Set up in 2000, the Fund focuses on biodiversity of relevance to livelihoods, which includes the genetic diversity contained in 'domesticated' or farmed species of plants and animals (also known as agro-biodiversity) as well as that present in fisheries and forest resources (timber and non-timber products).

The Fund supports biodiversity-sustaining intervention programmes that benefit primary producers in marginal areas. It does this by offering funding and aiding the institutional development of international and regional organisations that work to revive and expand sustainable production, collection and fishing methods, and widen the markets available for biodiversity-conserving products in a politically enabling environment. At the same time, the Fund helps to protect the rights and interests of the farmers, fishers and collectors of forest products who not only rely on biodiversity for their livelihoods and health, but also play a vital role in its conservation.

While environmental conservation and development have sometimes been seen as mutually incompatible, in fact they can support and promote each other. The Biodiversity Fund has shown the importance of having all the necessary building blocks in place. These include free access to different crop varieties and animal breeds, land rights and access, skills and knowledge on biodiversity-conserving production practices, and a strong national and international civil society. The Fund's activities are worldwide, but with a strong focus on Africa, where biodiversity conservation initiatives are currently few and far between.

## What does the Biodiversity Fund do?

The Fund was established in 2000 by the Netherlands Ministry of Foreign Affairs with a budget of €0.5 million per year, increasing to €2 million per year during 2003–2009. The Fund is managed by Hivos and Oxfam Novib. Its goal is "to promote and strengthen the sustainable management of biodiversity in primary production processes that are accessible for and beneficial to small-scale producers and low-income groups". Sustainability refers to the need to be economically viable, socially just and ecologically sound.

The five specific objectives are to:

1. Bring together and administer a balanced portfolio of high quality internationally operating partners
2. Improve the productive performance of small-scale and low-income producers through biodiversity-conserving production practices (BCPPs)
3. Support market development for the produce of BCPPs
4. Lobby and advocate for institutional arrangements and policies that constitute an enabling environment for BCPPs in the North and South
5. Contribute to institutional and social movement building, strategic alliances, networks and coalitions that push for the changes mentioned above.

The Fund's objectives are interrelated in the activities of many of the recipient partners. For example, lobby and advocacy for policy change are often needed to create suitable conditions for the successful production and marketing of BCPPs (especially for organisations adopting a rights-based approach), while networking is the means by which several partners realise the other objectives. The Biodiversity Fund portfolio of programmes deliberately encompasses a variety of approaches and this is one of the keys to its success.



Agricultural genetic erosion does not only apply to plants but also to livestock, like these Maasai cattle in Kenya that are bred to mature early and cope with drought and local diseases. Policies guiding the livestock sector often promote large-scale, intensive production with a narrow range of breeds at the expense of smallholder systems based on local genetic resources. FAO estimates that at least one livestock breed per month has become extinct over the past seven years and around 20% of livestock breeds are at risk from future extinction (FAO, 2007). Few development programmes address the resulting issue of vulnerability among stock-keepers.

The Biodiversity Fund is managed by Hivos and Oxfam Novib (see back cover) and the organisations it supports are civil society networks, federations, umbrella organisations, foundations and programmes that have a global or regional reach. As of March 2009, there were 25 recipients (see table on page 7).

## Biodiversity: the policy background

The Biodiversity Fund recipient organisations focus their lobbying activities on promoting biodiversity within the livelihoods of small-scale and low-income producers. The aim is to defend the rights of smallholders, pastoralists, fishing and forest communities by strengthening legal protection of these rights within national and international regimes and by minimising the threats of pesticides and genetic engineering to these rights and to the environment.

The principal international policy-setting vehicles regarding sustainable use of biodiversity are the Convention on Biological Diversity (CBD) and its Cartagena Protocol on Biosafety, and the FAO-led International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA or the Seeds Treaty). The CBD sets out commitments for maintaining biodiversity while promoting economic development, particularly in the South, and has three main goals: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources. Over 150 governments signed the document at the Rio Earth Summit in 1992, and since then more than 187 countries have ratified the agreement. The Cartagena Protocol seeks to protect biological diversity from the potential risks posed by genetically modified organisms (GMOs). It sets out an 'advance informed agreement' procedure that helps countries make informed decisions on whether or not to import GMOs or other products of biotechnology.

The Seeds Treaty was negotiated to be in harmony with the CBD but focusing on the special purposes and needs of plant genetic resources for agriculture. It works to promote food security by providing a legal framework and encouraging international

The spread of GMOs is presenting a challenge to Farmers' Rights and encouraging erosion of biodiversity. Of particular concern is the threat of genetic use restriction technologies (GURTs), which cause second-generation seeds to be sterile; and large-scale monocultures, with a related high dependency on herbicides and pesticides.

## Organisations supported by the Biodiversity Fund

| ORGANISATION | PROJECT/PROGRAMME SUPPORT |
|---|---|
| African Centre for Biosafety (ACB) | Pelargonium case |
| Convention on Biological Diversity (CBD) Alliance | Advocacy on access and benefit sharing |
| Community Biodiversity Development and Conservation (CBDC) Programme | Africa Programme support<br>Asia Programme support<br>Support for network to attend CBD |
| Endogenous Livestock Development (ELD) Programme | Core support |
| Action Group on Erosion, Technology and Concentration (ETC) | Ban Terminator campaign |
| Environmental Rights Action/Friends of the Earth International (ERA/FOEI) | GMO campaign |
| Forest Peoples Programme (FPP) | Programme support |
| Forest Stewardship Council (FSC) | Plantation review<br>Small and low intensity managed forests (SLIMF) review |
| GAIA | Support to African Biodiversity Network |
| GRAIN | Core funding |
| International Federation of Organic Agriculture Movements (IFOAM) | IFOAM Growing Organic |
| International Social and Environmental Accreditation and Labelling (ISEAL) Alliance | Core funding |
| Jinukun | Courses on GMOs in West Africa |
| League of Pastoral Peoples (LPP) | Network development on animal genetic resource management |
| Organic Africa | Support for African Pavilion at Biofach Trade Fair |
| Marine Stewardship Council (MSC) | Development of guidelines for inclusion of small-scale fisheries in standard |
| Non-timber Forest Products Exchange Programme (NTFP-EP) | Core funding |
| Pesticides Action Network (PAN) | Core funding: Asia Pacific Network (PAN-AP)<br>Project support: Organic Cotton campaign (PAN-UK/Africa)<br>Core funding: Latin America network (RAPAL) |
| Pesticides Eco-Alternatives Centre (PEAC) | China *Bt* cotton campaign |
| Participatory Enhancement and Development of Genetic Resources in Asia (PEDIGREA) | Core funding |
| PhytoTrade Africa | Core funding |
| REDES, Friends of the Earth Uruguay | Latin American Journal on Biodiversity |
| Social Accountability in Sustainable Agriculture (SASA, now ISEAL) | Project support |

cooperation and open exchange of genetic resources, as well as the fair sharing of benefits arising from the use of these resources. One of its main limitations is that the implementation of measures to protect and promote Farmers' Rights is a responsibility of national governments, and the Treaty does not contain binding provisions on such implementation. The Treaty also recognises the concept of intellectual property rights; however, uncontrolled proliferation of intellectual property rights will undermine what should be one of its main purposes: to allow the free exchange of seeds among farmers.

The intellectual property arena is framed by The World Intellectual Property Organization (WIPO), a United Nations agency dedicated to developing a balanced and accessible international IP system that rewards creativity, stimulates innovation and contributes to economic development, while safeguarding the public interest. The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) is an international agreement administered by the World Trade Organization (WTO) that sets out minimum standards for many forms of IP regulation. The TRIPS agreement introduced IP law into the international trading system for the first time and remains the most comprehensive international agreement on IP to date.

TRIPS raises the issue of 'freedom to operate' within the context of Farmers' Rights. Legally speaking, public and non-profit agricultural researchers have freedom to operate in regions where most modern technologies are unprotected by national IP laws. If, however, there is significant international trade in agricultural commodities and international transfer of the technologies used in their production, this freedom becomes contested. This is particularly the case when a developing country starts to implement the binding obligation to develop legislation on intellectual property rights, based on the TRIPS agreement of the WTO. Discussions within an Oxfam Novib–Netherlands Ministry of Foreign Affairs electronic forum indicated that the issue of freedom to operate is highly relevant to small-scale farmers who reselect and adapt existing high-yielding modern varieties to local needs. By doing so, they exercise their freedom to operate as plant breeders and, by selling improved varieties on the market, they also reap a compensation for their collective contributions.

Another less legalistic approach to freedom to operate would be to consider it as an indefinite and communal right, rather than a right to impose conditions and extract rents. This will also be far more manageable from the point of view of developing national legal and political systems, which remain far from robust. The Seeds Treaty is an important example of an international legal regime that protects the freedom to operate of farmers, farmer-breeders and commercial breeders of food crops. The Treaty encompasses the so-called multilateral system for 64 of the most important food crops (which comprise 80% of human consumption). Breeders and farmers worldwide may use this material freely for further crop improvement. Access and Benefit Sharing arrangements for the genetic resources are part of the multilateral system, and are regulated through a Standard Material Transfer Agreement (MTA). Access is possible through MTAs under reasonable standard benefit sharing arrangements.



The Biodiversity Fund helps to protect the rights and interests of the farmers, fishers and collectors of forest products who not only rely on biodiversity for their livelihoods and health, but also play a vital role in its conservation.

# 2
# Production and markets

"The erosion of our agrobiodiversity is a silent tragedy, which has disastrous consequences on food security, the environment, peace and stability; it goes virtually unnoticed by the mainstream local and international media and shows few signs of improving."

*Dr G.Y. Mkamanga, former Director of the Southern African Development Community (SADC) Plant Genetic Resources Centre, Zambia*

## Themes and approaches

An important strategy to promote pro-poor sustainable livelihoods is to increase food security and income potential through better agricultural production and marketing systems. The Biodiversity Fund partners (supported organisations) achieve this in several different, but often intertwined, ways. Many offer direct support to local-level activities through field-based trials, training, community-based initiatives and technical advice. Results are expressed in terms of biodiversity conservation, maintenance and development of local seed varieties, establishment of seed banks, improvements in agronomic practices, and capacity building for farmers and extension services.

Some combine these activities with efforts to develop supply chains and markets, including 'adding value' by establishing quality systems such as organic agriculture and certified sustainable forestry and fisheries schemes. Others adopt a more indirect 'rights-based' approach, with a greater focus on networking, capacity building and policy change, thereby helping to establish the rights of farmers and indigenous peoples to land and resources and lobbying for improved legal and policy frameworks at higher levels. These types of activities are discussed further in Chapter 3.

## Farmers take control

A core strategy of the Biodiversity Fund is to promote agro-biodiversity by restoring ownership of seeds and other agricultural resources to farmers, thereby enabling them to diversify their sources of food and income and making them more resilient to external shocks such as floods, droughts and outbreaks of disease. Several partners have focused on helping farmers to retain and improve local germplasm through participatory plant breeding and animal improvement programmes.

The Community Biodiversity Development and Conservation (CBDC) programme used the 'farmer field school' concept to help farmers take an active role in breeding traditional varieties of rice and other staple crops with higher yields, better pest and disease resistance, and less need for chemical fertilisers and pesticides. CBDC is active in six African and five Asian countries; in Asia it is administered by the Southeast Asia Regional Initiatives for Community Empowerment (SEARICE), an organisation that focuses on both community organisation and policy advocacy and reform.

SEARICE has a wide reach, with 700 communities currently engaged in plant genetic resources conservation and development. This represents more than 18,000 farmers that now have the capacity to manage their plant genetic resources and over 1000 that are capable of breeding and producing varieties adapted to local conditions. In addition, there are now more than 200 farmers who can train other farmers.

By selecting and breeding better varieties and producing good quality seeds, Asian farmers supported by SEARICE were able to increase their yields by up to 30%. In Laos, the periodic hunger experienced by 20% of the poorest has been overcome. Adoption rates for the farmer-bred rice varieties have reached up to 75% in five countries. On average, 30% of the 'farmer breeders' are women and, in some communities, women represent 90% of the breeders. Another significant benefit was that the farmers sowed fewer seeds and used less pesticide. Their incomes rose significantly as a result; for example,

farmers in the Mekong Delta increased their average earnings per hectare from US$250 to US$650.

In Africa, CBDC activities are coordinated by the Community Technology Development Trust (CTDT, based in Zimbabwe). Communities in southern Africa were encouraged to conserve local varieties by switching to growing indigenous vegetables that are better adapted to local environments. Over 11,000 households have benefited from programme activities (CBDC, 2009).

The Participatory Enhancement and Development of Genetic Resources in Asia (PEDIGREA) project, which works in Cambodia, Indonesia and The Philippines, took a similar approach. By learning together, the farmers were able to increase their yields and broaden their on-farm diversity. Their household income security also improved because they no longer had to borrow money to buy inputs at the beginning of each growing season.

It was interesting to note that in both CBDC and PEDIGREA, most of the farmers that became involved in plant and animal breeding were those with secure tenure to their farms and who therefore had a level of confidence about investing time and resources in experimental breeding. However, because free access to improved germplasm was ensured, the 'watch and wait' members of the community (the late adopters, often the poorest with fewest resources) were also able to benefit. For example, 82,000 farmers in the SEARICE programme in the Mekong Delta are now using farmer-bred varieties. If such organisations are to make a significant contribution to poverty reduction, there is therefore a need to establish formal systems that recognise farmers legally as breeders, allow them to sell their seeds, and ensure germplasm remains freely available. Similarly, the establishment of formal access and benefit systems is likely to give additional farmers (especially tenants) the incentive they need to take a more active role in participatory plant and animal breeding.

Knowledge builds confidence and can be politically empowering. When farming communities become more organised, they begin to question national seed policies and assert their rights over land and the other resources (including water, information, supporting infrastructure and decision-making) they need to build sustainable livelihoods. In an effort to increase the scale of results on the ground, SEARICE focuses its activities on both community mobilisation and policy reform. The organisation can therefore adopt a policy position based on farmers' real concerns and inputs, conveying key messages from farm-level to the highest levels of policymaking. For example, SEARICE enabled farmers to have a voice at the 9th meeting of the Conference of the Parties to the CBD in 2008. By linking formal and informal institutions (e.g., government and academia with farmers' groups), SEARICE has helped to legitimise the voice of farmers as breeders and researchers and recognise their role in promoting sustainable agriculture. SEARICE also voiced farmers' concerns in the Governing Body meeting of the Seeds Treaty held in 2007.

Goat meat is popular in The Philippines but inbreeding has caused native goats to become rather small. The PEDIGREA project is helping farmers acquire the knowledge and resources they need to improve the size and weight of their goats. Breeding programmes take around four years to show results (a similar timeframe to that for crops like rice, when using conventional on-farm breeding techniques), so relatively long-term funding is needed if such projects are to demonstrate results and have an impact on livelihoods.

Farmer field schools allow farmers to learn through their experiences and help to build stronger communities. When they participate, farmers can share traditional knowledge and assess and trial new technologies and ideas, selecting options that suit their own circumstances. They can also learn to become trainers in their own right, thereby widening the scope and impact of project activities and helping to create a self-sustaining system of knowledge transfer.



CBDC's programme activities in Africa were focused initially on community-based organisations and have only recently begun to look beyond these. While the programme has had good results at farm level, it is becoming clear that there is also a need to look at the policy and private sector arenas. The programme's policy work on seed laws and Farmers' Rights has recently begun to bear fruit (see Chapter 3.)

## Developing markets, raising incomes

Some farmers engaged in the CBDC Asia and PEDIGREA projects were reluctant to switch to growing improved landraces because there was no reliable market for their produce. This highlights the need to address market opportunities alongside efforts for production increase and diversification. There may be a need for organisations to bring in additional capacity in the form of business-oriented partners, particularly when technology transfer projects are managed primarily by technical experts. Both SEARICE and PEDIGREA are now focusing on such issues.

Market development is an integral component of the Non-Timber Forest Products Exchange Programme (NTFP-EP), that works in six countries in Asia. NTFP-EP promotes a range of activities aimed at developing sustainable livelihoods and meeting biodiversity conservation goals for forest-dependent communities. It does this by helping communities to develop indigenous enterprises based on sustainable harvesting (such as crafts based on natural materials), developing markets for these products, and supporting legal rights and access over land and resources in ancestral domain lands. NTFP-EP has put emphasis on systematic development of insights on which they have based a tool for enterprise development, which includes addressing the whole supply chain. Communities are fully involved in developing their own business plans, leading to increased community-based capacity and empowerment. For example, earnings for 800 honey hunters in Cambodia and Indonesia topped US$73,800 when NTFP-EP staff helped them to develop a proper business plan and access new export markets. In addition, over 1500 families improved their food security by cultivating a range of non-timber forest products for subsistence use in India, Malaysia and Indonesia.

NTFP-EP's work in Asia illustrates the value of taking a long-term approach to partnership building and knowledge sharing as a means of mobilising and empowering resource-poor communities. Building trading relationships based on collectives and cooperatives can be challenging, since they often have more organisational problems than individual-owned enterprises and it takes time to build trust between members. Additionally, enterprise concepts such as supply chain management and the need to secure the sustainability of the source may be not immediately understood; for example, groups need to learn when to replant critical species

to maintain their production and income levels. However, investments over time have been shown to improve market access and result in sustainable increases in income for marginalised groups.

While NTFP-EP has benefited from its ten-year history of learning and experience in market development, new challenges are emerging all the time. The latest relate to land tenure and resource access. In response, the focus of project activities has changed to put greater emphasis on lobby and advocacy work (see Chapter 3). NTFP-EP is also looking at the use of certification and assurance schemes to enable communities to further develop and improve their access to markets. In terms of maintaining biodiversity, the project outcomes are especially significant considering that without intervention to increase awareness and develop non-timber forest product-based livelihoods, many of the communities might have succumbed to economic pressure to convert their land (and forests) to extractive industries and monocrop plantations.

PhytoTrade Africa, a membership-based, non-profit trade association based in Southern Africa, also takes a supply-chain approach. The initial concept was for a representative body to support small-scale rural production of indigenous products such as marula, baobab, devil's claw and various seed oils. However, over time, project leaders realised that rural producers would not benefit from the natural products industry unless the entire chain, from primary production to market, functioned as viable whole. A key development has been the negotiation of agreements between PhytoTrade and two private sector partners: Aldivia, a specialist French lipids company that produces cosmetics using African oils; and Afriplex, a South African-based plant extract manufacturer supplying the beverage, pharmaceutical and cosmetic industries.

PhytoTrade helps link and coordinate producers in different countries across the region, thereby developing the volumes required to sustain market demand and achieving economies of scale in terms of production, processing, transport and quality control. In 2006, PhytoTrade members earned some US$384,000 from natural products, involving over 29,000 rural poor, 93% of them women. The organisation's income has grown steadily, from US$181,000 in 2004 to over US$544,000 in 2007. Assuming the present rate of growth continues, the organisation estimates that by 2017, members will make sales of US$20 million per year, generating sufficient income to cover PhytoTrade's projected running costs.

Both PhytoTrade and NTFP-EP have demonstrated that when local communities gain access and control as well as an income from harvesting a wild species, they have an incentive to look after that species and its environment. However, it is important to note that the success of these models cannot be simply replicated elsewhere. Many factors influence the relationship between income derived from wild or forest products and conservation behaviour. These include the intensity of commercialisation, the economic value of the product and the social values of the community. In addition, participating organisations need to ensure they have sufficient institutional capacity to control access by different users, resolve conflicts and distribute benefits equitably.

Indigenous plants like the baobab tree are much better suited to dry regions than exotic crops, which often fail and contribute to environmental degradation. Giving a species direct economic value, in conjunction with effective access rights, creates incentives for communities to invest in sustainable management of the species and has wider benefits for the ecosystem where it is found. Although seldom pursued as an exclusive livelihood strategy, harvesting natural products provides a useful supplementary income, particularly for women who can use the money to improve the family's health, nutrition and education.

## Adding value through certification

Sustainable harvesting of timber and non-timber forest products, sustainable fisheries, and methods such as organic farming are gaining recognition throughout the world as offering considerable scope for pro-poor development. In addition to enhancing biodiversity, they can strengthen the productivity of the natural resource base and increase the income of small-scale producers. The market offers a wide range of labelled products like organic, Fair Trade and Forest Stewardship Council (FSC). Certificates can help provide clarity on the source and social and environmental performance of the production process.

The Biodiversity Fund support for social and environmental quality and certification schemes is based on the premise that when markets are developed sufficiently, sustainable production becomes the norm. There is some evidence to suggest this is the case; for example, a recent evaluation of the impact of Fair Trade showed that when adoption by producers reaches 30%, market forces encourage non-compliant producers to follow suit (Ruben, 2008). Organisations working on quality systems and supported by the Fund include the International Federation of Organic Agriculture Movements (IFOAM), the Marine Stewardship Council (MSC), FSC and the International Social and Environmental Accreditation and Labelling (ISEAL) Alliance.

The area of land cultivated organically has grown rapidly between 2004 and 2007 in both Africa (66%) and Asia (73%) (Hivos–Oxfam Novib, 2007). IFOAM is an international movement for organic agriculture and the standards developed by this movement are adopted in regulatory legislation in many countries around the world. Founded in 1972, the organisation now has over 750 members. In recent years the organisation has increased its focus on developing and promoting group certification methods. The programme offers a complementary, low-cost, local-based system of quality assurance, with heavy emphasis on social control and knowledge building. It accepts inspection of a percentage of the group of farmers if a functioning internal control system is in place, thereby reducing the cost of inspection. Larger markets like the European Union and USA have accepted this system, which is basically the only one that allows small-scale farmers to enter quality markets in a competitive way.

One of the main benefits of organic standards and other forms of certification is the way they help farmers to become more organised and engage more effectively with the private sector. As such, quality systems and related group certification schemes are a tool rather than a goal. When farmers, particularly smallholders, are organised into groups, they can build better relationships with buyers. This benefits both sides: farmers gain a more secure market, better prices and access to credit; while buyers can reduce their transaction costs by having a single, more reliable supply point.

Another important outcome of certification, particularly for timber and non-timber forest products, is the formalisation of access and

The most important facet of a standard or certification scheme is its credibility; consumers have to be sure the certificate guarantees a sustainable product. Identification through a common standard and logo is therefore essential.


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tenure rights to ancestral domain land. However, while certified areas have proven to be a barrier to land grabbing and illegal logging in some areas, FSC certification appears to have had little effect on large-scale deforestation of natural forest. In Brazil, this appears to be due to a lack of a price premium for certified timber within the domestic market. Most FSC timber originates from plantations, not natural forest, and, while the number and area of certified plantations has grown significantly during the past four years, most certified timber is exported. The lack of government policy and consumer education means that fierce competition from illegal logging persists within the domestic market.

Future challenges for all types of quality and standards systems relate to the relatively high cost of certification for resource-poor communities and the general lack of data illustrating the benefits of certification that might attract additional prospective forest owners, fishing communities or organic producers. FSC Certification for Small and Low Intensity Managed Forests (SLIMF) is an example of a scheme designed specifically to overcome cost constraints and increase access to FSC standards for indigenous forest communities and small-scale farmers. While such smaller, community-based schemes are also disadvantaged by the domestic market situation in Brazil, communities that signed up to SLIMF were able to increase their incomes. The scheme encouraged them to become organised into producer groups, to diversify the range of forest products they sold, and to increase their levels of production.

Over the past few years, IFOAM, MSC and FSC – with the support of the Biodiversity Fund – have developed certification tools that reduce inspection costs. These tools enable small-scale farmers, fishing communities and low-income forest owners to enter quality markets. However, as the popularity of such schemes grows, so does the number and variety of labels and standards and there is a danger of confusion and loss of credibility on the part of the consumers. For the producers, the requirements of different quality systems conflict with no clear recognition of the overlaps and differences among standards systems, posing another costly hurdle for small-scale producers in delivering to different quality markets. The Biodiversity Fund is looking to address the issues of clarification, credibility and accessibility by supporting ISEAL (see box). ISEAL's work on harmonisation between quality systems and identifying overlapping requirements has the potential to further reduce the costs of certification.

## Gaining the seal of approval

The ISEAL Alliance is a global umbrella association of social and environmental standards systems. It provides guidance for sustainability standards, building policy to clarify and maintain credibility, and helping other organisations (including governments) to differentiate between schemes.

Formally established in 2002, ISEAL now has 10 full members who meet requirements for good practice in either their international standard setting or international accreditation practices. There are another 11 associate members who are in the process of meeting those requirements and eight affiliate members who have joined with the objective of sharing knowledge and expertise.

An independent evaluation of ISEAL conducted in 2008 concluded that the organisation is making a significant contribution to the way that environmental and social standards are designed and developed. Its greatest impact has come from developing a 'Code of Good Practice on Standard Setting' that is becoming a global benchmark for good practice. ISEAL is also working on accessibility issues and impact measurement as a means of increasing support for standards that promote sustainable production practices. In addition, ISEAL monitors policy developments and shares information between its members. Members cite such opportunities for shared learning as one of the main benefits of being a part of ISEAL.

From a Biodiversity Fund perspective, there are two main challenges facing ISEAL in the immediate future. The first is to extend the definition of credibility to develop new Codes of Good Practice for impact assessment. The second is to improve accessibility for small-scale producers.

# 3
# An enabling environment

"The Biodiversity Fund is one of the few sources of support oriented specifically towards work on biodiversity and the role of small farmers…especially to support information and advocacy work on how biodiversity management at the local level, combined with the struggle for food sovereignty, is actually a solid strategy to get out of these crises and improve the situation of the poor across the world."

*Henk Hobbelink, Coordinator, GRAIN*

## Conditions for success

In supporting organisations that have a policy lobby and advocacy focus, the Biodiversity Fund aims to promote a policy environment – at national, regional and international levels – that stimulates conservation and equitable, sustainable use of diversity for pro-poor livelihoods development. In practice, this means giving small-scale producers – including women – a voice in decision-making and defending their rights to land and other resources (including plant and animal genetic material) by strengthening their organisations to uphold or create legal protection of these rights.

At the international level, the Fund's partners have been successful in influencing positive policy change. They have taken part in important high-level debate on the future global agricultural model, advocating for pro-poor, low-input production and strengthening policy processes on Farmers' Rights in international treaties. Strategies adopted by Biodiversity Fund partners include participating in and lobbying international treaty-setting processes, conducting public awareness and media campaigns, and advocating against non-supportive policies, such as those favouring introduction of GMOs. The main focus is on the issues that most affect biodiversity and the livelihoods of small-scale and low-income producers. In addition to GMOs, these include promoting conducive Access and Benefit Sharing policies, Farmers' Rights, and the banning of the most-toxic pesticides.

Sharing the lessons learned by Fund-supported organisations is particularly valuable because their policy lobby and advocacy work is based on practical, pro-poor projects and experiences. For example, lobbying coordinated by the Pesticides Action Network (PAN) led to a ban on the use of the pesticides paraquat and endosulfan in a number of Asian countries. At the regional level, lobbying from several organisations (including CBDC, Friends of the Earth and The Gaia Foundation) helped lead to the African Union (AU) and Southern African Development Community (SADC) refusing access to genetic use restriction technologies (GURTs).

Local people living in the Eastern Cape of South Africa have long used the roots of two *Pelargonium* species as a treatment for respiratory infections and diseases. A German pharmaceutical company began marketing the product, making huge profits without giving anything back to the community. In an effort to fight such biopiracy, the Biodiversity Fund supported ACB in bringing the case to trial. The process is still ongoing, but the case has already contributed to international awareness of the need for policy frameworks that protect traditional knowledge and regulate Access and Benefit Sharing.

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The spread of avian influenza strain H5N1 resulted in politicians sanctioning the widespread eradication of backyard chickens from Asia. Research conducted by GRAIN (a Fund-supported international NGO working for agricultural biodiversity) highlighted the fact that international trade based on intensive production units is a greater risk to the spread of bird flu than backyard poultry. Subsequent correspondence between GRAIN and FAO, together with lobby and advocacy by additional NGOs, helped change high-level policy and saved many smallholders' breeds and livelihoods.

## Who owns the seeds?

The Biodiversity Fund works to defend the rights of farmers and promote conducive Access and Benefit Sharing policies by supporting organisations involved in international treaties and negotiations. The Convention on Biological Diversity (CBD) Alliance coordinates and facilitates the work of non-governmental organisations (NGOs) in ongoing negotiations within the CBD. These negotiations include developing an International Regime to regulate the fair and equitable Access and Benefit Sharing of genetic resources. This is a complex challenge, with many implications for indigenous peoples, local communities and farmers; and civil society holds many different opinions on what this regime should look like. However, many hope the regime will lay the groundwork for better sharing of the benefits arising from genetic resources. The regime should also allow communities to refuse access to genetic resources or, if they wish to negotiate, lay out contract terms that fit with their own ideas of property and law. It is important that civil society is involved in the negotiations, since it can monitor and report on government progress as well as propose text and lobby for improvements. Part of the CBD Alliance work involved providing opportunities for civil society to attend and lobby at CBD meetings (see box).

Further lobby and advocacy work on Farmers' Rights within the Seeds Treaty (ITPGRFA) is needed and civil society organisations are playing a large part in this. The Treaty has a number of weaknesses, one of which is that the rights of farmers to save, use, exchange and sell farm-saved seed and propagating material are subject to national law (Article 9.3). In addition, the responsibility for realising Farmers' Rights, as they relate to plant genetic resources for food and agriculture, rests with national governments and what they deem is appropriate (Article 9.2). The problem here is that many governments focus more on the interests of agri-businesses than on the needs of the poor. This is reflected, for instance, in the availability of intellectual property rights regimes for businesses, but not for farmer breeders in most countries (see 'Biodiversity: the policy background' in Chapter 1).

The Fund-supported organisations have also focused on rights to land and forest resources at a more local level. For example, NTFP-EP in the Philippines has supported at least 13 indigenous communities towards the granting of title, covering almost 280,000 hectares of ancestral domain land. By working together on their claims, communities have become more cohesive, and the process has provided a model of collaboration that can be applied to additional areas. However, project staff learned that titling is not enough in itself to protect the communities' rights and biodiversity; there is also a need to consolidate and strengthen the community as well as its advocacy capacities. Moreover, an enabling environment needs basic factors like water and education services as well as local government support and youth involvement.

## Balancing the GMO debate

Large-scale agriculture, particularly the monoculture of GMOs, is associated with increasing dependence on a few multinational companies for seeds. Such 'modern' farming poses a major threat to agro-biodiversity. In an effort to support the livelihoods of small-scale farmers and the conservation and development of local varieties, the Biodiversity Fund supports the 'Resist GMOs' campaign of Friends of the Earth International (FoEI).

FoEI has focused its international lobby on the CBD (in particular its Biosafety Protocol), the AU, the Economic Community of West African States (ECOWAS) and the EU. Lobby on the Biosafety Protocol focuses on liability issues and FoEI is working closely with

other NGOs in the continuing debate. The AU is developing an African Model Law on Biosafety that can be used by African countries as a minimum base for national biosafety laws. FoEI has influenced the drafting process to incorporate liability and labelling demands and highlighted the fact that there have been several unauthorised introductions of GMOs into African countries that do not yet have biosafety regulations in place. Further, partly due to the FoEI lobby, the ECOWAS ministerial conference did not endorse the regional Action Plan on Biotechnology. This experience underlines the positive value of national-level pressure in influencing international cooperation.

One of the strengths of the FoEI campaign is that it works from grassroots to global level. Building resistance to GMOs around the world is also important since it prevents multinationals from focusing introductions in regions that are the weakest in terms of policy and awareness. For this reason, the Biodiversity Fund supported FoEI's international publications, which aim to strengthen resistance to GM crops. For example, the 2009 publication *Who benefits from GM crops?* received widespread media coverage and was translated into five languages. The findings of the report support a comprehensive United Nations assessment of world agriculture, which concluded (among other things) that GM crops have very little potential to alleviate poverty and hunger (IAASTD, 2008). On the contrary, the report states, biotech crops are primarily benefiting biotech food giants.

Genetic seed sterilisation, also known as 'terminator' technology or GURT, is another major threat to Farmers' Rights, food sovereignty and food security, since it would prevent farmers saving seed from the harvest to replant the next season, something most of them do regularly. The CBD has advised a moratorium on field trials and applications of GURTs since 2000. In 2005, the Biodiversity Fund supported an urgent campaign by The Action Group on Erosion, Technology and Concentration (ETC) to fight a proposal to end the moratorium. In its lobbying activities, ETC brought together a wide range of civil society organisations and was successful in influencing a continuation of the moratorium. Many policy experts believe the power of governmental and inter-governmental policy is diminishing, since private governance systems such as sustainability standards are increasingly producing 'public' policy. However, the ETC case shows that international governmental institutions do have an influence, even on contentious issues, and the moratorium on GURTs has effectively prevented the terminator technology being used.

## Grassroots to global

Networking from grassroots to global level is a key strength of the Fund-supported organisations' work. Several organisations (including IFOAM, CBD Alliance, FoEI, ETC and PAN) have taken part in important high-level debate. They have contributed in a unique way by bringing the people directly affected by policy – smallholders from the South – to international meetings. At the same time, they help to demystify the international policy process by feeding back information to the producers.

## A new paradigm for sustainable agriculture

The International Assessment of Agricultural Science and Technology for Development (IAASTD) is a unique international effort initiated by the World Bank. It has evaluated current agricultural knowledge, science and technology, with a view to using it more effectively to reduce hunger and poverty, improve rural livelihoods and facilitate environmentally, socially and economically sustainable development. The final report was approved and signed by 57 countries in 2008.

Among the Biodiversity Fund partners, IFOAM, PAN and FOEI were involved in preparing the report, which underlines the need to rethink the world's current approach to agriculture. The report notes the market's lack of capacity to deliver prosperity and food security to the poor and states the need to review some unfair trade rules. It also emphasises the need to reform intellectual property laws on patents on novel crops since these currently threaten to stifle innovation. The report criticises the domination of seed and fertiliser markets by multinational companies. It calls for implementation of agro-ecological strategies that are environmentally sustainable, and highlights the doubts and controversies concerning GMOs (an area informed by FOEI).

The report is an important milestone marking progress towards a new sustainable paradigm for agriculture that focuses on the role of farmers, especially the poor. Also important is that the process was informed by civil society participation. Donors need to be aware of the need for resources to allow meaningful participation of such organisations in high-level debates. This includes providing funding for both their knowledge development and their participation.

One of the main benefits of a networking approach is to promote the participation of civil society organisations in relevant policy negotiations at both national and international levels. The Biodiversity Fund partners therefore make an important contribution to social movement building in the South. For example, the CBD Alliance is strengthening the civil society movement working on the Convention on Biological Diversity by improving information exchange, strengthening input from Southern groups and facilitating collaboration. In total, more than 300 indigenous groups and more than 1000 NGOs have participated. However, because individual farmers will usually attend only one or two meetings, they do not gain sufficient experience nor learn the policy language they need to develop a network for effective lobbying. In an effort to close the knowledge gap between Southern representatives and those from the North, the CBD Alliance is working towards a mentorship approach, in which it signs an agreement with a Southern NGO to support a representative to be involved for a few years in a row.

Both SEARICE and NTFP-EP are essentially network organisations. They have evolved within the current political context to be strongly 'bottom up', and they provide valuable insight into the concerns of farmers and communities. Bottom-up approaches, however, take time to mainstream because of the wide range of stakeholders involved. Network organisations play an important role in bridging the gap between such stakeholders and providing the often-missing data linking lobby and advocacy at the national level with impact and relevance at the local level.

The outcomes from SEARICE's involvement in lobbying and advocacy have been significant on many levels, from local to international. This success is related to a number of factors: the length of time the organisation has been in existence (since the 1970s), its background as a social justice organisation, its emphasis on community organisation, and its long-term involvement in international negotiations.

## Promoting organic, pesticide-free cotton

Pesticides not only damage biodiversity and the health of the environment, they also cause people to become ill. The Pesticides Action Network (PAN) has a three-fold aim: to stop use of the most toxic pesticides, cut use of all pesticides, and promote more sustainable alternatives.

The Biodiversity Fund supports the work of PAN Asia Pacific and PAN Latin America (RAPAL), as well as PAN UK specifically for its market development work in Europe on cotton. PAN network members have worked on monitoring the impact of pesticides, raising awareness at national and international policy levels, and promoting alternatives such as growing pesticide-free organic cotton. The organisation also focuses on building the capacity of communities, thereby empowering them to assess their own situation with respect to pesticides.

The Fund also supported an organic cotton marketing project run by PAN-UK. Initially aiming to expand the market for organic cotton, the campaign focused first on consumer and public opinion. However, it was soon realised that both market and policy action were needed to create meaningful change in people's attitudes towards sustainable development and organic produce. The project was able to increase the market for organic, pesticide-free cotton in the EU, particularly in the UK and France, as well as influencing policy and standards. One interesting facet of the success of the campaign has been that many new organic producers have entered the market, although they have tended to be large-scale farmers in Turkey, India and China rather than smallholders. Results in terms of reducing pesticide use are therefore significant, but the project has not had the effect on poverty reduction that was intended.

PAN-UK has also been actively involved in the emergence of the Better Cotton Initiative (BCI) that aims to mainstream best practices in organic cotton production. PAN UK has been successful in its agenda-setting role for organic cotton, and others have taken further initiatives based on this raised awareness.

While pesticides are used on a range of crops, cotton receives more than its fair share. Grown widely by small-scale farmers in the developing world, cotton is responsible for the release of US$2 billion of chemical pesticides each year, and accounts for 16% of global insecticide release, greater than any other single crop. Almost 1kg of hazardous pesticide is applied for every hectare of cotton grown (Environmental Justice Foundation, 2007).

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# 4
# Conclusions and recommendations

"The Biodiversity Fund bridges the gap between the discourse of 'sustainable development', which has become routine, and the reality on the ground, where much development assistance, research funding and direct foreign investment is spent on 'pushing' an unsustainable paradigm of development based on industrialised agriculture."

*Markus Arbenz, Director, IFOAM*

## Biodiversity and poverty: experiences to date

Much of the work supported by the Biodiversity Fund responds to social and environmental issues arising from adoption of Green Revolution technologies. These include large-scale monocropping with associated clearance of natural areas, loss of agro-biodiversity, overuse of pesticides, erosion of Farmers' Rights and – at times – increasing indebtedness among smallholders. In extreme cases, the natural resource base can become degraded to the point of being insufficient to support the livelihoods of the current population and drastic measures, such as selling of assets and out-migration, can result.

Experience gleaned from the Biodiversity Fund-supported activities has shown that promoting biodiversity-conserving production not only conserves biodiversity for future generations but can also enhance livelihoods in both the short and the long term. The most successful programmes are holistic, addressing issues that occur at all levels of the development agenda. At the grassroots level, they focus on helping farmers, fishing communities and forest dwellers to develop new technologies and manage their own plant and animal genetic resources. At a 'higher' level, they focus on influencing international research agendas to include the interests of small-scale farmers, on developing global standards for environmental and social performance, and on lobbying for a more favourable international policy environment.

The grassroots or 'bottom up' approach is based on the premise that using producers' knowledge and skills to maintain and develop local agro-biodiversity will build better resilience among these farmers. It is vital to help them build their capacity to manage and create new varieties, based on their diverse needs and different production stresses. Small-scale farmers cannot merely remain recipients of broadly targeted seeds that were developed for industrial farming. Civil Society organisations therefore adapt and promote such methodologies as participatory plant breeding and participatory plant variety selection. In other words, these organisations support the conservation of agro-biodiversity and, at the same time, help strengthen smallholders' capacity in managing their own resources.

Use of empowering learning approaches – in which farmers act as researchers and own the knowledge that is generated – has been shown to increase farmers' confidence, reduce their dependency on external inputs, and build a critical awareness of themselves and their societies. Many forces in society act together to reinforce inequality and inequity, trapping the poorest people in a cycle of poverty. The Biodiversity Fund partners therefore stress the importance of linking the biodiversity agenda to that of strengthening civil society and ensuring the voices of farmers are heard and acted on at national and international levels. For example, organised civil society organisations help ensure Farmers' Rights are respected within the FAO Seeds Treaty.

Similarly, the international initiatives of civil society organisations are crucial in clarifying what is considered sustainable and bringing this insight into relevant policy arenas. Voluntary quality systems, like the Forest Stewardship Council (FSC), Marine Stewardship Council (MSC) and International Federation of Organic Agriculture Movements (IFOAM), aim to clarify what sustainable production and consumption entails. The focus has been on improving access to these systems for poor communities in developing countries. While the majority of certified produce is marketed currently through export channels, local markets in developing countries are expanding and will increase the opportunities for pro-poor initiatives to show results.

## Quality systems and poverty alleviation

Environmental and social quality systems undoubtedly benefit the environment by such means as reducing the application of chemicals and deterring deforestation. They also contribute to social improvements, for example by aiming to eliminate child labour and promoting fairer conditions for workers. In a series of studies (in China, India and six Latin American countries), the International Fund for Agricultural Development (IFAD) concluded that farmers in developing countries who switch to organic agriculture achieve higher earnings and a better standard of living (IFAD, 2005). Additional evidence is becoming available to show that these systems have a positive impact on poverty alleviation and biodiversity conservation (see also Hivos–Oxfam Novib, 2007). However, very little data have been collected or disseminated in a systematic way. As a consequence, members of the International Social and Environmental Accreditation and Labelling (ISEAL) Alliance (including IFOAM and other quality systems such as FSC and MSC) have recognised the need for a more systematic impact assessment that includes social and environmental issues. The wider aim is to prioritise future action and identify how funding for quality systems can be made more effective in sustainable poverty alleviation.


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Many farmers in developing countries practice organic agriculture as a matter of course, since they cannot afford to buy chemical pesticides or fertilizers. By signing up to an organic certification scheme, they can increase their earnings and benefit the environment at the same time.

## Major challenges for the future

Looking ahead, future activities aimed at promoting pro-poor biodiversity management will be framed by several major challenges. The first relates to productivity, diversity and food security. While the world urgently needs to increase its agricultural productivity, history has shown that increasing productivity does not necessarily increase food security. An addition, achieving productivity gains through conventional means would have major implications in terms of a reduction in the diversity of the food system. According to the Convention on Biological Diversity (CBD) Alliance and the Food and Agriculture Organisation of the United Nations (FAO), as few as 12 crops and 14 animal species provide 80 or 90% of the world's food (www.fao.org/newsroom/en/news/2004/51140/index.html). This narrow genetic base makes people in both developed and developing countries very vulnerable. Globalisation increasingly integrates local food systems into the global economy, in which production and marketing are standardised and global governance is based on trade agreements and dominated by a small group of industries. To prevent loss of diversity, researchers need to understand how integration of diverse local food systems could affect people's resilience. There is also a need for further development of emerging alternative market systems and niches, such as certification for sustainable production. Mainstreaming such alternative market systems is also a challenge.

The second major challenge relates to climate change. The Intergovernmental Panel on Climate Change (IPCC) reports that around 20 to 30% of all plant and animal species are likely to be at increased risk of extinction if global average temperatures exceed 1.5 to 2.5° C over late 20th Century levels (IPCC, 2007). Furthermore, changes in temperature and rainfall patterns will create new pests and diseases. For example, black Sigatoka, a fungal disease of banana, is being found at higher altitudes than ever before. Climate change will essentially erode the foundations on which the poor build and diversify

their livelihoods, and which enable them to manage their vulnerability. The diversity of plant and animal genetic resources is a major tool – and possibly the most important strategy – available to mitigate against climate shocks.

Thirdly, competition for land and resources for food, fodder, fuel and environmental services is increasing. Richer countries tend to influence land use in poorer countries and the weak nation states and governance systems of many poor countries can be exploited, negating any potential positive contributions, such as foreign exchange earnings. IFOAM provides anecdotal evidence that organic farmers who are less indebted, whose production is more regular and who have a better income might be less inclined to give up their lands. Meanwhile, GRAIN has launched a specific 'land-grab' website, which highlights the issue and provides insight into the effects of 'outsourced' food production. Such awareness-raising activities are an important means for civil society to highlight the potentially negative impacts of land grabbing on poverty and biodiversity.

Fourthly, there is potential for growth in bio-based economies, which represent a paradigm shift from using fossil fuels to adopting renewable green sources to produce energy, food and raw materials for industry. In theory, bio-based economies could promote sustainable management and use of biological resources within a context of climate change and conflicting demands over increasingly scarce natural resources. Bio-based economies represent major opportunities for the poor in developing countries, but also pose significant risks, such as land grabbing and increasing prices for staple products. Their development is still at an early stage and there is a need to overcome many hurdles. The private sector will not be able to tackle these on its own and will need support and service provision from civil society. While the Biodiversity Fund has begun looking at relevant issues through its support for the Non-Timber Forest Products Exchange Programme (NTFP-EP), Phytotrade and the ISEAL Alliance, there is a need for careful follow up to ensure any future programmes fully include the poorest producers.

Finally, the Alliance for a Green Revolution in Africa (AGRA) presents both opportunities for and threats to pro-poor biodiversity management. AGRA programmes aim to boost productivity and incomes for the poor, while safeguarding the environment. However, the emphasis on developing more productive food crops poses a theoretical risk to small-scale farmers and the current diversity of farming systems in Africa. There is a danger that the AGRA approach will be mainly technological, mirroring that of the original Green Revolution in Asia, which focused on productivity gains. However, productivity gains may not translate simply into poverty reduction; in Asia productivity has increased but so has the absolute number of people living in poverty. It must not be forgotten that social and institutional issues are among the strongest production bottlenecks and causes of poverty in many African countries. The lack of land rights and access to productive lands for the poor, especially women, and the concentration of land rights in the hands of local elites are key issues that are in danger of being disregarded.

## Funding and partnerships

Generally, the Biodiversity Fund strategy of funding a broad range of organisations working on pro-poor biodiversity-conserving production and marketing has worked well. The Fund has supported a broad and balanced portfolio of important NGOs and civil society organisations, which have made significant contributions to the double objective of poverty alleviation and sustainable natural resource management. Allocation of a specific Biodiversity Fund has supported activities that address both biodiversity conservation and poverty elimination at the same time; an approach that appears promising and, up to now, has received only limited funding.

The Fund's partners have played a key role in policy processes, going beyond evidence-based policies by bringing in policies that are based on concrete practices and realities on the ground. Focusing on global movements was useful as this enabled coverage from local to global levels. The policy focus was particularly important because of the nature of biodiversity; it is usually managed at local levels, but has global demands in terms of environmental services and export markets, for instance.

The Fund also benefited from the experience of Hivos on biodiversity-conserving production and quality systems, and Oxfam Novib's experience with lobby and advocacy. As such, the two organisations have provided a unique and complementary input.

Some of the partners were small organisations that would not have attracted the attention of regular donors. With support from the Fund, small or just-starting civil society initiatives, like the ISEAL Alliance, have been able to develop their organisations, becoming more stable and mature and with greater capacity to diversify their funding sources.

## Contributing to women's empowerment

Men and women access and use resources differently and play different roles within their households and society. For example, while men often prepare the fields and help during harvesting, it is the women who do the cultivating and who tend to be the main custodians of agro-biodiversity. But in many developing countries, women have little say in decisions made about the farm and the way in which farm income is used. In addition, they are often unable to access credit. Strategies that aim to reduce poverty and promote more sustainable agriculture and natural resource management must therefore pay attention to the effects of such disparities.

The Biodiversity Fund experience contributed significantly to anecdotal evidence suggesting that women play key roles in the management of biodiversity. At the same time, several organisations have strengthened their gender policies as a result of support and advice from the Fund. For several partners, women are the primary target group (e.g. over 90% of the primary producers benefiting from PhytoTrade interventions are women).

On a policy level, the focus on gender is less clear and few organisations work with a gender perspective in lobby work at international level. As such, the Fund's experience so far represents a 'work in progress'. However, there are promising results. For example, SEARICE is developing a gender framework in participatory plant breeding in recognition of the key role played by women in seed management, which is an important part of maintaining household food security.

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## Next steps: the challenge of 'scaling up'

The first eight years of the Biodiversity Fund provided useful evidence on which approaches are most successful as well as the challenges that need to be addressed. The partners have developed research tools and processes that are easy for farmers to use, and effective community models in which farmers maintain and create agro-biodiversity based on their own knowledge. At the same time, they have developed alternative production systems that cut use of external inputs. However, to create a significant impact on biodiversity and poverty, these initiatives need to be applied on a larger scale. Looking ahead, the Fund will therefore focus on two main approaches to address this major challenge.

The first approach is to continue working on policy advocacy, more specifically to use community-level evidence to change national and institutional policies on the use and selling of plant and animal genetic resources. Fund partners have already helped small-scale farmers in Vietnam to produce modern but diverse rice varieties and thereby exert pressure on provincial decision makers to adapt policies to support farmers' seed systems, overcoming restrictive national seed regulations. Similarly, public plant-breeding institutions in several countries now breed new varieties for farmers to stabilise, evaluate and select. Meanwhile, new policies supporting the conservation of agro-biodiversity and encouraging smallholders to manage it have been introduced in Ethiopia based on evidence provided by Fund-supported organisations. In addition, the policy advocacy work of civil society and farmers' organisations focusing on the protection of their rights to use and sell plant and animal genetic resources has created space for farmers in some countries to maintain their own seed systems.

The second approach is to encourage national agricultural research systems to involve farmers' knowledge and skills in a more systematic way. Biodiversity Fund partners have introduced models to promote participatory plant breeding and participatory variety selection using the farmer field school approach, and these have been adopted by local and national government institutions (e.g. by a Philippines Government programme and soon to be adopted by four additional Southeast Asian countries). Successful models have also been developed in Ethiopia and Zimbabwe.

However, scaling up of activities is also associated with some drawbacks, which need to be managed. For example, a superior variety or market demands for conformity may result in more traditional

cultivars being displaced and lead to a loss of genetic diversity, even when bred by smallholders. Partnerships between farming communities and research institutions could lead to problems on intellectual property rights and additional problems of public ownership of farmer-bred varieties.

## Recommendations

Analysis of the work of the Biodiversity Fund-supported organisations leads to several useful recommendations for policymakers, NGOs, advocacy specialists, poverty development experts and others interested in pro-poor biodiversity-conserving production and use. Below are listed the most important topics for consideration based on the Fund's experience and divided into recommendations for: a) continuing and up-scaling current activities; b) decision makers' support for pro-poor biodiversity management and use; and c) addressing new developments and challenges.

*Continuing and up-scaling current activities*

- Initiatives that promote pro-poor biodiversity conservation and use require a multi-disciplinary approach employing a combination of 'top-down' and 'bottom-up' methodology. This means paying attention to farmers' rights and community mobilisation as well as to production and value chain development.
- Giving producers a voice in high-level treaties and policymaking ensures that policy recommendations are based on local realities.
- Gender justice and empowerment should be an integral part of any intervention strategy, whether public or private, and strategies should address underlying factors and policies rather than superficial indicators, such as the numbers of women being trained.
- Governments are increasingly using quality standards in their own policies; therefore there is a growing need for policy and guidance to deal with the question of certification schemes as a policy instrument.
- Capacity and institution building are important and should be addressed in all initiatives. The Fund's partners have used biodiversity as an entry point to build and strengthen community organisations in terms of their formation and structure, and to engage civil society in local, national and international policy processes. This is a long-term strategy and requires long-term funding.
- Up-scaling requires joint support for climate change-proof farming systems that increase the resilience of farmers.

*Decision makers' support for pro-poor biodiversity management and use*

- The private sector and civil society can benefit from cooperation when aiming to up-scale sustainable production activities and create a sustainable market-driven system.
- Initiatives to promote rights for farmers should be supported. Their voices at all political levels are still weak, especially at national and regional levels.
- Quality systems can benefit smallholders in term of social improvement, market access and biodiversity conservation; however, many are too complex and expensive. Measures to improve access for small-scale farmers should therefore be supported.
- The Fund has helped strengthen the organisational capacity of its partners, but further efforts are needed as partners shift their focus from international to national and even local policy-making processes, a natural progression as international policy becomes established. The partners themselves must therefore learn to strengthen the organisational capacity of national and local institutions.

*Addressing new developments and challenges*

- Further assessment of the current rapid rate of change in land use and land ownership is required.
- The rapidly evolving issues around intellectual property rights, Farmers' Rights and seed laws put pressure on partners for continuous learning and adaptation. There is a need for organisations like Hivos, Oxfam Novib and their partners to play a more proactive role in coordinating activities, communicating results, and analysing and sharing lessons learned.
- Future initiatives such as AGRA must take steps to avoid the pitfalls of the original Green Revolution in Asia. They need to make clear statements on Farmers' Rights and commit to technological developments that recognise and respect the diversity of farming systems in Africa.
- The future impact of quality systems on poverty alleviation and biodiversity conservation may well lie in their ability to function as credible standards, and in relation to conventional products.
- Bio-based economies may provide a sustainable alternative to fossil fuel-based economies but more research and subsequent strategising will be required.

## A final word…

There are clearly strong relationships among biodiversity, livelihoods, natural resources management, agricultural systems and poverty elimination. Attention on these themes is likely to increase in the coming years and the lessons learned from the Biodiversity Fund experiences will remain relevant. Oxfam Novib, Hivos and all the Fund's partners are committed to continue working towards greater adoption of pro-poor biodiversity-conserving production practices, and they invite others to join them in their efforts.

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Hivos

**Hivos** is a Dutch non-governmental organisation, guided by humanist values, that wants to contribute to a free, fair and sustainable world where citizens, women and men, have equal access to resources, opportunities and markets and can participate actively and equally in decision-making processes that determine their lives, their society and their future. Hivos works in 30 countries with 830 partners. In 2008 Hivos disbursed €94 million with a staff of 210.

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**Oxfam Novib**, a Dutch NGO for development co-operation, is fighting for a just world without poverty. Oxfam Novib works together with people, organisations, businesses and governments, locally and internationally, in projects and lobby. Because poverty and injustice are global problems, related to unjust economic and political relationships. Oxfam Novib works in 60 countries with 860 counterparts. In 2008 Oxfam Novib disbursed €193 million with a staff of 350.

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